SHAWN T. WOODEN
TREASURER

State of Connecticut
Office of the Treasurer

DARRELL V. HILL
DEPUTY TREASURER

M E M O R A N D U M

TO: **Members of Investment Advisory Council**

FROM: **Shawn T. Wooden, State Treasurer and Council Secretary**

DATE: **July 15, 2022**

SUBJECT: **Investment Advisory Council Meeting – July 20, 2022**

Enclosed is the agenda package for the Investment Advisory Council meeting on Wednesday, July 20, 2022, starting at 9:00 A.M. in the 1st floor conference rooms (G006D/D007E).

The following subjects will be covered at the meeting:

Item 1: **Approval of the Minutes of the June 8, 2022, IAC Meeting and Minutes of the June 8, 2022, IAC Asset Allocation Sub-Committee Meeting**

Item 2: **Opening Comments by the Treasurer**

Item 3: **Presentation and Consideration of a Ci3 Private Markets Mandate: GCM Grosvenor**
Raynald Leveque, Deputy Chief Investment Officer, will provide opening remarks on the implementation of the Ci3 program in the Private Markets. Olivia Wall, Senior Investment Officer, will present a proposed custom mandate with GCM Grosvenor for the Ci3 Program.

Item 4: **Presentation and Consideration of a Ci3 Private Markets Mandate: The RockCreek Group**
Kan Zuo, Investment Officer, will present a proposed custom mandate with The RockCreek Group for the Ci3 Program.

Item 5: **Connecticut Retirement Plans and Trust Funds**
2022 Strategic Asset Allocation Update Presentation
Ted Wright, Chief Investment Officer, will lead the discussion on final updates to the Strategic Asset Allocation for the Connecticut Retirement Plans and Trust Funds.

Item 6: **Connecticut Retirement Plans and Trust Funds**
2022 Investment Policy Statement Update Presentation
Christine Shaw, Principal Investment Officer, will present proposed revisions and updates to the Investment Policy Statement for the Connecticut Retirement Plans and Trust Funds.

Item 7: **Other Business**
Request For Proposal for Investment Consulting Services for PFM

Item 8: **Comments by the Chair**

Item 9: **Adjournment**

We look forward to reviewing these agenda items with you at the July 20th meeting. Please confirm your attendance with Raymond Tuohey (raymond.tuohey@ct.gov) as soon as possible.

STW/rt

Enclosures

DRAFT VERSION – MINUTES OF THE INVESTMENT ADVISORY COUNCIL MEETING
WEDNESDAY, JUNE 8, 2022 – SUBJECT TO REVIEW AND APPROVAL
FINAL VERSION OF THESE MINUTES WILL BE POSTED AFTER APPROVAL OF THE INVESTMENT ADVISORY COUNCIL AT THE NEXT SPECIAL MEETING, WHICH WILL BE HELD ON WEDNESDAY, JULY 20, 2022

MEETING NO. 506

Members present:	D. Ellen Shuman, Chair Treasurer Wooden, Secretary Myra Drucker Thomas Fiore, representing Secretary Jeffrey Beckham William Murray Michael Knight Steven Muench Patrick Sampson
Members absent:	Michael LeClair
Others present:	Darrell Hill, Deputy Treasurer Ted Wright, Chief Investment Officer Raynald Leveque, Deputy Chief Investment Officer Kevin Cullinan, Chief Risk Officer Mark Evans, Principal Investment Officer John Flores, General Counsel Ginny Kim, Chief Compliance Officer Peter Gajowiak, Principal Investment Officer Denise Stake, Principal Investment Officer Paul Osinloye, Principal Investment Officer Michael Terry, Principal Investment Officer Olivia Wall, Senior Investment Officer Kan Zuo, Investment Officer Raymond Tuohey, Executive Secretary
Guests:	Public Line

With a quorum present, Chair D. Ellen Shuman called the Investment Advisory Council ("IAC") meeting to order at 9:14 a.m.

Approval of Minutes of the April 13, 2022, IAC Meeting and April 25, 2022, IAC Special Meeting

Chair Shuman called for a motion to accept the minutes of the IAC meeting on April 13, 2022, and the IAC special meeting on April 25, 2022 (collectively, the "Minutes"). **Ms. Drucker moved to approve the Minutes. The motion was seconded by Treasurer Wooden.** Mr. Fiore noted

that he represents Secretary Jeffrey Beckham and asked that the minutes be amended to reflect the corrected representation. **There being no further discussion, the Chair called for a motion to approve the Minutes subject to the proposed amendment. Ms. Drucker moved to approve the Minutes. The motion was seconded by Treasurer Wooden.** There was one abstention from Mr. Sampson. **The Chair called for a vote to accept the Minutes of the meetings, as amended, and the motion passed.**

Comments by the Treasurer

Treasurer Wooden, welcomed the IAC members and began by sharing recent updates at the Office of the Treasurer (OTT). Treasurer Wooden announced he had proceeded with the selection of Moziac Capital Advisors as a preferred vendor to provide the CRPTF with secondary advisory services to the private markets portfolios. On the public markets side, the Treasurer announced he had decided to select TCW, PineBridge, Wellington and Conning as finalist firms from the Core Fixed Income RFP to restructure the CRPTF's Core Fixed Income portfolio totaling $5.2 billion. Lastly, Treasurer Wooden introduced Ginny Kim, Chief Compliance Officer, to the IAC members, and then gave a brief overview of the agenda.

Update on the Market and CRPTF Performance

Ted Wright, Chief Investment Officer, provided an update on the capital market environment and reported on the first quarter performance.

Presentation and Consideration of Reverence Capital Partners Opportunities Fund V

Mark Evans, Principal Investment Officer, provided opening remarks and made a presentation to the IAC regarding Reverence Capital Partners Opportunities Fund V, a Private Investment Fund opportunity.

Roll Call of Reactions for Reverence

Messrs. Steve Muench, Thomas Fiore, Patrick Sampson, William Murray, Michael Knight, Myra Drucker and Chair Shuman provided feedback on Reverence. There being no further discussion, Chair Shuman called for a motion to waive the 45-day comment period. A motion was made by Mr. Fiore, seconded by Mr. Murray, to waive the 45-day comment period for Reverence. The Chair called for a vote, and the motion passed.

Presentation and Consideration of Fortress Lending Fund III/IV MA-CPRTF

Mark Evans, Principal Investment Officer, provided opening remarks and made a presentation to the IAC regarding Fortress Lending Fund III/IV MA – CPRTF, a Private Credit Fund opportunity.

Roll Call of Reactions for Fortress

Messrs. Steve Muench, Thomas Fiore, Patrick Sampson, William Murray, Michael Knight, Myra Drucker and Chair Shuman provided feedback on Fortress. There being no further discussion, Chair Shuman called for a motion to waive the 45-day comment period. A motion was made by Ms. Drucker, seconded by Mr. Muench, to waive the 45-day comment period for Fortress. The Chair called for a vote, and the motion passed.

Presentation and Consideration of Sixth Street Lending Partners

Kan Zuo, Investment Officer, provided opening remarks and made a presentation to the IAC regarding Sixth Street Lending Partners, a Private Credit Fund opportunity.

Roll Call of Reactions for Sixth Street

Messrs. Steve Muench, Thomas Fiore, Patrick Sampson, William Murray, Michael Knight, Myra Drucker and Chair Shuman provided feedback on Sixth Street. There being no further discussion, Chair Shuman called for a motion to waive the 45-day comment period. A motion was made by Mr. Sampson, seconded by Ms. Drucker, to waive the 45-day comment period for Sixth Street. The Chair called for a vote, and the motion passed.

DRAFT

Report on the Connecticut Retirement Plans and Trust Funds' Statutory Restrictions

Ginny Kim, Chief Compliance Officer, provided a report on the CRPTF Compliance Policy for Implementation of Statutory Investment Restrictions.

Other Business

Chair Shuman invited the council members to discuss any other matters of interest for future IAC meetings.

Comments by the Chair

Chair Shuman provided comments about portfolio performance, anticipated contributions, Treasurer transition, and made brief comments of her vision and aspirations for the IAC in the coming year.

Meeting Adjourned

There being no further business, Chair Shuman called for a motion to adjourn the meeting. **Mr. Fiore moved to adjourn the meeting, and the motion was seconded by Mr. Muench. There being no discussion, the motion passed and the meeting was adjourned at 11:19 a.m.**

DRAFT

DRAFT VERSION – MINUTES OF THE INVESTMENT ADVISORY COUNCIL ASSET ALLOCATION SUB-COMMITTEE MEETING
WEDNESDAY, JUNE 8, 2022 – SUBJECT TO REVIEW AND APPROVAL
FINAL VERSION OF THESE MINUTES WILL BE POSTED AFTER APPROVAL OF THE INVESTMENT ADVISORY COUNCIL AT THE NEXT SPECIAL MEETING, WHICH WILL BE HELD ON WEDNESDAY, JULY 20, 2022

MEETING NO. 507

Members present:	D. Ellen Shuman, Chair
	Darrell Hill, Deputy Treasurer, representing Treasurer Wooden, Secretary
Left meeting at 12:22 p.m.	Myra Drucker
	Thomas Fiore, representing Secretary Jeffrey Beckham
	William Murray
	Steven Muench
IAC Members absent:	Michael LeClair
	Michael Knight
	Patrick Sampson
Others present:	Ted Wright, Chief Investment Officer
	Raynald Leveque, Deputy Chief Investment Officer
	Kevin Cullinan, Chief Risk Officer
	Mark Evans, Principal Investment Officer
	John Flores, General Counsel
	Ginny Kim, Chief Compliance Officer
	Peter Gajowiak, Principal Investment Officer
	Denise Stake, Principal Investment Officer
	Paul Osinloye, Principal Investment Officer
	Michael Terry, Principal Investment Officer
	Olivia Wall, Senior Investment Officer
	Kan Zuo, Investment Officer
	Raymond Tuohey, Executive Secretary
Guests:	Peter Woolley, Meketa Investment Group
	Mary Mustard, Meketa Investment Group
	Public Line

With a quorum present, Chair D. Ellen Shuman called the Investment Advisory Council ("IAC") Asset Allocation Sub-Committee special meeting to order at 11:37 a.m.

Connecticut Retirement Plans and Trust Funds 2022 Strategic Asset Allocation Update Presentation

Ted Wright, Chief Investment Officer, lead a discussion on proposed updates to the Strategic Asset Allocation for the Connecticut Retirement Plans and Trust Funds.

Meeting Adjourned

There being no further business, Chair Shuman called for a motion to adjourn the meeting. **Mr. Fiore moved to adjourn the meeting, and the motion was seconded by Ms. Muench. There being no discussion, the motion passed and the meeting was adjourned at 1:14 p.m.**

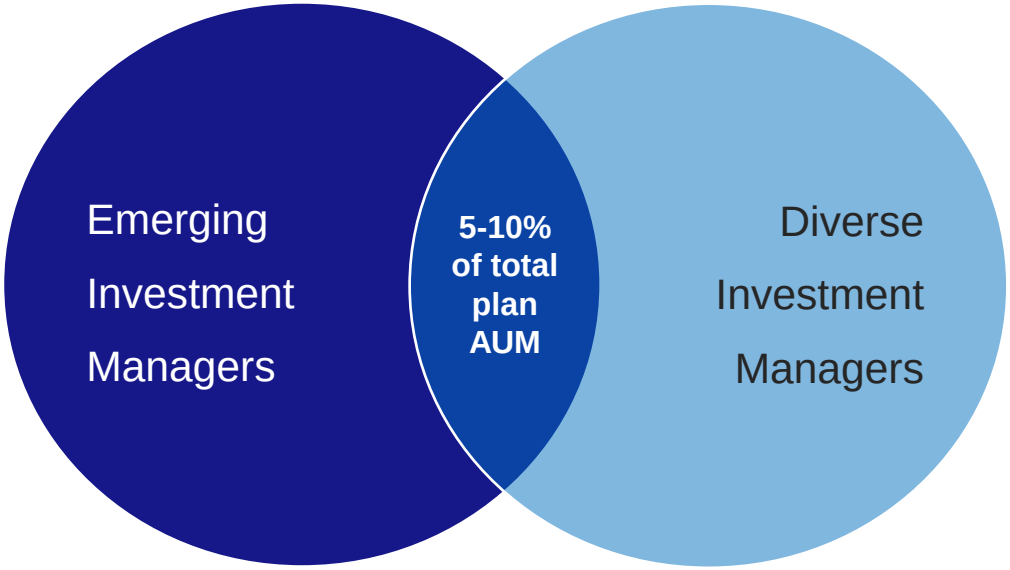
DRAFT

Connecticut Inclusive Investment Initiative (Ci^3)
Program Overview / Private Markets Mandates
July 2022

Pension Funds Management

Program Policy & Target

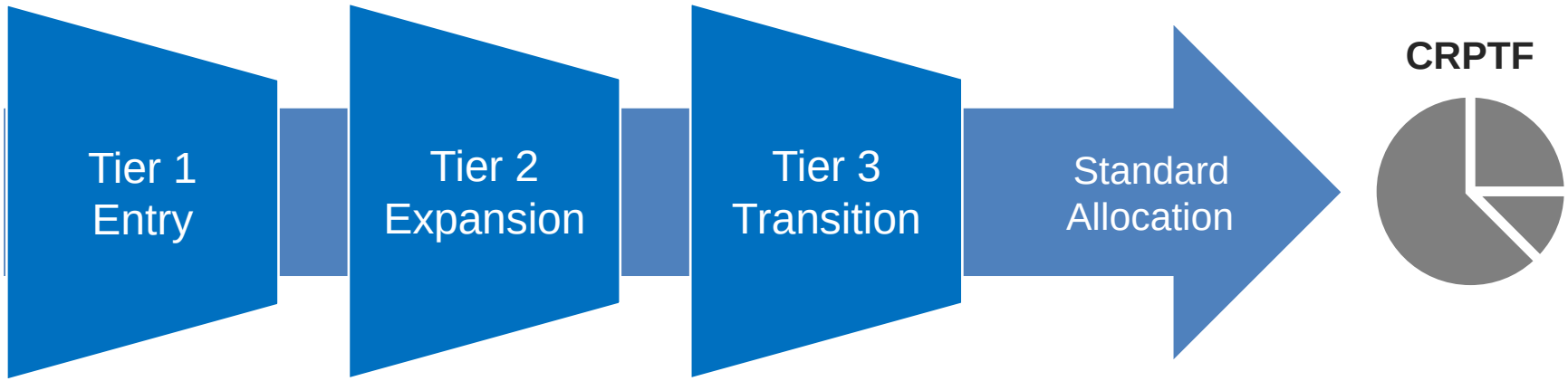
- The Ci^3 program affords opportunities to both emerging and diverse managers to compete for investment mandates consistent with the goals of the CRPTF and fiduciary standards.
- The Ci^3 program defines an emerging manager as a newly formed or relatively small asset management firm that has the minimum amount of assets under management ("AUM") and/or length of track record.
- The Ci^3 program defines a diverse manager as an asset management firm with the following qualifications: owned in a majority form by either minority individuals, women, veterans or persons with a disability. On a case-by-case basis, the Ci^3 program will consider a diverse manager as firm ownership by a group which qualifies as a protected class under Connecticut law.



Program Asset Class Criteria & Lifecycle

	Public Market Asset Classes		Alternative Asset Classes		
	Global Equity	**Global Fixed Income**	**Hedge Funds**	**Private Equity / Private Credit**	**Real Assets**
Total Firm Assets	< $10B	< $10B	< $3B	< $5B	< $5B
Fund Size	N/A	N/A	N/A	< $2B	< $2B
Fund #	N/A	N/A	N/A	Third generation or earlier	Third generation or earlier
Firm Tenure	< 10 years	< 10 years	< 7 years	Minimum one year	Minimum one year

Ci^3 Framework for Manager-of-Managers



Ci3 Program Partners

Public Markets
Global Equity & Global Fixed Income

Private Markets
Private Equity, Real Estate, Infrastructure

Xponance
RockCreek
ATTUCKS
BIVIUM CAPITAL
LeadingEdge LEIA®

m2 MULLER & MONROE
ONE ROCK CAPITAL PARTNERS
ARTEMIS
GenNx360 Capital Partners
PENZANCE
RUBICON POINT PARTNERS
GRAIN MANAGEMENT
ALDRICH CAPITAL PARTNERS
BASIS INVESTMENT GROUP, LLC
stellex CAPITAL MANAGEMENT
AVANCE

~$2.10B
Total Capital Allocated incl. Unfunded Commitments (3/31)

~5.04%
Percent of CRPTF incl. Unfunded Commitments

6 Mgr-of-Mgrs
37 Sub-Managers
Program Partners / Managers

Ci3 Program Transitions

Broader CRPTF Global Equity & Global Fixed Income	Ci3 Tier Framework Global Equity & Global Fixed Income
ARGA	PALMER SQUARE CAPITAL MANAGEMENT** Tier 2
LIM LONGFELLOW	
PUGH CAPITAL MANAGEMENT	

Summary of Activity To Date

- **Ci³ Program Partners**
  - In 2020, PFM concluded RFP search for three Manager-of-Managers in the Public Markets: **Xponance, RockCreek** & **Attucks**
  - In 2021, PFM added two additional partners in the small and microcap segments of Global Equities: **Bivium** & **LeadingEdge**
  - In 2022, PFM continued to build out program to recommend two high-quality private markets program partners: **GCM Grosvenor** & **RockCreek**

- **Why a Manager-of-Managers for Private Markets?**
  - **Potential for alpha** sourced from smaller, emerging managers
  - **Resource intensive for PFM** to source, allocate and oversee emerging managers in the CRTPF
  - Allocations to emerging managers are often **smaller** than CRPTF's standard allocation size
  - Maintain our investment approach toward **increasing the private markets** exposure as contemplated in our Strategic Asset Allocation
  - **Provides a diversified pool of potential managers** with unique strategies to "transition" into the broader program
  - **Opportunity for selective transitions** to the broader portfolio by the CIO & Principal Investment Officer over time

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July 15, 2022

Members of the Investment Advisory Council ("IAC")

Re: GCM Grosvenor Inc. and CRPTF Ci3 Mandate

Dear Fellow IAC Member:

At the July 20, 2022, meeting of the IAC, I will present for your consideration a fund of one investment opportunity between the Connecticut Retirement Plans and Trust Funds (the "CRPTF") and GCM Grosvenor Inc. The custom mandate (referred to herein as the "Fund") will provide the CRPTF with an opportunity to invest in small and emerging or diverse managers as part of the implementation of the CRPTF's Inclusive Investment Initiative ("Ci3").

I am considering a commitment of up to $300 million in the Fund, which will seek to invest roughly equally across Private Equity and Real Estate asset classes over three years. The Fund will focus on primary fund investments and co-investments in North America and opportunistically in Europe across Real Estate and Private Equity. Further, within Real Estate, the mandate may include joint ventures/revenue sharing agreements. The Fund would provide the CRPTF exposure to a differentiated focus on investments in diverse and emerging managers largely unknown to institutional investors and who are often undercapitalized. Uncovering and investing in such managers can create a sourcing edge as there is less competition among allocators.

Attached for your review is the recommendation from Ted Wright, Chief Investment Officer, and the due diligence report prepared by Hamilton Lane. I look forward to discussing these materials at the next meeting.

Sincerely,

Shawn T. Wooden
State Treasurer

65 CAPITOL AVE, HARTFORD, CT 06106-1773, TELEPHONE: (860) 702-3000
AN EQUAL OPPORTUNITY EMPLOYER

Full Due Diligence Report

CIO Investment Recommendation

July 14, 2022

GCM Grosvenor/State of Connecticut Ci^3 Mandate

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Executive Summary

Manager Overview

- Founded in 1971, GCM Grosvenor Inc. ("GCM" or the "Firm") is a global alternative asset management and advisory company investing across private equity, infrastructure, real estate, credit, and absolute return investment strategies.
- GCM is headquartered in Chicago, with 8 offices globally.
- The Firm has been investing with small and emerging or diverse managers since 1999.
- GCM is majority management owned. In November 2020, the Firm floated approximately 23% of its equity on the NASDAQ (ticker: GCMG).
- The proposed custom mandate with GCM and the Connecticut Retirement Plans and Trust Funds (referred to herein as the "Fund") would be managed by the Firm's affiliate, GCM Customized Fund Investment Group, L.P. (the "GP"), an SEC registered investment adviser.

Fund Summary

- The $300 million Fund, committed over 3 years, would focus on investments in small, emerging or diverse managers as part of the Connecticut Retirement Plans and Trust Funds ("CRPTF") program, Inclusive Investment Initiative ("Ci3").
- The Fund will invest across the Private Equity and Real Estate asset classes via roughly a 50/50 split.
- The Fund will focus on primary fund investments and co-investments in North America and opportunistically in Europe. Further, within Real Estate, the mandate may include joint ventures/revenue sharing agreements.
- New/Existing Manager: Existing, given a change of control that took place in 2014 between Credit Suisse and GCM in the CRPTF's Cleantech Opportunities Fund, L.P. (a 2006 vintage).

Strategic Fit

- Discretionary, and collaborative program providing the CRPTF with the opportunity to invest in small, and emerging or diverse managers which represents a large, relatively untapped market to large allocators.
- Many such managers, though high-quality, are largely unknown to institutional investors, and are often undercapitalized. Uncovering and investing in such managers can create a sourcing edge as there is less competition among allocators.
- Sourcing, conducting due diligence, and monitoring such managers is resource intensive for large allocators. GCM has an experienced, global team of over 500 professionals, including 172 investment professionals, that focus on private markets. Pension Funds Management ("PFM") investment staff believe partnering with GCM will provide a cost-effective and more efficient approach to accessing the market within the target asset classes.

Recommendation

Recommendation

- Based on the strategic asset class fit, and the due diligence conducted by PFM investment professionals and consultant, Hamilton Lane, the Chief Investment Officer of the CRPTF recommends a commitment of $300 million, invested over a 3-year term, to be managed by GCM.
- GCM, through a fund of one, would manage a small and emerging or diverse mandate across Private Equity and Real Estate.
- The Firm's large team, strong track record, and flexible, open architecture of investing across the capital stack, and the broader private markets support GCM's strong candidacy as a potential partner for the implementation of the Connecticut Inclusive Investment Initiative (Ci^3) program.

Investment Considerations

- Experienced and cohesive team with investment, and operating expertise. Senior staff average over 20 years of industry experience, and the majority have worked together for at least a decade.
- A manager with a proven, long-term track record of investing with diverse managers. Robust manager sourcing platform with over 600 manager relationships spanning the private investment asset classes, including over 300 emerging and diverse managers.
- Ability to make investments across primary funds, co-investments, secondaries, joint ventures and other specialty structures.

General Partner

Global alternatives investment firm with a history of investing in Private Equity and Real Estate through custom accounts with small and emerging or diverse managers

- GCM is an established, global player in private markets with one of the industry's longest track records within real estate and private equity. GCM has $70.5 billion in assets under management ("AUM") in private markets including private equity, real estate, private credit and infrastructure, (approximately 62% of AUM), and absolute return strategies (approximately 38% of AUM).
- GCM is a market leader in managing custom separate account for institutional clients. Approximately 76% of AUM is within customized separate accounts. Each program is tailored, and proposed allocations are determined between GCM Grosvenor and the client.
- GCM has been investing with small and emerging managers since 1999, and with diverse managers since 2002.

Experienced team with significant resources for sourcing, due diligence, monitoring, and development

- GCM has a senior investment team that average over 20 years of industry experience and the majority have worked together for at least a decade.
- Firm-wide Investment Committee Members (title/name/years of experience/years with GCM): President Jonathan Levin/18/10, CIO Frederick Pollock/17/7; Chief Risk Officer Amy Wierenga 20/2; Managing Directors (Peter Braffman 36/11, Derek Jones 35/15, Jason Metakis 22/12, Brian Sullivan 25/8, and Bernard Yancovich 27/22).
- The GP also has individual investment committees for each strategy (private equity, real estate, private credit and infrastructure) that meet prior to the Firm-wide Investment Committee, demonstrating the Firm's level of diligence with investments.

Strong investment governance, due diligence and operational capability

- Following an initial preliminary due diligence review and before investment committee review, each opportunity is subjected to a more comprehensive investment due diligence review. This includes an in-depth track record and strategy analysis; a revaluation of unrealized investments; management team assessment, and detailed reference checks.
- Proposed investments will also be subjected to operational due diligence reviews which are intended to evaluate a manager's ability to meet the demands of managing institutional capital and the risks associated with this more complex level of investment. Notably the operations and investment teams are part of GCM's manager mentoring process as outlined on the following two pages.

Connecticut Inclusive Investment Initiative (Ci3) Mandate

Institutional Investor Experience with Emerging & Diverse Manager Programs

- GCM Grosvenor is a leader in the asset management industry in providing customized investment programs that focus on emerging and diverse managers in the alternatives space.
- GCM has a 20-year history of partnering with state pension plans to implement their emerging and diverse manager program via client-specific custom mandates.
- The Firm's emerging and diverse manager platform sits on top of GCM Grosvenor's 50-year tenure of investing across all private market strategies.

Why the Need for a Private Equity and Real Estate Partner in the Ci3 Program

- This strategic mandate will enable the Ci3 program to accelerate its commitments to emerging and diverse managers in the Private Equity and Real Estate.
- GCM, as our partner, will assist in CRPTF's ability to deploying smaller capital commitments to emerging managers, which is a significant constraint on our capital deployment and resource intensive for oversight and monitoring.
- GCM is well positioned with a deep, experienced team to track, source, diligence and invest in innovative managers for our mandate as defined.

GCM's Competitive Edge

- The Firm's size and scale allows it achieve deeper, and more frequent interactions with managers to provide the possible opportunity for preferred economics, terms (including board seats), and to stay abreast of the broader market trends.
- GCM's goal is to commit the necessary resources to complete comprehensive diligence, be constructive and transparent in its findings, and be able to go into a first close in a meaningful way. GCM views that forming early relationships with managers is their competitive edge and can create stronger outcomes for their clients.

How GCM Supports Emerging Managers

- Starting pre-fund and progressing through transition, GCM mentors managers throughout their lifecycle across a variety of best practices to help institutionalize their platforms while strengthen its relationship.

Organizational structure

- Budget analysis
- Service provider suggestions
- Conflicts of interest
- Capital planning

Market standards

- Fund terms
- Fee structures
- Industry references

Performance

- Cash management
- Valuations
- Track record template
- J-curve mitigation

Capital raising

- Presentation feedback
- Serve as a reference
- Investor referrals
- Anchor investor
- JV / Seeding structures

Operational best practices

- Policies & procedures
- Compliance
- Reporting
- Cash controls
- Expense disclosures

Source: GCM Grosvenor

Strategic Mandate for the Ci^3 Program

Fund of One Structure
GCM Grosvenor - Connecticut

- The commitment would help foster the implementation of the Connecticut Inclusive Investment Initiative (Ci^3) which was established to provide the CRPTF with opportunities for small and emerging or diverse managers to compete for investment mandates.
- The recommended commitment would span across CRPTF's Private Equity, and Real Estate sectors which are currently under review with the ongoing asset allocation study.
- GCM would also provide the CRPTF with the ability to gain early access to potential "best-in-class" managers where allocation growth may be achieved over time and provide those managers with a possible path to a more direct limited partner relationship eventually.

The commitment would be aligned with the CRPTF's strategic objectives:

- Enable the Ci3 program to grow its target allocation (5 – 10% of plan assets).
- Increase allocation in accordance with policy targets for Private Equity, and Real Estate investments.
- A fully customized mandate would target the specific subsectors below:
  - in Private Equity, GCM expects the target 60% buyout, 20% growth and 20% special situations,
  - in Real Estate, GCM expects to primarily target value-add and opportunistic investments across sectors.

Track Record and Performance

- Given that a large portion of GCM's business constitutes customized separate accounts and fund of ones that invest in primary funds, co-investments, joint-ventures/revenue shares, and secondaries across Private Equity and Real Estate, PFM investment professionals elected to review the total performance of each asset class in aggregate regardless of underlying structure (please see table below).
- Further, due to GCM's highly customized investment approach, PFM staff also reviewed the performance of primary fund investments on a stand-alone basis, by breaking out performance by vintage year and compared performance relative to asset class appropriate benchmarks (detailed on the following pages).

Total Asset Class Performance, Strategy inception thru December 31, 2021

Asset Class	Commitment	Invested Capital	Realized Proceeds	Unrealized Value	Investment Net TVPI	Investment Net DPI	Investment Net IRR
Private Equity	**$ 11,126.6**	**$ 9,954.6**	**$ 9,551.0**	**$ 7,762.9**	**1.74x**	**0.96x**	**16.9%**
Realized and Substantially Realized Investments	*$ 4,816.7*	*$ 5,089.4*	*$ 8,328.1*	*$ 1,500.7*	*1.93x*	*1.64x*	*17.5%*
Real Estate	**$ 2,688.1**	**$ 1,927.0**	**$ 1,198.4**	**$ 1,213.5**	**1.25x**	**0.62x**	**13.1%**
Realized and Substantially Realized Investments	*$ 466.8*	*$ 483.5*	*$ 726.8*	*$ 55.2*	*1.62x*	*1.50x*	*21.4%*

GCM Grosvenor data, USD millions, each asset class includes performance across primary funds, co-investments, joint-ventures/revenue shares, secondaries where applicable.

Private Equity, Small and Emerging or Diverse

Asset Class	Commitment	Invested Capital	Realized Proceeds	Unrealized Value	Investment Net TVPI	Investment Net DPI	Investment Net IRR	Burgiss IRR Quartile	Burgiss TVPI Quartile	Burgiss DPI Quartile
Private Equity (Excluding Venture)										
Small and Emerging or Diverse Manager Investments (Total)	**$ 14,537.1**	**$ 12,982.7**	**$ 12,835.2**	**$ 9,042.5**	**1.69x**	**0.99x**	**16.7%**			
Small and Emerging or Diverse Manager Primary Funds	***$ 10,007.8***	***$ 8,724.2***	***$ 9,678.7***	***$ 4,846.6***	***1.66x***	***1.11x***	***15.7%***			
1999	*$ 8.1*	*$ 9.3*	*$ 15.0*	*$ 0.0*	*1.60x*	*1.60x*	*11.4%*	*2nd*	*2nd*	*2nd*
2000	*$ 33.8*	*$ 35.3*	*$ 46.6*	*$ -*	*1.32x*	*1.32x*	*7.3%*	*3rd*	*3rd*	*3rd*
2001	*$ 34.5*	*$ 36.3*	*$ 116.6*	*$ 0.0*	*3.21x*	*3.21x*	*36.5%*	*1st*	*1st*	*1st*
2002	*$ 17.0*	*$ 17.8*	*$ 45.1*	*$ 0.0*	*2.53x*	*2.53x*	*24.0%*	*2nd*	*1st*	*1st*
2003	*$ 19.5*	*$ 20.0*	*$ 35.8*	*$ -*	*1.79x*	*1.79x*	*20.2%*	*2nd*	*2nd*	*2nd*
2004	*$ 107.5*	*$ 102.6*	*$ 162.8*	*$ 11.6*	*1.70x*	*1.59x*	*15.1%*	*2nd*	*2nd*	*2nd*
2005	*$ 325.5*	*$ 351.3*	*$ 481.6*	*$ 16.2*	*1.42x*	*1.37x*	*7.3%*	*3rd*	*3rd*	*3rd*
2006	*$ 381.1*	*$ 412.5*	*$ 751.5*	*$ 13.7*	*1.85x*	*1.82x*	*11.9%*	*2nd*	*1st*	*1st*
2007	*$ 602.7*	*$ 659.2*	*$ 1,160.8*	*$ 28.5*	*1.80x*	*1.76x*	*14.3%*	*1st*	*2nd*	*2nd*
2008	*$ 561.3*	*$ 622.9*	*$ 1,063.5*	*$ 17.6*	*1.74x*	*1.71x*	*16.9%*	*1st*	*2nd*	*1st*
2009	*$ 270.8*	*$ 342.2*	*$ 479.1*	*$ 41.9*	*1.52x*	*1.40x*	*13.4%*	*3rd*	*3rd*	*3rd*
2010	*$ 1,068.8*	*$ 1,232.3*	*$ 1,887.7*	*$ 149.3*	*1.65x*	*1.53x*	*16.9%*	*2nd*	*2nd*	*2nd*
2011	*$ 564.4*	*$ 683.1*	*$ 858.8*	*$ 242.5*	*1.61x*	*1.26x*	*13.4%*	*2nd*	*3rd*	*3rd*
2012	*$ 462.3*	*$ 500.4*	*$ 571.9*	*$ 304.0*	*1.75x*	*1.14x*	*18.0%*	*2nd*	*2nd*	*3rd*
2013	*$ 256.2*	*$ 279.6*	*$ 288.9*	*$ 174.0*	*1.66x*	*1.03x*	*14.0%*	*2nd*	*2nd*	*3rd*
2014	*$ 252.0*	*$ 292.0*	*$ 284.5*	*$ 176.2*	*1.58x*	*0.97x*	*16.1%*	*2nd*	*3rd*	*2nd*
2015	*$ 594.2*	*$ 659.8*	*$ 661.8*	*$ 503.1*	*1.77x*	*1.00x*	*19.2%*	*2nd*	*2nd*	*2nd*
2016	*$ 438.3*	*$ 419.0*	*$ 256.8*	*$ 640.9*	*2.14x*	*0.61x*	*29.1%*	*1st*	*1st*	*2nd*
2017	*$ 649.0*	*$ 589.6*	*$ 294.0*	*$ 801.6*	*1.86x*	*0.50x*	*32.1%*	*1st*	*2nd*	*2nd*
2018	*$ 520.8*	*$ 464.2*	*$ 148.3*	*$ 489.3*	*1.37x*	*0.32x*	*22.6%*	*2nd*	*2nd*	*2nd*
2019	*$ 981.0*	*$ 565.4*	*$ 31.0*	*$ 796.0*	*1.46x*	*0.05x*	*46.2%*	*1st*	*2nd*	*2nd*
2020	*$ 1,103.7*	*$ 360.4*	*$ 35.8*	*$ 363.9*	*1.11x*	*0.10x*	*15.5%*	*3rd*	*3rd*	*2nd*
2021	*$ 659.0*	*$ 68.8*	*$ 0.8*	*$ 76.1*	*1.12x*	*0.01x*	*58.2%*	*1st*	*2nd*	*1st*

GCM Grosvenor data as of December 30, 2021 (in USD millions)

- GCM has a long track record of investing in private equity across primary funds and co-investments going back to 1999.
- PFM staff analyzed all private equity investments in small and emerging or diverse managers as a single cohort and the respective primary funds subset as well.
- Since strategy inception, the Firm had invested $13 billion in the sector generating a net total value to paid in multiple ("TVPI"), distributions to paid in capital multiple ("DPI"), and internal rate of return ("IRR") of 1.7x, 1.0x, and 16.7%, respectively, as of December 31, 2021.
- Since strategy inception, the Firm had invested $8.7 billion in the primary fund subsector generating a net: TVPI, DPI, and IRR of 1.7x, 1.1x, and 15.7%, respectively, as of December 31, 2021.
- Primary funds were also broken out into vintage years and performance was compared against the Burgiss All Private Equity (ex-venture), North American Benchmark. As can be seen from the table above, GCM's performance was ranked either first or second quartile across all three relevant performance metrics for 77% of the last 23 years.

Real Estate, Small and Emerging or Diverse

Asset Class	Commitment	Invested Capital	Realized Proceeds	Unrealized Value	Investment Net TVPI	Investment Net DPI	Investment Net IRR	Burgiss IRR Quartile	Burgiss TVPI Quartile	Burgiss DPI Quartile
Real Estate										
Small and Emerging or Diverse Manager Investments (Total)	**$ 2,688.1**	**$ 1,927.0**	**$ 1,198.4**	**$ 1,213.5**	**1.25x**	**0.62x**	**13.1%**			
Small and Emerging or Diverse Manager Principal Investments	*$ 1,506.2*	*$ 919.1*	*$ 393.5*	*$ 692.9*	*1.18x*	*0.43x*	*12.8%*			
Small and Emerging or Diverse Manager Primary Funds	*$ 1,181.9*	*$ 1,007.9*	*$ 804.9*	*$ 520.6*	*1.32x*	*0.80x*	*13.2%*			
2010	*$ 15.0*	*$ 13.9*	*$ 23.3*	*$ 0.1*	*1.69x*	*1.68x*	*19.0%*	*1st*	*2nd*	*1st*
2011	*$ 93.8*	*$ 103.3*	*$ 157.7*	*$ 4.1*	*1.57x*	*1.53x*	*20.2%*	*1st*	*2nd*	*2nd*
2012	*$ 70.4*	*$ 87.3*	*$ 119.6*	*$ 6.3*	*1.44x*	*1.37x*	*12.6%*	*2nd*	*3rd*	*2nd*
2013	*$ 85.5*	*$ 99.7*	*$ 62.3*	*$ 25.1*	*0.88x*	*0.63x*	*(4.7%)*	*4th*	*4th*	*4th*
2014	*$ 106.0*	*$ 137.7*	*$ 151.4*	*$ 28.5*	*1.31x*	*1.10x*	*11.4%*	*2nd*	*3rd*	*2nd*
2015	*$ 103.1*	*$ 113.0*	*$ 79.2*	*$ 58.6*	*1.22x*	*0.70x*	*8.4%*	*3rd*	*3rd*	*2nd*
2016	*$ 170.4*	*$ 165.7*	*$ 109.0*	*$ 128.1*	*1.43x*	*0.66x*	*17.4%*	*2nd*	*3rd*	*2nd*
2017	*$ 56.0*	*$ 55.2*	*$ 10.6*	*$ 59.2*	*1.27x*	*0.19x*	*9.3%*	*3rd*	*3rd*	*3rd*
2018	*$ 155.0*	*$ 110.2*	*$ 71.8*	*$ 89.7*	*1.47x*	*0.65x*	*29.9%*	*1st*	*1st*	*1st*
2019	*$ 82.3*	*$ 40.2*	*$ 7.5*	*$ 43.6*	*1.27x*	*0.19x*	*25.5%*	*1st*	*1st*	*1st*
2020	*$ 108.8*	*$ 52.1*	*$ 6.4*	*$ 52.8*	*1.14x*	*0.12x*	*28.1%*	*2nd*	*2nd*	*1st*
2021	*$ 135.8*	*$ 29.6*	*$ 6.0*	*$ 24.6*	*1.03x*	*0.20x*	*10.2%*	*2nd*	*2nd*	*1st*

GCM Grosvenor data as of December 30, 2021 (in USD millions)

- GCM has been investing with small and emerging or diverse real estate managers going back to 2010.
- Within real estate the GP takes a differentiated approach when compared to GCM's other private market business lines by placing a large emphasis on joint ventures, co-investments, and seeding strategies ("Principal Investments"). GCM's joint venture strategy is focused on investing with high-quality operating partners that it can help grow into discretionary fund managers versus solely being a non-discretionary capital provider for one-off deals. GCM believes this provides a differentiated and attractive source of flexible capital to support emerging managers over the long-term and more properly aligns GCMs interests with the long-term interests of managers.
- PFM staff analyzed all real estate investments in small and emerging or diverse managers as a single cohort and the respective principal and primary fund subsets separately as well.
- Since strategy inception, the Firm had invested $1.9 billion in the sector generating a net TVPI, DPI, and IRR of 1.3x, 0.6x, and 13.1%, respectively, as of December 31, 2021.
- Since strategy inception, the Firm had invested $1.0 billion in the primary fund subsector generating a net TVPI, DPI, and IRR of 1.3x, 0.8x and 13.2% respectively, as of December 31, 2021.
- Primary funds were also broken out into vintage years and performance was compared against the Burgiss Opportunistic and Value-Add, North American Benchmark. As can be seen from the table above, GCM's performance was ranked either first or second quartile across all three relevant performance metrics for 69% of the last 12 years.

Strengths and Rationale

Long and strong track record

- The GP has one of the industry's longest tenured track records managing a large number of dedicated accounts with a focus on small and emerging or diverse funds across Private Equity and Real Estate. GCM has been investing in small and emerging or diverse managers in private equity since 1999, and real estate since 2010. As demonstrated on the previous slides pertaining to the GP's track record, the primary funds have outperformed their respective benchmarks the majority of the time.

Large and cohesive investment and back-office teams

- GCM's large investment and back-office teams allow for a robust sourcing, and monitoring platform, which would provide the CRPTF with a cost-effective opportunity to invest in managers that would otherwise be too small for the current program.
- GCM's large teams would also be able to provide value-add services for the CRPTF which would include strategic planning, regular deal flow calls, annual portfolio reviews, custom reporting, advisory on operational/compliance Issues, and due diligence. Furthermore, GCM has demonstrated discipline with hiring additional investment and operational staff with its growth in AUM over the last several years to manage staff capacity in deploying larger pools of capital.

Industry leader with broad market access

- GCM has a longstanding "Open Door" policy that encourages managers to meet with GCM investment professionals exploring fundraises, often years before official capital raises. This often results in GCM getting an early look at investment opportunities, and access to deal flow. GCM has a global presence with offices worldwide, employing over 500 professionals, including 172 investment professionals, that focus on private markets, which helps GCM maintain a broad and current view of the market.
- For over a decade, GCM has sponsored annual small and emerging or diverse manager conferences to raise visibility between institutional investors and managers. These conferences are an important source of deal flow for GCM's mandates. GCM has also indicated that it would provide support for the CRPTF's Ci3 program, including conference logistics, content, and thematic planning.

Key Risks and Mitigants

Additional layer of fees resulting from a "fund of funds" like strategy

- The approach of investing in a "fund of funds" like strategy, albeit one focused on small, and emerging, or diverse Private Equity and Real Estate managers, aims to achieve more diversification and asset allocation when compared to investing directly. In exchange for this approach, investors typically pay fees on both the underlying investments and to the manager of the "Fund of Funds", in this case GCM.
- PFM investment staff acknowledge this higher fee, but also acknowledge the benefit of not needing to build-out such a platform in-house. Significant resources and scale are required to appropriately diligence, and monitor smaller, emerging or diverse managers that are not typically targeted by larger institutional investors. PFM staff intend to work closely with GCM to negotiate an appropriate, market fee for this customized strategy. Lastly, the scale of GCM is expected to help offset overall fees, resulting in lower fees and/or more favorable economics on the underlying investments.

Multiple active separate accounts, fund of ones, and closed-end vehicles with a similar investment focus

- As a market leader in the small and emerging or diverse Private Equity and Real Estate business, GCM manages several active separate accounts/funds of one with similar mandates as Ci^3. Additionally, GCM has launched stand-alone co-investment and primary fund comingled vehicles with similar strategies as their separate account and fund of one mandates. At first glance, the business model would suggest a risk of overlapping deal flow and direct competition between multiple accounts for deal access.
- PFM investment staff, CRPTF consultant Hamilton Lane, and GCM discussed the allocation policy and gained comfort in the Firm's approach to managing access. To the extent investment opportunities overlap, GCM has strong operational teams and procedures given its firm size, including a dedicated allocation team, in order to manage its large number of similarly focused accounts which are given access on a pro-rata basis.

Key Terms Summary

Target Size	• $300 million
GP Commitment	• 0.5% (at least $1.5 million)
Investment Targets	• Focus on primary fund investments, joint ventures, and co-investments
Markets	• Primarily North America, across private equity, and real estate
Fund Term	• 15-year term with 2 one-year extensions at the discretion of the GP
Investment Period	• 3 years
Management Fee	• Primary fund investments and co-investments target mix will be determined during legal negotiations which impacts fees.
Waterfall Type	• European waterfall
Preferred Return	• 8% for primary fund investments and co-investments
Structure	• Fund of one
Carry	• 5% for primary fund investments and 10% for co-investments

Legal and Regulatory Disclosure

Separate Account GCM Grosvenor/State of Connecticut Emerging & Diverse Mandate

- Through its disclosure, GCM Customized Fund Investment Group, LP ("GCM"), states that it has no material litigation, lawsuits, legal proceedings or governmental investigations within the last five years.
- GCM does not have any material claims under its fidelity, fiduciary or E&O insurance policies, and no ongoing internal investigations of its employees.
- GCM states it has adequate procedures in place to undertake internal investigations of its employees, officers and directors.

Compliance Review

GCM Grosvenor/State of Connecticut Ci3 Mandate

I. Review of Required Legal and Policy Attachments

GCM CUSTOMIZED FUND INVESTMENT GROUP, LP ("GCM") completed all necessary attachments. It disclosed no impermissible third-party fees, campaign contributions, known conflicts, or gifts. The firm's disclosure of legal/regulatory proceedings is being reviewed by the Legal Unit.

II. Workforce Diversity

As of December 2021, GCM, a Chicago Illinois-based firm, employed 483 people, 30 more than the 453 employed as of December 2019. The firm identified 25 women and/or minorities as Executive/Senior Level Officials and Managers over the period reported from 2019 to 2021. Over the 3-year reported (2019 – 2021), the firm promoted 50 women and 44 minorities within the ranks of professionals or managers.

Workforce Statistics

For Executive/Senior Level Officials and Managers:

- Women held 33% (7 of 21) of these positions in December 2021, slightly down from 30% (6 of 20) in December 2020, but up from 17% (3 of 18) in December 2019.
- Minorities held 14% (3 of 21) (14% Black) of these positions in December 2021, slightly down from 15% (3 of 20) (15% Asian) in December 2020, and 17% (3 of 18) (17% Black) in December 2019.

At the Management Level overall:

- Women held 38% of these positions for the three years reported by the firm (2019-2021).
- Minorities held 30% of these positions both in December 2021 (71 of 237) (7% Black, 4% Hispanic, 19% Asian, and 0.42% Two or More Races) and in December 2020 (64 of 216) (8% Black, 4% Hispanic, 18% Asian, and 0.46% Two or More Races), up from 28% (57 of 207) (7% Black, 2% Hispanic, 17% Asian, and 0.48% Two or More Races) in December 2019.

Compliance Review

GCM Grosvenor/State of Connecticut Ci^3 Mandate

At the Professional Level:

- Women held 49% (100 of 205) of these positions in December 2021, up from 45% (85 of 191) in December 2020, and 49% (97 of 200) in December 2019.
- Minorities held 30% (61 of 205) (8% Black, 6% Hispanic, 13% Asian, and 2% Two or More Races) of these positions in December 2021, up from 28% (53 of 191) (6% Black, 5% Hispanic, 14% Asian, and 2% Two or More Races) in December 2020, and 29% (58 of 200) (5% Black, 7% Hispanic, 15% Asian, and 3% Two or More Races) in December 2019.

Firm-wide:

- Women held 47% (226 of 483) of these positions in December 2021, up from 45% (204 of 451) in December 2020, and 48% (216 of 453) in December 2019.
- Minorities held 31% (150 of 483) (8% Black, 6% Hispanic, 16% Asian, and 2% Two or More Races) of these positions in December 2021, slightly up from 30% both in December 2020 (135 of 451) (8% Black, 5% Hispanic, 15% Asian, and 2% Two or More Races) and December 2019 (134 of 453) (7% Black, 5% Hispanic, 15% Asian, and 2% Two or More Races).

Compliance Review

GCM Grosvenor/State of Connecticut Ci3 Mandate

Corporate Citizenship

Charitable Giving:

- Giving back to the communities is one of GCM's core values. This commitment is accomplished through hands-on volunteering, providing financial support, or acting as board members or mentors. Annually, GCM donates approximately $5 million to over 225 organizations to support financial literacy, college preparation, college to career readiness and pro-bono legal work and community beautification projects. The organizations GCM supports focus on education, civic and community development and recruitment/talent acquisition. Some of these organizations include After School Matters, Chicago Scholars, UNCF, Big Brothers Big Sisters, United Way, National Immigration Justice Center, Anti-Defamation League, A Better Chicago, Girls Who Invest, BLK Management among others. In addition, the firm encourages employees' charitable activities in several ways. For instance, GCM provides one day of paid time off per calendar year to its employees to volunteer with a 501 (c)(3) nonprofit or its equivalent and become involved and lend support to programs that positively impact the quality of life in neighborhoods and cities independent of the firm's sponsored volunteer events. To illustrate this, in the spring of 2020 and 2021 GCM sponsored a COVID-19 Employee Giving Campaign where the firm provided employees with funds to support individuals, local businesses, nonprofit organizations, and healthcare facilities impacted by the pandemic. GCM is proud to report that in 2021 employees made over 370 donations to causes that mattered them the most. Furthermore, the firm's employees fill approximately 200 board and junior board seats of various organizations.

Compliance Review

GCM Grosvenor/State of Connecticut Ci3 Mandate

Internships/Scholarships:

- The GCM Grosvenor Summer Internship Program targets rising seniors. This program offers meaningful work experience such as: a realistic preview of the full-time analyst program, senior management exposure through "Lunch and Learn" series, exposure to departments across the firm through overviews, pairing with an analyst or associate who serves as a coach and mentor, as well as networking events with interns, analysts, and senior staff. Women and/or minorities have been well represented in the summer internships. For instance, in 2020, 75% of interns were women and/or minorities while 69% of this group were interns in 2021.

- Since 2016 GCM is a voting member of the Thurgood Marshall College Fund (TMCF) Board of Director and provides funds for seven scholarships and contributes to the TMCF Forever Fund which ensures the organization's sustainability. As a result, the firm promotes TMCF's objective which is to provide a bridge between corporate America and the talent that exists at historically Black colleges and universities (HBCU). For 2021-22, the TMCF-GCM Grosvenor HBCU Scholarship Program will award seven (7) scholarships for up to $10,000 for a total of $68,000 to students submitting applications to TMCF's All-Around Scholarship. Moreover, GCM awards $18,000 in scholarship annually for 4 years to one female student from Chicago to attend Saint Xavier University.

Procurement:

- GCM recognizes the value of diversity in its workforce and as such communicates its commitment to diversity by providing the firm's Commitment and Diversity Statement as well as provisions in its subcontracts that are consistent with the purpose of GCM's Diversity Action Plan. Additionally, the firm seeks to partner with subcontractors or vendors that are certified as minority, women, or people with disability-owned businesses.

Environmental, Social and Governance Analysis

Overall Assessment : Evaluation and Implementation of Sustainable Principles

GCM Grosvenor described a comprehensive integration of ESG factors into its investment processes. GCM utilizes an evaluation and monitoring framework that is based on MSCI's ESG scoring methodology. The firm is a signatory of the UN Principles for Responsible Investment, the Task Force on Climate-Related Financial Disclosures, ILPA and GRESB. GCM integrates ESG initiatives across investment teams, with a managing director of sustainability leading the firm's overall ESG integration. The firm utilizes data from manager questionnaires, external ESG consultants, and the ESG Data Convergence Project for ESG trainings and research.

The firm applies investor-specific policies with respect to civilian firearms and manufacturers. The firm does not co-invest in this sector at this time.

Overall, GCM's disclosure shows meaningful integration of ESG factors into its processes.

SCORE

1

Criteria	Response
Firm has an ESG policy	Yes
If Yes, firm described its ESG policy	Yes
If Yes, firm provided examples of ESG factors considered in the decision-making process, explained the financial impact of these ESG factors	Yes
Designated staff responsible for sustainability policies and research	Yes
Firm provides training/resources on sustainability issues, explained sources of ESG-related data	Yes
Signatory/member of sustainability-related initiatives or groups	Yes
Policy for evaluating current or prospective relationships with manufacturers or retailers of civilian firearms	No

Criteria	Response
Policy that requires safe and responsible use, ownership or production of guns	No
Enhanced screening of manufacturers or retailers of civilian firearms	No
Enhance screening of any industry/sector subject to increased regulatory oversight, potential adverse social and/or environmental impact	Yes
Merchant credit relationship with retailers of civilian firearms and accessories	No
If Yes, firm confirms compliance with laws governing firearms sales	N/A

GCM Grosvenor/State of Connecticut Co-Investment Mandate (No PPM)

Memorandum

Details	
Meeting Date:	2/23/22; refreshed on 6/28/22
GP Attendees:	Sean Conroy, Fredrick Pollock, Jason Howard, Peter Braffman, Akhil Unni, Kate Pollan and Bryce Robertson
HL Attendees:	Katie Moore, Sean Barber and Victoria Basso

Conclusions

- GCM is well-positioned to execute on the mandate due to its well-established strategy-focused teams and overall experience investing in the private markets. The General Partner has established a strong reputation in the Emerging & Diverse manager space, positioning GCM with access to deal flow. GCM has hosted annual Small & Emerging Managers and Diverse & Women Managers Conferences for over a decade, further solidifying the General Partner's position in the Emerging & Diverse investing space.
- GCM maintains a highly experienced, cohesive senior investment team with an average of 12 years of tenure, demonstrating the team's ability to invest together. The investment professionals are specialized across private equity and real estate, driving strategy expertise.
- GCM has generated attractive net returns in its recent separately managed accounts across all targeted strategies. Additionally, the General Partner has one of the industry's longest tenured track records managing a large number of dedicated accounts with a focus on Emerging & Diverse funds.
- While GCM has strong operational teams and procedures, including a dedicated allocation team, the General Partner does not leverage any software or technology tools in order to manage its large number of similarly focused separate accounts.

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Fund Information	
General Partner:	GCM Grosvenor ("General Partner"), ("Grosvenor")
Fund:	GCM Grosvenor/State of Connecticut Co-Investment Mandate ("Fund")[1]
Target Size/Hard Cap:	$300 million/$300 million
Investment Period:	3 years
Fund Term:	15 years; + 2 one-year extensions at the discretion of the General Partner
GP Commitment:	0.5% (at least $1.5 million)

[1] The General Partner is a publicly owned entity (NASDAQ: GCMG)

- The Fund is a fund-of-one for State of Connecticut's Emerging and Diverse mandate covering private equity and real estate.

Recommendation

Approved

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Strategy	
Asset Class:	Private equity; real estate
Strategy:	Fund-of-funds; joint ventures; co-investments
Substrategy:	Growth equity; corporate finance/buyout; real estate
# of Investments Target:	Private equity: 10 to 12 primaries; 8 to 10 co-investments Real estate: 15 to 20 manager positions; 20 to 30 underlying investment vehicles
Inv. Size Range Target:	Private equity: $150 million Real estate: $150 million
Geography:	North America
Industries:	Diversified

- The General Partner anticipates investing in primary fund investments and co-investments across a diverse set of sectors, agnostic to asset class.
    - GCM plans to focus its primary investments in Emerging & Diverse managers.
        - The General Partner does not anticipate investing in management company stakes but rather in contractual revenue sharing and/or capital event arrangements as opportunities present themselves.
    - The General Partner may opportunistically invest in secondary deals.
- The General Partner has dedicated private equity and real estate teams that individually source deals for the Fund.
    - GCM maintains an additional dedicated Diverse Manager team that focuses solely on sourcing opportunities that meet Diverse manager qualifications across all four verticals.
- The various investment teams broadly cover Emerging Manager investments in their respective strategies.

Private Equity

- GCM expects to allocate $150 million to private equity.
- Within private equity, GCM expects the Fund to comprise 60% buyout and 20% growth with the remaining 20% invested opportunistically.

Real Estate

- The General Partner plans to allocate $150 million to real estate.
- GCM expects to also pursue joint venture co-investment opportunities within its real estate allocation.

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Track Record

Total Separate Accounts and/or Funds-Of-One Performance by Asset Class – 2015 to Present

GCM Grosvenor Prior Investment Performance As of 12/31/21						
($mm) Asset Class[1]	Commitment Size	Amount Invested	Amount Realized	Unrealized Value	TVPI[2]	Net IRR[2]
Private Equity	$8,478	$6,251.2	$2,627.1	$7,684.6	1.7x	24.4%
Real Estate	2,374	1,573.0	758.5	1,172.2	1.2x	13.6%
Total	**$10,851.9**	**$7,824.2**	**$3,385.6**	**$8,856.8**	**n/a**	**n/a**

[1] Represents SMAs from 2015 to present with Small & Emerging or Diverse manager investments

[2] Net values provided are gross of SMA fees but net of underlying investment fees

- The General Partner may leverage a line of credit subject to Connecticut's consent.

Total Realized Separate Accounts and/or Funds-Of-One Performance by Asset Class – 2015 to Present

GCM Grosvenor Realized and Substantially Realized Investment Performance As of 12/31/21					
($mm) Asset Class[1]	Amount Invested	Amount Realized	Unrealized Value	TVPI[2]	Net IRR[2]
Private Equity	$1,364.8	$1,726.0	$853.0	1.9x	24.7%
Real Estate	234.0	330.1	42.9	1.6x	26.8%
Total	**$1,598.8**	**$2,056.1**	**$895.9**	**n/a**	**n/a**

[1] Represents SMAs from 2015 to present with Small & Emerging or Diverse manager investments

[2] Net values provided are gross of SMA fees but net of underlying investment fees

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Total Private Markets Performance – 2015 to Present

GCM Grosvenor Prior Investment Performance As of 12/31/21						
($mm) Asset Class[1]	Commitment Size	Amount Invested	Amount Realized	Unrealized Value	TVPI[2]	Net IRR[2]
Private Markets Total[3]	$11,895	$8,708.5	$3,622.6	$9,687.5	1.5x	21.4%

GCM Grosvenor Realized and Substantially Realized Investment Performance As of 12/31/21					
($mm) Asset Class[1]	Amount Invested	Amount Realized	Unrealized Value	TVPI[2]	Net IRR[2]
Private Markets Total[3]	$1,683.7	$2,165.4	$896.0	1.8x	24.5%

[1] Represents SMAs from 2015 to present with Small & Emerging or Diverse manager investments

[2] Net values provided are gross of SMA fees but net of underlying investment fees

[3] Private markets total consists of the subtotals of private equity, infrastructure and real estate strategies

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Organization[1]	
Firm Inception:	1971
Locations:	Chicago (headquarters), New York, Los Angeles, London, Frankfurt, Tokyo, Hong Kong, Seoul and Toronto
Formal ESG Policy:	Yes
PRI Signatory:	Yes
Investment Team:	88 investment professionals; 22 Managing Directors, 12 Executive Directors, 16 Principals and 38 Analysts & Associates
Additional Resources:	1 Chairman & CEO, 1 Vice Chairman, 1 President, 1 Chief Financial Officer, 1 Chief Human Resources Officer, 1 Chief Operating Officer, 1 Chief Technology Officer, 1 Chief Investment Officer, 1 Chief Risk Officer, 1 Head of Investor Relations, 1 General Counsel, 10 risk management professionals, 15 operational due diligence professionals and 342 operations professionals

[1] As of February 2022

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Fund Focused Investment Professionals

Experience of Senior Professionals						
Name	Title	Location	Tot. Exp. (yrs.)	Tenure (yrs.)	Prior Experience	Educational Background
Jonathan Levin	President	Chicago	18	10	• KKR • Bear Stearns	• Harvard College (BA)
Fred Pollock	Chief Investment Officer	Chicago	17	7	• Morgan Stanley • Deutsche Bank	• Harvard Law School (JD) • University of Nevada (BS)
Bernard Yancovich	Managing Director	New York	27	22	• Donaldson, Lufkin & Jenrette • KPMG	• University of Western Ontario (MBA) • McGill University (BA)
Sean Conroy	Managing Director	Chicago	28	18	• ABN AMRO, Vice President • UBS, U.S. Government Fixed Income Trader	• Northwestern University (MBA) • Fairfield University (BA)
Derek Jones	Managing Director	New York	35	15	• Oncore Capital • Provender Capital • Cornerstone Equity Investors	• New York University (MBA) • American University (BA)
Jason Metakis	Managing Director	New York	22	12	• Donaldson, Lufkin & Jenrette	• Harvard Business School (MBA) • Harvard University (BA)
Peter Braffman	Managing Director	New York	36	11	• Zurich Alternative Asset Management • Goldman, Sachs & Co. • Kirkland & Ellis LLP	• Northwestern University (MBA) • Northwestern University (JD) • University of Rochester (BA)
Brian Sullivan	Managing Director	New York	25	8	• Paul Capital • Boston Consulting Group • U.S. Navy	• University of Pennsylvania (MBA) • United States Naval Academy (BS)
Jason Howard	Managing Director	Los Angeles	23	8	• Credit Suisse Private Equity, Principal • Goldman Sachs, Associate • The Walt Disney Company, Manager	• Emory University (BA)
Akhil Unni	Managing Director	New York	25	7	• Quantum Utility Generation LLC, Director • Credit Suisse, Principal • AIG Financial Products, Vice President	• Harvard University (MPP) • Brown University (BA)
Amy Wierenga	Chief Risk Officer	New York	20	2	• BlueMountain Capital Management • Merrill Lynch	• University of Chicago (MBA) • Butler University (BS)

- The General Partner was founded in 1971 by Richard Elden with a focus on private equity, infrastructure, real estate, credit, absolute return strategies and multi-asset class opportunistic investments.
- In November 2020, GCM completed its IPO, listing on the NASDAQ under the ticker: GCMG.
- As of 10/1/21, the General Partner had $70.5 billion of assets under management.
- GCM manages several separately managed accounts focused on Emerging & Diverse managers; the General Partner also recently raised over $700 million for its inaugural Advance Fund, which also only targets private equity investments in Emerging & Diverse managers, for investors that are too small for a separate account on a standalone basis.
- GCM actively monitors ESG related KPIs at its portfolio companies on a quarterly basis and completes full ESG due diligence prior to its investment decision.
- The General Partner is 46% female and 31% ethnically diverse across the entire firm.
    - 51% of the senior professionals are women or ethnically diverse.
    - Additionally, GCM's investment team is 28% female and 25% ethnically diverse.

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Tenure

Name	Title	Tot. Exp. (yrs.)	Tenure (yrs.)	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	YTD 2022
Jonathan Levin[1]	President	18	10											
Fred Pollock[1]	Chief Investment Officer	17	7											
Bernard Yancovich[1]	Managing Director	27	22											
Sean Conroy	Managing Director	28	18											
Derek Jones[1]	Managing Director	35	15											
Jason Metakis[1]	Managing Director	22	12											
Peter Braffman[1]	Managing Director	36	11											
Brian Sullivan[1]	Managing Director	25	8											
Jason Howard	Managing Director	23	8											
Akhil Unni	Managing Director	25	7											
Amy Wierenga[1]	Chief Risk Officer	20	2											

= Tenure with GCM Grosvenor
= Total Experience

[1] Indicates members of the investment committee

- The investment committee consists of President Jonathan Levin, Chief Investment Officer Frederick Pollock, Chief Risk Officer Amy Wierenga and Managing Directors Peter Braffman, Derek Jones, Jason Metakis, Brian Sullivan and Bernard Yancovich.
    - Additionally, the General Partner has individual investment committees for each of its strategies, including private equity and real estate.
    - The proposed investment must receive approval from GCM's respective strategy-specific investment committee prior to final investment committee approval.
- Additionally, the investment team is supported by 342 operations professionals, including fund finance, accounting, legal and compliance teams.

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Important Disclosures

All information contained within this report has been gathered from sources believed to be reliable, including but not limited to the general partner(s), other industry participants and the Hamilton Lane Investment Database, but its accuracy cannot be guaranteed.

The information contained in this report may include forward-looking statements regarding the fund presented or its portfolio companies. Forward-looking statements include a number of risks, uncertainties and other factors beyond the control of the fund or the portfolio companies, which may result in material differences in actual results, performance or other expectations. The opinions, estimates and analyses reflect our current judgment, which may change in the future.

The past performance information contained in this report is not necessarily indicative of future results and there is no assurance that the fund will achieve comparable results or that it will be able to implement its investment strategy or achieve its investment objectives. The actual realized value of currently unrealized investments will depend on a variety of factors, including future operating results, the value of the assets and market conditions at the time of disposition, any related transaction costs and the timing and manner of sale, all of which may differ from the assumptions and circumstances on which the current unrealized valuations are based.

Any tables, graphs or charts relating to past performance included in this report are intended only to illustrate the performance of the fund or the portfolio companies referred to for the historical periods shown. Such tables, graphs and charts are not intended to predict future performance and should not be used as the basis for an investment decision.

By accepting receipt of this investment report and in consideration of access to the information contained herein (together with the investment report, the "Confidential Information"), the recipient agrees to maintain the strict confidentiality of any and all Confidential Information in accordance with the terms of this paragraph. The recipient acknowledges that (i) the Confidential Information constitutes proprietary trade secrets, and (ii) disclosure of any Confidential Information may cause significant harm to Hamilton Lane Advisors, L.L.C. ("Hamilton Lane"), its affiliates or any of their respective businesses. Unless otherwise required by law, the recipient shall not disclose any Confidential Information to any third party. If required by law to disclose any Confidential Information, the recipient shall provide Hamilton Lane with prompt written notice of such requirement prior to any such disclosure so that Hamilton Lane may seek a protective order or other appropriate remedy. Prior to making any disclosure of any Confidential Information required by law, the recipient shall use its reasonable best efforts to claim any potential exemption to such requirement and otherwise shall limit disclosure only to such information that is necessary to comply with such requirement.

The calculations contained in this document are made by Hamilton Lane based on information provided by the general partner (e.g. cash flows and valuations), and have not been prepared, reviewed or approved by the general partner.

Stacked bar charts or pie charts presented in the Strategy section in this report may not equate to 100% per the data labels on the charts due to rounding; however, all stacked bar charts and pie charts equate to 100% using exact proportions.

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Definitions	
Benchmark Analysis:	An analysis which compares the net IRR of the prior funds to the top-quartile net IRR benchmarks for similar funds (based on strategy and vintage) as reported by the Hamilton Lane database. The benchmark data shown is the most recent data available at this time
DPI:	Distributed-to-Paid In = (Amount of Distributions Received)/(Total Amount of Capital Paid-In)
ESG:	Environmental, Social and Governance
Gross IRR:	Internal Rate of Return ("IRR") of investments at the 'fund level', excludes fees paid by LPs to the General Partner such as management fees and carried interest. For investments held less than one year, Hamilton Lane nominalizes the IRR to match the hold period of the investment, in order to represent a more meaningful number
Investment Pacing:	An analysis of the total capital invested during the given years. Includes all prior investments, realized or unrealized
J-Curve Benchmark:	Peer (median by age) is calculated by taking the median IRR of similar funds (based on strategy and vintage) in Hamilton Lane's database at each quarter, which are simulated as investing at the same point of time. The length of time to break the J-curve is calculated from inception to the first time each fund generated a positive net IRR
Loss Ratio Analysis:	An analysis of the capital invested in realized transactions generating different multiples of invested capital
Net IRR:	Annualized Internal Rate of Return ("IRR") of investments at the 'LP level', inclusive of fees such as management fees and carried interest paid to the General Partner
Net Returns to Limited Partners:	The performance of the General Partner's prior investment vehicles at the net LP level, inclusive of all fees, carried interest and expenses. Performance data is as reported by the General Partner, using actual capital contributions, distributions and net asset value for either all limited partners, or a sample set of limited partners, in the respective funds
Outlier Analysis:	An analysis of the gross returns of investments in prior funds, comparing overall performance against the performance when certain 'outlier' transactions are excluded. Outliers are defined as transactions which generate exceptionally positive or negative results
PME Analysis:	Calculated by taking the fund monthly cash flows and investing them in the relevant Total Return Index (where all dividends are re-invested). Contributions were scaled by a factor such that the ending portfolio balance would be equal to the private equity net asset value (equal ending exposures for both portfolios). This prevents shorting of the public market equivalent portfolio in order to match the performance of an outperforming private equity portfolio. Distributions were not scaled by this factor. The IRRs were then calculated based off of these adjusted cash flows. The selected PME represents the most relevant public market benchmark
Realized Attribution Analysis:	Analysis of the capital invested in, and performance of, the prior realized transactions according to the criteria indicated
Realized Investments:	Hamilton Lane classifies investments as 'realized' if it has i) an unrealized value of less than 20% of the total value; ii) a carrying value that has been written to zero or has been previously written-off; or iii) been fully exited and the GP has no remaining interest in the company
RVPI:	Remaining Value-to-Paid In = (Current Net Asset Value)/(Total Amount of Capital Paid-In)
TVPI:	Total Value-to-Paid In = (Amount of Distributions Received + Current Net Asset Value)/(Total Amount of Capital Paid-In)
Time-zero IRR:	Represents the gross IRR calculated as if every investment was initiated on the same date
Write-Down Ratio:	The ratio of capital invested in realized investments that have been sold for a value that is less than 1.0x their original cost basis, divided by the total capital invested in all realized investments
Write-Off Ratio:	The ratio of capital invested in realized investments that have been sold for a value that is less than 0.5x their original cost basis, divided by the total capital invested in all realized investments

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GCM GROSVENOR

State of Connecticut Retirement Plans and Trust Funds

July 2022

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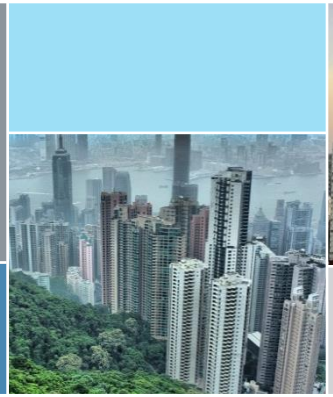
50+ YEARS of Investing



The Notes and Disclosures following this presentation are an integral part of this presentation and must be read in connection with your review of this presentation.

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- Tab A About GCM Grosvenor
- Tab B Small, Emerging and Diverse Manager Platform
- Appendix Notes and Disclosures

Customized Emerging and Diverse Manager Program for Private Markets

Discretionary, collaborative program focused on opportunistic funds and co-investments alongside emerging and diverse managers in private equity, credit, infrastructure and real estate.

Proposed Program Overview

3 Year Investment Period
Initially focused on private markets

Goals:

- Deliver alpha
- Source leading early stage / underrepresented managers
- Highly collaborative program with State of Connecticut staff, including knowledge transfer
- Deliver full scope of services (e.g. administration, knowledge transfer, transition services)

GCM Grosvenor Advantage

Robust Manager Sourcing Platform

Over 650 manager relationships spanning alternative investment asset classes, including over 300 emerging and diverse managers

Experienced Investors with Emerging and Diverse Managers

$18.6 bn assets invested/committed to small and emerging managers for over 30 years across asset classes

$10.4 bn assets invested/committed to diverse managers for almost 20 years across asset classes

Comprehensive Portfolio Construction

Comprehensive investment solutions to fit varying needs of bespoke portfolios with economic advantages

Ability to create a multi-asset class portfolio and make investments across funds, directs, co-investments and other specialty structures

Absolute return strategies data as of April 1, 2022 includes investments by longer-duration credit programs managed by the Absolute Return Strategies team. Private equity and real assets commitments as of December 31, 2021. For illustrative purposes only. **No assurance can be given that any investment will achieve its objectives or avoid losses.**

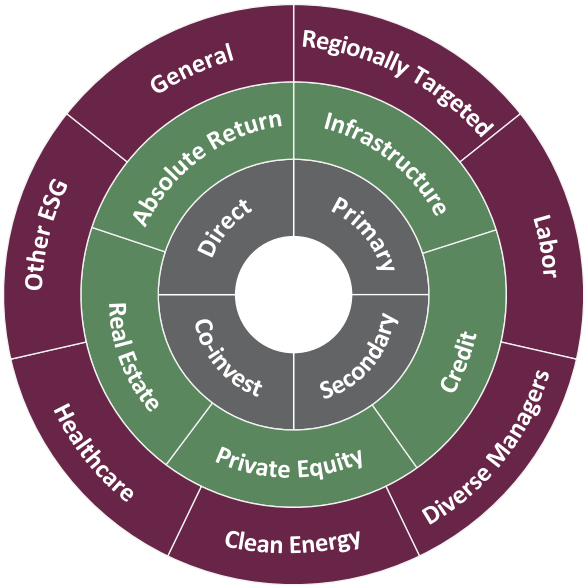
Tab A

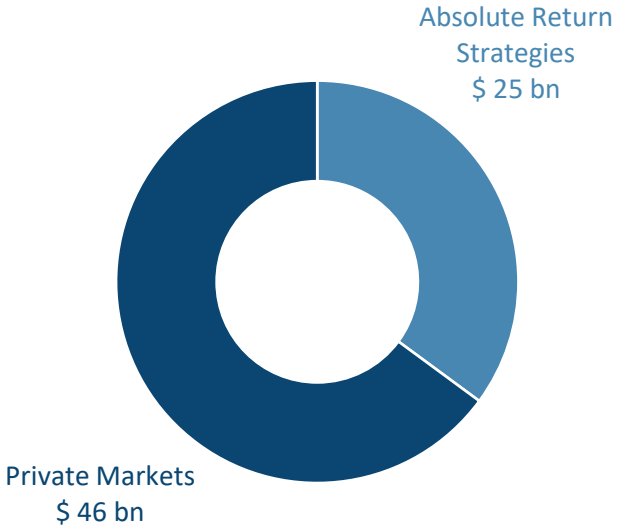
About GCM Grosvenor

50 Years of Alternatives Investing

GCM Grosvenor is one of the world's largest and most diversified independent alternative asset management firms.

1971	74%	$71 bn	525	170
First year of Investing	of AUM in customized separate accounts	Assets under Management	Employees	Investment professionals





Employee data as of April 1, 2022. AUM data as of March 31, 2022. The Operational Due Diligence team is included in the Investment professionals count.

Flexible, Open Architecture Platform

One Platform That Spans the Alternatives Investing Universe

5,600+
tracked managers across the platform

650+
manager relationships

Multiple Implementation Options

Primary Investments

Co-Investments

Direct Investments

Secondaries

Custom Structures

Seeding

Tracked manager data as of January 1, 2021. Manager relationships data as of January 1, 2022.

Environmental, Social and Governance (ESG) at GCM Grosvenor

Our ESG Policy provides a framework for the integration of ESG throughout our investment and business activities.

Investing Responsibly

Approx.
$21 billion
committed and invested in ESG and impact investments

Approx.
$15 billion
committed and invested in impact investments

Industry Leadership

We strive to promote ESG themes by hosting events and partnering with top industry organizations

Signatory of
Principles of Responsible Investing (PRI)[1]

Founding Signatory
ILPA's *Diversity in Action* Initiative

Responsible Business Practices

We lead by example with our inclusive culture, community involvement, and environmental programs

53% of senior professionals
are women or ethnically diverse

Partnerships

Governance

ESG Committee | Diversity, Equity and Inclusion Committee

1 For 2020, we received the highest possible rating from PRI for our approach to strategy and governance and for ESG integration in private equity manager selection, approval, and monitoring. For the full GCM Grosvenor PRI Transparency Report, visit www.unpri.org. Assessment methodology can be found at https://www.unpri.org/reporting-and-assessment/how-investors-are-assessed-on-their-reporting/3066.article

ESG and impact investment data as of March 31, 2022. Employee data as of April 1, 2022. **Please see the notes and disclosures following this presentation for important information regarding the data for ESG and impact investments (and sub-strategies) as presented above.**

Responsible Business Practices: Diversity, Equity, and Inclusion

The diversity of our employees is a driving factor of success and is critical to building and maintaining strong business relationships.

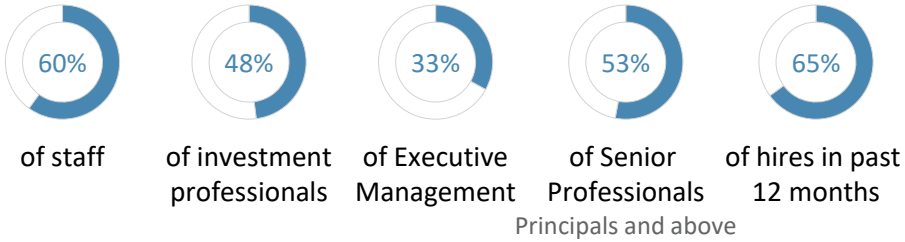
Our Diversity Action Plan Covers Three Key Areas

Hiring and cultivating a pipeline of talent

Retaining and developing current Staff

Partnering with vendors and subcontractors

Women and/or Ethnically Diverse Employees at GCM Grosvenor



Employee Resource Programs

Women's Inspirational Networking Group (WINGS)

GCM Grosvenor Pride Alliance, in support of LGBTQ+ community

Parent Resource Group

Data as of April 1, 2022. Ethnic diversity is calculated for US office employees only.

Tab B

Small, Emerging and Diverse Manager Platform

A Leader in Small, Emerging, and Diverse Managers

Private Markets Investing

For the past 20 years, we have developed expertise in supporting emerging and diverse managers as part of our broad investment activity across alternative private investments.

$16.5 billion committed to small and emerging managers, across private markets asset classes

$8.6 billion committed / invested in diverse managers, across private markets asset classes, including **over $7 billion in private equity**

GCM Grosvenor has committed over **$2.8 billion** to small, emerging, and diverse managers in 2021 through fund commitments and co-investments[1]

We are a pioneer in the diverse manager industry, having made our **first private equity investment in the space in 2005**

What differentiates us

- ✓ Custom is our culture: We are a global leader in customized partnerships with our first customized portfolio in 1996
- ✓ Deep team of 77 private equity, private credit, infrastructure, and real estate investment professionals
- ✓ Historically, 46% of our private equity, private credit, infrastructure, and real estate commitments have been to small, emerging, and diverse managers
- ✓ The Firm has obtained 380+ fund advisory board/board observer seats for private markets funds and portfolio companies
- ✓ We're a "go-to" partner for GPs looking for capital for co-investments and innovative structures
- ✓ Utilize open architecture investing across multiple product types and structures in order to dynamically invest with managers

Employee Data as of April 1, 2022. Commitment and board seat data as of December 31, 2021 unless otherwise noted.

1 Data as of October 2021 and includes investments pending due diligence and commitment close. Represents private equity and real asset managers only.

Defining Small, Emerging and Diverse Managers

Small Managers

Target Fund Size

Buyout and Special Situations Funds

Less than $1 bn

Venture Capital Funds

Less than $500 mm

Real Asset Funds

Less than $1 bn with preference for under $500 mm

Hedge Funds

Less than $2 bn in firm AUM

Emerging Managers

Private Markets

1st, 2nd or 3rd institutional funds

Hedge Funds

Managers less than 3-years old

Diverse Managers

Diverse Managers are typically a subset of Small and Emerging Managers

Firm Ownership

Typically defined by client, but generally includes at least **33% ownership of firm economics** by managers who are:

Women
African Americans
Hispanics
Asian Americans
Native Americans
U.S. military veterans
Disabled persons

Our Approach to Small, Emerging and Diverse Managers

Sourcing

- Open door policy; "Must See LP" for small and emerging managers raising capital
- Sought-out as early advisor to GPs exploring fundraise, often years before official capital raise
- Constant flow of referrals facilitates deep pipeline and broad view of market
- Global presence with offices worldwide; investment professionals around the world sourcing managers

Strategic LP

- GCM Grosvenor commitment can serve as a catalyst for GP fundraising
- Opportunity to secure preferred economics and terms
- Potential for preferential access to co-investments and/or secondary opportunities
- Deeper, more frequent interactions with GPs vs. primary fund-only investing
- Ability to deploy capital on behalf of a diversified group of LPs and position managers for direct commitments from LPs

Robust due diligence

- Apply same rigorous due diligence standards to all managers
- Broad alternatives coverage allows us to benchmark GPs against **both** emerging and established firms
- Investments in 1,140+ alternative investment funds provides valuable data for evaluating manager performance

Industry knowledge and participation

- Actively raise awareness about the performance of small, emerging and diverse managers and the importance of diversity and inclusion in the alternative investments industry
- Annual Consortium and Small and Emerging Manager Conferences serve as venues for small, emerging and diverse managers to raise LP and GP visibility

Absolute return strategies data as of April 1, 2022 includes investments by longer-duration credit programs managed by the Absolute Return Strategies team. Private equity and real assets investments as of December 31, 2021. **No assurance can be given that any investment will achieve its objectives or avoid losses.**

How We Mentor Emerging Managers

Starting pre-fund and progressing through graduation, we mentor managers throughout their lifecycle across a variety of best practices to help institutionalize their platforms.

Organizational structure

- Budget analysis
- Service provider suggestions
- Conflicts of interest
- Capital planning

Market standards

- Fund terms
- Fee structures
- Industry references

Performance

- Cash management
- Valuations
- Track record template
- J-curve mitigation

Capital raising

- Presentation feedback
- Serve as a reference
- Investor referrals
- Anchor investor
- JV / Seeding structures

Operational best practices

- Policies & procedures
- Compliance
- Reporting
- Cash controls
- Expense disclosures

We also help mangers evaluate potential long-term growth initiatives including new business lines, strategic partnerships, and third-party growth capital

No assurance can be given that any investment will achieve its objectives or avoid losses.

Flexible Investing

We believe our open architecture, partnership-based investment approach combined with customized capital solutions uniquely positions us as a market leading investment partner.

Capital Solutions

Deal Capital

Seek to yield the highest risk adjusted returns by investing at the most economically efficient attachment points

Programmatic Capital

Generate structural alpha with downside mitigation through customized investment partnerships

Partnership Capital

Share in the potential long-term growth and value creation of our partners

Investment Structures

- Equity
- Preferred Equity
- Mezzanine Debt
- B-Notes
- Senior Debt

Joint Venture

Seed

Fund

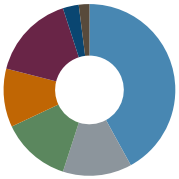
Warehouse

- ✓ Capitalize new platforms
- ✓ Capitalize new business lines
- ✓ Working capital
- ✓ GP co-investment capital
- ✓ Recaps (GP, fund, mgmt. co.)
- ✓ OpCo / PropCo investments

Unless apparent from context, all statements herein represent GCM Grosvenor's opinion. **No assurance can be given that any investment will achieve its objectives or avoid losses.**

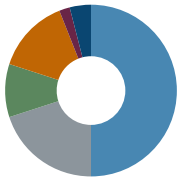
Private Equity Diverse Managers

Universe of 900+ Funds



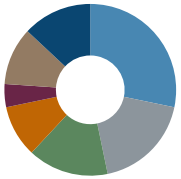
Asset Class

Venture Capital	42%
Middle Market Buyout	13%
Lower Middle Market Buyout	13%
Special Situations / Distressed Debt	11%
Growth Equity	16%
Large Buyout	3%
Other	2%



Diversity

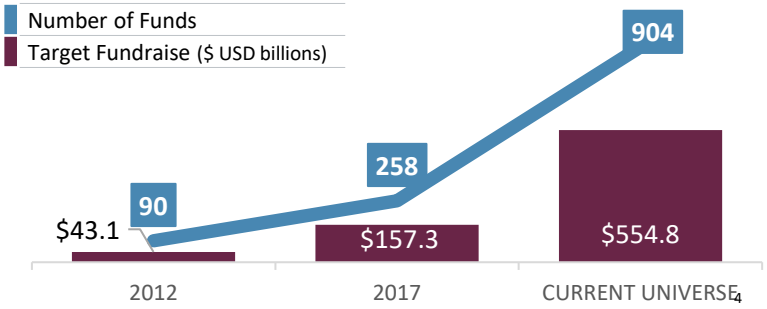
Women[1]	50%
African American	20%
Hispanic	10%
Asian	14%
Veteran	2%
Other[2]	4%



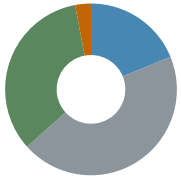
Fund Size

<$100m	26%
$100m-$200m	17%
$200m-$300m	14%
$300m-$400m	9%
$400m-$500m	4%
$500m-$1bn	10%
>$1bn	12%

Significant Growth in Active Funds



Not Just Emerging GPs[3]



Firm History

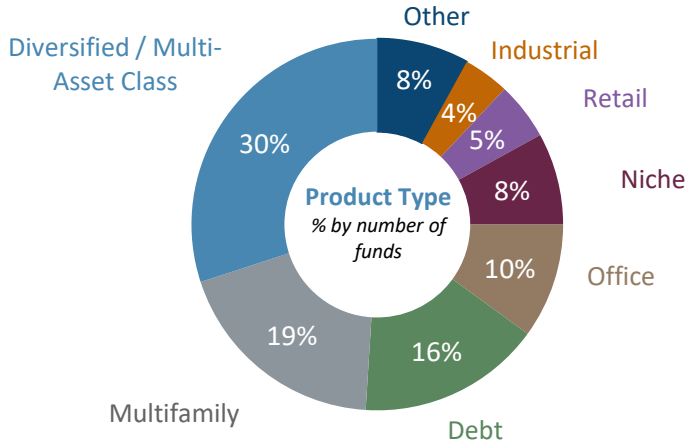
Established	19%
First Time Fund	45%
Second / Third Generation	34%
Spinout	3%

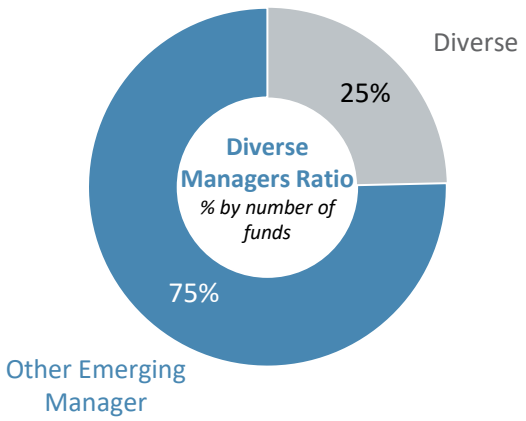
1 Women of color, a subset of women-owned, account for 254 funds, 28.1% of the total number of diverse funds.
2 "Other" category includes funds for which there is more than one classification (e.g., Women, African American, Hispanic, Asian, etc.) in the team, no known classification.
3 Data as of January 1, 2016 – May 12, 2022.
4 Current Universe includes everything that has come in to-date, with market timing past 2021.

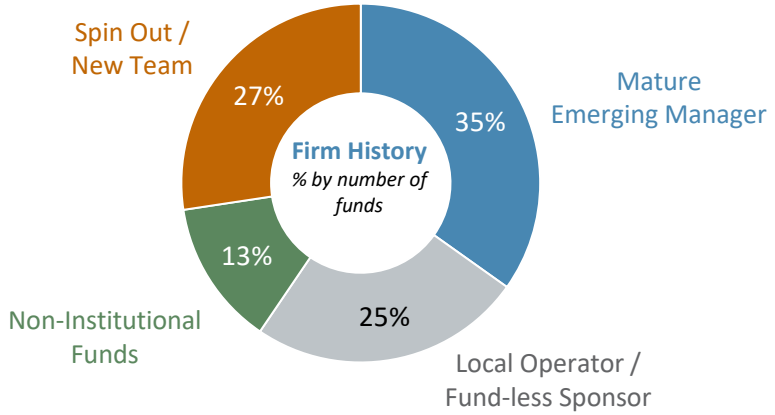
Data as of May 12, 2022. Information based on GCM Grosvenor's evaluation of the diverse manager universe. **For illustrative purposes only and subject to change.** Numbers may not sum due to rounding.

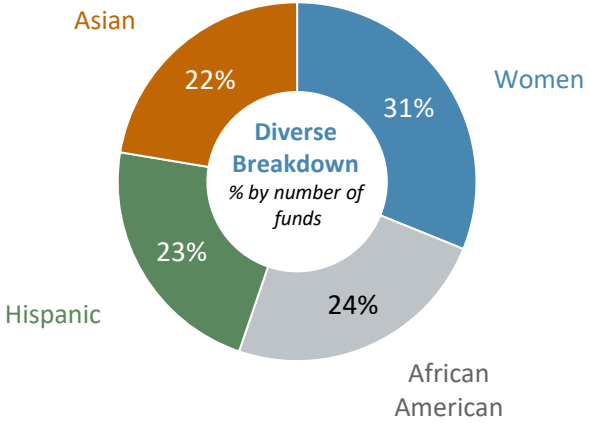
Real Estate Emerging and Diverse Managers

We have tracked over 1,200 real estate emerging manager funds, 300 of which are diverse, since 2010. The universe can be broken down as follows:









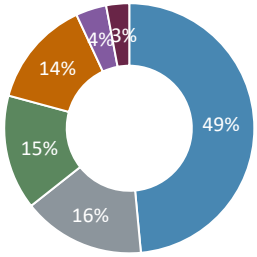
Data source: GCM Grosvenor (September 2021). Property of GCM Grosvenor. "Other" includes Single Family Rental, Hotels, and Land.

No assurance can be given that any investment will achieve its objective or avoid losses.

Credit Emerging and Diverse Managers

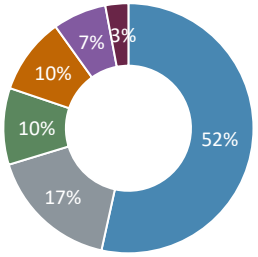
The GCM Grosvenor credit team reviewed approximately 271 deals which are diverse and/or emerging.

Diverse Funds:
by Sub-Strategy



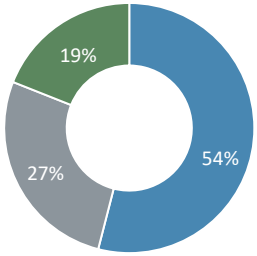
Real Asset Based / Direct Lending	49%
Opportunistic / Distressed	16%
Mezzanine	15%
Distressed for Control / Turnaround	14%
Structured Equity	4%
Structured Credit / Other	3%

Emerging Funds:
by Sub-Strategy



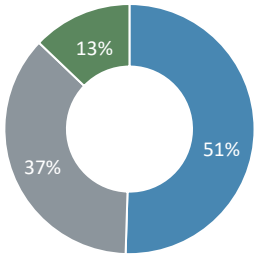
Real Asset Based / Direct Lending	54%
Opportunistic / Distressed	17%
Mezzanine	10%
Distressed for Control / Turnaround	10%
Structured Equity	7%
Structured Credit / Other	3%

by Fund Size



Less than $500M	54%
$500M to $1B	27%
Greater than $1B	19%

by Fund Size



Less than $500M	51%
$500M to $1B	36%
Greater than $1B	13%

Data for the years 2020, 2021, and YTD 2022 through April. Based on GCM Grosvenor's deal flow. All pie charts are calculated based on number of funds.

Small, Emerging and Diverse Infrastructure Managers

We allocate substantial capital to small, emerging and diverse infrastructure managers.

Small Managers

Small Managers

- Target Fund Size
  - **Less than $1.5 bn** in aggregate commitments
- Fund Strategy
  - Often focus on lower middle-market transactions

Emerging Managers

Emerging Managers

- Number of Prior Funds
  - **2 or fewer institutional funds**

Diverse Managers

Diverse Managers

- Diverse Managers are typically a subset of Small and Emerging Managers
- Firm Ownership
  - Firms with at least **33% ownership of firm economics** by:

- Women
- African Americans
- Hispanics
- Asian Americans
- Native Americans
- U.S. military veterans
- Disabled persons

Examples of Small, Emerging and Diverse Infrastructure Managers

JLC MJE-Loop Capital Partners LLC

PEP Pacific Equity Partners

ASTERION INDUSTRIAL

STAR AMERICA Infrastructure Partners

Pioneer Point Partners

INSTAR AGF ASSET MANAGEMENT

DALMORE CAPITAL

CapMan

Ridgewood Infrastructure

UPPER BAY INFRASTRUCTURE PARTNERS

Montagu private equity

EIV CAPITAL

For illustrative purposes only. The investment opportunities available may differ from those presented above. The inclusion of an investment opportunity does not mean that any such opportunity will be offered during the life of a program or that GCM Grosvenor will be able to secure a portion of any available investment opportunities for such program. GCM Grosvenor does not invest with all the managers listed. **No assurance can be given that any investment will achieve its objectives or avoid losses.**

Appendix

Notes and Disclosures

Environmental, Social and Governance (ESG) at GCM Grosvenor

Notes and Disclosures

The data regarding ESG and impact investments (and sub-strategies) presented above and otherwise contained herein, is based on the amount committed to and invested in investments by GCM Grosvenor-managed portfolios as of the dates above, based on the assessment of each such investment by GCM Grosvenor investment team members. The relevant investments are placed into categories that are generally consistent with the categories presented in the UN PRI Impact Investing Market Map. Primary fund assessments are based on whether a significant part of the expected strategy of the primary fund falls into an ESG category. Co-investment categorizations are based either on categories represented by the co-investment sponsor or the underlying portfolio company. Diverse Manager investments include investments managed by or sponsored by a diverse manager, based on GCM Grosvenor's definition of a diverse manager, which is determined by thresholds of manager economic ownership by diverse parties (race, gender, sexual orientation, veterans, disabled persons). There is significant subjectivity in placing an investment in a particular category, and conventions and methodologies used by GCM Grosvenor in categorizing investments and calculating the data presented may differ from those used by other investment managers. Additional information regarding these conventions and methodologies is available upon request.

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GCM GROSVENOR

State of Connecticut Retirement Plans and Trust Funds

July 2022

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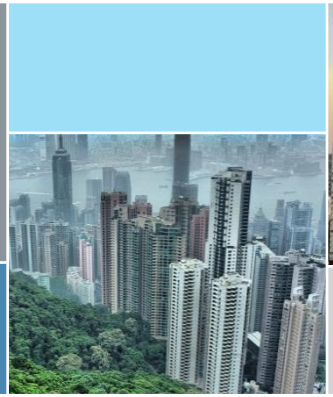
50+ YEARS of Investing



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- Tab A About GCM Grosvenor
- Tab B Small, Emerging and Diverse Manager Platform
- Appendix Notes and Disclosures

Customized Emerging and Diverse Manager Program for Private Markets

Discretionary, collaborative program focused on opportunistic funds and co-investments alongside emerging and diverse managers in private equity, credit, infrastructure and real estate.

Proposed Program Overview

3 Year Investment Period
Initially focused on private markets

Goals:

- Deliver alpha
- Source leading early stage / underrepresented managers
- Highly collaborative program with State of Connecticut staff, including knowledge transfer
- Deliver full scope of services (e.g. administration, knowledge transfer, transition services)

GCM Grosvenor Advantage

Robust Manager Sourcing Platform

Over 650 manager relationships spanning alternative investment asset classes, including over 300 emerging and diverse managers

Experienced Investors with Emerging and Diverse Managers

$18.6 bn assets invested/committed to small and emerging managers for over 30 years across asset classes

$10.4 bn assets invested/committed to diverse managers for almost 20 years across asset classes

Comprehensive Portfolio Construction

Comprehensive investment solutions to fit varying needs of bespoke portfolios with economic advantages

Ability to create a multi-asset class portfolio and make investments across funds, directs, co-investments and other specialty structures

Absolute return strategies data as of April 1, 2022 includes investments by longer-duration credit programs managed by the Absolute Return Strategies team. Private equity and real assets commitments as of December 31, 2021. For illustrative purposes only. **No assurance can be given that any investment will achieve its objectives or avoid losses.**

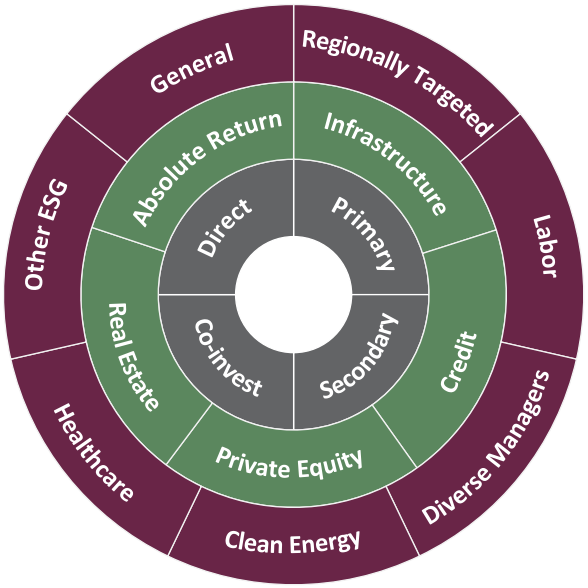
Tab A

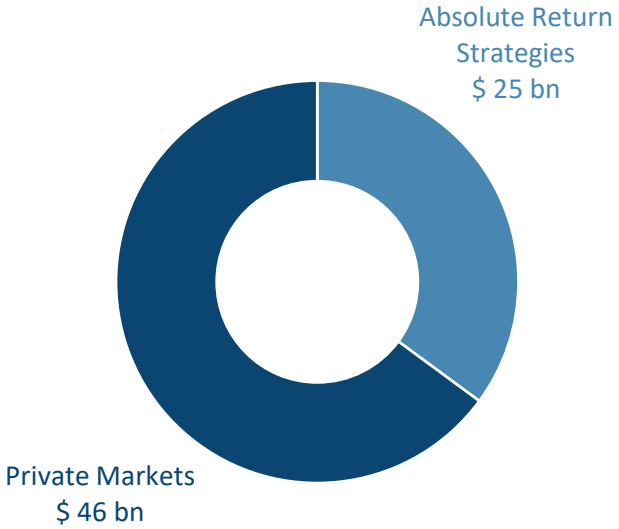
About GCM Grosvenor

50 Years of Alternatives Investing

GCM Grosvenor is one of the world's largest and most diversified independent alternative asset management firms.

1971	74%	$71 bn	525	170
First year of Investing	of AUM in customized separate accounts	Assets under Management	Employees	Investment professionals





Employee data as of April 1, 2022. AUM data as of March 31, 2022. The Operational Due Diligence team is included in the Investment professionals count.

Flexible, Open Architecture Platform

One Platform That Spans the Alternatives Investing Universe

5,600+
tracked managers across the platform

650+
manager relationships

Multiple Implementation Options

Primary Investments

Co-Investments

Direct Investments

Secondaries

Custom Structures

Seeding

Tracked manager data as of January 1, 2021. Manager relationships data as of January 1, 2022.

Environmental, Social and Governance (ESG) at GCM Grosvenor

Our ESG Policy provides a framework for the integration of ESG throughout our investment and business activities.

Investing Responsibly

Approx.
$21 billion
committed and invested in ESG and impact investments

Approx.
$15 billion
committed and invested in impact investments

Industry Leadership

We strive to promote ESG themes by hosting events and partnering with top industry organizations

Signatory of
Principles of Responsible Investing (PRI)[1]

Founding Signatory
ILPA's *Diversity in Action* Initiative

Responsible Business Practices

We lead by example with our inclusive culture, community involvement, and environmental programs

53% of senior professionals
are women or ethnically diverse

Partnerships

Governance

ESG Committee | Diversity, Equity and Inclusion Committee

1 For 2020, we received the highest possible rating from PRI for our approach to strategy and governance and for ESG integration in private equity manager selection, approval, and monitoring. For the full GCM Grosvenor PRI Transparency Report, visit www.unpri.org. Assessment methodology can be found at https://www.unpri.org/reporting-and-assessment/how-investors-are-assessed-on-their-reporting/3066.article

ESG and impact investment data as of March 31, 2022. Employee data as of April 1, 2022. **Please see the notes and disclosures following this presentation for important information regarding the data for ESG and impact investments (and sub-strategies) as presented above.**

Responsible Business Practices: Diversity, Equity, and Inclusion

The diversity of our employees is a driving factor of success and is critical to building and maintaining strong business relationships.

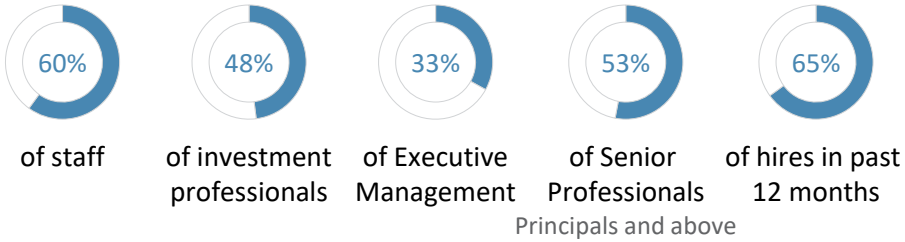
Our Diversity Action Plan Covers Three Key Areas

Hiring and cultivating a pipeline of talent

Retaining and developing current Staff

Partnering with vendors and subcontractors

Women and/or Ethnically Diverse Employees at GCM Grosvenor



Employee Resource Programs

Women's Inspirational Networking Group (WINGS)

GCM Grosvenor Pride Alliance, in support of LGBTQ+ community

Parent Resource Group

Data as of April 1, 2022. Ethnic diversity is calculated for US office employees only.

Tab B

Small, Emerging and Diverse Manager Platform

A Leader in Small, Emerging, and Diverse Managers

Private Markets Investing

For the past 20 years, we have developed expertise in supporting emerging and diverse managers as part of our broad investment activity across alternative private investments.

$16.5 billion committed to small and emerging managers, across private markets asset classes

$8.6 billion committed / invested in diverse managers, across private markets asset classes, including **over $7 billion in private equity**

GCM Grosvenor has committed over **$2.8 billion** to small, emerging, and diverse managers in 2021 through fund commitments and co-investments[1]

We are a pioneer in the diverse manager industry, having made our **first private equity investment in the space in 2005**

What differentiates us

- ✓ Custom is our culture: We are a global leader in customized partnerships with our first customized portfolio in 1996
- ✓ Deep team of 77 private equity, private credit, infrastructure, and real estate investment professionals
- ✓ Historically, 46% of our private equity, private credit, infrastructure, and real estate commitments have been to small, emerging, and diverse managers
- ✓ The Firm has obtained 380+ fund advisory board/board observer seats for private markets funds and portfolio companies
- ✓ We're a "go-to" partner for GPs looking for capital for co-investments and innovative structures
- ✓ Utilize open architecture investing across multiple product types and structures in order to dynamically invest with managers

Employee Data as of April 1, 2022. Commitment and board seat data as of December 31, 2021 unless otherwise noted.

1 Data as of October 2021 and includes investments pending due diligence and commitment close. Represents private equity and real asset managers only.

Defining Small, Emerging and Diverse Managers

Small Managers

Target Fund Size

Buyout and Special Situations Funds

Less than $1 bn

Venture Capital Funds

Less than $500 mm

Real Asset Funds

Less than $1 bn with preference for under $500 mm

Hedge Funds

Less than $2 bn in firm AUM

Emerging Managers

Private Markets

1st, 2nd or 3rd institutional funds

Hedge Funds

Managers less than 3-years old

Diverse Managers

Diverse Managers are typically a subset of Small and Emerging Managers

Firm Ownership

Typically defined by client, but generally includes at least **33% ownership of firm economics** by managers who are:

Women
African Americans
Hispanics
Asian Americans
Native Americans
U.S. military veterans
Disabled persons

Our Approach to Small, Emerging and Diverse Managers

Sourcing

- Open door policy; "Must See LP" for small and emerging managers raising capital
- Sought-out as early advisor to GPs exploring fundraise, often years before official capital raise
- Constant flow of referrals facilitates deep pipeline and broad view of market
- Global presence with offices worldwide; investment professionals around the world sourcing managers

Strategic LP

- GCM Grosvenor commitment can serve as a catalyst for GP fundraising
- Opportunity to secure preferred economics and terms
- Potential for preferential access to co-investments and/or secondary opportunities
- Deeper, more frequent interactions with GPs vs. primary fund-only investing
- Ability to deploy capital on behalf of a diversified group of LPs and position managers for direct commitments from LPs

Robust due diligence

- Apply same rigorous due diligence standards to all managers
- Broad alternatives coverage allows us to benchmark GPs against **both** emerging and established firms
- Investments in 1,140+ alternative investment funds provides valuable data for evaluating manager performance

Industry knowledge and participation

- Actively raise awareness about the performance of small, emerging and diverse managers and the importance of diversity and inclusion in the alternative investments industry
- Annual Consortium and Small and Emerging Manager Conferences serve as venues for small, emerging and diverse managers to raise LP and GP visibility

Absolute return strategies data as of April 1, 2022 includes investments by longer-duration credit programs managed by the Absolute Return Strategies team. Private equity and real assets investments as of December 31, 2021. **No assurance can be given that any investment will achieve its objectives or avoid losses.**

How We Mentor Emerging Managers

Starting pre-fund and progressing through graduation, we mentor managers throughout their lifecycle across a variety of best practices to help institutionalize their platforms.

Organizational structure

- Budget analysis
- Service provider suggestions
- Conflicts of interest
- Capital planning

Market standards

- Fund terms
- Fee structures
- Industry references

Performance

- Cash management
- Valuations
- Track record template
- J-curve mitigation

Capital raising

- Presentation feedback
- Serve as a reference
- Investor referrals
- Anchor investor
- JV / Seeding structures

Operational best practices

- Policies & procedures
- Compliance
- Reporting
- Cash controls
- Expense disclosures

We also help mangers evaluate potential long-term growth initiatives including new business lines, strategic partnerships, and third-party growth capital

No assurance can be given that any investment will achieve its objectives or avoid losses.

Flexible Investing

We believe our open architecture, partnership-based investment approach combined with customized capital solutions uniquely positions us as a market leading investment partner.

Capital Solutions

Deal Capital

Seek to yield the highest risk adjusted returns by investing at the most economically efficient attachment points

Programmatic Capital

Generate structural alpha with downside mitigation through customized investment partnerships

Partnership Capital

Share in the potential long-term growth and value creation of our partners

Investment Structures

- Equity
- Preferred Equity
- Mezzanine Debt
- B-Notes
- Senior Debt

Joint Venture

Seed

Fund

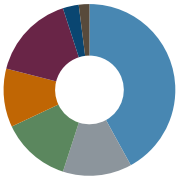
Warehouse

- ✓ Capitalize new platforms
- ✓ Capitalize new business lines
- ✓ Working capital
- ✓ GP co-investment capital
- ✓ Recaps (GP, fund, mgmt. co.)
- ✓ OpCo / PropCo investments

Unless apparent from context, all statements herein represent GCM Grosvenor's opinion. **No assurance can be given that any investment will achieve its objectives or avoid losses.**

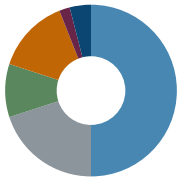
Private Equity Diverse Managers

Universe of 900+ Funds



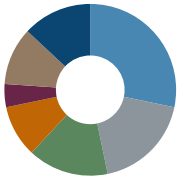
Asset Class

Venture Capital	42%
Middle Market Buyout	13%
Lower Middle Market Buyout	13%
Special Situations / Distressed Debt	11%
Growth Equity	16%
Large Buyout	3%
Other	2%



Diversity

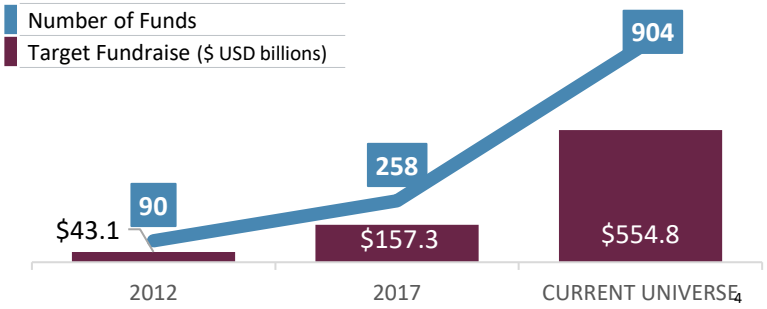
Women[1]	50%
African American	20%
Hispanic	10%
Asian	14%
Veteran	2%
Other[2]	4%



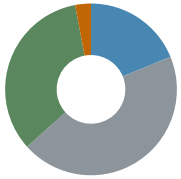
Fund Size

<$100m	26%
$100m-$200m	17%
$200m-$300m	14%
$300m-$400m	9%
$400m-$500m	4%
$500m-$1bn	10%
>$1bn	12%

Significant Growth in Active Funds



Not Just Emerging GPs[3]



Firm History

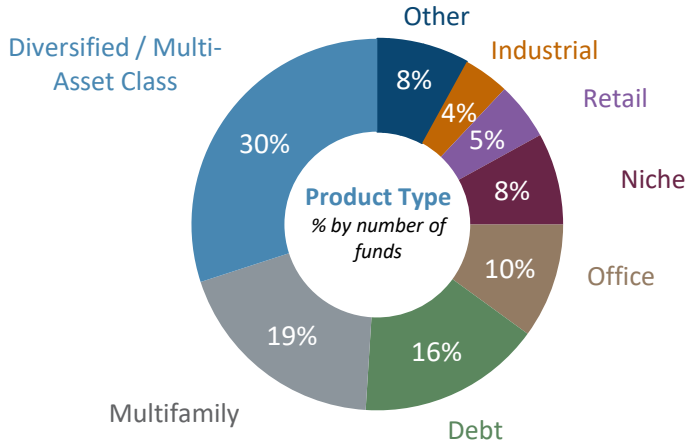
Established	19%
First Time Fund	45%
Second / Third Generation	34%
Spinout	3%

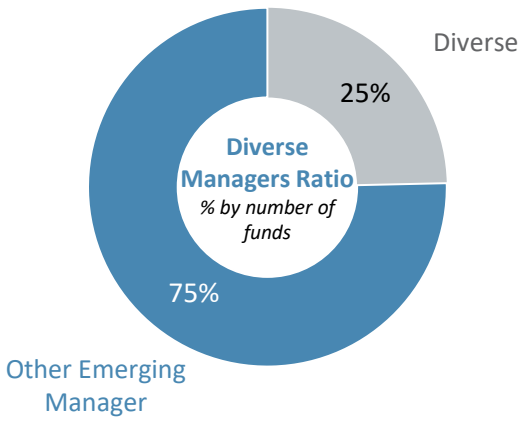
1 Women of color, a subset of women-owned, account for 254 funds, 28.1% of the total number of diverse funds.
2 "Other" category includes funds for which there is more than one classification (e.g., Women, African American, Hispanic, Asian, etc.) in the team, no known classification.
3 Data as of January 1, 2016 – May 12, 2022.
4 Current Universe includes everything that has come in to-date, with market timing past 2021.

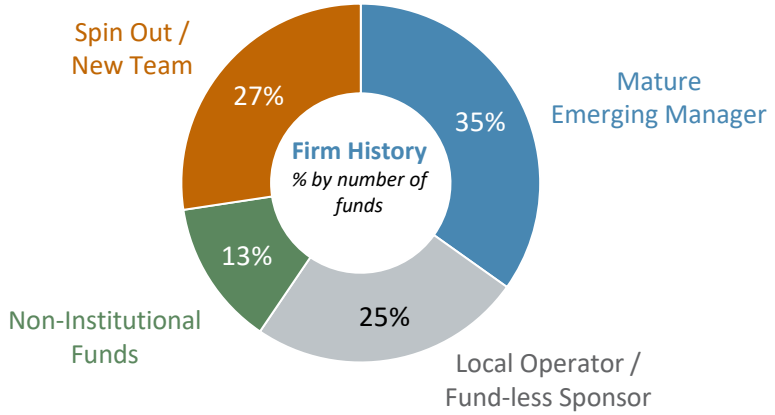
Data as of May 12, 2022. Information based on GCM Grosvenor's evaluation of the diverse manager universe. **For illustrative purposes only and subject to change.** Numbers may not sum due to rounding.

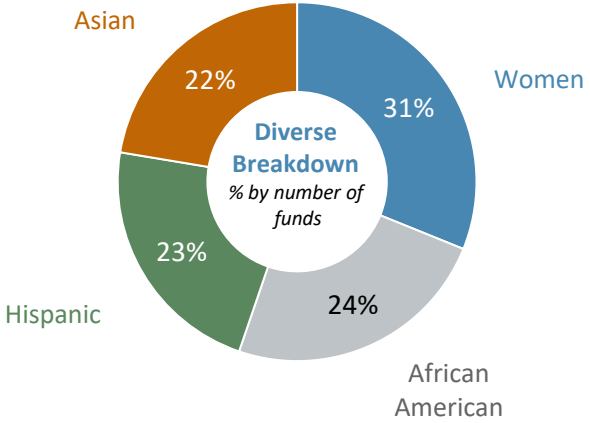
Real Estate Emerging and Diverse Managers

We have tracked over 1,200 real estate emerging manager funds, 300 of which are diverse, since 2010. The universe can be broken down as follows:









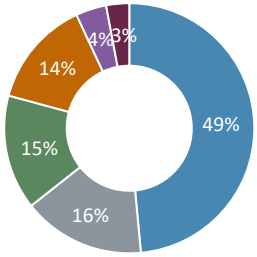
Data source: GCM Grosvenor (September 2021). Property of GCM Grosvenor. "Other" includes Single Family Rental, Hotels, and Land.

No assurance can be given that any investment will achieve its objective or avoid losses.

Credit Emerging and Diverse Managers

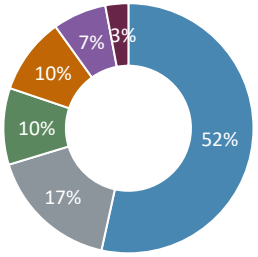
The GCM Grosvenor credit team reviewed approximately 271 deals which are diverse and/or emerging.

Diverse Funds:
by Sub-Strategy



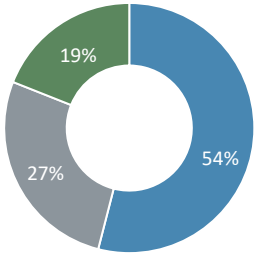
Real Asset Based / Direct Lending	49%
Opportunistic / Distressed	16%
Mezzanine	15%
Distressed for Control / Turnaround	14%
Structured Equity	4%
Structured Credit / Other	3%

Emerging Funds:
by Sub-Strategy



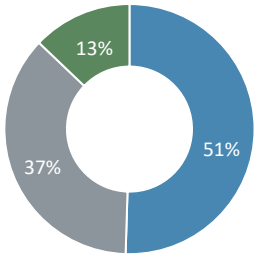
Real Asset Based / Direct Lending	54%
Opportunistic / Distressed	17%
Mezzanine	10%
Distressed for Control / Turnaround	10%
Structured Equity	7%
Structured Credit / Other	3%

by Fund Size



Less than $500M	54%
$500M to $1B	27%
Greater than $1B	19%

by Fund Size



Less than $500M	51%
$500M to $1B	36%
Greater than $1B	13%

Data for the years 2020, 2021, and YTD 2022 through April. Based on GCM Grosvenor's deal flow. All pie charts are calculated based on number of funds.

Small, Emerging and Diverse Infrastructure Managers

We allocate substantial capital to small, emerging and diverse infrastructure managers.

Small Managers

Small Managers

- Target Fund Size
  - **Less than $1.5 bn** in aggregate commitments
- Fund Strategy
  - Often focus on lower middle-market transactions

Emerging Managers

Emerging Managers

- Number of Prior Funds
  - **2 or fewer institutional funds**

Diverse Managers

Diverse Managers

- Diverse Managers are typically a subset of Small and Emerging Managers
- Firm Ownership
  - Firms with at least **33% ownership of firm economics** by:

- Women
- African Americans
- Hispanics
- Asian Americans
- Native Americans
- U.S. military veterans
- Disabled persons

Examples of Small, Emerging and Diverse Infrastructure Managers

JLC MJE-Loop Capital Partners LLC

PEP Pacific Equity Partners

ASTERION INDUSTRIAL

STAR AMERICA Infrastructure Partners

Pioneer Point Partners

INSTAR AGF ASSET MANAGEMENT

DALMORE CAPITAL

CapMan

Ridgewood Infrastructure

UPPER BAY INFRASTRUCTURE PARTNERS

Montagu private equity

EIV CAPITAL

For illustrative purposes only. The investment opportunities available may differ from those presented above. The inclusion of an investment opportunity does not mean that any such opportunity will be offered during the life of a program or that GCM Grosvenor will be able to secure a portion of any available investment opportunities for such program. GCM Grosvenor does not invest with all the managers listed. **No assurance can be given that any investment will achieve its objectives or avoid losses.**

Appendix

Notes and Disclosures

Environmental, Social and Governance (ESG) at GCM Grosvenor

Notes and Disclosures

The data regarding ESG and impact investments (and sub-strategies) presented above and otherwise contained herein, is based on the amount committed to and invested in investments by GCM Grosvenor-managed portfolios as of the dates above, based on the assessment of each such investment by GCM Grosvenor investment team members. The relevant investments are placed into categories that are generally consistent with the categories presented in the UN PRI Impact Investing Market Map. Primary fund assessments are based on whether a significant part of the expected strategy of the primary fund falls into an ESG category. Co-investment categorizations are based either on categories represented by the co-investment sponsor or the underlying portfolio company. Diverse Manager investments include investments managed by or sponsored by a diverse manager, based on GCM Grosvenor's definition of a diverse manager, which is determined by thresholds of manager economic ownership by diverse parties (race, gender, sexual orientation, veterans, disabled persons). There is significant subjectivity in placing an investment in a particular category, and conventions and methodologies used by GCM Grosvenor in categorizing investments and calculating the data presented may differ from those used by other investment managers. Additional information regarding these conventions and methodologies is available upon request.

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SHAWN T. WOODEN
TREASURER

State of Connecticut
Office of the Treasurer

DARRELL V. HILL
DEPUTY TREASURER

July 15, 2022

Members of the Investment Advisory Council ("IAC")

Re: **CT - RockCreek Ci3 Mandate**

Dear Fellow IAC Member:

At the July 20, 2022 meeting of the IAC, I will present for your consideration the CT - RockCreek Ci3 fund of one investment opportunity for the Private Credit Fund ("PCF") in the Connecticut Retirement Plans and Trust Funds (the "CRPTF"). This mandate will be managed by the RockCreek Group, an existing manager in the CRPTF portfolio, headquartered in Washington, D.C.

I am considering an investment of up to $100 million in the CT - RockCreek Ci3 mandate, which RockCreek will utilize to make fund commitments to private credit funds managed by diverse and emerging managers, as part of the Connecticut Inclusive Investment Initiative ("Ci3") program. This mandate would allow the CRPTF to continue building out the private credit portfolio toward the policy target. CRPTF would also benefit from RockCreek's experience in building relationships with diverse and emerging managers in private credit strategies, and its potential to generate strong risk-adjusted returns.

Attached for your review is the recommendation from Ted Wright, Chief Investment Officer, and the due diligence report prepared by Hamilton Lane. I look forward to our discussion of these materials at next week's meeting.

Sincerely,

Shawn T. Wooden
State Treasurer

65 CAPITOL AVE, HARTFORD, CT 06106-1773, TELEPHONE: (860) 702-3000
AN EQUAL OPPORTUNITY EMPLOYER

Full Due Diligence Report

Chief Investment Officer Recommendation

July 15, 2022

Connecticut – RockCreek Ci3 Mandate

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Executive Summary

Manager Overview

- Founded in 2002, by senior leaders of the World Bank, the RockCreek Group provides investment management services to institutional investors mainly through customized portfolios.
- RockCreek is headquartered in Washington, D.C., with an office in New York City.
- As of March 2022, RockCreek has approximately $16.3 billion in assets under management.
- RockCreek is 100% employee-owned and a majority diverse and woman owned firm, with over 80% of its management team from diverse backgrounds.

Fund Summary

- Connecticut - RockCreek Ci3 Mandate (the "Fund")
- Fund of One
- Private Credit
- Primarily North America
- Management Fees: 0.2% on aggregate commitments during the investment period; 0.1% on the lesser of aggregate commitments or NAV during the post-investment period.
- Preferred Return: 8%
- Carry: 5%
- GP Commitment: 0.2%

Strategic Fit

- The $100 million Fund, committed over 3 years, would focus on investments in diverse and emerging managers in private credit strategies, as part of the Connecticut Inclusive Investment Initiative ("Ci3") program.
- Private Credit Fund (PCF)
- Ci3 Mandate Target allocation (5% to 10% of plan assets)

Internal Recommendation

Recommendation

- Based on the strategic fit within the PCF portfolio, as well as due diligence done by Pension Funds Management ("PFM") investment professionals and Hamilton Lane, the Chief Investment Officer of the Connecticut Retirement Plans and Trust Funds ("CRPTF") recommends consideration of a commitment of up to $100 million to the Fund as part of the Ci3 program.

Investment Considerations

- As a majority diverse and woman owned firm, RockCreek has a longstanding history of establishing relationships with diverse and emerging managers that generate differentiated portfolios.
- RockCreek is seasoned in the private credit market space and has built 11 private credit strategy separate accounts and funds-of-one for pension funds, foundations, and endowments, with total commitments of $1.6 billion.
- Robust value add abilities across the investment process that both lend support to investment managers and enhance risk management for institutional clients.

General Partner

Firm Background

- RockCreek was founded by Afasaneh Beschloss, former Treasurer and Chief Investment Officer of the World Bank. The RockCreek leadership team has worked together for over 20 years and has an established track record across multiple asset classes.
- The firm is 100% employee owned and a majority diverse and woman owned firm. Over 80% of the RockCreek management team is from diverse backgrounds, and over 70% of RockCreek's Advisory Board is of diverse backgrounds.

Extensive Experience in Private Market Investment

- RockCreek manages and advises institutional clients on both public and private market portfolios and had approximately $16.3 billion in assets under management as of March 2022.
- RockCreek's senior team has invested in the private markets since the late 1980s at the World Bank, well before most institutional investors' entrance to the private market space.

Solid Roots in the Private Credit Sector

- RockCreek officially began developing portfolios for private credit strategies in 2015. Prior to 2015, the firm managed private credit capital through its absolute return vehicles.
- The firm has a proven track record in early identification of emerging managers in private credit strategies and has produced consistent investment returns.

Track Record and Performance

- Since 2015, RockCreek has made over $1.6 billion of commitments to private credit investment managers and has a robust investment pipeline for private credit.
- Over one third of RockCreek's commitments in private credit strategies were to diverse or emerging managers.
- RockCreek serves on 20 Limited Partner Advisory Committees (LPACs) in the private credit market.
- RockCreek's investment performances in private credit strategies are shown in the tables below. The performance has been consistently strong since inception both on an overall basis and for allocations in diverse and emerging managers.

Total Composite – Private Credit

(US$ in millions, as of Dec 31, 2021)

Fund	Vintage Year	Committed Capital	# Funds	Invested Capital	Realized Value	Unrealized Value	Total Value	Net	
								MOIC	IRR
RockCreek Group	2014 - 2021	$1,615	41	$1,459	$874	$887	$1,761	1.2x	10.5%

Source: RockCreek, CRPTF, Returns are net of the applicable underlying manager's fees and gross of RockCreek fees.

Diverse & Emerging Manager Composite – Private Credit

(US$ in millions, as of Dec 31, 2021)

	Vintage Year	Committed Capital	# Funds	Invested Capital	Realized Value	Unrealized Value	Total Value	Net	
								MOIC	IRR
RockCreek Group	2015 - 2021	$566	18	$498	$268	$304	$573	1.2x	9.6%

Source: RockCreek, CRPTF, Returns are net of the applicable underlying manager's fees and gross of RockCreek fees.

Strategic Allocation

Connecticut – RockCreek Ci3 Mandate

- The IPS sets a target allocation of 5% for the private credit asset class within the CRPTF portfolio.
- The Private Credit asset class represented approximately 2% of the CRPTF total value as of March 31, 2022.
- The target allocation for the Ci3 program is 5% to 10% of total plan assets.

The commitment would be aligned with the CRPTF's strategic objectives:

- Increase allocations to the private credit asset class toward policy targets.
- Enable the Ci3 program to grow toward its target allocation.

The Connecticut - RockCreek Ci3 Mandate for the private credit strategies will include the portfolio construction guidelines below:

- The mandate will target a net IRR return of 10% to 11%.
- The mandate is expected to allocate no more than $15 million to any single investment manager.
- The mandate is expected to allocate no less than 50% of total commitments in senior direct lending strategies.
- The mandate is expected to allocate predominantly in North America focused funds.

Strengths and Rationale

Consistent Allocation to Diverse and Emerging Managers

- Since inception, RockCreek has allocated over $1 billion with emerging managers, over $7.7 billion with diverse managers, $3 billion in woman run funds, and $5.9 billion to ESG/Impact investments.
- RockCreek strongly believes diverse and emerging managers bring in different viewpoints and unique perspectives, and actively seeks managers that produce differentiated portfolios and excess returns from niche themes and unique areas of markets.

Strong Sourcing Capabilities Relevant to the Ci3 Mandate

- RockCreek senior team has chaired or served on investment committees for several endowments and foundations and has deep industry knowledge.
- As a woman and minority owned firm, RockCreek builds strong rapport with investment managers of diverse backgrounds and relates well to the specific challenges these managers tend to face.
- The firm's institutional knowledge of investing across private market classes is maintained in the firm's proprietary database, which is available to clients.

A Value-add Partner for Investment Managers and Investors

- Robust value-add capability for diverse and emerging managers such as connecting to potential LPs, providing guidance on best investment operations practices, and collaborating on DEI initiatives. The firm sponsors and actively participates in many DEI organizations and events.
- RockCreek is frequently able to leverage its reputation as a meaningful limited partner and the ability to provide seeding capital to negotiate favorable terms with GPs.

Key Risks and Mitigants

Additional Layer of Fees from a "Fund of Fund" Structure

- Connecticut will benefit from RockCreek's efforts in deal sourcing, due diligence, portfolio construction and monitoring and in the private credit strategies of the Ci3 Mandate.
- RockCreek will bring in a strong set of experiences, abilities, and access in the diverse and emerging managers universe, as well as knowledge transfer.
- On average, the management fee for the mandate is estimated to be below $100k annually.

Lack of History Managing Commingled Vehicle for the Private Credit Strategies

- Since the inception of RockCreek, the firm has been focused on customized portfolios for institutional clients. RockCreek has built 11 private credit strategy separate accounts and funds-of-one for pension funds, foundations, and endowments, coming to a total commitment of $1.6 billion.
- Focusing on a dedicated mandate for Connecticut's Ci3 program reduces adverse selection and conflict of interest issues.

Key Terms Summary

Target Size	• $100 million
GP Commitment	• 0.2% of aggregate committed capital of the Fund
Investment Targets	• Focus on private credit primary fund investments
Markets	• Primarily North America
Fund Term	• 12 Years
Investment Period	• 3 years
Management Fee	• 0.2% on aggregate commitments during the investment period; stepping down to 0.1% on the lesser of aggregate commitments or NAV during the post-investment period.
Waterfall Type	• European waterfall
Preferred Return	• 8%
Structure	• Fund of One
Carry	• 5%
Additional Provisions	• Fees and terms are subject to further negotiation and are not final.

Legal and Regulatory Review

Conencticut - RockCreek Ci3 Mandate

Review of Notice of Legal Proceedings

The Rock Creek Group, LP

In its disclosure to the Office of the Treasurer, The Rock Creek Group, LP ("Rock Creek" or the "Company"), states that is has no material legal or administrative proceedings to report, no claims under its fidelity, fiduciary or E&O insurance policies, and no ongoing internal investigations to report. Rock Creek states it has adequate procedures in place to undertake internal investigations of its employees, officers and directors.

Compliance and Diversity Review

The Rock Creek Group, LP ("Rock Creek")

Review of Required Compliance Attachments

Rock Creek disclosed no third-party fees, campaign contributions, conflicts of interest or gifts

Corporate citizenship in the State of Connecticut

RockCreek has sponsored and facilitated discussions at the Greenwich Economic Forum over the past few years on diversity and sustainability within the investment management industry. In 2012, the firm sponsored an emerging managers forum in Hartford, featuring emerging managers including women and minority-owned firms. The Office of the Treasurer did not participate at that time. The firm supported the Connecticut Food Bank in the beginning of the COVID-19 pandemic. The firm also supports national and international organizations that bring attention to issues that align with the state's concerns.

Commitment to the diversity, education & training of the industry's next generation

The firm actively considers diversity, equity and inclusion in recruiting talent, vendor selection and investment management. The firm's internship program historically includes over 75% diverse interns, which serves as a strong pipeline for recruiting talent into the firm's permanent workforce. In the summer of 2021, over 90% of the firm's summer interns were minority or identified as women, with equal gender representation. The firm has mentored hundreds of interns over the past decade, many of whom have gone on to successful careers in finance and other industries.

Support for women-owned, minority-owned or emerging businesses

The firm has a strong emerging manager program. As of December 31, 2021, the firm has approximately $2.9 billion in committed and invested assets with emerging managers. Since inception, the firm has allocated over $7.9 billion to diverse firms since inception, including $3.0 billion in woman-owned firms and $2.2 billion in Black and Hispanic-owned firms. The firm finished 2021 with over 21% of its assets invested in minority and women--owned firms, accounting for more than 90 firm relationships and investments in more than 500 diverse entrepreneurs. In 2021 alone, the firm invested over $270 million in Black and Latino-owned founders/firms and over $430 million in women-owned founders/firms, committing to approximately 14 new relationships with diverse founders and firms last year. The firm also utilizes minority-owned brokerage firms and holds industry-wide events that allow minority broker-dealers to meet potential clients and develop business within the hedge fund industry.

Compliance and Diversity Review

The Rock Creek Group, LP ("Rock Creek")

Workforce Diversity

Rock Creek provided data as of March 31, 2022

- 84 total employees, up 6% since 2020
- The firm is women-founded and majority women-owned. The firm also has diverse owners (White, Asian and Hispanic)
- Firm conformed data available to comply with the Connecticut CHRO categories; however, it notes: "due to the definitions provided, there can be no assurance that the tables provide an accurate overall representation of the extent of diversity and inclusion at RockCreek, who has been recognized in the industry as one of the largest women owned." The firm's total includes non-binary gender, but the small size of that category did not impact the proportions.

For the three-year reporting period:

- Executive: 3 of the 4 executives are women; 50% are Asian
- Management: Proportion of minorities and women remained constant
- Professionals: Proportion of minorities remained generally constant, while females increased
- Firm-wide: Women and minority proportions remained generally constant

WOMEN

	EXEC	MGMT	PROF	FIRM
2022	75% (3 of 4)	31% (8 of 26)	38% (20 of 53)	38% (32 of 84)
2021	75% (3 of 4)	31% (8 of 26)	37% (20 of 54)	37% (31 of 84)
2020	75% (3 of 4)	31% (8 of 26)	32% (15 of 47)	35% (28 of 79)

MINORITIES[1]

	EXEC	MGMT	PROF	FIRM
2022	50% (2 of 4)	54% (14 of 26)	47% (25 of 53)	49% (41 of 84)
2021	50% (2 of 4)	54% (14 of 26)	48% (26 of 54)	50% (42 of 84)
2020	50% (2 of 4)	54% (14 of 26)	45% (21 of 47)	48% (38 of 79)

[1] 2021 Minority breakdown: 2 exec (2 Asan); 14 mgmt (1 Black, 1 Hispanic, 12 Asian); 25 prof (6 Black, 5 Hispanic and 14 Asian)

Environmental, Social and Governance Analysis

Overall Assessment : Evaluation and Implementation of Sustainable Principles

RockCreek's disclosure described a comprehensive integration of ESG factors. The firm has been a signatory of the UN PRI since 2010 and plays an integral role as a partner with organizations like the World Economic Forum, the International Finance Corporation, and the World Resources Institute. RockCreek is also a signatory to the Net Zero Asset Managers Initiative and a founding signatory to the Operating Principles for Impact Management ("OPIM"). The firm's ESG Policy emphasizes the use of data-driven investing and key performance indicators (KPIs) as part of its due diligence process. RockCreek's CEO leads all sustainability initiatives and policies. The disclosure noted that staff is provided extensive training on ESG matters. The firm also utilizes data from a myriad of sources such as Bloomberg, PRI, Trucost, MSCI, Reuters Refinitiv, and Equileap to feed into their proprietary ESG and Impact investment opportunity database. RockCreek notes that this database tracks over 3,000 investment opportunities. The firm's noted connection to the World Bank (CEO is former Treasurer) and with the World Resources Institute (CEO is Board Member) also feeds into RockCreek's independent research on ESG matters. The firm conducts enhanced screening via positive and negative screens depending on the nature of the mandate.

The firm does not invest in civilian firearms manufacturers.

Overall, RockCreek disclosed meaningful integration of ESG, and is a thought leader in this space.

SCORE

1

Criteria	Response
Firm has an ESG policy	Yes
If Yes, firm described its ESG policy	Yes
If Yes, firm provided examples of ESG factors considered in the decision-making process, explained the financial impact of these ESG factors	Yes
Designated staff responsible for sustainability policies and research	Yes
Firm provides training/resources on sustainability issues, explained sources of ESG-related data	Yes
Signatory/member of sustainability-related initiatives or groups	Yes
Policy for evaluating current or prospective relationships with manufacturers or retailers of civilian firearms	Yes

Criteria	Response
Policy that requires safe and responsible use, ownership or production of guns	Yes
Enhanced screening of manufacturers or retailers of civilian firearms	Yes
Enhance screening of any industry/sector subject to increased regulatory oversight, potential adverse social and/or environmental impact	Yes
Merchant credit relationship with retailers of civilian firearms and accessories	No
If Yes, firm confirms compliance with laws governing firearms sales	N/A

Details	
Meeting Date:	6/6/22
GP Attendees:	Sudhir Krishnamurthi, Siddarth Sudhir, Tyson Pratcher, Matthew Bullough and Natasha Glick
HL Attendees:	Katie Moore, Sean Barber, Meghan Suriano and Victoria Basso

Conclusions

- Given the General Partner's reputation and long tenure in the emerging and diverse space, the firm is strategically positioned to execute on the mandate of the fund-of-one ("Fund"). RockCreek is a majority woman and diverse-owned organization and has worked to build relationships with emerging and underrepresented asset managers, yielding strong networks and a pipeline of promising less-established and diverse-owned firms.
- RockCreek is a longstanding firm that has provided investment management services to institutional clients since 2003. As a result of the firm's tenure, the investment team has developed a reputation and relationships with both established and emerging managers, enabling a consistent source of deal flow. RockCreek benefits from a well-seasoned senior investment team that maintains expertise across the private and public markets through 19 years of working in the space. In particular, the firm maintains a dedicated private markets team who will focus on the diligence, deployment and management of the Fund. Additionally, the investment team is supported by dedicated operational and back-office groups to support the operational diligence of prospective investments. While investment professionals are well-experienced and tenured, the team remains lean, driving concerns around appropriate resources especially given the time necessary to build emerging manager relationships. RockCreek maintains a reasonable number of discretionary client accounts, allowing it to exclusively focus on sourcing and executing on investments that fit active mandates.
- The General Partner intends to build a diversified portfolio of primary investments in emerging credit managers, with an emphasis on diverse-owned firms. RockCreek anticipates investing across credit strategies that generate returns through a combination of current income and capital appreciation to build an all-weather portfolio. Additionally, the General Partner benefits from its in-house technology suite that it uses to supplement sourcing, diligence and management efforts, driving more efficient and effective processes.
- RockCreek has generated consistent returns across its prior primary credit mandates and has a demonstrated track record of identifying emerging managers in the credit space. A number of primary portfolios across the General Partner's track record remain early in their maturity, as such, performance continues to develop.

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Fund Information	
General Partner:	The RockCreek Group ("General Partner"), ("RockCreek")
Fund:	RockCreek Platform Fund/State of Connecticut Emerging & Diverse Mandate ("Fund")
Target Size/Hard Cap:	$100 million/$100 million
Investment Period:	3 years

- The Fund is a fund-of-one for State of Connecticut's Emerging and Diverse mandate focused on private credit.

Recommendation

Approved

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Strategy	
Asset Class:	Private credit
Strategy:	Fund-of-funds
Substrategy:	Opportunistic credit, distressed, senior debt, mezzanine and special situations
Geography:	Primarily United States
Industries:	Diversified

- RockCreek anticipates making primary investments in emerging private credit managers with a focus on diverse-owned firms.
  - The General Partner targets emerging managers that are raising their first to fourth institutional fund and have under $3.0 billion of assets under management.
  - RockCreek intends to focus on investment firms that are at least 30% owned by minorities, women or disabled professionals.

SMA Strategies			
RockCreek Strategies	Capital Appreciation	Income Oriented	Opportunistic
Sub-strategies	Rescue financing	Senior debt	Venture debt
	NPLs	Mezzanine/subordinated debt	Fund liquidity solutions
	Performing value	Real estate debt	Royalties
	Special situations	Specialty finance	Litigation finance
	Distressed for control	Regulatory capital relief	
Target returns	15% - 20%+	8% - 12%	12% - 14%
	1.5x - 1.8x	1.1x - 1.3x	1.3x - 1.5x

- RockCreek intends to build a diversified portfolio across vintage year, credit strategies and underlying industry that will generate returns through a combination of current income and capital appreciation.
  - The General Partner expects to allocate at least 50% of the Fund to senior direct lending strategies.
  - While RockCreek is largely industry agnostic as it relates to the underlying portfolio, it does expect the Fund to be concentrated in U.S.-based managers.

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Strategy (cont.)

- The General Partner maintains robust industry networks to support the introduction of new manager relationships within the credit space.
  - RockCreek leverages its relationships with institutional allocators, clients, the emerging manager/diversity community, advisory board and other board positions to source new opportunities for the Fund.
    - The General Partner has maintained a focus on developing contacts with emerging and underrepresented asset managers, including working with organizations that promote diversity in financial services such as New America Alliance, NASP, NAIC, SBAI, AAAIM, AGE Arica, Opal Financial Group, YWCA, Hispanic Heritage, TOIGO, Women's Alternative Investment Summit and 100WFinance.
  - The General Partner also actively monitors its existing base of credit managers and will re-underwrite each fund series after an initial investment as managers and opportunity sets evolve over time.
- RockCreek leverages its in-house technology to build and monitor portfolios for its clients.
  - The General Partner maintains a proprietary database that collects investment and portfolio level information and has developed an artificial intelligence tool to support investment decision-making.
- The General Partner intends to be an active limited partner and seeks to secure a voting LPAC seat on all primary funds that it commits capital to on behalf of its investors.

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Track Record

RockCreek-Managed Private Credit Separate Accounts and Funds-of-One Prior Performance

The RockCreek Group Prior Investment Performance[1] As of 12/31/21							
($mm) Fund	Date of Initial Commitment	Commitment Amount	Amount Called	Amount Distributed	Unrealized Value	Multiple	IRR
SMA I	2016	$167	$167.9	$93.9	$107.4	1.2x	9.2%
SMA II	2016	29	29.1	17.5	16.7	1.2x	7.8%
SMA III	2021	40	23.3	7.3	17.6	1.1x	12.4%
SMA IV	2018	7	3.6	1.2	3.1	1.2x	15.9%
SMA V	2015	285	298.6	214.7	168.2	1.3x	8.3%
SMA VI	2016	1,029	949.1	521.8	582.7	1.2x	9.4%
SMA VII	2018	8	5.7	0.6	5.2	1.0x	0.4%
SMA VIII	2020	15	6.7	1.7	5.3	1.1x	15.8%
SMA IX	2016	6	4.7	$2.2	$3.3	1.2x	5.0%
SMA X	2017	130	96.6	50.6	68.7	1.2x	12.8%
Total		**$1,716.5**	**$1,585.3**	**$911.5**	**$978.2**	**1.2x**	**9.1%**

[1] Performance is provided gross of SMA fees but net of underlying investment fees

- RockCreek has invested in the private credit space since 2015, generating consistent risk-adjusted returns across prior SMAs and fund-of-ones.
- A number of portfolios remain early and, as such, are expected to continue to develop over time.

RockCreek-Managed Emerging Manager Prior Performance

The RockCreek Group Prior Investment Performance[1] As of 12/31/21						
($mm) Fund	Commitment Amount	Amount Called	Amount Distributed	Unrealized Value	Multiple	IRR
Emerging Private Credit[2]	$682	$568.9	$385.5	$277.0	1.2x	9.5%

[1] Performance is provided gross of SMA fees but net of underlying investment fees
[2] Inclusive of funds within RockCreek's primary credit portfolio that are managed by emerging fund managers that have raised between one and four institutional funds and have an AUM of less than $3.0 billion

- The General Partner also maintains a track record of investing in emerging private credit managers, which have performed in line with its broader credit portfolio.

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Organization

Firm Inception:	2003
Locations:	Washington, D.C. (headquarters) and New York
Formal ESG Policy:	Yes
PRI Signatory:	Yes
Investment Team:	10 dedicated investment professionals; 1 President & CEO, 2 Senior Managing Directors, 3 Managing Directors, 2 Directors, 1 Senior Vice President and 1 Vice President
Additional Resources:	The broader RockCreek platform

Dedicated Investment Professionals

Experience of Investment Professionals

Name	Title	Fund Coverage	Location	Tot. Exp. (yrs.)	Tenure (yrs.)	Prior Experience	Educational Background
Afsaneh Beschloss	President & CEO	General	Washington, D.C.	35	20	• The Carlyle Group, Managing Director • World Bank, Treasurer & Chief Investment Officer • J.P. Morgan	• University of Oxford (MPhil) • University of Kent (BA)
Sudhir Krishnamurthi	Senior Managing Director	General	Washington, D.C.	35	20	• World Bank	• Harvard University (PhD) • Indian Institute of Technology (BS)
Ken Lay	Senior Managing Director	General	Washington, D.C.	34	11	• The World Bank, Treasurer	• George Washington University (JD) • Dartmouth College (BA)
Siddarth Sudhir	Managing Director	Private Markets	Washington, D.C.	19	18	• Merrill Lynch Investment Managers	• University of Pennsylvania (MBA) • Georgetown University (BA)
Tyson Pratcher	Managing Director	Private Markets	New York	22	2	• TFO USA Ltd., Head of Investments • NYSCRF, Head of the Opportunistic Investments & Emerging Manager Program • U.S. Senate, Senior Advisor	• Columbia University (JD) • Hampton University (BA)
Matthew Bullough	Managing Director	Private Credit	Washington, D.C.	11	9	• Cambridge Associates, Research Associate • Children's National Medical Center, Research Assistant	• Cornell University (BS)
Peter Cline	Director	Private Credit	Washington, D.C.	12	9	• Cambridge Associates, Research Associate	• Georgetown University (MBA) • University of Pittsburgh (BS)
John Coombe	Director	Private Credit	Washington, D.C.	14	8	• Citadel Investment Group, Trader	• Massachusetts Institute of Technology (MBA) • Cornell University (BS)
Andrew Reid	Senior Vice President	Private Credit	Washington, D.C.	5	1	• Credit Suisse, Associate	• Harvard University (BA)
John Hickman	Vice President	Private Credit	Washington, D.C.	7	6	• n/a	• Wake Forest University (BA)

- RockCreek was founded in 2003 by Afsaneh Beschloss to provide discretionary management services to mid- and large-sized institutional clients through customized public and private market investment portfolios.
    - Ms. Beschloss continues to lead the firm today alongside a senior portfolio team who support the day-to-day management of the organization and work across all asset types, including Sudhir Krishnamurthi, Ken Lay, Siddarth Sudhir, Tyson Pratcher, Alberto Fassinotti, Ronald van der Wouden and Alifia Doriwala.
    - The General Partner initially focused on the public markets but launched its private market vertical in 2015 and currently invests across various strategies.
- The General Partner is a majority-diverse and woman-owned firm.
    - RockCreek has maintained a consistent focus on supporting emerging and diverse organizations and as of March 2022, the General Partner had invested $7.9 billion in diverse firms, $5.9 billion in impact strategies and companies, $900 million in black-owned firms and $3.0 billion in women-owned firms.
- As of March 2022, RockCreek had approximately $16.3 billion in assets under management and was comprised of 37 investment-focused professionals who are organized into private and public market verticals.
    - Investment efforts for the private markets are led by Messrs. Sudhir and Pratcher, with Matthew Bullough leading private credit initiatives.

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Tenure

Name	Title	Tot. Exp. (yrs.)	Tenure (yrs.)	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022
Afsaneh Beschloss[1]	President & CEO	35	20											
Sudhir Krishnamurthi[1]	Senior Managing Director	35	20											
Ken Lay	Senior Managing Director	34	11											
Siddarth Sudhir[1]	Managing Director	19	18											
Tyson Pratcher[1]	Managing Director	22	2											
Matthew Bullough	Managing Director	11	9											
Peter Cline	Director	12	9											
John Coombe	Director	14	8											
Andrew Reid	Senior Vice President	5	1											
John Hickman	Vice President	7	6											

= Tenure with The RockCreek Group
= Total Experience

[1] Denotes members of the investment committee

- The General Partner benefits from a strong team of senior investment professionals who have developed expertise in private and public market investing through their tenure at the firm and previous industry experience.
    - The senior professionals average 19 years of experience in the investment space and 10 years of tenure at RockCreek, enabling strong relationships with asset managers.
- The investment committee for the private markets is comprised of Mses. Beschloss and Doriwala and Messrs. Krishnamurthi, Sudhir, Pratcher and Van der Wouden, with investment decisions being made on a consensus basis.
- The senior team has remained stable and the General Partner has not experienced any recent senior departures.
- Additionally, the investment team is supported by dedicated research, legal, operations, accounting and technology teams to support the diligence and monitoring of investment opportunities.

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Advisory Board

Advisory Board		
Name		Experience
Alan Greenspan	•	Federal Reserve, Former Chairman
DeAnne Julius	•	Royal Institute of International Affairs, Chairman British Airways, Former Chief Economist Shell, Former Chief Economist Bank of England Monetary Policy Committee and the Court of the Bank, Former Member
Caroline Atkinson	•	Google, Head of Global Policy Former Deputy National Security Advisor to President Obama
John Lipsky	•	International Monetary Fund, First Deputy Managing Director
Kofi Appenteng	•	Ford Foundatoin, Former Chair Africa-America Institute, CEO
Laura Tyson	•	Haas School of Business The Council of Economic Advisors, Former Chair
Jessica Einhorn	•	SAIS, Former Dean BlackRock, Former Board Member
Liaquat Ahamed	•	Lords of Finance, Pullitzer Prize Winner & Author

- RockCreek also maintains a large advisory board comprised of professionals with unique experience and global relationships to provide insight on macroeconomic trends and supplement new manager introductions.

ESG

- The General Partner has been thoughtful in terms of ESG, incorporating ESG in its diligence, investment decision and monitoring processes, leveraging its team of dedicated ESG specialists.
    - RockCreek incorporates ESG into its investment thesis and evaluates investment manager's use of ESG data, team expertise in subject matter, efforts to engage portfolio companies, participation in responsible investing and corporate sustainability initiatives and reporting on portfolio impact and engagement outcomes.
- RockCreek maintains an ESG policy, has been a signatory of the PRI since 2010 and continues to be an active member of the Standards Board for Alternative Investments and the Council of Institutional Investors.
    - The General Partner is also a signatory and early collaborator on the Operating Principles for Impact Management and is a signatory to the Net Zero Asset Managers Initiative.

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Contact

Antonio Sierra, the General Partner, clientservices@therockcreekgroup.com, (202) 331-3420

Important Disclosures

All information contained within this report has been gathered from sources believed to be reliable, including but not limited to the general partner(s), other industry participants and the Hamilton Lane Investment Database, but its accuracy cannot be guaranteed.

The information contained in this report may include forward-looking statements regarding the fund presented or its portfolio companies. Forward-looking statements include a number of risks, uncertainties and other factors beyond the control of the fund or the portfolio companies, which may result in material differences in actual results, performance or other expectations. The opinions, estimates and analyses reflect our current judgment, which may change in the future.

The past performance information contained in this report is not necessarily indicative of future results and there is no assurance that the fund will achieve comparable results or that it will be able to implement its investment strategy or achieve its investment objectives. The actual realized value of currently unrealized investments will depend on a variety of factors, including future operating results, the value of the assets and market conditions at the time of disposition, any related transaction costs and the timing and manner of sale, all of which may differ from the assumptions and circumstances on which the current unrealized valuations are based.

Any tables, graphs or charts relating to past performance included in this report are intended only to illustrate the performance of the fund or the portfolio companies referred to for the historical periods shown. Such tables, graphs and charts are not intended to predict future performance and should not be used as the basis for an investment decision.

By accepting receipt of this investment report and in consideration of access to the information contained herein (together with the investment report, the "Confidential Information"), the recipient agrees to maintain the strict confidentiality of any and all Confidential Information in accordance with the terms of this paragraph. The recipient acknowledges that (i) the Confidential Information constitutes proprietary trade secrets, and (ii) disclosure of any Confidential Information may cause significant harm to Hamilton Lane Advisors, L.L.C. ("Hamilton Lane"), its affiliates or any of their respective businesses. Unless otherwise required by law, the recipient shall not disclose any Confidential Information to any third party. If required by law to disclose any Confidential Information, the recipient shall provide Hamilton Lane with prompt written notice of such requirement prior to any such disclosure so that Hamilton Lane may seek a protective order or other appropriate remedy. Prior to making any disclosure of any Confidential Information required by law, the recipient shall use its reasonable best efforts to claim any potential exemption to such requirement and otherwise shall limit disclosure only to such information that is necessary to comply with such requirement.

The calculations contained in this document are made by Hamilton Lane based on information provided by the general partner (e.g. cash flows and valuations), and have not been prepared, reviewed or approved by the general partner.

Stacked bar charts or pie charts presented in the Strategy section in this report may not equate to 100% per the data labels on the charts due to rounding; however, all stacked bar charts and pie charts equate to 100% using exact proportions.

Definitions	
Benchmark Analysis:	An analysis which compares the net IRR of the prior funds to the top-quartile net IRR benchmarks for similar funds (based on strategy and vintage) as reported by the Hamilton Lane database. The benchmark data shown is the most recent data available at this time
DPI:	Distributed-to-Paid In = (Amount of Distributions Received)/(Total Amount of Capital Paid-In)
ESG:	Environmental, Social and Governance
Gross IRR:	Internal Rate of Return ("IRR") of investments at the 'fund level', excludes fees paid by LPs to the General Partner such as management fees and carried interest. For investments held less than one year, Hamilton Lane nominalizes the IRR to match the hold period of the investment, in order to represent a more meaningful number
Investment Pacing:	An analysis of the total capital invested during the given years. Includes all prior investments, realized or unrealized
J-Curve Benchmark:	Peer (median by age) is calculated by taking the median IRR of similar funds (based on strategy and vintage) in Hamilton Lane's database at each quarter, which are simulated as investing at the same point of time. The length of time to break the J-curve is calculated from inception to the first time each fund generated a positive net IRR
Loss Ratio Analysis:	An analysis of the capital invested in realized transactions generating different multiples of invested capital
Net IRR:	Annualized Internal Rate of Return ("IRR") of investments at the 'LP level', inclusive of fees such as management fees and carried interest paid to the General Partner
Net Returns to Limited Partners:	The performance of the General Partner's prior investment vehicles at the net LP level, inclusive of all fees, carried interest and expenses. Performance data is as reported by the General Partner, using actual capital contributions, distributions and net asset value for either all limited partners, or a sample set of limited partners, in the respective funds
Outlier Analysis:	An analysis of the gross returns of investments in prior funds, comparing overall performance against the performance when certain 'outlier' transactions are excluded. Outliers are defined as transactions which generate exceptionally positive or negative results
PME Analysis:	Calculated by taking the fund monthly cash flows and investing them in the relevant Total Return Index (where all dividends are re-invested). Contributions were scaled by a factor such that the ending portfolio balance would be equal to the private equity net asset value (equal ending exposures for both portfolios). This prevents shorting of the public market equivalent portfolio in order to match the performance of an outperforming private equity portfolio. Distributions were not scaled by this factor. The IRRs were then calculated based off of these adjusted cash flows. The selected PME represents the most relevant public market benchmark
Realized Attribution Analysis:	Analysis of the capital invested in, and performance of, the prior realized transactions according to the criteria indicated
Realized Investments:	Hamilton Lane classifies investments as 'realized' if it has i) an unrealized value of less than 20% of the total value; ii) a carrying value that has been written to zero or has been previously written-off; or iii) been fully exited and the GP has no remaining interest in the company
RVPI:	Remaining Value-to-Paid In = (Current Net Asset Value)/(Total Amount of Capital Paid-In)
TVPI:	Total Value-to-Paid In = (Amount of Distributions Received + Current Net Asset Value)/(Total Amount of Capital Paid-In)
Time-zero IRR:	Represents the gross IRR calculated as if every investment was initiated on the same date
Write-Down Ratio:	The ratio of capital invested in realized investments that have been sold for a value that is less than 1.0x their original cost basis, divided by the total capital invested in all realized investments
Write-Off Ratio:	The ratio of capital invested in realized investments that have been sold for a value that is less than 0.5x their original cost basis, divided by the total capital invested in all realized investments

This report is intended solely for the clients and employees of Hamilton Lane. It contains confidential and proprietary Hamilton Lane information. This presentation is not an offer to sell, or a solicitation of any offer to buy, any security or to enter into any agreement with Hamilton Lane or any of its affiliates.

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+1 647 715 9457

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Suite 200
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USA
+1 702 784 7690

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+1 503 624 9910

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RockCreek

Private Credit Capabilities

July 2022

Confidential
For Use in One-on-One Presentation

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01 Firm Overview

02 Private Markets

03 Private Credit Capabilities

04 Investment Pipeline

05 Diverse & Emerging Managers

06 Back-Office Capabilities

07 Team Biographies

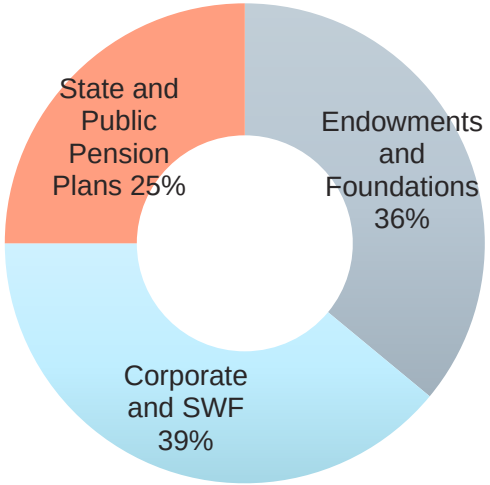
Mission Statement

RockCreek is a leading global investment management firm that applies data-driven technology and innovation to sustainable investing. We have long-term partnerships with our clients and companies. We believe sustainability and inclusion generate superior performance. Sustainable long-term investing extends throughout our investments, our inclusive, mission-focused team, our culture, our office environment and operations.

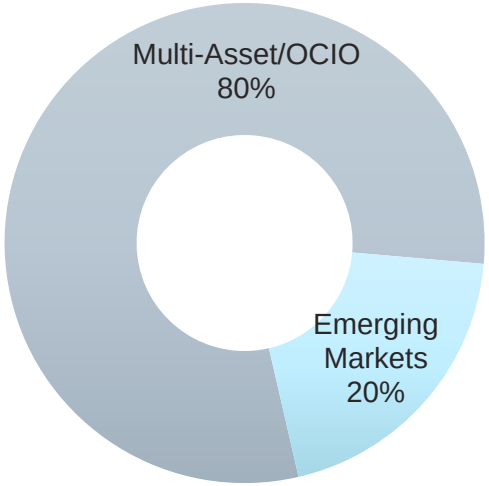
01 Firm Overview

Firm Background

CLIENT TYPE[1]



AUM BREAKDOWN[2]



18 YEARS

Established by Afsaneh Beschloss and a team from the World Bank in 2003

HISTORY

Principals managed $110 billion in private and public markets, early stage, venture, real estate and real assets at the World Bank since the 1990s

PIONEER

RockCreek is one of the largest woman and diverse owned investment firms

CAPABILITIES

Investing directly and through funds

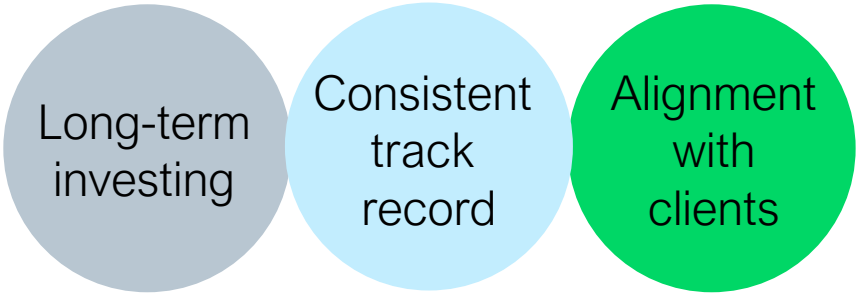
OUR VISION

Advance the mission of our partners by generating inclusive sustainable returns to help achieve their goals

SOLUTIONS FOCUSED

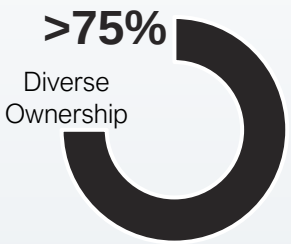
90% of firm assets in customized portfolios

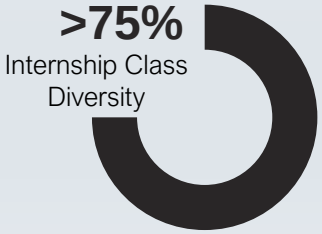
OUR CORE PRINCIPLES



[1] Percent by client count. [2] Includes advisory/transitioning assets and uncalled committed capital. As of March 2022.

RockCreek Impact & Inclusion





RockCreek Investments[1]

$7.9 billion invested in diverse firms

$5.9 billion invested in impact strategies and companies

$900+ million invested in black-owned firms

$3.0 billion invested in women-owned firms

Diverse managers for private markets are defined as firms with 30% or greater ownership by minorities, women, or disabled persons, and/or at least one diverse General Partner. Diverse managers for public markets are defined as firms with 30% or greater ownership by minorities, women, or disabled persons.

[1]Since inception. As of March 2022.

Commitment to Diversity & Impact

RockCreek has committed $7.9 billion to diverse managers and **$5.9 billion** to ESG/Impact investments

Diverse Investments

Over **$2.2 billion** invested in black and Hispanic owned firms

$3.0 billion invested in women-owned firms

21% of assets currently invested with diverse owned firms

100+ current relationships

Diverse and emerging manager investments throughout OCIO portfolios

Sustainable Investments

350+ impact-oriented portfolio companies

36% of assets currently invested in impact and ESG companies and funds

Sustainable investing mandates with OCIO partners

60+ current relationships with ESG & Impact Investors

Mission oriented investments cover climate, health, education, food sustainability, social justice, financial inclusion, job creation, affordable housing and other impactful themes

We work with leading mission-oriented institutions including*

*See Important Disclosures & Risk Considerations about the referenced clients.
Note that the clients referenced herein include a foundation to which RockCreek performs consultancy and research services.
All data since inception of RockCreek and as of March 2022.

Initiatives

Signatory*

- Principles for Responsible Investment ("PRI") sponsored by the UN
- Council of Institutional Investors
- Operating Principles for Impact Management – Founding Member
- Net Zero Asset Manager Initiative
- ILPA Diversity in Action

Advocacy

- RISE Program, NAIC, New America Alliance, TOIGO, NASP, AGE Africa…
- DC Central Kitchen, World Central Kitchen, National Urban League, Mikva Challenge…

Culture

- Diversity, Equity and Inclusion Committee
- Internship Program which has had 350 interns since inception
- Book Clubs and Mental Health Days
- Meditation Classes
- Sustainable Office Environment since 2016

*Supporting various ESG/impact/responsible investing groups and principles does not necessarily reflect an endorsement and acceptance by RockCreek of each and every specific proposal, recommendation or requirement as they evolve over time from such groups, but rather a way for RockCreek to engage with the industry to support the advancement of progress on these issues and the benefits of their research and knowledge sharing.

Experienced Investment Team

Senior Portfolio Team

Average of **15 years** with RockCreek

Afsaneh Beschloss
35 years
World Bank, Carlyle, JP Morgan

Sudhir Krishnamurthi
35 years
World Bank, MIT

Ken Lay
34 years
World Bank, SEC

Siddarth Sudhir
19 years
Merrill Lynch

Alberto Fassinotti[1]
20 years
Goldman Sachs, JPM Darby

Ronald van der Wouden
26 years
World Bank, Robeco, Ortec

Alifia Doriwala
20 years
Merrill Lynch, Wolverine Trading

Tyson Pratcher
22 years
TFO USA, NYSCRF, Davis Polk & Wardwell

Senior Research Team

Average of **10 years** with RockCreek

Yan Wang[1]
16 years
Goldman Sachs

Drew Reid
5 years
Credit Suisse

John Coombe
14 years
Citadel, Trafelet

Anda Bordean
14 years
Soros, Goldman Sachs

John O'Brien[1]
41 years
AllianceBernstein, American Express

Ken LaPlace
26 years
Cambridge Associates

Philip Ashton
24 years
Keel Point, Radcliff

Matt Bullough
11 years
Cambridge Associates

Huaizhang Deng
20 years
U. Of Pennsylvania, Yale

Chris Barber
13 years
Bureau of Labor Statistics

Employee data as of March 31, 2022.
1 Individuals are senior members of the RockCreek Emerging Markets Group.

Experienced Finance & Operations Team

Senior Team

Legal Team

Sherri Rossoff
38 years
World Bank,
Cleary Gottlieb

Krishnan Devidoss
Lead Counsel
Lazard Asset Management

Monica Villarreal
Lead Counsel
Bridgewater Associates

Operations Team

Antonio Sierra
20 years
World Bank

Jackie Bleicher
Director
Franklin Templeton

Matthew McMaster
Managing Director
Potomac River, EQA Partners

Accounting

John Reville
44 years
PWC

Nafees Clay
Director
KPMG LLP

Kevin Tong
Senior Vice President
The Blackstone Group

Technology

Tim Duggan
26 years
Fannie and Freddie

Dustin Bortner
Director
University of Illinois

Employee data as of March 31, 2022.

Advisory Board

Alan Greenspan

Former Chairman of the Board of Governors of the Federal Reserve System
Former Board Member of JP Morgan, Mobil, Alcoa, General Foods, Capital Cities/ABC, and the Council on Foreign Relations
Author of *The Map & The Territory: Risk, Human Nature, and the Future of Forecasting* and NYT Best Seller, *The Age of Turbulence*

Caroline Atkinson

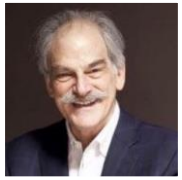
Head of Global Policy, Google
Former Deputy National Security Adviser to President Barack Obama
Former Director, IMF External Relations Department
Director of Brookfield Property Partners
Board Member of Peterson Institute for International Economics (PIIE) and the Center for Global Development

Deanne Julius

Distinguished Fellow for Global Economy and Finance at Chatham House
Vice Chair of the Advisory Board of the International Business and Diplomatic Exchange
Advisory Board Member of Temasek (Singapore) and the China Investment Corporation
Founding Member of the Bank of England Monetary Policy Committee and former Chair of the Royal Institute of International Affairs
Former Energy Division Chief, World Bank and Chief Economist at Shell and British Airways
Former corporate Board Member of BP, Roche, Deloitte UK, Serco, Lloyds Bank Group, and ICE Benchmark Administration

Jessica Einhorn

Board Member of BlackRock and NBER
Former Dean of Johns Hopkins University School of Advanced International Studies (SAIS)
Former Board Member of Time-Warner
Former Managing Director and Treasurer, World Bank
Trustee of the German Marshall Fund, Rockefeller Brothers Fund and Former Director of the Council on Foreign Relations, Center for Global Development



John Lipsky

Senior Fellow of the Foreign Policy Institute at Johns Hopkins School of Advanced International Studies (SAIS)
Co-chair of the Aspen Institute's Program on the World Economy and Advisory board of the Stanford Institute for Economic Policy Research
Chair of the National Bureau of Economic Research and Vice Chair of the Center for Global Development
Former Vice Chairman of JPMorgan Investment Bank and Former Chief Economist & Director of Research at JPMorgan Chase

Kofi Appenteng

President & CEO, The Africa-America Institute
Former Chair of the Board of Trustees, Ford Foundation
Former Chair and Current Member of the Board of Directors, International Center for Transitional Justice
Member of the Board of Directors, Conrad N. Hilton Foundation
Former Senior Counsel, Dentons

Laura Tyson

Board Member of Sustainability Accounting Standards Board (SASB)
Professor and Former Dean, Haas School of Business, UC Berkeley and the London Business School
Former member of President Obama's Recovery Advisory Board
Current and Former Board Member of Morgan Stanley, AT&T, CBRE Group Inc., and Silver Spring Networks
National Economic Adviser to President Clinton and former Chairman of the White House Council of Economic Advisers

Liaquat Ahamed

Author of Pulitzer Prize-winning *Lords of Finance*
Former CEO and CIO of Fischer Francis Trees and Watts Inc.
Former Division Chief of the World Bank Investment Department

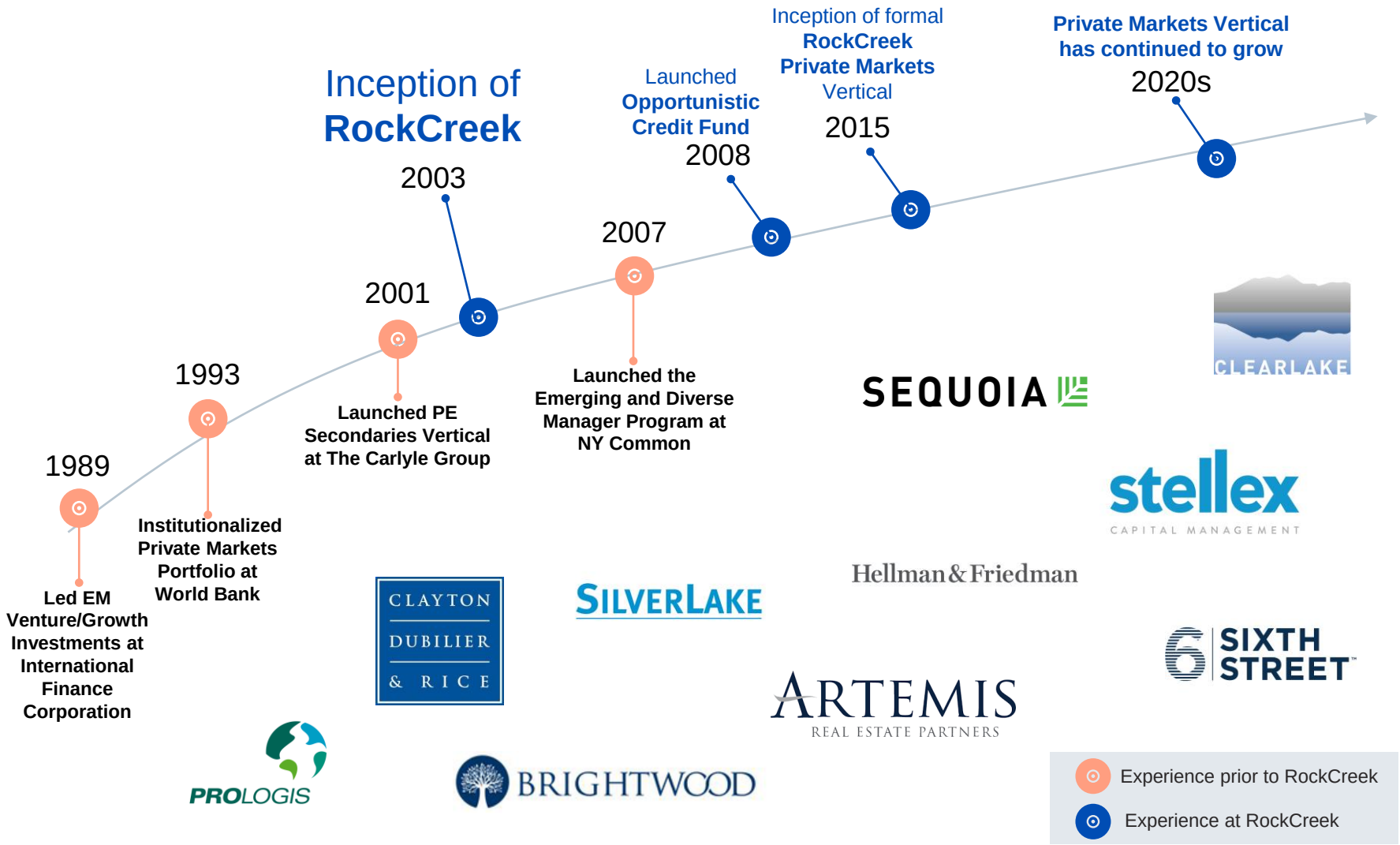
Team Current & Past Board Roles

As Members of Non-Profit Boards Our Team Shares Best Practices

- American Red Cross
- Barbara Fritchie Museum
- Center for American Progress
- Center for Development Economics (CDE) at Williams College
- Center for Global Development
- Colonial Williamsburg Foundation
- Dana Farber Cancer Institute
- Doris Duke Charitable Foundation
- Ford Foundation
- Georgetown University Global Initiative Advisory Board
- Institute of Advanced Study (IAS)
- John F. Kennedy Library Foundation
- PBS
- Pension Finance Committee of the World Bank
- Robert Kennedy Center for Justice & Human Rights
- Rockefeller Brothers Fund
- Sesame Workshop
- Shakespeare Theater Company
- Smithsonian Institute
- Teach for America
- The Langley School
- The Nature Conservancy Wyoming Chapter-Director
- United Nations
- Urban Institute
- Washington National Cathedral
- WETA
- World Health Organization
- World Resources Institute
- World Wide Web Foundation

02 Private Markets

Private Markets Timeline



For informational purposes only. Historical data provided by Senior Private Markets Team. No guarantee a customized portfolio will invest in all or any of the referenced managers.

RockCreek Advantage: Private Markets

RockCreek's Competitive Advantage is Across Four Dimensions

Experience

Access

Client Focus

Track Record

Private Markets Team

Team with significant experience investing in private markets

Senior Team

Afsaneh Beschloss
RockCreek Founder & CEO
World Bank, Carlyle, JP Morgan
35 years *of* experience

Sudhir Krishnamurthi
Senior Managing Director
World Bank, MIT
35 years *of* experience

Kenneth Lay
Senior Managing Director
World Bank, SEC
33 years of experience

Investment Team

Siddarth Sudhir
Managing Director
Merrill Lynch

Tyson Pratcher
Managing Director
TFO USA, NYSCRF, Davis Polk & Wardwell

Matt Bullough
Managing Director
Cambridge Associates

Peter Cline
Director
Cambridge Associates

Zach Ruchman
Senior Vice President
BlackRock

Drew Reid
Senior Vice President
Credit Suisse

Johnny Read
Vice President
Eastdil Secured

Operations Team

Antonio Sierra
Managing Director
World Bank

Jackie Bleicher
Director
Franklin Templeton

Matthew McMaster
Managing Director
Potomac River, EQA Partners

Marion Sierpinski
Director
Rothschild HDF Investment Solutions

Accounting Team

John Reville
Managing Director
PWC

Nafees Clay
Director
KPMG LLP

Kevin Tong
Senior Vice President
The Blackstone Group

Legal Team

Sherri Rossoff
Managing Director
World Bank, Cleary Gottlieb

Monica Villarreal
Lead Counsel
Bridgewater Associates

Krishnan Devidoss
Managing Director
Lazard Asset Management LLC

Employee data as of March 31, 2022.

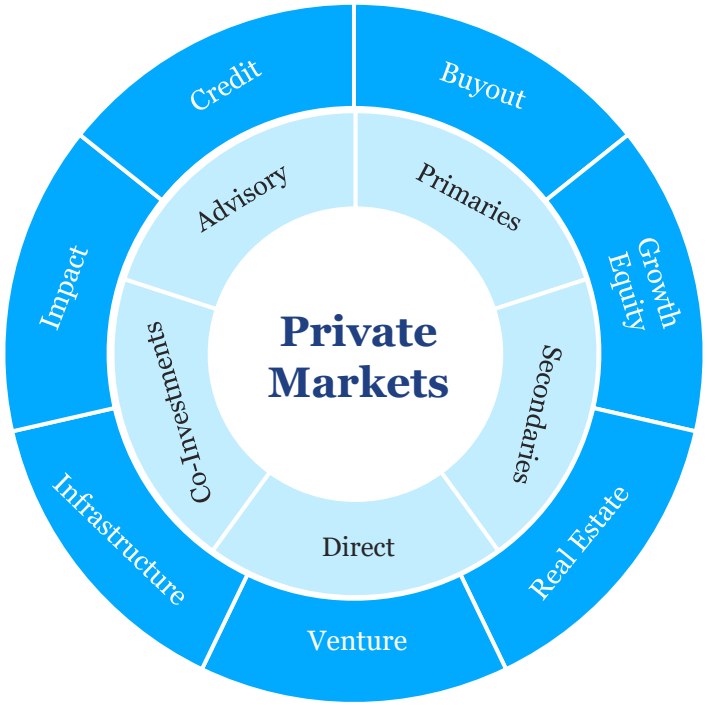
Private Market Investments

RockCreek has invested in Private Markets for 10+ years

10+ years
Investing in
Private Markets

100+
Funded GP
Relationships

~30[1]
Co-investments and
Direct Investments



$5bn+
In Capital
Commitments

28%
Invested in Non-U.S.
Markets

1. Includes underlying portfolio exposure through the co-investment vehicles.
2. Based on committed capital.

As of March 2022.

03 Private Credit Capabilities

Background

Our private credit portfolios have generated attractive returns over 7+ years

1,400+
Opportunities reviewed since 2015

$1.7bn+
Committed to Private Credit GPs

$70mn+
Committed to Private Credit Co-Investments[3]

$153mn
Committed to women and diverse firms[2]

- Team with 20+ years experience managing private credit portfolios
- Access and capacity with top-quartile private credit GPs
- Sourcing is also focused on identifying talented diverse GPs
- Rigorous selection process that has resulted in less than 3% of the 1,400+ opportunities reviewed being approved for investment
- Attractive returns with inception-to-date IRRs that are 500 bps above relevant benchmarks[1]

Private Credit Commitments Include

28
to GPs raising 1st to 4th institutional Fund

~20
LPACs in which we participate

1. Benchmark used is a custom blend of 50%/50% LSTA Leveraged Loan/50% BofA US High Yield Index. Relative performance calculations are conducted using the Long-Nickels ICM methodology.
2. Defined as firms that have 50% or greater ownership by women and other minority groups
3. Includes commitments to co-investment vehicles

As of March 2022. Employee data as of March 2022.

Past performance is not indicative of future results. The underlying exposures, specifically hedges, securities, and derivatives in the selected benchmark index or indices, may vary substantially from that of the portfolio(s) presented. See Important Disclosures & Risk Considerations about the selected indices presented.

Investment Process: Private Credit

We have a four-step investment process

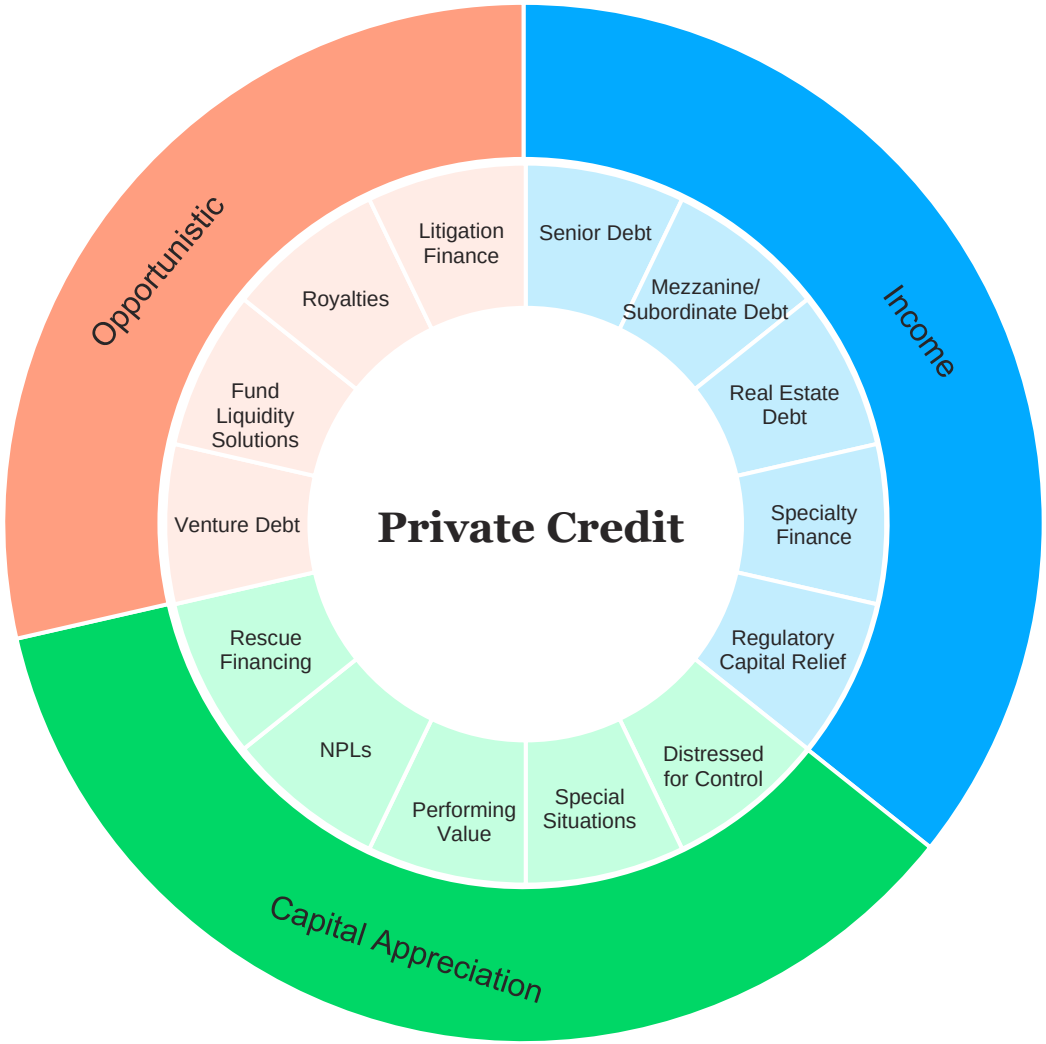
Strategy Allocation

Fund Selection

Risk Management

Performance

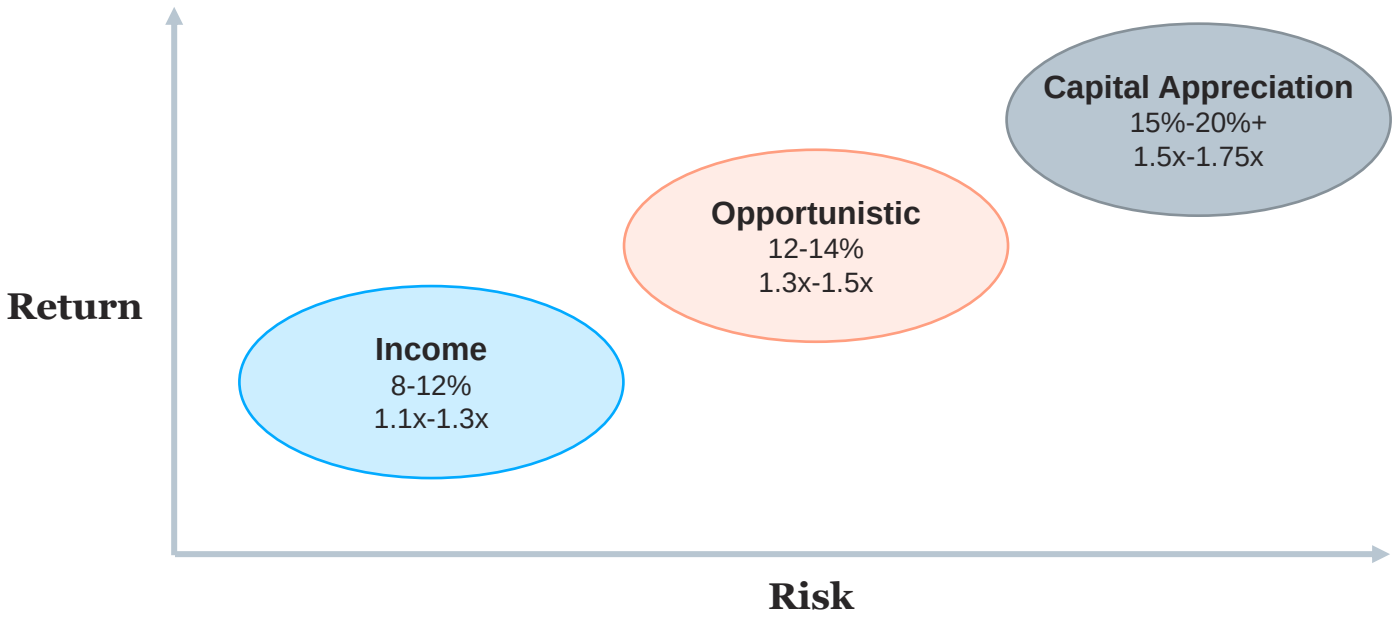
Strategy Universe



Areas of Focus

- ✓ Creditor friendly jurisdictions
- ✓ Underserved borrowers
- ✓ Underpenetrated and niche credit markets
- ✓ Regulations preclude traditional financing channels
- ✓ Sectors & geographies experiencing dislocation
- ✓ Avoiding strategies with low barriers to entry

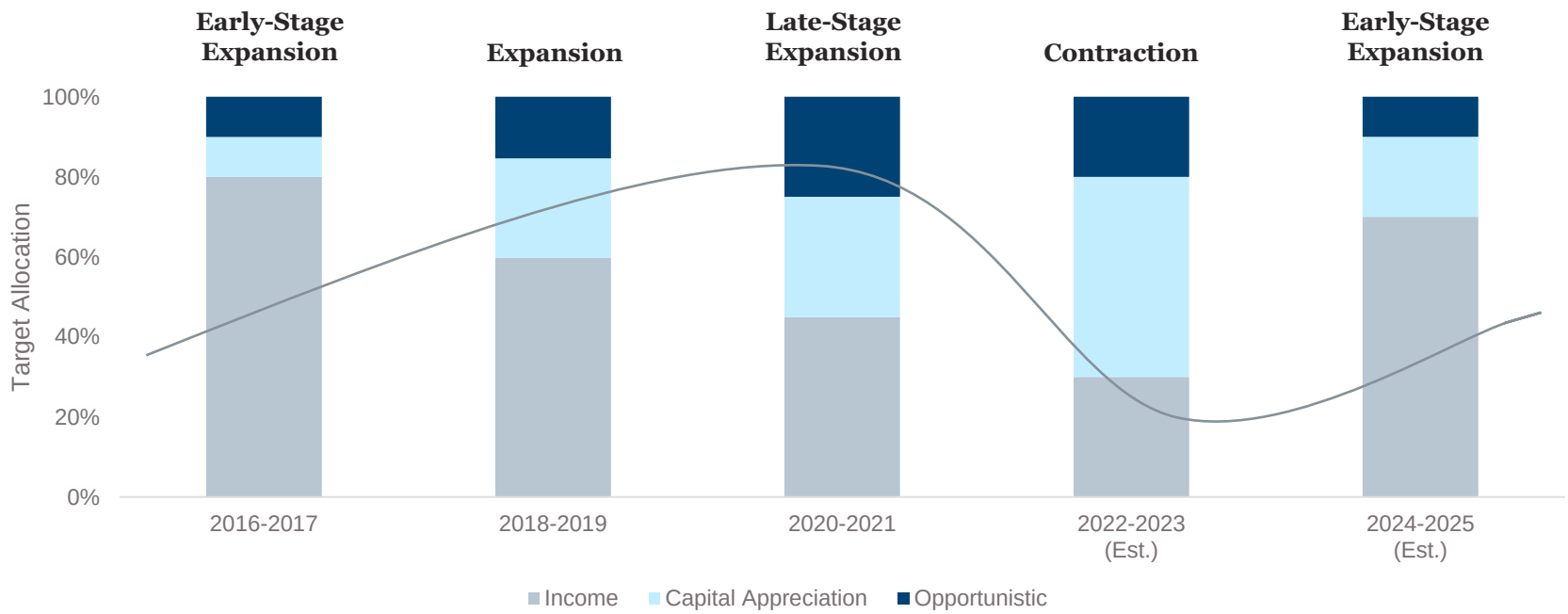
Strategy Risk-Return Trade Off



Capital Appreciation strategies target higher expected returns to investors for bearing higher illiquidity and default risk than income-oriented strategies

Strategy Allocation

- Income strategies provide a stable yield over the different phases of a market cycle
- Capital Appreciation strategies are cyclical and generate strong total returns in the early-stage expansion phase
- Opportunistic strategies provide yield and total returns by structuring investments towards income and/or capital appreciation components depending on the market opportunity

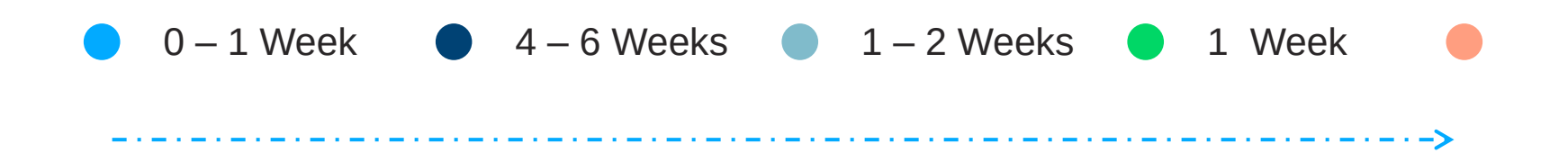


In the current environment, we are targeting a portfolio allocation titled towards capital appreciation strategies

1. For discussion purposes.
2. No guarantee that a customized portfolio will make same or similar allocations and exposures as presented. Future market conditions may impact a portfolio's ability to make allocations and exposures as presented. See Important Disclosures & Risk Considerations about potential future events.

Fund Selection Process

Fund Selection Timeline



We have a robust fund selection process that identifies talented managers over time

Fund Sourcing

We have a multi-faceted approach to sourcing funds

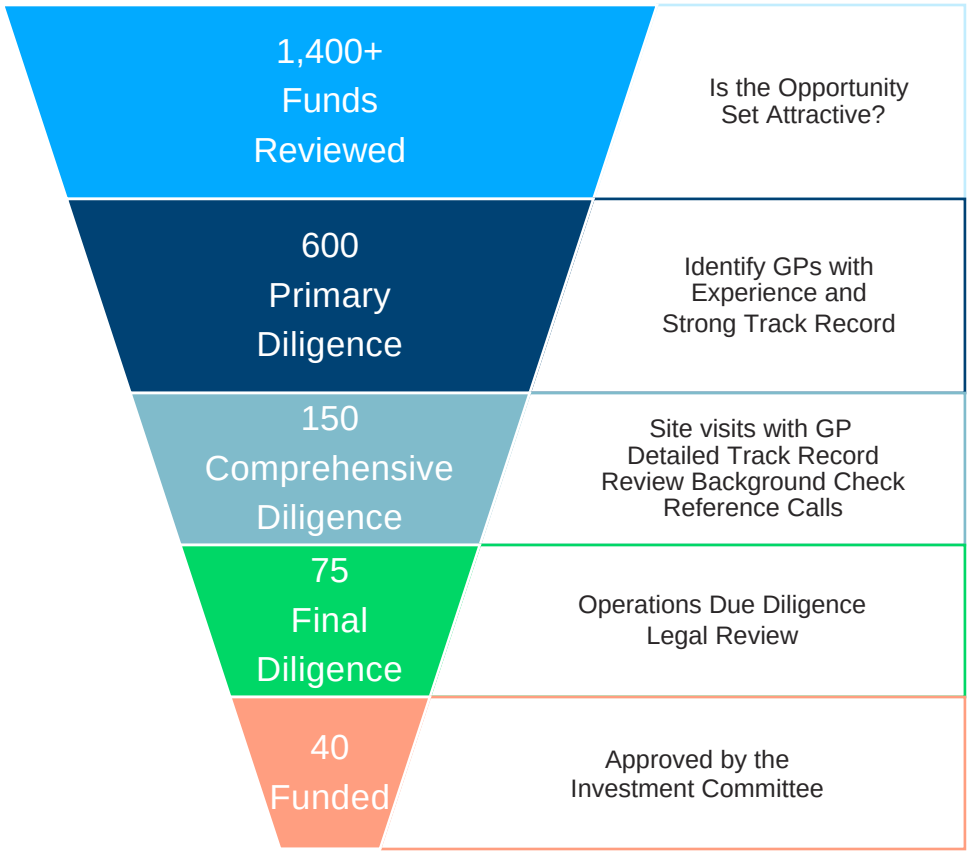
- ✓ We have a distinctive and broad-based sourcing network
- ✓ Our network is now sourcing over 375 private credit opportunities per annum

Selection Funnel

RockCreek has a rigorous approach to selecting GPs

Areas of Focus

- ✓ Track record with institutional clients
- ✓ Fund size consistent with market opportunity
- ✓ Non-competitive sourcing channels
- ✓ Limited use of leverage
- ✓ Creditor friendly jurisdictions
- ✓ Less reliant on capital markets for exits

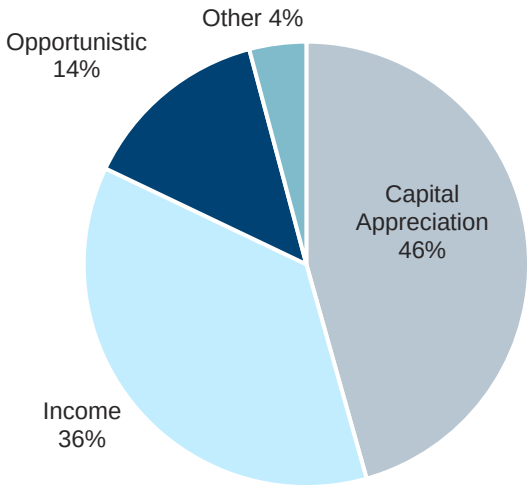


Database: Private Credit Funds

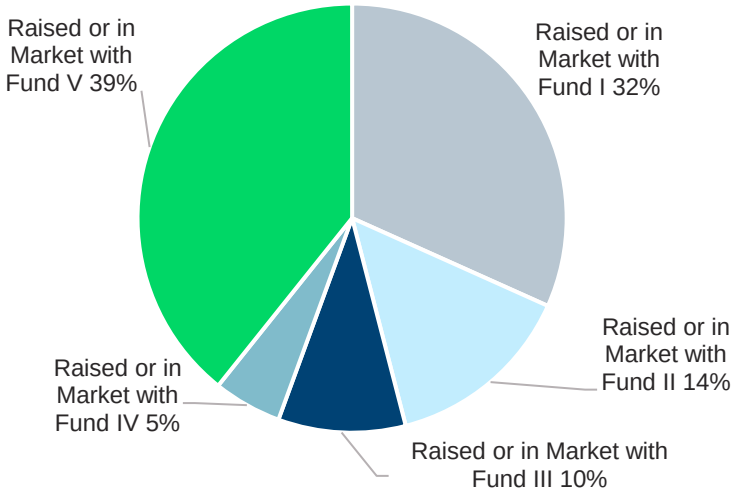
Our database has over 1,400+ private credit funds

- Our database includes income, opportunistic and capital appreciation strategies to help us construct customized portfolios for our clients
- A large portion of our database includes emerging GPs that are raising their first to fourth institutional fund
- Our database has a focus on diverse GPs, whose funds currently represents ~20% of our database

Breakdown by Strategy



Stage of Fund



As of March 2022.

Customizing Portfolios

- RockCreek has focused its business model on constructing customized private credit portfolios for large institutional investors

- Private credit portfolios are customized across a variety of attributes to meet specific client objectives:

  - ✓ Strategy
  - ✓ Number of Relationships
  - ✓ Geography
  - ✓ Diversity and Impact
  - ✓ Size
  - ✓ Leverage

See Important Disclosures & Risk Considerations about the referenced clients.

Case Study: Fund Investments

RockCreek has been an anchor investor in number of private credit funds that has enhanced returns for investors

Investment	Structured Real Estate	Venture Debt	Corporate Lending
Investment Date	December 2018	June 2018	March 2022
Description	• Partnership with a firm to invest in and select real estate assets utilizing a proprietary financing strategy that recovers cost basis in an accelerated timeline	• Partnership with a firm to provide financing to small to mid-size life science companies structured as debt and/or royalties	• Partnership with a firm to provide bespoke credit solutions for middle market borrowers in need of transitional capital
Anchor Investor Benefits and RockCreek Value-Add	• Anchor investor in vehicle, discounted economics, capacity rights for current and follow-on vehicle, advisory board seat • Played key role in drafting investment documents, policies & procedures • Introduce GP to other prospective LPs	• Anchor investor in vehicle, discounted economics, capacity rights for current and follow-on vehicle, advisory board seat • Played key role in drafting investment documents, policies & procedures • Introduce GP to other prospective LPs	• Ability to make a large commitment to a first close allowed RockCreek to negotiate discounted fees and higher preferred return relative to other LPs • Formal voting member of the LPAC

ESG Considerations

For Firms

- ESG Policies
  - Does the GP have an ESG Policy?
  - Is the GP willing to incorporate best practices on ESG policies?
- Social/Diversity
  - What are the hiring practices of the GP?
  - Do you monitor the diversity of the team over time and functions?
- Governance
  - Does the GP have an independent Board of Directors and Oversight Committee?
- Sustainability
  - Does the Firm incorporate sustainable practices?
  - Is the firm a signatory to any sustainable initiatives? (e.g., UNPRI, etc.)

For Investments

- ESG Data
  - Does the research process incorporate ESG factors?
  - How important are ESG factors in choosing investments?
  - What ESG data models are used?
- Governance
  - Is there an effort to encourage better governance in underlying portfolio companies?
  - What are the Firm's proxy voting policies?
- Sustainability
  - Does the research process incorporate sustainability initiatives?
  - How is a company's sustainability initiatives factored into investment decisions?
  - Do you integrate sustainability policies into the future financial projections?

Risk Management

A risk management focus is needed at the portfolio and the individual fund levels

Fund Level

- Sourcing of high-quality investments
- Conservative credit underwriting to minimize impairment risk
- Structuring capabilities to provide downside protection
- Ongoing monitoring and surveillance
- Asset management capabilities to maximize recoveries
- Well diversified portfolio across borrowers
- Provide full deal level transparency to LPs

Portfolio Level

- Well diversified and consistent with market environment
- Portfolio attributes are consistent with client objectives and guidelines

Areas of Focus

- ✓ Experience navigating through multiple market cycles
- ✓ Seasoned investment professionals that have successfully worked together
- ✓ Disciplined risk management is an integral part of firm culture and investment process
- ✓ Robust operational infrastructure that supports the investment strategy

Why Partner with RockCreek?

- One of the largest diverse owned asset management firms in the US
- A track record of over 10 years with private credit investments
- Experienced team that has invested through market cycles
- Focus on niche and less competitive investments
- Strong capabilities in sourcing diverse private credit GPs
- Cost-effective approach through use of preferred terms and co-investments
- Full-gamut of implementation capabilities including transitioning legacy assets

RockCreek is committed to managing **customized performing private credit portfolios** for institutional investors

For discussion purposes.
No guarantee that a customized portfolio will achieve the allocations and exposures and portfolio characteristics as described herein. See Important Disclosures & Risk Considerations.

04 Investment Pipeline

Investment Themes

Flexible Investment Capital

Managers with flexible investment mandates can better target opportunities that arise due to cyclical, secular, and structural disruption in an uncertain macroeconomic environment. A flexible approach offers the manager the ability to be a solutions provider across a variety of different situations, and therefore direct capital to the best opportunities ranging from highly structured growth capital to stressed/distressed rescue finance to other forms of "transitional" capital. Moreover, an ability to invest across public and private markets offers the ability to capture illiquidity premium when it is most pronounced.

Residential NPLs/RPLs

A multi-year stretch of strong home price appreciation ("HPA") has allowed homeowners to build substantial equity in their homes, regardless of the payment status on their outstanding mortgages. This equity buffer provides homeowner-friendly options to resolve non-performing residential mortgages with outsized outcomes for NPL buyers. Despite the recent increase in mortgage rates, the systemic lack of supply of housing in the US should persist and preserve home equity value for the foreseeable future. Meanwhile, the supply of residential NPLs is expected to increase as covid-related forbearance programs conclude. Diverse-owned firms are offered a Special Track to participate in GSE-led auctions of residentiall NPLs.

European Special Situations

European corporates are facing a multitude of macroeconomic headwinds. Not only is there a lingering impact from the global pandemic – particularly as government support has moderated – but additional acute pressures stemming from the Russia-Ukraine conflict and inflation. The macroeconomic environment is creating an outsized opportunity for European Special Situations investors, particularly those with a local presence and the ability to invest across credit sectors, collateral types, countries/markets, and public and private situations.

Venture Debt / Growth Capital

As public market volatility has begun to put pressure on private market valuations, there will naturally be increasing demand for less dilutive debt capital, particularly from borrowers facing difficulties in raising the capital they need from equity investors. Moreover, any decline in private market equity valuations creates a disincentive to use equity as form of "currency" to achieve strategic growth initiatives. The resulting increase in demand for venture debt financing increases the bargaining power of the lender, creating the ability to structure higher interest rates, tighter protective covenants, and additional equity participation rights.

Investment Pipeline

Name of Fund	MWBE	Strategy	Sub-Strategy	Geography	Target Size ($m)	Target Net IRR	Targeted Close Date
Blantyre Special Situations Fund III	Asian	Capital Appreciation	Special Situations	Pan-Europe	€850	16-18%	Q3 2022
Brasa Real Estate Credit Fund II	Hispanic	Opportunistic	CRE Debt	North America	TBD	13-15%	Q4 2022
Everberg Capital Partners II	NA	Income	Structured Lending	North America	$350	13-15%	Q3 2022
Invictus Special Situations Fund II	Multi-Diversity	Opportunistic	Multi-Strategy	North America	$250	14-16%	Q1 2023
Kah Capital Mortgage Credit Fund II	Black	Capital Appreciation	Residential NPL	North America	$300	14-16%	Q3 2022
L2 Point Opportunities Fund I	Woman	Opportunistic	Structured Equity	North America	$300	14-16%	Q2 2022
Sound Mark Horizons Fund	Woman	Income	CRE Debt	North America	$1,000	11-13%	Evergreen
Structural Capital Investments IV	Asian	Opportunistic	Venture Debt	North America	$450	13-15%	Q2 2022
Turning Rock Gender Lens Strategy	Woman	Opportunistic	Special Situations	North America	$300	11-13%	Rolling
VWH Master Fund III	Multi-Diversity	Capital Appreciation	Residential NPL/RPL	North America	$1,500	15-17%	Q4 2022

For discussion purposes.
Past performance of the referenced managers is not indicative of such managers' future results.
Inclusion of a manager in this table does not imply that any of the listed managers will actually be included in your portfolio or that other managers not listed in this table will not be included. See Important Disclosures & Risk Considerations about the information prepared by the referenced managers and about the opportunities presented.'

Kah Capital Mortgage Credit Fund II

BACKGROUND

FIRM NAME	Kah Capital Management
YEAR FOUNDED	2018
FOUNDER(S)	Adama Kah
FIRM AUM	$150 million
EMPLOYEES	7
MWDBE	Black

FUND CHARACTERISTICS

Fund	Fund II	Strategy	Capital Appreciation
Target Fund Size (M)	$300	Sub-Strategy	Residential NPL/RPL
Geography	North America		

SUMMARY

Kah Capital Management ("KCM") was founded in 2018 by Adama Kah, who previously launched and ran Freddie Mac's $130 billion distressed mortgage portfolio from 2011 to 2018 and pioneered the GSE's sales of NPLs and RPLs via outright loan sales and structured transactions. The strategy is focused on "spotty pay" RPLs, a niche segment of the agency mortgage credit market, and clean-pay RPLs. Kah will look to buy these securities at a discount, implementing servicing strategies, and securitize and retain the higher yielding subordinate tranches. The fund will also opportunistically purchase non-investment grade and non-rated subordinate securities backed by clean pay RPLs. KCM is focused on making improvement to the quality of the collateral through the utilization of proprietary analytics and customized resolutions that are economically sensible and prioritize home retention for homeowners facing hardships.

PRIOR FUNDS (THROUGH 12/31/2021)

Fund Name	Vintage	Fund Size	Net IRR	TVPI
Fund I	2019	$150mm	21.4%	1.5x

TERMS

MANAGEMENT FEE	1.75%
CARRIED INTEREST	20%
PREFERRED RETURN	7%
FUND TERM	7 Years
INVESTMENT PERIOD	3 Years
EXTENSION OPTIONS	4 Years

As of December 31, 2021. Past performance of the referenced manager is not indicative of such manager's future results.
See Important Disclosures & Risk Considerations about the information prepared by the referenced manager and about the opportunities presented.

Structural Capital Investments IV

BACKGROUND

FIRM NAME	Structural Capital
YEAR FOUNDED	2014
FOUNDER(S)	Kai Tse, Larry Gross, Todd Jaquez-Fissori
FIRM AUM	$650 million
EMPLOYEES	11
MWDBE	Asian

SUMMARY

Structural Capital focuses on investing in top quality, high growth venture-backed companies across software, consumer, cleantech, health and wellness, ag tech, fintech, and ed tech, among other verticals, which have a projected path to profitability within the first six to 18 months after investment. Specifically, the fund seeks to provide these companies with non-dilutive growth capital for sales/marketing investments, acquisitions, bridge to profitability, and to achieve other key milestones. The fund aims to generate a 20%+ unlevered gross IRR on a per-deal basis driven by strong debt returns with senior secured collateral protection and equity upside in the form of warrants.

FUND CHARACTERISTICS

Fund	Fund IV	Strategy	Opportunistic
Target Fund Size (M)	$450	Sub-Strategy	Venture Debt
Geography	North America		

PRIOR FUNDS (THROUGH 12/31/2021)

Fund Name	Vintage	Fund Size	Net IRR	TVPI
Fund III	2019	$267M	12.7%	1.1x
Fund II	2016	$90M	18.0%	1.5x
Fund I	2014	$11M	11.4%	1.4x

TERMS

MANAGEMENT FEE	1.75%
CARRIED INTEREST	20%
PREFERRED RETURN	7%
FUND TERM	7 Years
INVESTMENT PERIOD	3 Years
EXTENSION OPTIONS	2x 1 Year

As of December 31, 2021. Past performance of the referenced manager is not indicative of such manager's future results.
See Important Disclosures & Risk Considerations about the information prepared by the referenced manager and about the opportunities presented.

05 Diverse & Emerging Managers

Platform Capabilities

Investment Research

search & discovery, top-down and bottom-up analysis

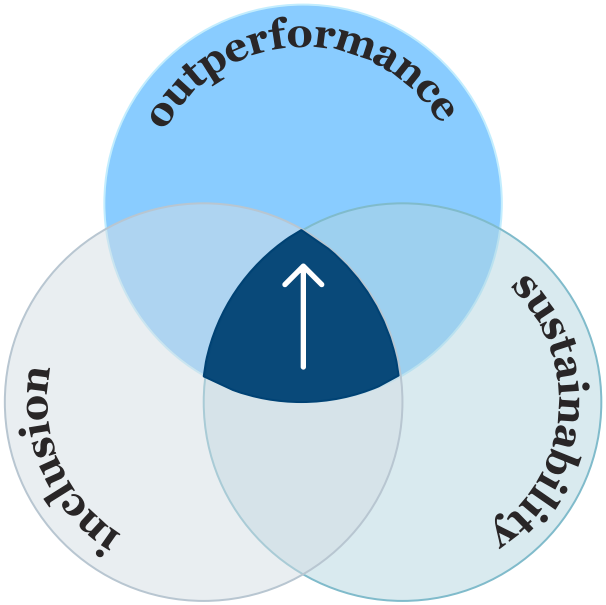
Portfolio Management

rigorous due diligence, peer benchmarking, trendline analysis

Impact Reporting

impact scenario analysis, portfolio analytics, advanced visualization & AI

comprehensive ESG, Impact, diversity database



detailed impact and diversity data from third party vendors

"common app" diligence portal for fund managers

analyst-generated data & insight

Investing in Emerging Managers

Sourcing

- Reputed investor with emerging managers
- Long term relationship with established GPs whose team members launch many emerging manager funds
- Well-connected with investors and trade associations supporting the emerging manager ecosystem

Investment Capabilities

- Identify managers with demonstrated ability to generate attractive returns
- Capture niche opportunities overlooked by other investors
- Construct diversified portfolios with attractive risk/return trade-offs

Favorable Terms

- Negotiate tiered fee structures based on asset growth
- Co-investment deal flow
- Capacity rights in subsequent funds

Assisting Gain Visibility

- Speak alongside clients about diverse investments at industry-specific events
- Assist diverse fund managers with their fundraising efforts
- Host events on diversity-related topics

What We Look For in Emerging Managers

- Access to sufficient capital to procure appropriate infrastructure
- Growing base of investors
- Access to sufficient capital for investment team build-out and a co-investment in the strategy that is meaningful for alignment
- Sufficient full-time staff with tenured industry experience
- Well capitalized firm that shows positive operating cash flows
- Key internal infrastructure in place, with redundancies in mission-critical investing and operating processes
- Increased breadth of ownership and has reduced key person risk
- Established appropriate environmental, social and governance (ESG) policies and procedures

Working With Emerging Managers

By Encouraging Best Practices:

- Team structure, compensation, incentive structure
- Business and growth plans
- Risk management policies, procedures, and systems
- Service providers and recruiting for senior talent
- Marketing strategy, materials, and reporting
- Fund legal structures
- Ongoing support as firms evolve into next phase of their business

By Providing Services:

- Invitations to our industry events
- Introductions to Institutional Investors
- Identify or interview prospective employees for infrastructure and operations related positions
- Negotiate discounts with select experienced service providers
- Recommend risk management systems and other third-party software
- Improve pitchbook and investor related communications to attract institutional investors

Investments with Emerging Managers

RockCreek has committed over $1 billion[1] to emerging managers

- Team members have invested with emerging managers since the 1990s including early investments with Sequoia, Benchmark, Accel, Clearlake, Brightwood and Stellex
- RockCreek has been investing in emerging private market GPs since 2015
- Emerging managers actively seek RockCreek's participation in their advisory committees
- RockCreek negotiates fees, co-investment and capacity rights with all GPs including emerging managers

RockCreek Investments

Luminate Capital Partners
Advance Global Capital
Base10
ZEAL Capital Partners
Moxxie Ventures
Owl Ventures
BOND
Grain Management
Turning Rock Partners
Blantyre Capital
Innovatus Capital Partners
Oak Street Real Estate Capital

1. Since Inception. Emerging Manager GPs are those with the amount of capital committed to funds which have raised Funds I – IV and have firm AUM less than $2bn. Data as of March 31, 2022. Past performance of the referenced managers is not indicative of such managers' future results. No guarantee that a customized portfolio will invest in same or similar managers. See Important Disclosures & Risk Considerations about the information prepared by the referenced managers and about the opportunities presented.

Emerging Managers: Case Studies

ADVANCE GLOBAL CAPITAL™

- Provided valuable institutional validation of the business through written testimonials and LP references
- Helped create and implement a currency hedged share class to accommodate Canadian investor demand for the strategy

BLANTYRE CAPITAL

- Supported the organization as an early Fund I investor, and anchor investor for a commingled co-investment vehicle
- Provided a formal and visible institutional endorsement by serving as a LP reference
- Advised on terms and structure of the firm's inaugural co-investment fund;

TURNING ROCK PARTNERS

- Invited manager to participate on a SBIA panel hosted by RockCreek
- Offered guidance on the timing and structure of inaugural co-investment vehicle
- Advised on selection criteria for in-house back-office staffing
- Launched a RockCreek-Turning Rock co-branded gender lens investment strategy to promote gender equality
- Serves on the Fund's LPAC
- Collaborated on internship initiatives

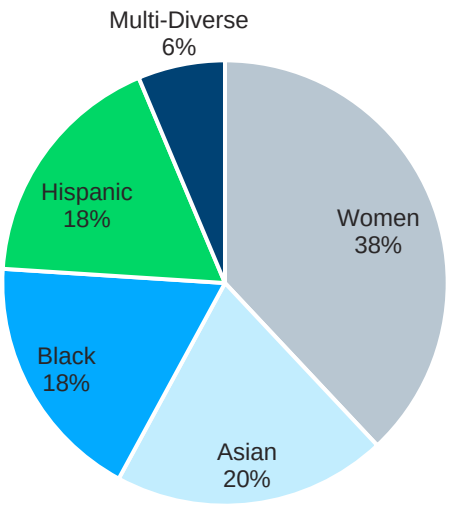
No guarantee that a customized portfolio will invest in all or some of the managers referenced herein.
See Important Disclosures & Risk Considerations about the opportunities presented.

Database: Diverse Private Credit Funds

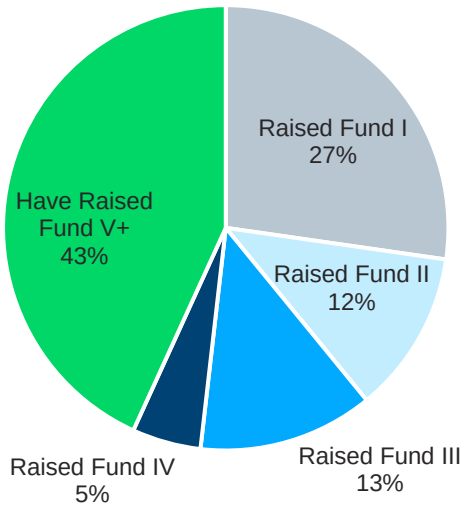
Our database has over 220 diverse private credit funds

Our database is focused on minority, women, and disabled service veteran GPs, whose funds currently represents 20% of our database

Breakdown of Diverse Funds



Stage of Fund



Data as of March 2022. Source: RockCreek. Emerging Managers are those GPs with the amount of capital committed to funds which are raising Funds I – IV and have firm AUM less than $3bn. Diverse managers are those firms with 30% or greater ownership by minorities, women, or disabled persons.

06 Back-Office Capabilities

Comprehensive Back Office Services

- Coordinates with client auditors for the preparation of annual financial statements
- Undertakes the diligence, onboarding and monitoring of portfolio investments
- Maintains financial records
- Performs analysis of fees paid on portfolio investments
- Consultation on tax structuring and analysis

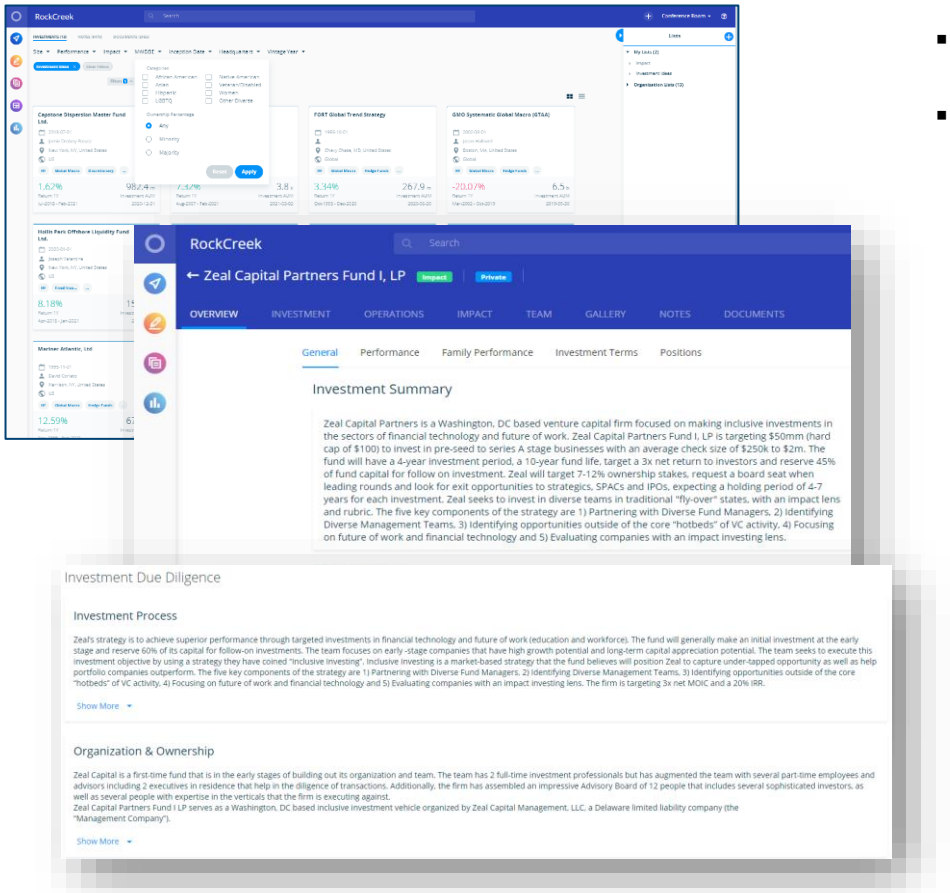
- Interfaces with service providers including administrators and custodians
- Oversee cash management including capital calls and distributions
- Negotiating brokerage, FCM, ISDA, and custody agreements

- Setting up legal entities for customized accounts
- Process subscription and other legal documents
- Monitors investment guidelines
- Extensive diligence of legal documents for underlying investments

- Manage cloud infrastructure to support a web-based platform
- Structure and manage proprietary database that collects investment and portfolio level information
- Develop start-of-the-art visualization and artificial intelligence (AI) tools to facilitate decision making

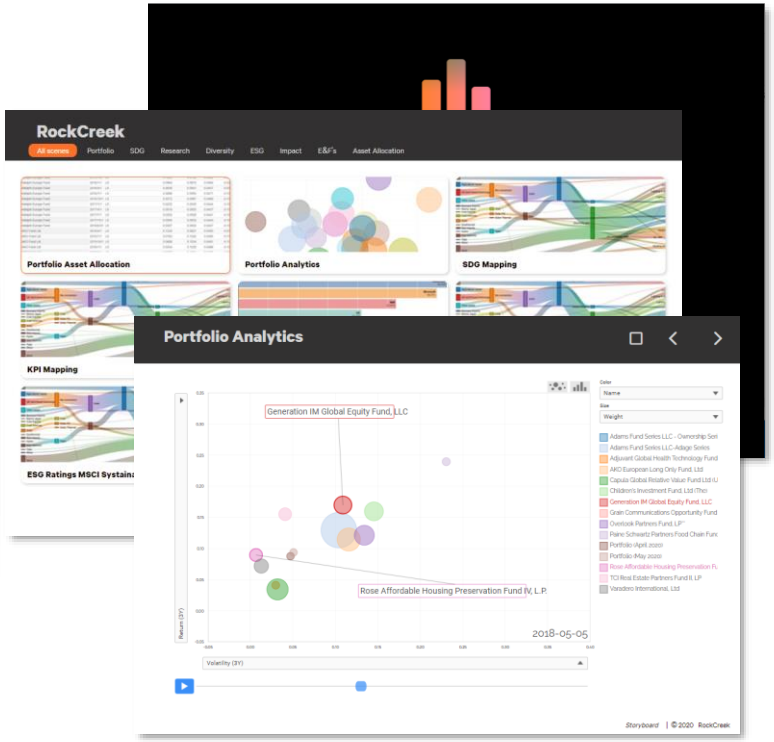
Technology

Sourcing & Due Diligence



- Highly secure, web-based technology provides clients with 24/7 access to their portfolios
- Unique system that automates the collection, storage, analysis and reporting of data to LPs
- Unparalleled flexibility that allows for the exchange of detailed data directly between GPs and LPs

Analytics & Reporting



The above are illustrative of the firm's due diligence tools and may not reflect actual due diligence analysis.

Customized Reporting

Customized Performance Reports at Portfolio and Investment Level

PORTFOLIO

- Capital flows and investment activity
- Market value and unfunded commitment exposure by fund, strategy, vintage year, sector, and geography
- Aggregate leverage utilization
- Attribution by fund, strategy, vintage year, sector and geography
- IRR, TVPI and DPI by fund, strategy, vintage year, sector, and geography
- Benchmarking using PME analysis and third-party benchmarks

INVESTMENT

- Schedule of investments
- New investments and realizations
- Exposure and attribution by strategy, vintage year, stage, sector, and geography
- Leverage utilization
- Deal level performance metrics

Portfolio Investments (as of June 30th 2018)

Name of Fund	Vintage	Capital Committed (in $mm)	Capital Calls (in $mm)	% of Capital Called	Distributions (in $mm)*	Net Asset Value (in $mm)	Total Value (in $mm)
Goldentree Distressed Fund 2014	2014	$25.0	$15.1	60%	$0.1	$21.7	$21.7
MC-Seamax Shipping Opportunities Fund	2014	$15.0	$16.5	94%	$2.2	$15.0	$17.2
TCI Real Estate Partners I	2014	$6.0	$3.4	57%	-	$2.3	$3.8
Värde Scratch and Dent Fund	2014	$12.5	$12.5	100%	-	$7.4	$14.8
Anchorage Illiquid Opportunities V	2014	$25.0	$19.8	79%	-	$22.0	$22.0
CVI Credit Value Fund III	2015	$25.0	$22.5	90%	-	$27.4	$27.4
EJF Sidecar Fund (E)	2015	$20.0	$20.1	100%	$5.7	$22.5	$28.2
European Special Opportunities Fund VI	2015	$25.0	$22.8	91%	$0.2	$24.4	$24.6
Stabilis Fund IV	2015	$25.0	$15.9	23%	$7.6	$9.5	$17.1
MGG SF Drawdown Fund I LP	2015	$25.0	$20.8	83%	$1.7	$21.1	$22.8
TCI Real Estate Partners II	2016	$9.0	$4.3	48%	-	$4.3	$4.7
Atalaya Capital Assets IV	2017	$15.0	$2.0	14%	-	$2.1	$2.1
Avenue Aviation Opportunities Fund II	2017	$5.9	$4.4	74%	-	$4.9	$4.9
Stabilis Fund V	2017	$5.4	$1.2	23%	-	$1.1	$1.1
TCI REP Co-Investment III	2017	$2.5	$1.5	60%	$0.1	$1.5	$1.7
RS Fund III							
TCI Real Estate Partners III							
Total							

*Figures represent permanent distr
inception.

Fund Performance (as of June 30, 2018)

Name of Fund	Vintage	Net IRR	TVPI	Status
GoldenTree Distressed Fund 2014	2014	15.0%	1.4x	Investing
MC-Seamax Shipping Opportunities Fund	2014	2.9%	1.1x	Harvesting
TCI Real Estate Partners I	2014	12.1%	1.1x	Harvesting
Värde Scratch and Dent Fund	2014	7.4%	1.2x	Harvesting
Anchorage Illiquid Opportunities V	2015	8.7%	1.1x	Investing
CVI Credit Value Fund III	2015	11.9%	1.2x	Harvesting
EJF Sidecar Fund (E)	2015	22.4%	1.4x	Harvesting
European Special Opportunities Fund VI	2015	4.0%	1.1x	Investing
Stabilis Fund IV	2015	3.2%	1.1x	Harvesting
MGG SF Drawdown	2016	8.8%	1.1x	Harvesting
TCI Real Estate Partners II	2016	13.7%	1.1x	Harvesting
Atalaya Capital Assets IV	2017	NM	NM	Investing
Avenue Aviation Opportunities Fund II	2017	12.0%	1.1x	Investing
Stabilis Fund V	2017	NM	0.9x	Investing
TCI REP Co-Investment III	2017	14.4%	1.1x	Harvesting
				Investing
				Investing

Canyon Laurel Fund

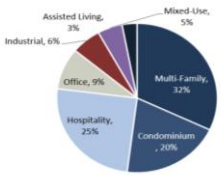
CANYON PARTNERS REAL ESTATE

INVESTMENT STATUS

The Fund held its final closing on May 31, bringing total capital commitments to approximately $457 million. To date, the Fund has committed 87% of investor capital across 22 deals (sixteen closed investments and six additional investments with executed term sheets). These investments have a projected weighted average gross IRR of 15.4% and a projected weighted average loan-to-value of 65.0%.

While the portfolio is well diversified across geographies, property types, and investment types, the Manager has deliberately chosen to concentrate their exposure in one area – repeat sponsor relationships. They believe these prior relationships and experiences provide an added layer of comfort with respect to deal execution and are an important risk mitigation strategy.

Property Type Breakdown



Regional Breakdown

For discussion purposes.
Past performance of the referenced manager is not indicative of such manager's future results.
See Important Disclosures & Risk Considerations about the information prepared by the referenced manager and about the opportunities presented.

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The above are illustrative of the firm's reporting and monitoring and may not reflect actual analysis and returns.

07 Team Biographies

Team Biographies

Afsaneh Beschloss

Ms. Beschloss is an economist and leader in the private and multilateral sectors who has focused her career on harnessing the power of finance to solve some of the world's biggest challenges. An expert in climate policy and investments, she has found new ways to implement sustainability and inclusion into global finance for three decades.

Ms. Beschloss is the founder and CEO of RockCreek. Previously, she was Managing Director and Partner at the Carlyle Group. She was Treasurer and Chief Investment Officer of the World Bank and worked at J.P. Morgan. Ms. Beschloss has advised governments, central banks, and regulatory agencies on global public policy and financial policy as well as energy. She led the World Bank's energy investments and policy work on areas including sustainable investing, renewable energy, power, and infrastructure to reduce carbon emissions and founded its Natural Gas Group as a transitional fuel.

Ms. Beschloss is Chair of PBS Foundation and a trustee of the Institute for the Advanced Study. She serves on the boards of the World Resources Institute; the Council on Foreign Relations; the Bretton Woods Committee – where she co-chairs the Future of Finance Working Group; Gavi, the Vaccine Alliance; Georgetown University; and the Center for Global Development.

She was recognized by Carnegie Corporation in their Great Immigrants, Great Americans 2020 list, received the Institutional Investor Lifetime Achievement Award and the Robert F. Kennedy Human Rights Ripple of Hope Award, and been listed among the "Most Powerful Women in Banking" by American Banker.

Ms. Beschloss holds an MPhil (Honors) in Economics from the University of Oxford, where she taught international trade and economic development. She is the co-author of The Economics of Natural Gas and author of numerous journal articles on energy, finance, renewable energy, and impact investing.

Sudhir Krishnamurthi

Sudhir Krishnamurthi is a Senior Managing Director at RockCreek, responsible for quantitative strategies, research, and product development. Sudhir has a wide range of research interests and has been responsible for pioneering work in volatility trading, factor investing, LDI, tail risk hedging, strategic asset allocation, and risk management.

Before joining RockCreek, Sudhir was Director of the World Bank's Investment Management Department, responsible for managing more than $60 billion of investment assets. He currently serves as a member of the Board overseeing the $27 billion World Bank pension plan.

Earlier in his career, Sudhir was Director of Corporate Finance with responsibility for ensuring the adequacy of the World Bank's income and capital, worked on structured products and liability hedging in the World Bank's Derivatives Division, and he was an Assistant Professor at MIT's Sloan School of Management.

Sudhir received a degree in Mechanical Engineering from the Indian Institute of Technology, a degree in Business from the Indian Institute of Management, and his doctorate in business administration from Harvard Business School.

Team Biographies

Siddarth Sudhir

Mr. Sudhir is a Managing Director at RockCreek. Prior to joining RockCreek, Mr. Sudhir worked in the Global Fixed Income Group of Merrill Lynch Investment Managers LP, where he was responsible for developing quantitative portfolio strategies and covering asset-backed securities. He also developed risk-controlled portfolio strategies for nearly $200 billion of fixed-income assets. Mr. Sudhir graduated from Georgetown University summa cum laude with a BA in Economics. He holds an MBA from the Wharton School of the University of Pennsylvania and the CFA designation.

Tyson Pratcher

Tyson Pratcher is a Managing Director at RockCreek. Before joining the firm, he was the Head of Investments at TFO USA Ltd., the asset management arm of a multi-family office based in the GCC.

Prior to that, Tyson worked at the New York State Common Retirement Fund (CRF), where he was the Head of the Opportunistic Investment team and served as Head of the Emerging Manager Program. Before CRF, Tyson worked in the U.S. Senate as a Senior Advisor to then-Senator Hillary Rodham Clinton. Tyson began his career as a corporate associate at Davis Polk & Wardwell.

Tyson earned his law degree from Columbia University and received a B.A. in Political Science, magna cum laude, from Hampton University. He is the co-founder and Chair of youth sports non-profit The Harlem Jets, and he serves on the boards of Finance of America (NYSE: FOA), FS Credit Income Fund, and FS Multi-Alterative Income Fund.

Matthew Bullough

Matthew Bullough is a Managing Director at RockCreek, where he works with the private market investment team covering private credit.

Before joining RockCreek, Matt was a Research Associate at Cambridge Associates, an investment advisory firm serving endowments, foundations, pensions, and high net worth family offices. At Cambridge Associates, he was responsible for data analysis and maintaining relationships with investment managers in the hedge fund and long-only asset classes.

Prior to transitioning into the investment industry, Matt worked for several years at Children's Research Institute within Children's National Medical Center in Washington, DC. During his tenure, he worked in basic science research within the virology department and co-authored several research publications in prestigious academic journals, including the Journal of General Virology and Molecular and Cellular Proteomics. He received a B.S. in Human Development from Cornell University.

Team Biographies

Kenneth Lay

Kenneth Lay is a Senior Managing Director at RockCreek. Before joining the firm, he served as Treasurer of The World Bank, where he and his colleagues managed more than $100 billion in investments for the World Bank, other international financial institutions, and more than 40 of the World Bank's member countries' central banks, sovereign wealth and pension funds. Ken also led the World Bank Treasury's banking and capital markets programs as they delivered financing and risk management for the World Bank itself. He extended their reach to provide these services directly to the Bank's member countries and their instrumentalities and introduced green bonds and catastrophe bonds to deepen the institution's engagement in climate-change mitigation and adaptation.

At other stages in his World Bank career, Ken served as a country director in Latin America and Southeastern Europe and headed the World Bank's financial sector practice, where he developed—with colleagues at the IMF—the Financial Sector Assessment Program that remains a cornerstone of international efforts to monitor and improve the health of countries' banking and capital markets. In an earlier stint in the World Bank Treasury, he conceived and led the issuance of the first "global bond," which has become a principal vehicle for sovereign and supranational financing in international markets.

Before joining the World Bank, Ken was an enforcement lawyer with the U.S. Securities and Exchange Commission, where he headed the branch of corporation finance enforcement.

Ken currently serves as chair of the International Finance Facility for Immunisation (IFFIm), and he is a member of the Advisory Group of Financial Experts of the Global Environment Facility, the Investment Funds Committee of the State of Wyoming (overseeing the State's $20+ billion sovereign wealth fund), and the Pension Finance Committee of the World Bank Group. He continues to work with international institutions, private foundations, and NGOs in efforts to develop new approaches to increasing the scale and reducing the cost of financing for global public goods.

Ken holds a B.A. from Dartmouth College, a J.D. from the George Washington University, the CFA designation, and active membership in the State Bar of California.

Natasha Glick

Natasha Glick is a Vice President at RockCreek where she is a member of the Client Services team, focusing on portfolio analytics.

Before joining RockCreek, Natasha was a Client Marketing Associate at GCM Grosvenor, a global alternative asset management firm. Natasha has her B.A. and M.S. from the University of Kentucky.

Team Biographies

Sherri Rossoff

Ms. Rossoff is a Managing Director and Chief Compliance Officer at RockCreek. Prior to this, she was senior counsel at the World Bank in the legal finance group. There, she concentrated in the areas of pension investments and asset management, focusing on alternative investments. She has acted as counsel to the World Bank's Pension Finance Committee. She provided technical assistance to various central banks globally on governance and investment management best practices. She has served as Chair of the Markets Advisory Council of the Council of Institutional Investors and was a founder of the DC Chapter of 100 Women in Finance. She began her career as an associate at Cleary Gottlieb Steen and Hamilton in New York. Ms. Rossoff earned her law degree from New York University School of Law. She received her B.A. in Economics and Political Science summa cum laude from Queens College where she was elected to Phi Beta Kappa.

Antonio Sierra

Mr. Sierra is a Managing Director and the head of operations at RockCreek. He is a member of the firm's management committee and serves on the Board of Directors of RockCreek's funds. He is responsible for overseeing activities related to trading operations, treasury and cash management, corporate and fund accounting, reporting, and IT operations and support. His responsibilities include engaging the firm's institutional clients on operational matters and playing a key role in the firm's strategic initiatives.

Prior to joining RockCreek, Mr. Sierra worked at the World Bank where he was responsible for overseeing the investment operations of the Pension Plan's alternative investment portfolio. Mr. Sierra has an M.B.A. from Georgetown University and holds B.S. and M.S. degrees in Civil and Environmental Engineering. He currently serves on the Investment Sub-Committee of the National Cathedral School in Washington DC.

John Reville

John Reville is a Managing Director at RockCreek, where he oversees the firm's accounting operations.

Before joining RockCreek, John was a Senior Partner of PricewaterhouseCoopers, LLP and retired from PWC after a 36-year career (25 as a partner), auditing and advising a wide variety of alternative asset funds, programs, and their managers. He was instrumental in building and managing the PWC alternative asset practice and has served as lead partner on many of the world's most complex hedge and private equity funds across all types of underlying strategies.

John holds a B.S. in Accounting from the City University of New York and an MBA in Corporate Finance from the Pace University's Lubin School of Business in New York.

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**With regard to RockCreek clients referenced in this Presentation, it is not known whether those listed approve or disapprove of the RockCreek Group or its advisory services. The clients included herein are corporate retirement funds, public pension plans, foundations, and universities to which RockCreek manages customized private credit portfolios.

With regard to any opportunities discussed or described in this Presentation, note no guarantee that a customized portfolio will make allocations to managers and companies as described. A customized portfolio may or may not invest in a manager or company, depending on, among other things, whether such manager or company satisfies the portfolio's investment guidelines and is appropriate in light of current economic conditions as determined by RockCreek. Furthermore, a customized portfolio may or may not invest in some or all referenced private funds described, depending on, among other things, whether RockCreek is able to negotiate terms with the private fund's general partner/manager that are satisfactory to RockCreek.

Important Disclosures & Risk Considerations (2 of 3)

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Performance statistics presented are not financial statements prepared in accordance with accounting principles generally accepted in the United States of America. Performance is expressed in U.S. dollars.

RockCreek's investments in Underlying Funds are presented at fair value, as determined by management. These values generally represent the proportionate share of the net assets of the Underlying Funds as reported by their managers. The Underlying Funds are valued by the managers of the Underlying Funds in accordance with their respective operating agreements, which generally, but may not always, require fair valuation in accordance with U.S. GAAP. The performance statistics returns were calculated on a total return basis, including the reinvestment of dividends and other income. The data are based upon monthly income of the Underlying Funds and invested capital readjusted for monthly inflows and outflows at the beginning of the month. Annual returns are calculated by linking the monthly returns through compounded multiplication. All cumulative returns were geometrically linked.

Performance data (including, but not limited to, data about the portfolio's characteristics and performance and estimated percentages of strategy allocation, geographic exposure, asset class exposure, sector exposure, portfolio concentration and market sensitivities, and portfolio allocations to underlying managers) are as of the date indicated on the first page of this Presentation unless otherwise specified.

Performance Statistics for 2021 and 2022 have not been subject to audit by either the applicable Fund's, Account's or the Underlying Funds' independent auditors. Performance information of will be subject to audit on an annual basis. Performance figures for periods of less than one year have not been annualized. The net returns were calculated net of actual incentive, management, and administrative fees charged to the applicable Funds and Accounts and net of the Underlying Funds' fees. When gross returns are included, such gross returns reflect the fees of the Underlying Funds and are net of administration expenses, but before management and incentive fees.

With regard to the referenced private credit performance, note the following:
Inception: February 2015.
As of December 2021. The performance statistics reflect the returns of RockCreek portfolios investing in private credit in the referenced asset classes (i.e., income, capital appreciation, opportunistic, and private credit). The returns of the included portfolios (Funds and Accounts) are historical and since the included portfolios' inception. Furthermore, the included portfolios in each referenced asset class have been asset weighted to create the returns. Performance statistics that are presented herein are not financial statements = prepared in accordance with accounting principles generally accepted in the United States of America. The performance statistics herein represent past performance, which is not indicative of future results. Such performance statistics have not been audited. Performance is expressed in U.S. dollars. 1. The returns presented herein are an aggregate across RockCreek portfolios that invest in emerging managers and diverse managers in the referenced asset classes. Note that certain included portfolios are funds of one and separate accounts that are customized in accordance with a client's specific investment mandate and are not available to new investors. Additionally, such portfolios may invest in underlying managers that are dissimilar and as such, each portfolio has specific portfolio characteristics and different return profiles. 2. Returns are net of the applicable underlying manager's fees; the IRR does not include RockCreek fees, and therefore, returns are gross of RockCreek fees. As such, returns do not reflect the deduction of investment advisory fees and such returns would be reduced by the investment advisory fees and any other expenses the client may incur in the management of this portfolio. A general description of the fees that RockCreek charges with respect to accounts and customized portfolios is described in RockCreek's Part 2A of Form ADV (i.e., the Brochure). Net returns are available upon request. See Important Disclosures & Risk Considerations about the performance statistics presented. 3. Although the composite returns presented herein are historical such composite returns are deemed illustrative; the composite is hypothetical (as it does not reflect trading of an actual account) and is provided for informational purposes only to indicate historical performance of a portfolio constructed with the benefit of hindsight had such composite portfolio been in existence during the referenced time period. Material economic and market factors during the referenced time period may impact the adviser's investment decision making with respect to the portfolio, and as such, the returns of the composite portfolio as presented herein may have differed if the adviser was actually managing the referenced composite portfolio. It should not be assumed that the exposures and allocations of a customized portfolio will be the same or similar to the referenced composite portfolio or that a customized portfolio and its underlying managers will achieve the same or similar performance with respect to the benchmarks of the referenced composite portfolio and its selected underlying managers. 4. RockCreek manages other portfolios not included in the referenced composite. The portfolios in the composite herein may or may not achieve similar performance or be more or less profitable compared to the portfolios not included in the referenced composite. It should not be assumed that the exposures and allocations of the included portfolios will be profitable or equal the performance of these other RockCreek portfolios. 5. No guarantee that a customized portfolio following a particular investment strategy will achieve same or similar returns as the referenced composite. See discussions below about calculations regarding potential future events and hypothetical performance.

Strategy allocation information reflects a look-through analysis of underlying managers, intended to capture portfolio allocations pursuant to varying investment strategies within such underlying managers' investment portfolios.

Style allocation information reflects a categorization of each underlying manager based on its predominant investment theme, and does not reflect allocations by such underlying manager in strategies outside such predominant investment theme. Both strategy and style allocation information reflect classifications determined by RockCreek and certain assumptions regarding performance allocation by strategy, based on estimated portfolio characteristics information provided by underlying fund managers.

Important Disclosures & Risk Considerations (3 of 3)

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Performance attribution is a process used to examine the strategies contributing to a portfolio's gross performance. Attribution is calculated using net returns of underlying managers in the portfolio, but is gross of RockCreek management fees. Underlying manager fees are directly tied to the management of those specific investments and, therefore, included in this attribution. Using the portfolio’s overall gross returns makes it possible to achieve an analysis that indicates the actual attribution among the various underlying managers and strategies in the portfolio and is not skewed by RockCreek’s fees and expenses. The Underlying Funds are weighted using beginning of month allocations. The monthly sum of the underlying managers’ contribution by strategy and the total portfolio’s gross return is geometrically linked over further time periods (i.e., quarterly). The portfolio’s monthly gross return is equal to the sum of each the strategy’s attribution in that time period. The net performance would be lower than the portfolio’s gross performance by the management fee paid to RockCreek.

Where hypothetical information is included, the hypothetical performance or scenario was created with the benefit of hindsight. The allocation of assets may be different than the allocation used to create the hypothetical and any changes will have an impact on the combined performance results, which could be material. Where hypothetical information is included, the managers have not traded together in the manner shown in the results. Hypothetical performance results have many inherent limitations and no representation is being made that any investor will, or is likely to achieve, performance similar to that shown. Moreover, because hypothetical performance reflects the selection of hedge funds and asset allocations made after the performance of such hedge funds was already known, the hypothetical performance invariably shows rates of return that should not be relied on. In fact, there are frequently sharp differences between hypothetical combined performance results and the actual results subsequently achieved. One of the limitations of hypothetical combined historical performance is that decisions relating to the selection of managers and the allocation of assets among those managers were made with the benefit of hindsight based upon the historical rates of return of the selected managers. Another inherent limitation on these results is that the allocation decisions reflected in the performance record were not made under actual market conditions and, therefore, cannot completely account for the impact of financial risk in actual trading. Furthermore, the hypothetical combined historical performance record may be distorted because the allocation of assets changes from time to time and these adjustments are not reflected in the hypothetical results. As a result, none of the hypothetical performance information contained herein should be considered to be an indication of future performance.

This information may contain preliminary estimated returns. These figures are for informational purposes only and should not be relied upon because there can be no assurance that they accurately reflect results for your account at this time. Except where indicated, the performance statistics have not been subject to audit by the Underlying Funds' independent accountants. Such performance information will be subject to audit on an annual basis.

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Please note that where investment outlook and opportunities are discussed, they are prospective and based upon the opinion of RockCreek and there is no guarantee of success in our efforts to implement strategies that take advantage of such perceived opportunities. Where quantitative methods are used, they are tools used in selecting investments and controlling risk, but such methods cannot alone determine investment success.

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Connecticut Retirement Plans and Trust Funds
2022 Strategic Asset Allocation Update
FINAL

Pension Funds Management

Strategic Asset Allocation (SAA) Update

- **Background**
  - Asset Allocation is the largest driver of risk-adjusted performance for the Connecticut Retirement Plans and Trust Funds
  - Meketa, our fund general consultant, has historically conducted the asset allocation study for the Pension Funds Management (PFM) Division
  - The last full Strategic Asset Allocation (SAA) and Asset-Liability study was performed in 2018

- **New Approach - 2022 Strategic Asset Allocation Update Process**
  - PFM leveraged Meketa's tools and resources to bring the process in-house and perform a staff-driven analysis to update the SAA
  - PFM utilized Meketa's 2022 Capital Market Assumptions (CMAs) to update our new long-term target allocations
  - PFM sought input from the Asset Allocation Sub-Committee of the Investment Advisory Council prior to finalizing recommendations to the broader body
  - The approved SAA will be updated in the revised 2022 Investment Policy Statement (IPS)

Refinements to the Strategic Asset Allocation Update

- **Updates based on feedback from the IAC Sub-Committee meeting on June 8, 2022, PFM:**
  - Utilized Meketa's 20-Year expectations instead of the 10-Year expectations to better align with the long-term horizon
  - Tweaked the asset class policy target:
    - Reduced Real Estate by 2% and increased Global Equities by 2%
  - Created a composite "Credit" asset class for flexibility in managing our exposure with the following sub-asset classes:
    - Public Credit
    - Private Credit
  - Incorporated alpha estimates into our assumed rate of return assumptions to account for manager selection not explicitly modeled in the SAA process

Goals of the Strategic Asset Allocation Update

- **Review the Current Strategic Asset Allocation and recommend necessary updates**
  - An annual review of SAA relative to objectives is part of best practices for prudent governance
  - Market turbulence relative to the pandemic and geopolitical events, with continued uncertainty of outlook validates appropriateness of strategic review of the asset allocation

<u>Final list of Strategic Asset Allocation topics reviewed by PFM & Meketa:</u>

1. **Revisit Global Equity** – consider one "Global Equities" composite utilizing the three discrete equity asset classes
2. **Disaggregate Real Assets** – examine breaking out Real Assets into its component asset classes (Real Estate, Infrastructure & Natural Resources excluding TIPS)
3. **Review our Fixed Income Asset Classes** – discuss the role of Fixed Income in the portfolio (for capital preservation and return generation relative to Alternatives)
4. **Expand Risk Mitigating Strategies** – evaluate the role and target weight of risk mitigation strategy in the Alternative Investment Fund and the overall portfolio
5. **Innovate our SAA Implementation** – consider how PFM can achieve the asset allocation in a disciplined and thoughtful manner through interim policy targets
6. **Update Policy Benchmarks** – review benchmarks for all asset classes and determine necessary revisions (e.g., Global Equity)

PFM Staff-Driven Process for Strategic Asset Allocation Update

Review Prior SAA
Evaluate CMAs from market participants
Review 2018 CRPTF AA Study
Review current asset classes with Team

Review 2022 CMAs
Meketa Review of 2022 CMAs

Model Portfolios
Construct model portfolios
Begin review of IPS

Initial MV Optimizations
Analyze portfolio optimizations
Establish model portfolios & targets
Initial Draft of Updated IPS

Refine MVOs / Stress Tests
Debate policy portfolios in PFM
Finalize updates to IPS
Run portfolio stress tests & scenarios

Sub-Committee Review
Review with IAC AA Sub-committee
Incorporate Sub-committee Feedback

Final Approval of SAA
Review of SAA by IAC

Approve IPS
Final approval of IPS by IAC

JAN | FEB | MAR | APR | MAY | JUN* | JUL | AUG | SEP

Source: PFM
*Separate IAC Meeting

Setting Capital Market Expectations

- Capital Markets Assumptions (CMAs) are the inputs needed to conduct the mean-variance optimization (MVO) relying on both quantitative and qualitative methodologies
- Consultants (including Meketa) generally set CMAs once a year and will periodically update mid-year
- Meketa published the 2022 Capital Market Expectations in January, based on December 31st data
- Meketa publishes both 10-Yr and 20-Yr expected return assumptions

- **PFM is using <u>20-Yr CMAs</u> in this Strategic Asset Allocation Update** following feedback from the sub-committee of the IAC

- MVO is the traditional starting point for determining asset allocation
- This involves using the following inputs for the asset classes:
  - Returns
  - Standard Deviation
  - Pair-wise Correlations of each asset class

Revisions to the Asset Class Lineup

- PFM took the opportunity to revise our asset classes
  - **Global Equities**
    - In addition to distinct equity asset classes for domestic, international, and emerging markets, PFM will aggregate equities into a single Global Equity Composite tracking the MSCI All Country World Index IMI
    - Rationale: robust management of the largest driver of returns reflecting a global asset mix
  - **Fixed Income**
    - Simplify our approach by utilizing a single asset class for duration and credit
    - Established a new Credit composite consisting of Public Credit (instead of High Yield & Emerging Markets Debt) and Private Credit
    - Public Credit will include both return and risk factors (e.g., Treasury exposure)
  - **Real Assets**
    - Breaking apart Real Estate from Infrastructure & Natural Resources asset classes
    - Rationale: PFM team manages these asset classes separately and each has its own distinct characteristics
    - Eliminating TIPS as a distinct asset class category

2022 Capital Market Assumptions for Major Asset Classes

- Composite asset class using 20-Year CMA expected returns & volatility assumptions

Composite Asset Classes	Weight (%)	Expected Return (%)	Standard Deviation (%)
US Equity	58	6.8	18.0
Developed Market Equity (Non-US)	30	7.5	19.0
Emerging Market Equity	12	8.4	24.0
Global Equity Composite	**100**	**7.4**	**18.2**
Core Fixed Income	**100**	**2.4**	**4.0**
High Yield Bonds	80	4.4	11.0
Bank Loans	10	4.0	10.0
Convertible Bonds	10	3.9	19.0
Public Credit Composite	**100**	**4.5**	**10.3**
Liquidity (Cash)	**100**	**1.7**	**1.0**

Source: PFM, Meketa

Note: Returns are geometric, volatility assumptions are 15-yr estimates

2022 Capital Market Assumptions for Major Asset Classes

- Composite asset class using 20-Year CMA expected returns & volatility assumptions

Composite Asset Classes	Weight (%)	Expected Return (%)	Standard Deviation (%)
Long-term Government Bonds	8	2.8	12.0
Global Macro	21	5.0	5.0
CTA (Trend Following)	19	4.8	15.0
Long Volatility	42	-1.8	6.0
Alternative Risk Premia (ARP)	10	4.6	10.0
Risk Mitigating Strategies Composite	**100**	**2.1**	**5.3**
Buyouts	80	9.8	25.0
Venture Capital	20	10.3	36.0
Private Equity Composite	**100**	**10.2**	**25.8**
Direct Lending	60	7.1	14.0
Mezzanine Debt	30	7.2	16.0
Distressed Debt	10	7.7	21.0
Private Credit Composite	**100**	**7.3**	**14.5**

Source: PFM, Meketa
Note: Returns are geometric, volatility assumptions are 15-yr estimates

2022 Capital Market Assumptions for Major Asset Classes

- Composite asset class using 20-Year CMA expected returns & volatility assumptions

Composite Asset Classes	Weight (%)	Expected Return (%)	Standard Deviation (%)
REITs	10	7.1	26.0
Core Real Estate	50	6.1	12.0
Non-Core Real Estate	40	8.1	20.0
Real Estate Composite	**100**	**7.2**	**15.8**
Farmland/Harvested Natural Resources	24	7.2	12.0
Sustainable Natural Resources	6	9.3	26.0
Core Infrastructure	28	7.3	14.0
Non-Core Infrastructure	42	9.3	22.0
Infrastructure & Nat. Resources Composite	**100**	**8.6**	**15.9**

Source: PFM, Meketa

Note: Returns are geometric, volatility assumptions are 15-yr estimates

2022 Correlation Expectations for Major Asset Classes

- Composite correlations for the asset classes are shown below
- Risk Mitigating Strategy serves as an overall diversifier in the asset class modeling

	Global Equity	Public Credit	Core Fixed Income	Liquidity	Risk Mitigating	Private Equity	Private Credit	Real Estate	Infra & Nat. Resources
Global Equity	1.00	0.78	0.06	-0.20	-0.17	0.91	0.71	0.52	0.69
Public Credit	0.78	1.00	0.20	-0.21	-0.37	0.76	0.96	0.60	0.73
Core Fixed Income	0.06	0.20	1.00	0.13	0.29	0.00	0.10	0.24	0.28
Liquidity	-0.20	-0.21	0.13	1.00	0.26	0.11	0.10	0.13	0.17
Risk Mitigating	-0.17	-0.37	0.29	0.26	1.00	-0.18	-0.20	-0.06	0.02
Private Equity	0.91	0.76	0.00	0.11	-0.18	1.00	0.77	0.46	0.58
Private Credit	0.71	0.96	0.10	0.10	-0.20	0.77	1.00	0.48	0.53
Real Estate	0.52	0.60	0.24	0.13	-0.06	0.46	0.48	1.00	0.65
Infra & Nat. Resources	0.69	0.73	0.28	0.17	0.02	0.58	0.53	0.65	1.00

Source: Meketa

Benchmarks for Proposed Policy Allocations

- The table below outlines the proposed benchmarks for each asset class and composite

Composite Asset Class	Performance Benchmarks
Global Equity	**MSCI ACWI IMI**
Domestic Equity	Russell 3000
Non-US Developed Markets	MSCI World (ex. US) IMI
Emerging Markets	MSCI Emerging Markets IMI
Core Fixed Income	**Custom Blend (Bloomberg US Aggregate/US Treasuries)**
Credit	
Public Credit	Bloomberg High Yield
Private Credit	S&P/LSTA Leverage Loan Index + 150 basis points
Liquidity Fund	**3 Month Treasury Bills**
Risk Mitigating	**Custom Benchmark (Dynamic Blended)**
Private Equity	**Russell 3000 + 250 basis points**
Real Estate	**NCREIF ODCE (Net)**
Infrastructure & Nat. Resources	**CPI + 400 basis points**

Source: PFM, Meketa

Key Modeling Observations

- Overall expected returns continue to be revised lower in 2022 versus 2021 CMAs highlighting the challenging return environment

- The mean-variance optimizations (MVO) continue to favor strong diversifiers and private assets as the primary means of returns
  - MVO favored Risk Mitigating for its diversification benefits versus the other asset classes
  - MVO favored Private Equity, Infrastructure & Natural Resources

- PFM utilized an iterative approach to perform the optimizations, incorporating constraints on each asset class to arrive at a team consensus for the proposed Long-Term Policy allocation

- Key takeaways for the proposed policy portfolio:
  - Overall increase in our private markets' allocations across the board
  - Increase to our Risk Mitigating Strategy allocation
  - Revise our Core Fixed Income toward Investment Grade bonds for capital preservation

Mean Variance Optimizations

- PFM & Meketa ran a series of mean-variance optimizations (MVOs) to model three different policy portfolios
- PFM determined a proposed Long-Term Policy allocation (Proposed Long-Term Policy)

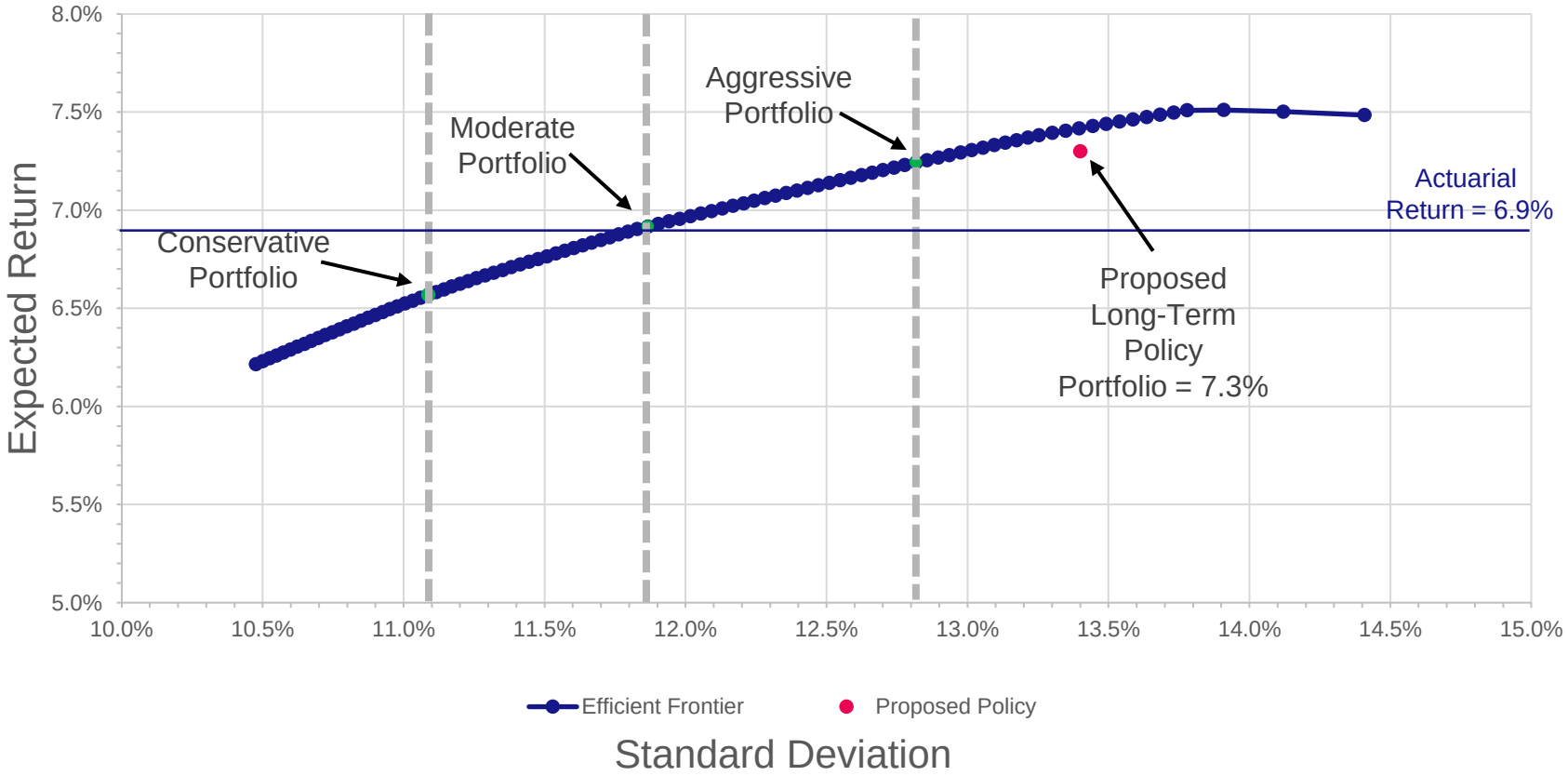
	Actual Weight as of 06/30 (%)	Conservative (%)	Moderate (%)	Aggressive (%)	Proposed Long-Term Policy (%)
Global Equity	43	30	30	30	37
Core Fixed Income	12	20	14	10	13
Public Credit	9	2	2	2	2
TIPS	5	0	0	0	0
Liquidity	1	2	1	1	1
Risk Mitigating	4	10	10	10	5
Private Equity	12	12	12	16	15
Private Credit	3	5	10	10	10
Real Estate	9	12	14	14	10
Infrastructure & Natural Resources	2	7	7	7	7
Expected Return (20 year)	**6.8%**	**6.6%**	**6.9%**	**7.2%**	**7.3%**
Standard Deviation	**13.0%**	**11.1%**	**11.8%**	**12.7%**	**13.4%**
Sharpe Ratio (Return / Unit Risk)	**0.39**	**0.44**	**0.44**	**0.43**	**0.42**

Source: PFM, Meketa

Note: Expected returns are geometric, volatility assumptions are 15-yr estimates

Efficient Frontier for MVO Portfolios

- Meketa ran several optimizations based on PFM's input and selected portfolios at the 25th, 50th and 75th percentiles that represent the Conservate, Moderate and Aggressive portfolios respectively
- PFM took these into account and modeled a Long-Term Policy allocation, incorporating other factors that cannot be modeled into the optimization (e.g., liquidity needs)



Source: PFM, Meketa

Projected Total Return Incorporating Alpha Estimates

- PFM staff worked with Meketa to incorporate a measure of excess returns not explicitly modeled into our optimizations
- Methodology for Long-Term Total Expected Return:
  - Gross alpha estimates for top quartile manager selection in the private markets
  - Estimated a range of net alpha is discounted to account for incremental management fees
- Expected long-term total return estimated to between 7.3% - 8.7%

7.3%	+	0% - 1.4%	=	**7.3% – 8.7%**
Long-Term Net Expected Return β		Net Expected Alpha Estimate ά*		Long-Term Expected Total Return Range

Source: Meketa, PFM
*Alpha Estimates provided by Meketa

Probability of Returns Analysis for MVO Portfolios

- Probabilities of hitting the actuarial rate of return of 6.9% is improved with the proposed policy portfolio

	Current Policy (%)	Conservative (%)	Moderate (%)	Aggressive (%)	Proposed Long-Term Policy (%)
Probability of Achieving at least a 5% Return					
One Year	55.7	55.6	56.4	56.9	56.7
Three Years	59.8	59.6	60.9	61.9	61.6
Five Years	62.5	62.3	64.0	65.2	64.8
Ten Years	67.4	67.1	69.4	71.0	70.4
Twenty Years	73.8	73.4	76.3	78.3	77.6
Probability of Achieving at least a 6% Return					
One Year	52.5	51.9	52.9	53.7	53.7
Three Years	54.3	53.3	55.1	56.5	56.4
Five Years	55.5	54.3	56.5	58.3	58.2
Ten Years	57.8	56.0	59.2	61.7	61.3
Twenty Years	60.9	58.5	62.9	66.3	66.1
Probability of Achieving at least a 6.5% Return					
One Year	50.9	50.1	51.2	52.1	52.2
Three Years	51.5	50.2	52.1	53.7	53.8
Five Years	51.9	50.2	52.7	54.8	54.9
Ten Years	52.7	50.3	53.9	56.8	56.9
Twenty Years	53.9	50.4	55.5	59.5	59.7
Probability of Achieving at least a 6.9% Return					
One Year	49.3	48.3	49.5	50.6	50.7
Three Years	48.7	47.0	49.2	51.0	51.2
Five Years	48.4	46.2	48.9	51.3	51.5
Ten Years	47.7	44.6	48.5	51.8	52.1
Twenty Years	46.7	42.4	47.8	52.5	53.0

Source: PFM, Meketa

Proposed Long-Term & Interim Policy Allocations

- PFM acknowledges the difficulty of execution for the proposed policy asset allocation for a large plan with significant constraints (e.g., staffing, RFP process, sizing)
- PFM recommends the creation of two Interim Policy allocation that will provide a meaningful glidepath for implementation of the asset allocation over the next five years (20-month duration to Long-Term Policy)
- The proposed Long-Term Policy experiences a 50-basis point improvement in expected return over the current allocations (7.3% versus 6.8%) with a slightly better Sharpe ratio (0.42 versus 0.39)

Asset Classes	Actual Weight as of 06/30 (%)	Proposed Interim A Policy (%)	Proposed Interim B Policy (%)	Proposed Long-Term Policy (%)
Global Equity	43	44	40	37
Core Fixed Income	12	13	13	13
Public Credit	9	5	3	2
TIPS	5	0	0	0
Liquidity	1	1	1	1
Risk Mitigating	4	5	5	5
Private Equity	12	13	14	15
Private Credit	3	5	8	10
Real Estate	9	10	10	10
Infrastructure & Natural Resources	2	4	6	7
Expected Return (20 year)	**6.8%**	**7.1%**	**7.2%**	**7.3%**
Standard Deviation	**13.0%**	**13.5%**	**13.4%**	**13.4%**
Sharpe Ratio	**0.39**	**0.40**	**0.41**	**0.42**

Source: PFM, Meketa

Policy Portfolio Characteristics

- Overall characteristics for the Proposed Policy Allocation shifts meaningfully to allocate more toward Private Markets over Public Markets
- Thematic buckets concentrate more toward private market asset classes while maintaining similar exposure to Growth and Credit (capital appreciation), pushing up Inflation exposure through Infrastructure & Natural Resources

Public versus Private	Current Policy (%)	Proposed Interim A Policy (%)	Proposed Interim B Policy (%)	Proposed Long-Term Policy (%)
Public Markets	71	68	62	58
Private Markets	29	32	38	42

Thematic Buckets	Current Policy (%)	Proposed Interim A Policy (%)	Proposed Interim B Policy (%)	Proposed Long-Term Policy (%)
Growth	50	57	54	52
Credit	13	10	11	12
Inflation Hedges	14	14	16	17
Risk Mitigating	23	19	19	19

Source: PFM, Meketa

Probability of Returns Analysis for Proposed Allocations

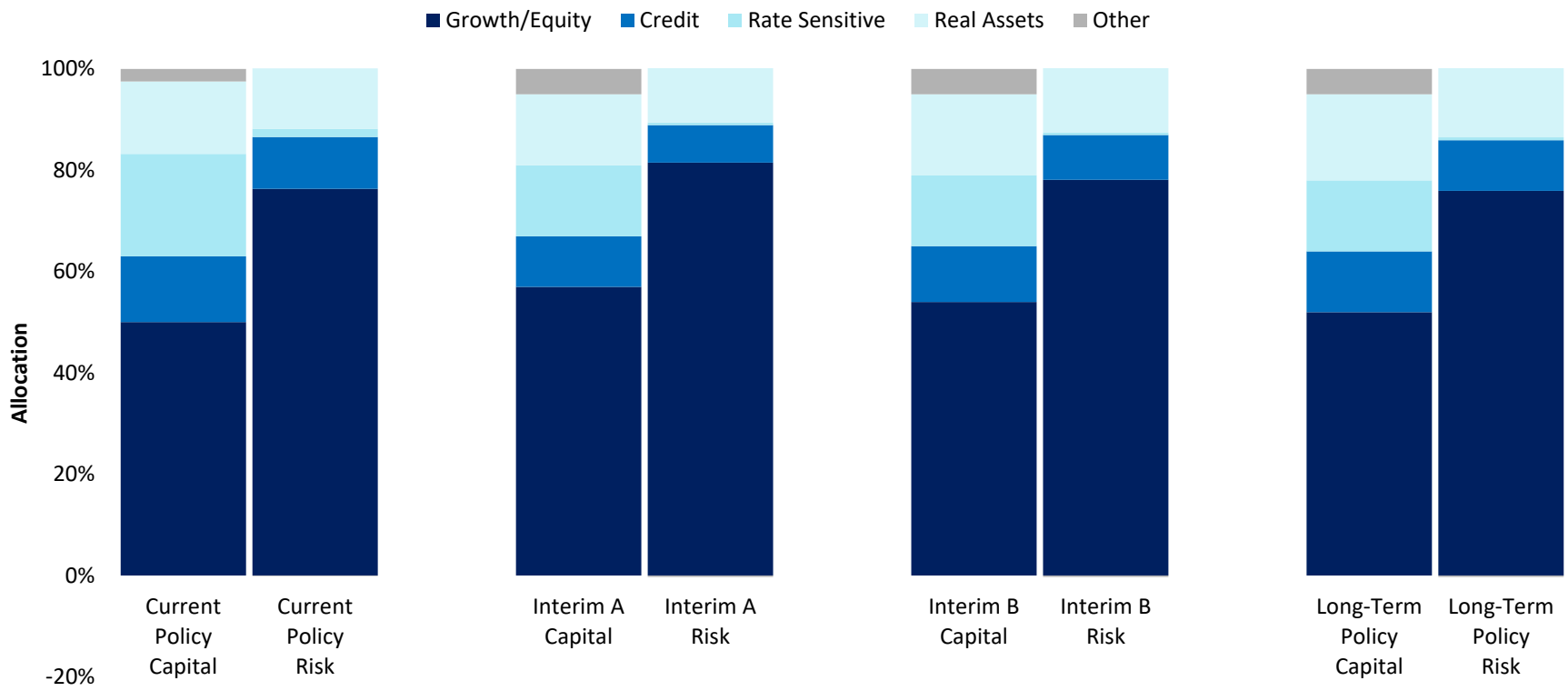
- Probabilities are biased downward due to 10-Yr CMAs

	Current Policy (%)	Proposed Interim A Policy (%)	Proposed Interim B Policy (%)	Proposed Long-Term Policy (%)
Probability of Achieving at least a 5% Return				
One Year	55.7	56.1	56.5	56.7
Three Years	59.8	60.5	61.2	61.6
Five Years	62.5	63.4	64.3	64.8
Ten Years	67.4	68.6	69.8	70.4
Twenty Years	73.8	75.3	76.8	77.6
Probability of Achieving at least a 6% Return				
One Year	52.5	53.1	53.5	53.7
Three Years	54.3	55.3	56.0	56.4
Five Years	55.5	56.8	57.7	58.2
Ten Years	57.8	59.6	60.9	61.3
Twenty Years	60.9	63.5	65.2	66.1
Probability of Achieving at least a 6.5% Return				
One Year	50.9	51.6	52.0	52.2
Three Years	51.5	52.7	53.4	53.8
Five Years	51.9	53.5	54.4	54.9
Ten Years	52.7	55.0	56.2	56.9
Twenty Years	53.9	57.0	58.7	59.7
Probability of Achieving at least a 6.9% Return				
One Year	49.3	50.1	50.5	50.7
Three Years	48.7	50.1	50.8	51.2
Five Years	48.4	50.2	51.0	51.5
Ten Years	47.7	50.2	51.4	52.1
Twenty Years	46.7	50.3	52.0	53.0

Source: PFM, Meketa

Capital Allocation versus Risk Allocation* Analysis

- Assets with low relative volatility, such as rate sensitive fixed income, contribute less to risk than their asset weighting implies



Source: PFM, Meketa

*Risk allocation is calculated by multiplying the weight of the asset class by its standard deviation and its correlation with the total portfolio and then dividing this by the standard deviation of the total portfolio.

Historical Stress Tests & Scenario Risk Analysis

- Meketa calculated several historical stress tests on various portfolios
- Takeaways indicate better downside protection while marginal upside due to reduced equity exposure

Source: PFM, Meketa

Historical Stress Tests	Current Policy (%)	Proposed Interim A (%)	Proposed Interim B (%)	Long-Term Policy (%)
COVID-19 Market Shock (Feb 2020-Mar 2020)	-16.6	-17.7	-16.3	-15.4
Taper Tantrum (May - Aug 2013)	-1.0	0.6	0.9	1.1
Global Financial Crisis (Oct 2007 - Mar 2009)	-24.3	-27.0	-25.3	-24.1
Popping of the TMT Bubble (Apr 2000 - Sep 2002)	-10.9	-15.5	-13.6	-12.3
Long Term Capital Management Collapse (Jul - Aug 1998)	-8.7	-7.6	-6.9	-6.3
Asian Financial Crisis (Aug 97 - Jan 98)	1.4	3.2	3.9	4.5
Rate spike (1994 Calendar Year)	0.8	3.0	3.3	3.5
Early 1990s Recession (Jun - Oct 1990)	-5.4	-5.6	-4.8	-4.2
Crash of 1987 (Sep - Nov 1987)	-9.9	-10.8	-9.7	-8.8
Strong dollar (Jan 1981 - Sep 1982)	5.3	5.1	5.3	5.5
Volcker Recession (Jan - Mar 1980)	-3.5	-3.0	-2.9	-2.8
Stagflation (Jan 1973 - Sep 1974)	-19.2	-20.7	-19.0	-17.9

Historical Stress Tests	Current Policy (%)	Interim A (%)	Interim B (%)	Long-Term Policy (%)
Global Financial Crisis Recovery (Mar 2009 - Nov 2009)	32.6	32.3	29.7	27.9
Best of Great Moderation (Apr 2003 - Feb 2004)	29.0	28.8	27.6	26.7
Peak of the TMT Bubble (Oct 1998 - Mar 2000)	47.3	49.3	49.4	49.6
Plummeting Dollar (Jan 1986 - Aug 1987)	50.8	50.3	47.1	44.5
Volcker Recovery (Aug 1982 - Apr 1983)	29.5	31.5	29.1	27.6
Bretton Wood Recovery (Oct 1974 - Jun 1975)	26.6	28.6	26.5	25.1

Historical Stress Tests & Scenario Risk Analysis

- With negative single shocks to the portfolio, the Long-Term Policy is modeled to perform better than the current policy given our asset allocation

Single Factor (Negative) Shocks	Current Policy (%)	Interim A (%)	Interim B (%)	Long-Term Policy (%)
10-year Treasury Bond rates rise 100 bps	3.8	4.4	4.2	4.0
10-year Treasury Bond rates rise 200 bps	-1.0	-0.4	-0.7	-0.9
10-year Treasury Bond rates rise 300 bps	-3.0	-2.2	-2.6	-2.9
Baa Spreads widen by 50 bps, High Yield by 200 bps	0.7	0.4	0.5	0.5
Baa Spreads widen by 300 bps, High Yield by 1000 bps	-20.0	-21.0	-19.8	-19.1
Trade Weighted Dollar gains 10%	-3.5	-3.2	-3.2	-3.1
Trade Weighted Dollar gains 20%	-2.0	-1.1	-1.2	-1.3
U.S. Equities decline 10%	-5.3	-6.1	-5.9	-5.7
U.S. Equities decline 25%	-16.1	-17.2	-16.5	-16.0
U.S. Equities decline 40%	-25.0	-26.2	-24.8	-23.9
Inflation slightly higher than expected	-0.5	-0.5	-0.5	-0.4
Inflation meaningfully higher than expected	-5.1	-5.4	-4.9	-4.6
Low Growth and Low Inflation	-6.4	-6.0	-5.4	-5.0
Low Growth and High Inflation	-10.1	-9.4	-8.4	-7.7
Brief, moderate inflation spike	-2.9	-2.6	-2.4	-2.2
Extended, moderate inflation spike	-5.3	-5.2	-4.8	-4.6
Brief, extreme inflation spike	-6.7	-6.7	-6.3	-6.0
Extended, extreme inflation spike	-8.9	-9.2	-8.7	-8.3

Source: PFM, Meketa

Historical Stress Tests & Scenario Risk Analysis

- With positive single shocks to the portfolio, the Long-Term Policy experiences lower upside than Current Policy primarily due to the reduced allocation to equities

Single Factor (Positive) Shocks	Current Policy (%)	Interim A (%)	Interim B (%)	Proposed LT Policy (%)
10-year Treasury Bond rates drop 100 bps	2.1	2.0	1.9	1.9
10-year Treasury Bond rates drop 200 bps	10.0	9.9	9.2	8.7
Baa Spreads narrow by 30bps, High Yield by 100 bps	7.0	7.6	7.5	7.4
Baa Spreads narrow by 100bps, High Yield by 300 bps	12.5	12.3	11.4	10.8
Trade Weighted Dollar drops 10%	7.4	7.1	6.7	6.5
Trade Weighted Dollar drops 20%	20.9	20.7	19.8	19.1
U.S. Equities rise 10%	6.4	6.9	6.7	6.5
U.S. Equities rise 30%	15.2	16.5	15.4	14.7
High Growth and Low Inflation	9.4	9.5	8.8	8.4
High Growth and Moderate Inflation	7.0	7.4	7.0	6.7
High Growth and High Inflation	4.4	5.0	4.8	4.7

Source: PFM, Meketa

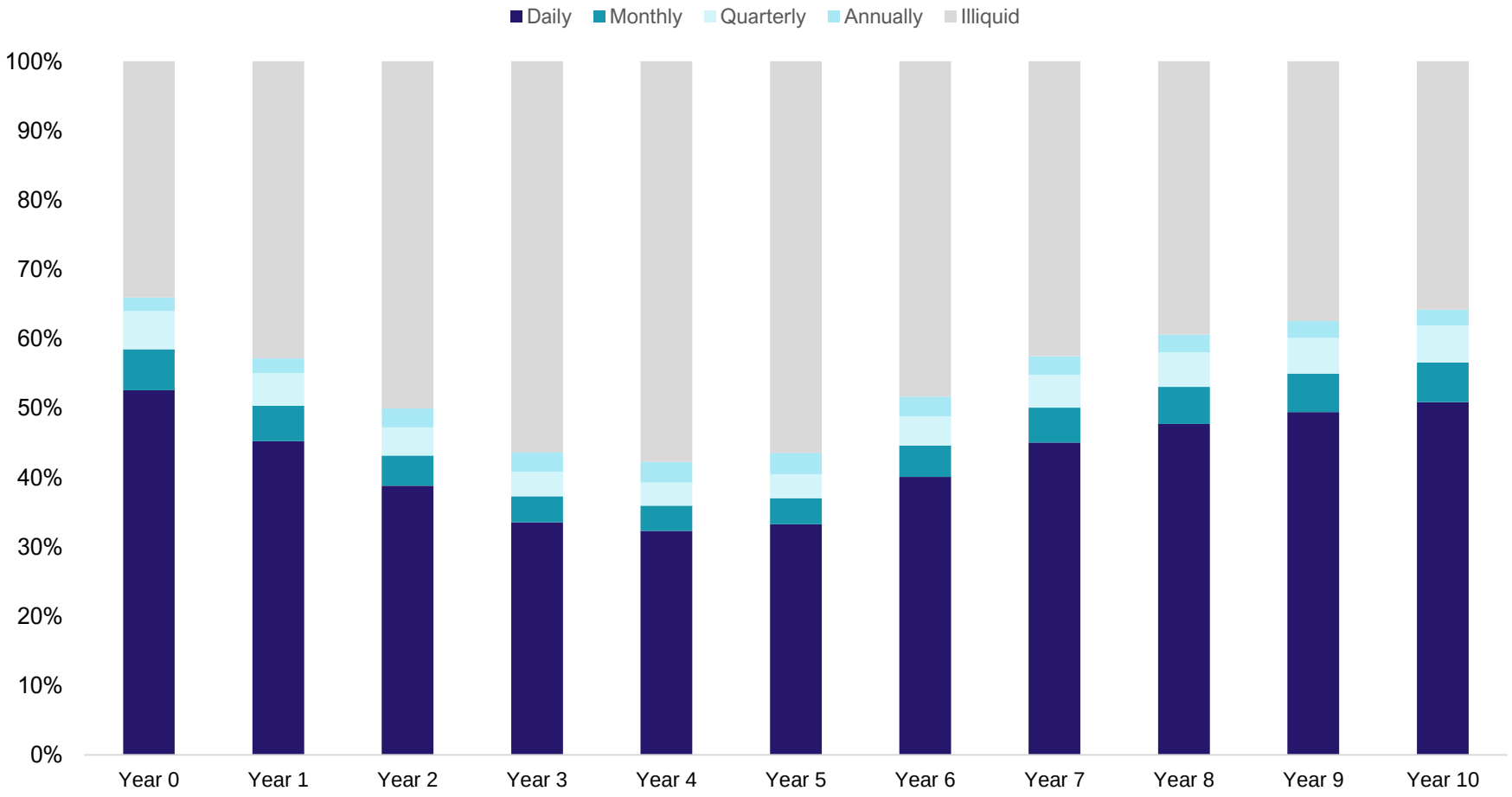
Meketa Liquidity Stress Test

- Meketa conducted an extreme liquidity stress test using Teachers Employee Retirement Fund (TERF) to analyze the Plan's liquidity using the Proposed Long-Term Policy Allocation
- Specifically, Meketa evaluated whether TERF could:
  - Continue to meet its benefit obligations and expenses (i.e., net outflows),
  - Continue to meet its obligations to fund commitments to private market managers, while staying within its target allocation ranges,
- And at what cost (i.e., to what extent would it be forced to sell stressed or distressed assets)?

Liquidity Stress Test Design

- The scenario is designed to be extreme
- In Years 1 through 3, we use the returns produced by each asset class in the 4th quarter of 2007, 2008, and 1st quarter of 2009, respectively. In years 4 – 10, we assume the returns for our 2022 CMAs for each asset class
- We assume net outflows (projected by the actuary) of $566.2M in Year 1, growing to $949.1M in Year 10.
- We assume that contribution and distribution rates for private markets will be consistent with those experienced during and after the GFC (i.e., Year 1 rates match those experienced in 2007, Year 2 rates match 2008, etc.)
- We assume no rebalancing of private markets (or hedge funds) in Years 1 through 5, and up to 10% of private markets value can be bought/sold per year in Years 6 through 10
- We assume the TERF plan would rebalance toward its policy targets each year

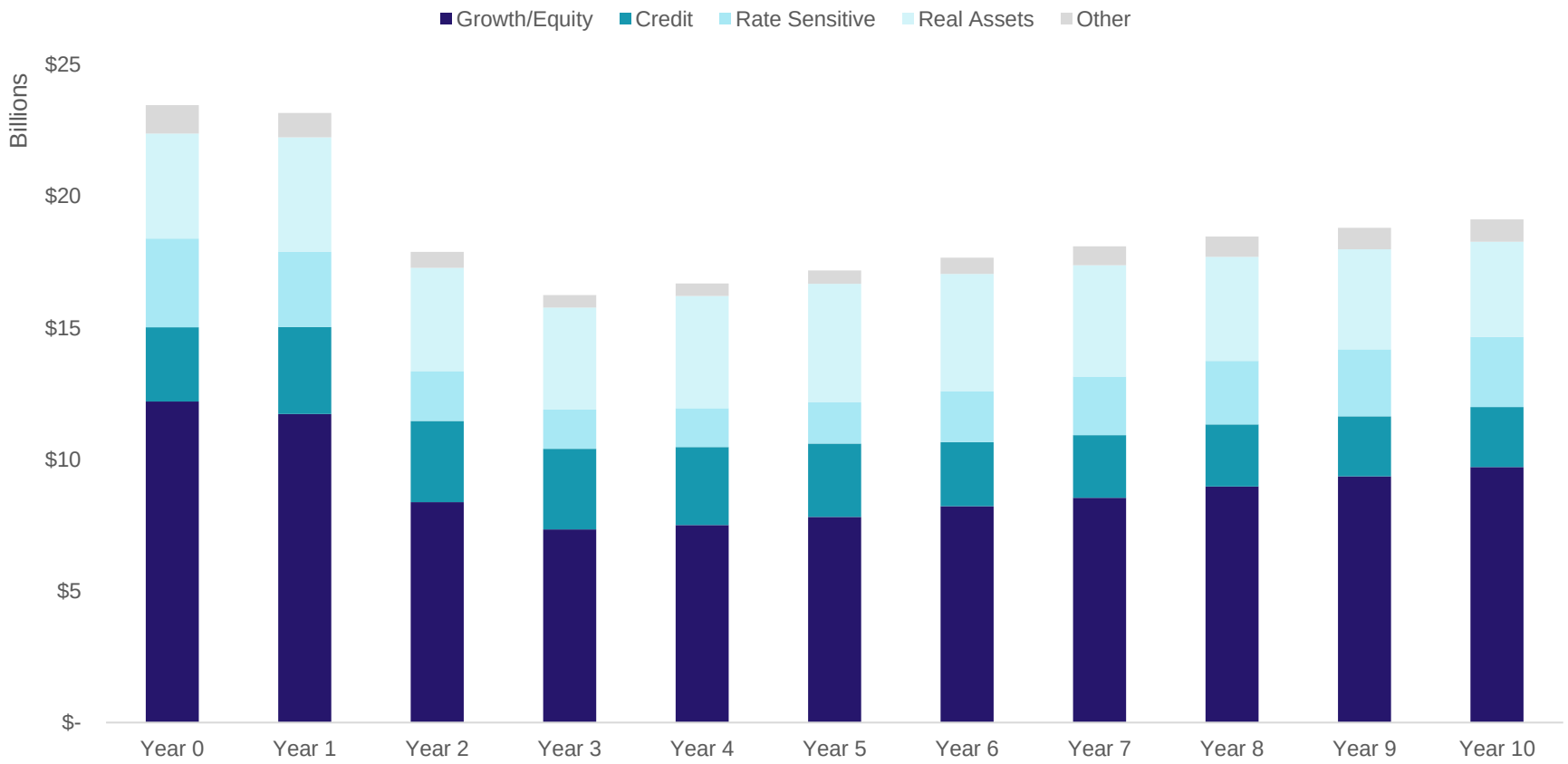
Meketa Liquidity Stress Test: Liquidity Profile



Source: Meketa

- At the trough, the portfolio would have 32% in daily liquid vehicles

Meketa Liquidity Stress Test: Market Value and Asset Allocation



Source: Meketa

- The size of the plan's investment portfolio would shrink and only modestly recover, given the return projections and current cash flow projections.
- Still, there would be ample liquid assets to meet obligations.

Meketa Liquidity Stress Test: Summary

	Year 0	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6	Year 7	Year 8	Year 9	Year 10
Ending Market Value ($mm)	23,471.0	23,165.8	17,891.4	16,250.1	16,683.9	17,180.6	17,665.7	18,094.8	18,471.0	18,806.4	19,125.1
Net flows ($mm)		-566.2	-496.5	-693.7	-750.7	-729.7	-775.0	-821.1	-868.6	-918.2	-949.1
Net Flows as % of Market Value		-2.4%	-2.1%	-3.9%	-4.6%	-4.4%	-4.5%	-4.6%	-4.8%	-5.0%	-5.0%
Net Flows from Private Mkts ($mm)		1,939.3	1,015.2	627.1	-288.1	-783.4	-1,076.7	-928.9	-923.2	-651.3	-993.1
Net Liquidity Needs ($mm)		-2,505.5	-1,511.7	-1,320.8	-462.6	53.7	301.7	107.8	54.6	-266.9	44.0
Assets Sold in duress ($mm)		0.0	-738.2	-900.7	-640.7	-816.6	-494.0	-506.3	-533.7	-559.5	-584.6
% of Outflows sold in duress	0%	0%	48.8%	68.2%	61.7%	54.0%	26.7%	28.9%	29.8%	35.6%	30.1%
% of Assets sold in duress	0%	0%	3.2%	5.0%	3.9%	4.9%	2.9%	2.9%	2.9%	3.0%	3.1%
Remaining liquid MV ($mm)	15,481.5	12,756.3	8,448.6	6,628.4	6,558.2	6,955.7	8,618.5	9,913.8	10,724.1	11,311.7	11,839.6
Total Illiquid Assets ($mm)	7,989.5	10,409.5	9,442.9	9,621.7	10,125.7	10,224.8	9,047.2	8,181.1	7,746.9	7,494.7	7,285.5
% of Illiquid Assets	34.0%	44.9%	52.8%	59.2%	60.7%	59.5%	51.2%	45.2%	41.9%	39.9%	38.1%
Portfolio Return	0%	1.1%	-20.6%	-5.3%	7.3%	7.4%	7.3%	7.1%	6.9%	6.8%	6.7%

Source: Meketa

- **Even under this extreme scenario, the Plan would maintain sufficient liquidity to meet its obligations**
- The Plan would have to sell some assets that have decreased in value by more than 10% in order to meet its obligations (assuming it is rebalancing to target allocations)

Conclusions to the IAC on the Strategic Asset Allocation

- **This 2022 SAA Update recommends the IAC approve the adoption of the Proposed Long-Term Policy Allocation designed to achieve a projected beta return of 7.3% net of fees**

- PFM staff expects that the CRPTF will be able to exceed the 6.9% actuarial return assumption in the long-term with the current allocation inclusive of alpha estimates

- Implementation of interim policy allocations (A & B) will minimize the delta in performance and better manage the pacing to private market assets toward the Long-Term Policy Allocation

- Proposed changes to the asset class composition, refinement of our asset class benchmarks will increase the likelihood that PFM to be able to implement the proposed policy asset allocation

- Staffing remains a significant challenge in meeting the Long-Term Asset Allocation

Appendix

Capital Markets Expectations – Peer Survey

- Annually, Horizon Actuarial Services, LLC publishes a survey of capital market assumptions that they collect from various investment advisors.[1]
- The Horizon survey is a useful tool to determine whether a consultant's expectations for returns (and risk) are reasonable.

Asset Class	10-Year Average (%)	Meketa 10-Year (%)	20-Year Average (%)	Meketa 20-Year (%)
Cash Equivalents	1.2	0.7	1.9	1.1
TIPS	1.6	1.2	2.4	1.8
US Core Bonds	2.1	1.2	3.2	1.8
US High Yield Bonds	3.8	3.3	5.0	4.2
Emerging Market Debt	4.2	3.9	5.3	3.8
Private Debt	6.5	6.6	6.9	6.8
US Equity (large cap)	5.8	5.2	6.7	6.8
Developed Non-US Equity	6.4	6.7	7.1	7.1
Emerging Non-US Equity	7.2	7.5	7.8	8.1
Private Equity	8.8	8.0	9.6	9.1
Real Estate	5.5	6.5	6.2	6.9
Infrastructure	6.2	7.1	6.8	7.0
Commodities	3.1	3.4	4.0	3.7
Hedge Funds	4.5	3.4	5.3	4.3
Inflation	2.1	2.3	2.2	2.1

[1] The 10-year horizon included all 39 respondents, and the 20-year horizon included 24 respondents. Figures based on Meketa's 2021 CMEs.

Meketa Risk Analysis Methodology

- The historical scenario analysis and stress tests are designed to show how the various portfolios would perform in different market environments
- The historical scenario analysis uses actual benchmark performance during these periods and weights it by the different policy weights. In periods where the ideal benchmark was not yet available, we used the next closest benchmark as a proxy
- The stress test models each portfolio's performance under hypothetical scenarios based on various factors. It assumes that assets not directly exposed to the factor are affected, nonetheless

- The scenarios for each asset class are arrived at in two parts:
  - First, looking at each asset class returns during which that scenario has been experienced
  - Secondly, identify the relationship through the time each asset has with the underlying scenario returns

- We then take a weighted average of these two components to estimate each asset's outcome in the various scenarios

Risk Mitigating Strategies - Overview

1. **Designed to mitigate large total portfolio risks**
   - Most often Growth Risk (most portfolios' largest risk)
   - Provide significant positive returns during a Growth Risk crisis
   - Maintain a very low correlation to Growth Risk on average
2. **Practical implementation**
   - Desire positive returns when equities decline substantially
   - Positive expected standalone return to risk
   - Provide meaningful diversification / impact
3. **Potential Components**

Risk Mitigating Strategies Composite	Weight (%)
Long-term Government Bonds	8
Global Macro	21
CTA (Trend Following)	19
Long Volatility	42
Alternative Risk Premia (ARP)	10
Total	**100**

Source: PFM, Meketa

Risk Mitigating Strategies – Market Analysis

Source: Meketa

Investment Policy Statement

for the

Connecticut Retirement Plans and Trust Funds

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Introduction

This Investment Policy Statement ("IPS") sets forth the general standards that govern the investment of the State of Connecticut Retirement Plans and Trust Funds ("CRPTF"), as established by the Treasurer of the State of Connecticut ("the Treasurer"), and as approved by the Investment Advisory Council ("IAC") in accordance with the provisions of Section 3-13b(c) of the Connecticut General Statutes.

The CRPTF includes the following plans and trusts ("Trust Funds"):

1. Teachers' Retirement Fund
2. State Employees' Retirement Fund
3. Connecticut Municipal Employees' Retirement Fund
4. Probate Judges' and Employees' Retirement Fund
5. State Judges' Retirement Fund
6. State's Attorneys' Retirement Fund
7. Policemen and Firemen Survivors' Benefit Fund
8. Agricultural College Fund
9. Andrew C. Clark Fund
10. Arts Endowment Fund
11. Hopemead State Park Fund
12. Ida Eaton Cotton Fund
13. School Fund
14. Soldiers' Sailors' and Marines' Fund
15. State of Connecticut Other Post-Employment Benefits Trust Fund
16. Teachers' Retirement Health Insurance Fund
17. Participants' Retirement Investment Fund
18. Participants' Investment Fund

Collectively, these Trust Funds may be collectively referred to as "the CRPTF."

The Treasurer constructs investment portfolios for each of the Trust Funds within the CRPTF using open-end investment portfolios known as Combined Investment Funds ("CIFs").

This IPS generally describes the long-term strategic plans for each of the Trust Funds within the CRPTF, based on analysis of capital markets and the financial condition of each plan and trust. In formulating this IPS, the Treasurer seeks to allow for sufficient flexibility to capture investment opportunities as they occur, while maintaining reasonable parameters to ensure that prudence and care are exercised in the execution of the CRPTF's investment program. Accordingly, the specific categories of permissible investments set forth in this IPS establish parameters but not exclusive types of investments that may be made by the Treasurer or considered by CRPTF staff. In the final analysis, the Treasurer, with the advice of the Chief Investment Officer, staff, consultants, external advisors and the IAC, will exercise authority consistent with the principles of fiduciary law.

The Treasurer shall annually review this IPS and shall consult with the IAC regarding revisions thereto in accordance with the provisions of Section 3-13b(c) of the Connecticut General Statutes.

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Governance (Authority, Duties, Responsibilities, and Amendments)

Consistent with Connecticut General Statutes, the Treasurer is sole trustee of the CRPTF and is responsible for the investment of the CRPTF's assets in accordance with fiduciary law and standards, the State Constitution and laws of the State of Connecticut. In his/her fiduciary role, the Treasurer:

- Shall act in the interest of participants and beneficiaries
- Shall work for the purposes of providing benefits to participants and beneficiaries and paying reasonable expenses of administering the CRPTF
- Shall act with the care, skill and caution under the circumstances then prevailing which a prudent person acting in a like capacity and familiar with those matters would use in the conduct of like character and purpose
- Shall act impartially, taking into account the differing interests of participants and beneficiaries
- Shall incur only costs that are appropriate and reasonable
- Shall act in accordance with a good-faith interpretation of applicable laws governing the retirement program and the CRPTF
- Shall consider the implications of any particular investment in relation to the foreign policy and national interests of the United States[1]
- May consider the social, economic and environmental implications of investments of trust funds in particular securities or types of securities[2]
- Consult with legal counsel regarding securities monitoring and litigation and other legal matters on behalf of the CRPTF.

In carrying out these responsibilities, and as an elected Constitutional Officer of the State of Connecticut, the Treasurer is responsible for the investment and custody of all CRPTF assets and the selection of and contracting with all investment managers and other service providers. The Treasurer will report to the IAC regarding investment policy, strategies and opportunities. The Treasurer will review with the IAC, on an annual basis, the status of the asset allocation plan for the CRPTF and will report at each regularly scheduled meeting of the IAC as to the status of the CRPTF's investments.

The Treasurer may retain investment managers and other service providers to assist in the management of the assets of the CRPTF and will exercise prudence and care in selecting, instructing and supervising such providers of investment and investment-related services. The Treasurer may invest CRPTF assets directly into companies and vehicles, including, but not limited to, investment funds, limited partnerships, limited liability companies and REITs. In addition, the Treasurer and investment staff will conduct due diligence, select and monitor the management of such investment vehicles. Consistent with Section 3-13i of the Connecticut General Statutes, before the retention of any such investment manager or professional consultant, the Treasurer will present his/her recommendation to the IAC for its consideration. After such presentation, unless waived by a vote of the IAC, the IAC will have up to 45 days to review and

[1] *See* Sections 3-13d, 3-13g and 3-21e of the Connecticut General Statutes.

[2] *See* Section 3-13d of the Connecticut General Statutes.

comment upon any proposed contract for investment services prior to the execution of such a contract by the Treasurer. The Treasurer or his/her designee is responsible for negotiating the terms of the contract and subsequent amendments to said contract.

In the event the conditions described in Section 3-13d(e) of the Connecticut General Statutes are met, any private equity investments and real estate investments must be approved by the IAC for the balance of the Treasurer's term of office.

The IPS and any specific asset allocation policy set forth in the appendices shall be amended in accordance with the provisions of Section 3-13b(c)(1) of the Connecticut General Statutes.

Except as set forth above, appendices of the IPS shall be added, amended or removed in accordance with the following process:

1. The Treasurer's recommendations to add, amend or remove an IPS appendix will be presented to the IAC at a regularly scheduled IAC meeting.
2. The IAC will review the Treasurer's recommendation and provide feedback for his/her consideration.
3. The Treasurer will adopt the IPS appendix, including any recommendations that he/she deems appropriate.
4. The Treasurer's adopted IPS appendix shall be presented to the IAC for a vote. If a majority fails to approve the adopted IPS appendix, said majority shall provide the reasons for its failure to approve to the Treasurer who may submit an amended adopted IPS appendix at the next regularly scheduled meeting of the IAC.
5. If a majority of the IAC approves the adopted IPS appendix, it shall be posted on the Treasurer's website and a revised appendix shall be made part of this IPS.
6. In the event the Treasurer's adopted IPS appendix is not approved, there will be no changes to the existing IPS appendix.

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Scope and Purpose

The IPS describes the framework and standards governing investments of the CRPTF. This document provides the primary guidance for the CRPTF's investment activities by outlining the philosophy and structure of the CRPTF investment program, describing the general process by which assets are managed, and defining the key roles and responsibilities for the CRPTF investment program.

With respect to each trust fund that comprises the CRPTF, this IPS describes the following:

- Investment and return objectives
- Asset allocation policy and risk tolerance
- Asset class definitions, including specific types of permissible investments within each asset class and any specific limitations or other considerations governing the investment of funds
- Investment performance monitoring
- Guidelines for the selection and termination of providers of investment-related services
- Guidelines for proxy voting

Investment Philosophy

The CRPTF seeks to generate strong risk-adjusted returns and invest with a long-term horizon that is consistent with the perpetual nature of the assets through a disciplined and carefully planned strategic investment process. The primary objective of a defined benefit plan is to generate investment income to assist the plan sponsor in meeting its obligations to fund the pensions of its workers/plan beneficiaries. For certain Trust Funds, the objective is to provide a secure source of income from a principal amount that will last in perpetuity.

Prudent investment strategies seek the broadest access to business opportunities that will provide solid investment returns. Therefore, the CRPTF affords opportunities for emerging, minority, women-owned, veteran-owned and Connecticut-based firms to compete for investment contracts and brokerage business. The Treasurer, in consultation with the IAC, may develop specific programs within one or more CIFs, consistent with the overall strategic direction of the CIFs.

Investment Objectives

The investment objectives for each of the Trust Funds of the CRPTF, along with related asset allocation guidelines, are set forth in Appendix B of this IPS. These investment objectives are long-term in nature and based on a comprehensive review of capital markets assumptions, as well as the current and projected financial requirements of each Trust Fund.

The Treasurer adheres to the principle which maintains that over the long term, prudent investment risk-taking may be rewarded with higher incremental returns. Consequently, while capital preservation is of paramount importance, prudent risk-taking is justifiable.

Pursuant to an asset-liability study conducted in accordance with the provisions of this IPS, and taking into account capital market assumptions and projected financial requirements for each of the Trust Funds within the CRPTF, the Treasurer shall establish an assumed investment rate of

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return for each of the Trust Funds within the CRPTF, as appropriate. The assumed investment rate of return is set forth in Appendix B.

Return Objective and Risk Tolerance

- Earn a minimum assumed investment rate of return over market cycles by investing in a global, diversified portfolio of assets with different risk and return characteristics

- Generate strong risk-adjusted returns within each asset class

- Meet or exceed the policy benchmarks for the respective Trust Funds, and the benchmark for individual asset classes, over market cycles

The CRPTF has a long horizon and has the ability to take risk in the portfolio commensurate with the targeted return objective. The CRPTF has the ability to allocate prudently to private market investment strategies in order to diversify the overall risk of the strategic asset allocation. The level of risk will be measured in multiple dimensions to ensure the risks assumed by the CRPTF are intentional and are adequately compensated.

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Strategic Asset Allocation

The asset mix for the CRPTF is established by the Treasurer and approved by the IAC, with input from the Chief Investment Officer, investment staff and consultants, and based on capital market theory, financial and fiduciary requirements, and liquidity needs. The specific asset allocations for each Trust Fund are set forth in Appendix B. Any material changes to these allocations shall be pursuant to the findings of periodic asset allocation studies and/or asset/liability studies, as determined by the Treasurer in consultation with the IAC.

A broad array of asset classes is considered for inclusion in a potential asset allocation structure. The objective is to determine an asset mix that offers a balanced risk/return tradeoff as measured by the impact on the liabilities or spending policy over multiple time horizons.

Investments will be diversified in order to reduce volatility associated with concentrated portfolios and to limit the probability of large losses on individual investment managers within the portfolio.

Investments will comply with the provisions of Connecticut General Statutes, including without limitation Sections 3-13d, 3-13g and Section 3-21e, and any subsequent modifications or revisions to Connecticut law that affect the management of the CRPTF. This IPS, which describes each of the CIFs, delineates specific investment guidelines and restrictions for each of the CIFs.

Deviations from approved asset allocation targets may occur from time to time as a result of market movements or other unanticipated events. Remedies to resolve such deviations will be implemented in a manner that minimizes negative impact to the performance or risk profile of the CRPTF.

Pooled Investment Funds

The Combined Investment Funds ("CIFs") are separate pooled investment funds that have been created by the Treasurer pursuant to Section 3-31b of the Connecticut General Statutes. The CIFs were established to provide a means for investing Trust Fund assets entrusted to the Treasurer in a variety of investment asset classes. The CIFs are open-end portfolios that represent individual asset classes or sub-asset classes in the plan.

To realize the asset allocations set forth in the IPS for each Trust Fund, the Treasurer administers the CIFs as a series of combined investment funds in which the various Trust Funds may invest through the purchase of ownership interests. The asset mix for each of the Trust Funds is established by the Treasurer, with approval of the IAC, based upon capital market theory, financial and fiduciary requirements and liquidity needs. There are instances in which the asset mix for a Trust Fund is set by its governing document.

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Asset Classes

The following are the permissible asset classes in which the CRPTF portfolio will be invested:

Composite / Asset Class	Sub-Asset Class
Global Equity	Domestic Equity
	Developed Markets (ex U.S.)
	Emerging Markets
Core Fixed Income	
Credit	Private Credit
	Public Credit
Absolute Return	
Private Equity	
Real Estate	
Infrastructure and Natural Resources	
Liquidity (Cash Equivalents)	

Policy targets, ranges and benchmarks are found in Appendix A.
Asset class structure and guidelines are in Appendix C.

Global Equity

The Global Equity CIF ("GE") will invest primarily in equity instruments to meet the CRPTF asset allocation guidelines for asset classes having the characteristics and categories of equities. In the overall asset allocation, GE's goal is to primarily achieve capital appreciation and, secondarily, achieve a long-term, real rate of return significantly above the inflation rate. The inclusion of global equities will provide a source of diversification to other asset classes within the CRPTF, given the different economic environments.

The Domestic Equity CIF ("DE") will invest primarily in the common stocks of U.S. corporations in order to meet the CRPTF asset allocation guidelines for domestic equities. These investments will be primarily made using money managers. DE's assets will be allocated across the U.S. stock market so that there is diversification by both market capitalization and investment style, such as value and growth.

The Developed Markets CIF ("DM") will invest primarily in the common stocks of non-U.S. corporations in order to meet the CRPTF asset allocation guidelines for International Equities. These investments will be primarily made using money managers. DM assets will be allocated across foreign markets such that there is diversification by market, capitalization and style which, in aggregate, are structured to replicate the characteristics of the comparable developed non-U.S. equity markets index. Non-U.S. equities are defined as common stocks issued by companies domiciled outside the U.S. Developed Markets are defined as the countries with well-developed economies and capital markets. They tend to be high income with efficient market institutions.

The Emerging Markets CIF ("EM") will invest primarily in the common stocks of non-U.S. corporations in order to meet the CRPTF asset allocation guidelines for Emerging Markets Equities. These investments will primarily be made using money managers. EM assets will be

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allocated across emerging markets such that there is diversification by market, capitalization and style which, in aggregate, are structured to replicate the characteristics of the comparable emerging markets equity index. Non-U.S. equities are defined as common stocks issued by companies domiciled outside the U.S. Emerging Markets are defined as the countries with developing economies and capital markets. They tend to be lower income with less efficient market institutions.

Core Fixed Income

The Core Fixed Income CIF (CFI") will invest in fixed income instruments in order to meet the CRPTF asset allocation guidelines for asset classes having the characteristics and categories of fixed income. In the overall asset allocation, CFI's goal is primarily to preserve capital and secondarily to provide current income to the CRPTF. The inclusion of fixed income will provide a source of diversification to other asset classes within the CRPTF given the different economic environments.

The Core Fixed Income asset class will invest primarily in fixed-income securities in the domestic U.S. markets in order to meet the CRPTF asset allocation guidelines for Core Fixed Income. The CFI portfolio consists of active and passive managed fixed income mandates. The CFI may invest in debt instruments issued by the U.S. Government and its agencies, inflation protected securities, "quasi-Government" agencies, municipalities and U.S. corporations. In addition, mortgage and asset-back securities, Euro bonds, high quality quasi or sovereign debt and any other public or private U.S. regulated debt securities are permitted.

Absolute Return

The Absolute Return CIF ("AR") will invest CRPTF assets in investment strategies that offer the potential to reduce risk, enhance overall portfolio expected returns, or a combination of both in a variety of market conditions. The AR serves as a vehicle for strategies that provide diversification benefits and are not easily classified, categorized, or described in the other CIFs. Hybrid strategies that cut across multiple asset classes will also be considered part of the opportunity set.

AR strategies represent a broad set of investment styles, mandates and products that focus primarily on the liquid equity, fixed income and derivatives markets, and illiquid securities and investments. AR strategies may target absolute returns without reference to a traditional benchmark since managers may use a wide range of investment tools such as short-selling, leverage, derivatives and complex securities to achieve their investment objectives. The AR may also consider co-investments in operating or holding companies.

The AR may invest in strategies that do not fit the constraints of existing CIFs and other strategies including absolute return strategies and other alternative asset strategies. The AR mandate may be executed through investment managers who actively manage a fund of funds ("FoF") portfolio or through direct investments in separately managed accounts ("SMA").

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Credit

The Public Credit CIF ("PBC") is comprised of those assets and asset classes outside the scope of the CFI which may include, but are not limited to, high yield securities, convertible securities, and emerging market securities. PBC assets are expected to generate higher returns and greater income than CFIF assets with a secondary objective of capital preservation. Private Credit ("PVC") will predominately invest in direct and indirect debt investments in order to meet the CRPTF asset allocation guidelines. The purpose of the PVC is to generate attractive, risk-adjusted returns in excess of public debt strategies, with the expected benefit of decreased volatility of the CRPTF's overall portfolio through lower correlations with other asset classes. The PVC will invest in credit-related strategies not available through other pooled investment funds and may include direct lending, mezzanine, distressed debt, and special situations funds and co-investments with these funds. The PVC investments will generally be made in externally managed limited partnerships or through separate accounts that focus on private debt investments. The PVC may also make co-investments.

Private Equity

The Private Equity CIF ("PE") will invest in various private equity strategies and vehicles in order to meet the CRPTF asset allocation guidelines for Private Equity. The purpose of the PE is to earn returns in excess of the public equity markets and generate attractive risk-adjusted rates of return. The PE is also expected to reduce the impact of market volatility by diversifying the total asset base. The PE investments will generally be made in externally managed limited partnerships or through separate accounts that focus on private equity investments. The PE may also make co-investments. In addition, the PE may acquire and divest fund interests through secondary or other transactions.

Private equity includes both Venture Capital and Corporate Finance investment strategies. Venture Capital typically involves equity capital invested in young or development stage companies, whether start-up, early, mid or late-stage companies. Corporate Finance typically involves equity and debt capital invested in growth, mature or distressed stage companies, often through the financing of acquisitions, spin-offs, mergers or changes in capitalization.

Real Estate

The Real Estate ("RE") asset class strategic objectives are to provide diversification to the overall CRPTF investment program, preserve investment capital and generate attractive risk-adjusted rates of return. In addition to providing current income and the potential for capital appreciation, real assets provide at least two primary benefits to a diversified plan. First, real estate assets have low correlation to equities and fixed income markets and should thereby provide diversification benefits to the CRPTF.

Real estate is also designed to yield an inflation-adjusted or positive "real" return. The investments may consist of a number of different investment strategies and investment vehicles, including externally managed commingled funds, separate accounts, publicly traded real estate investment trusts ("REIT"), limited liability companies, limited partnerships, direct investments, co-investments and master limited partnerships ("MLPs").

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Infrastructure and Natural Resources

The Infrastructure and Natural Resources CIF's ("INR") strategic objectives are to provide diversification to the overall CRPTF investment program, preserve investment capital and generate attractive risk-adjusted rates of return. In addition to providing current income and the potential for capital appreciation, INR provides at least two primary benefits to a diversified plan. First, INR assets have low correlation to equities and fixed income markets and should thereby provide diversification benefits to the CRPTF. INR is also designed to yield an inflation-adjusted or positive "real" return.

Liquidity (Cash Equivalents)

The Liquidity Fund consists of short-term U.S. assets that include cash and cash equivalents that are routinely used to make benefits payments and meet other cash needs. The Liquidity Fund assets will be managed consistent with U.S. money market guidelines.

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Investment Process

Asset Class Framework

Following an asset allocation study, the Treasurer and investment staff review the implementation of each asset class. As noted in the *Strategic Asset Allocation* section, each asset class has defined goals and role within the overall portfolio along with performance benchmarks and objectives.

Approval of Investment Mandates

A. Investment Manager Guidelines

Investment manager guidelines specific to each mandate are set forth in each contract or agreement. These guidelines will be consistent with the requirements of this Policy and will describe the investment objective and strategy, permissible and prohibited investments, diversification guidelines and reporting requirements.

B. Guidelines for the Selection of Investment Managers

The Treasurer will select investment managers based on their respective expertise relative to the investment mandate they seek to fulfill or the investment service they seek to provide. In general, the selection process will entail the following processes:

- Conduct a competitive bidding process (Request For Proposals or "RFP") or review of a private placement memorandum ("PPM"), as defined by the State's procurement and purchasing laws and standards or, where appropriate and practicable, the use of a pre-determined uniform system for evaluating proposals and for otherwise determining the merits of preferred vendors within the industry.

- Undertake a due diligence process that evaluates a firm's capabilities, organization, track record, institutional expertise and investment philosophy.

- Consider the firm's policies and practices, including those that support diversity in the firm's industry.

- Integrate the potential risk and value impact that environmental, social, and governance ("ESG") factors may have on the CRPTF's investments.

Investment service providers must disclose any third-party fees paid, as defined in Section 3-13j of the Connecticut General Statutes, gifts, conflicts of interests, campaign contributions and other required disclosures in effect at the time of the selection process.

In the selection of investment managers, due consideration shall be given to a firm's demonstrated commitment to supporting diversity of its workforce, its vendors and to the diversity of its industry's future workforce and to affording opportunities for emerging, minority and women-owned and Connecticut-based investment managers, who can provide services consistent with the CRPTF's investment strategy and fiduciary standards, to compete for investment contracts.

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Before the retention of any investment manager, or making a direct investment with an investment manager, the Treasurer will present a recommendation(s) to the IAC for consideration. After such presentation, unless waived by a vote of the IAC, the IAC will have up to 45 days to review and comment upon any proposed contract prior to the execution of a contract by the Treasurer.

Any decision to terminate an investment manager will be consistent with the terms and conditions set forth in contract. The Treasurer will report on the decision to the IAC.

The number of investment managers retained will be subject to considerations regarding reasonable and prudent levels of risk and diversification.

The criteria for the selection of investment managers and direct investments in each CIF will vary according to mandate and asset type. Those criteria are described more fully within Appendix C of this IPS.

C. Investment Performance Evaluation Guidelines

The Treasurer will regularly monitor investment performance of the Trust Funds, CIFs, direct investments and individual investment managers. The CRPTF's custodian will confirm or reconcile its performance data with the investment managers.

For the CIFs and individual investment managers, the Treasurer will use designated benchmarks and the investment guidelines as essential parts of the criteria to monitor investment performance. The investment guidelines, unique to each investment manager, will be incorporated into the investment management contract executed between the Treasurer and such investment manager and may subsequently be amended as mutually agreed upon by both parties.

Investment manager guideline deviations may occur from time to time as a result of market movements or other unanticipated events. Actions will be taken to assess the situation and develop a remedy to resolve the deviation, recognizing that resolution may take time and should be implemented in a manner that limits negative impact on the performance or risk profile of the CRPTF.

Execution of Investment Policy

It is the Treasurer's obligation and responsibility to direct the day-to-day administration of the CRPTF's investment program. Consequently, the Treasurer may establish written procedures for the CRPTF's operations consistent with this IPS. Such procedures shall include a system of internal controls, which will be documented in writing.

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Public Markets Investment Managers

For public markets, investments will be made and monitored within the following framework.

- Development of strategic asset allocation targets for public market asset classes
- Development of a strategic plan, which will establish goals and objectives to achieve the CRPTF asset allocation guidelines and strategic objectives for the asset class
- Development of criteria and procedures for the selection of new public market allocations
- Use of the RFP process to identify managers for selection incorporating due diligence
- Review of terms and conditions with negotiated agreements satisfactory to the Treasurer, including a demonstrated alignment of interest between the manager and the CRPTF
- Monitoring and evaluation of fund managers' performance on an on-going basis, including the application of performance measurement standards for public markets
- Monitoring of manager's compliance with applicable policies as set forth in the appendices to this IPS and/or other requirements under contract

Asset-class structures for public markets are in Appendix C of this IPS.

Private Markets Investment Managers

For private markets, investments will be made and monitored within the following framework.

- Development of strategic asset allocation targets for private market asset classes
- Development of a strategic plan, which will establish goals and objectives to achieve the CRPTF asset allocation guidelines and strategic objectives for the asset class
- Development of criteria and procedures for the selection of new private market commitments
- Screening and tracking of potential private market investments, with status reporting to the Treasurer
- Conducting due diligence as directed by the Treasurer
- Review by the IAC of any proposal to enter into a limited partnership agreement or separately managed account
- Review of terms and conditions with negotiated agreements satisfactory to the Treasurer, including a demonstrated alignment of interest between the manager and the CRPTF
- Monitoring and evaluation of fund managers' performance on an on-going basis, including the application of performance measurement standards for private markets
- Management of any securities distributions to optimize realized proceeds in a timely manner, while considering prevailing market conditions
- Monitoring of manager's compliance with applicable policies as set forth in the appendices to this IPS and/or other requirements under contract

Asset-class structures for private markets are in Appendix C of this IPS.

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Performance Reporting and Monitoring Oversight

The CRPTF's staff may utilize the custodian bank and asset class consultants in the preparation of monthly and quarterly reports of the asset class performance, investment manager performance, and total CRPTF performance for the Treasurer and IAC.

The Chief Investment Officer shall review and approve, on a monthly and quarterly basis, the investment reports for submission to the Treasurer and the IAC.

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Risk Management

The Chief Investment Officer, with input from the Chief Risk Officer and other investment staff, is responsible for devising and implementing the CRPTF's risk frameworks, measuring and monitoring investment risks, providing investment risk control, monitoring compliance with the CRPTF's risk appetite, and otherwise mitigating investment and investment-related risks.

There are many risks the Treasurer must measure and monitor. These include, but are not limited to, capital market risk, investment style risk, concentration risk, volatility risk, liquidity risk, correlation risk, and funding risk. The primary risk to the CRPTF is failing to meet investment objectives over time. This can result either from taking on too much risk and suffering large, unexpected losses or from taking on too little risk and failing to meet the target rate of return objectives.

Risk management does not require the elimination of risk but instead strives to achieve a balance between risk and return. The Treasurer recognizes that the CRPTF must assume some level of risk to achieve desired rates of return. The objective of the CRPTF's risk management program is to ensure that risks taken are evaluated and determined to be appropriate in light of CRPTF's investment objectives and are properly managed.

Goals

The risk management program has the following goals:

- Seek to achieve the desired rate of total return within appropriate levels of risk and liquidity
- Seek to maintain sufficient diversification to reduce the potential for large losses, minimize exposure to unintended risk, and preserve capital
- Provide an integrated process for overall investment risk management on both a consolidated and disaggregated basis
- Select, implement, and maintain risk management tools to provide analyses that inform and support the investment process across portfolios and strategies
- Confirm that external managers have established and will maintain appropriate risk management programs to reduce risks potentially affecting their portfolios.

Risk Framework

To achieve these goals, this policy includes a risk framework, as described in Appendix D, that articulates the risk management approach for the CRPTF. The risk framework outlines the dynamic process by which the Treasurer and CRPTF staff manage risk. The framework may be modified as deemed appropriate to reflect the changing nature of economic conditions and capital markets.

Watch List Monitoring

The Treasurer or a designee will periodically meet with individual investment managers to review performance. Investment managers may make presentations before the IAC.

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Periodically, it may be necessary and in the best interests of the CRPTF to place an investment manager on the Treasurer's "Watch List." The events triggering such placement are generally defined within the relevant contract or agreement, and may include, but not be limited to, significant underperformance relative to its benchmark, turnover of key members of the investment professional staff, and a significant event affecting the investment manager.

Ultimately, the Treasurer will determine whether to (a) continue to monitor performance; (b) remove the manager or partner from the Watch List; (c) invoke various remedies under the applicable contract, which may include, but not be limited to, terminating the manager consistent with their contract, removal of a general partner, and/or sell the CRPTF's interest in the investment.

Other Considerations

This IPS is intended to provide a framework for the investment of the CRPTF, which may be supplemented by additional policies and procedures for each asset class and other investment-related initiatives including, but not limited to: securities lending; emerging managers program; and securities litigation.

- Use of Investment Vehicles**:** Investment is permitted in individual securities, and through other investment vehicles such as, but not limited to, commingled trusts, separate accounts, mutual funds and other pooled asset portfolios, provided they conform to the applicable guidelines and restrictions set forth in the individual investment manager contracts.

- Deviations from investment policy become advisable in consideration of new or unique investment opportunities, which are not specifically addressed in this IPS, as may become available from time to time. The Treasurer may deviate from this policy from time to time, after approval by the IAC, provided that any and all such deviations will enhance the CRPTF's long-term performance and not jeopardize the standards of prudence for the CRPTF as a whole.

- Third party vendors are utilized for the safekeeping of the CRPTF assets, holding the CRPTF assets in custody, valuing plan investments, engaging in securities lending activities and maintaining accurate records of all investments and transactions. All such third party vendors will take direction from the Treasurer or a designee.

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Liquidity & Cash Management

Based on such factors as investment strategy, cash flow and benefit payments, the Treasurer will determine the appropriate allocation to cash equivalents in order to meet the Trust Funds' liquidity needs in the near term. Liquidity requirements will be reviewed regularly to ensure that each of the CRPTF's policies and practices are structured so as to accommodate changing liquidity needs.

Rebalancing Policy

The CRPTF may deviate from the asset allocation targets from time to time, by virtue of capital markets activity, other unanticipated events, as well as cash flow requirements of individual Trust Funds. Consequently, the Treasurer will monitor asset allocation on at least a quarterly basis to determine and ensure rebalancing is appropriately implemented.

The Chief Investment Officer may initiate a discretionary rebalancing at any time. Remedies to resolve such deviations will be implemented in a manner that minimizes negative impact to the performance or risk profile of the CRPTF. At least annually, the IAC will review the CRPTF's current asset allocation. If rebalancing is initiated, a plan is developed whereby specific dollar amounts will be considered for movement based on the degree of the over/underweight in the various asset classes, liquidity characteristics and current market conditions.

The CRPTF's rebalancing procedures reflect the following considerations:

1. Trading costs directly impact overall performance. The CRPTF therefore controls the frequency of rebalancing and employs methods that keep trading costs to a minimum.

2. Rebalancing on a periodic basis, with volatility-based trigger points, is the best choice for limiting tracking error caused by the variance between the CRPTF's actual and target asset allocation while minimizing trading-related transaction costs and disruption to the management of the CRPTF.

Environmental, Social and Governance Factors

The Treasurer and the CRPTF's investment team consider environmental, social and governance ("ESG") factors in its investment processes because they can materially influence both risk and return, and can impact the sustainability, value and performance of the CRPTF's investments over the long term. The relevance of ESG may differ and vary in degree across companies, sectors, regions, asset classes and over time.

Accordingly, consistent with the Treasurer's fiduciary responsibilities to act in the best interests of the members, retirees and beneficiaries of the CRPTF, the Treasurer will: (1) maintain an active corporate governance program for the CRPTF's publicly traded equity investments, with due consideration to ESG issues; and (2) incorporate relevant ESG issues into the investment analyses and decision-making processes in investment programs.

Investment recommendations in all asset classes will include information on and consideration of a manager's ESG policies and practices, focusing on the risks and standards relevant to the investment under consideration.

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CRPTF's Guidelines for Restricted Investments and Proxy Voting Policies

Restricted Investments:

The Treasurer may prohibit investment of CRPTF assets in particular securities, types of securities, or companies pursuant to statutory investment restriction authority (see below) and/or based on the following determination:

- One or more risk factors that may impact profitability and long-term shareholder value
- Risks run counter to the goals and objectives of the CRPTF to provide investment income and appreciation in line with the long-term liabilities that the CRPTF is designed to support; and
- Prohibition will not adversely or materially impact the CRPTF's risk/return profile.

Foreign Policy and National Interests of the United States:

Statutory Investment Restriction Authority. Certain Connecticut statutes provide guidance to the Treasurer when making investment decisions, have been incorporated into the investment process and are reflected in all contracts under which CRPTF funds are invested. Appendix F, *Policy for Implementation of Investment Restrictions*, sets forth the process by which the Treasurer implements investment restrictions.

CRPTF's Policy on Proxy Voting

Shareholder activity is among the fiduciary duties of the Treasurer as trustee of the CRPTF. Consequently, fiduciaries have a responsibility to vote proxies on issues that may affect the value of the shares held in a portfolio since proxies are considered plan assets and have economic value.

The Treasurer may determine, where appropriate, that certain shareholder activities, such as the active monitoring and communication with corporate management, should be undertaken to enhance the economic value of plan assets. Such circumstances for shareholder activity should be considered appropriate when investments are expected to be held on a long-term basis.

Proxy voting policies are set forth in Appendix G of this IPS. Any delegation of proxy voting by the Treasurer, either to external money managers or a proxy voting service, shall be consistent with said policies.

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Appendix A – Policy Target and Benchmarks for the CRPTF

Asset allocations reflected below represent long term policy targets for the retirement plans. Trust Funds may contain specific allocations based on individual profiles, risk tolerance and return expectations. Trust Funds' specific policy targets, ranges and benchmarks are found in Appendix B of this IPS.

Composite / Asset Class	Long-Term Policy Target
Global Equity	37%
Core Fixed Income	13%
Public Credit	2%
Private Credit	10%
Absolute Return	5%
Private Equity	15%
Real Estate	10%
Infrastructure and Natural Resources	7%
Liquidity (Cash Equivalents)	1%
Total	**100%**

Composite / Asset Class	Benchmark
Global Equity	MSCI All Country World IMI Net Index
Core Fixed Income	Blend: Bloomberg Barclays U.S. Aggregate Bond and Bloomberg Barclays U.S. Treasuries Index
Public Credit	Bloomberg Barclays U.S. High Yield 2% Issuer Cap Index
Private Credit	S&P / LSTA Leveraged Loan Index + 150 basis points*
Absolute Return	Blend: Dynamic weighted strategy (HFRX)
Private Equity	Russell 3000 + 250 basis points*
Real Estate	Open End Diversified Core Equity (NFI-ODCE Index)*
Infrastructure and Natural Resources	CPI + 400 basis points*
Liquidity (Cash Equivalents)	U.S. 3-Month T-Bill Index

** Performance comparisons are typically evaluated one quarter in arrears*

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Appendix B -- Detailed Asset Allocations for Various Trust Funds

As stated in *Investment Objectives*, the Treasurer shall establish an assumed investment rate of return for the CRPTF.

The current assumed investment rate of return is 6.9 percent per annum.

The asset allocation composition for each Trust Fund of the CRPTF, as approved by the IAC, is set forth in Appendix B of this IPS and posted on the website of the Office of the State Treasurer. Currently, the CRPTF includes the following plans and trusts:

- State Employees' Retirement Fund
- Teachers' Retirement Fund
- Connecticut Municipal Employees' Retirement Fund
- Probate Judges' and Employees' Retirement Fund
- State Judges' Retirement Fund
- State's Attorneys' Retirement Fund
- Soldiers' Sailors' and Marines' Fund
- Arts Endowment Fund
- Agricultural College Fund
- Ida Eaton Cotton Fund
- Andrew C. Clark Fund
- School Fund
- Hopemead Fund
- Police and Firemen Survivors' Benefit Fund
- Other Post-Employment Benefits Trust Fund
- Teachers' Retirement Health Insurance Fund
- Participants' Retirement Investment Fund
- Participants' Investment Fund

Investment Objectives

The primary objective of CRPTF investment portfolio is to provide a secure source of retirement income for its beneficiaries. The CRPTF's investment objectives are long-term in nature and have been established based on comprehensive reviews of the capital markets and its underlying current and projected financial requirements, as determined through periodic asset/liability studies.

For certain Trust Funds, the primary objective of the investment portfolio is to provide a secure source of income from a principal amount that will last in perpetuity,

The Treasurer adheres to the principles of capital market theory, which maintains that over the long term, prudent investment risk-taking is rewarded with incremental returns. Consequently, while capital preservation is regarded to be of paramount importance for certain Trust Funds, the Treasurer regards prudent risk-taking as justifiable.

In those instances, the investment objectives are as follows:

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1. To provide a satisfactory current stream of income given current dollars invested
2. To maintain the CRPTF corpus by minimizing erosion of principal due to inflation
3. To maximize returns within reasonable and prudent levels of risk
4. To maintain adequate cash levels to meet the Trust Funds' distribution requirements.

Asset Allocation

The CRPTF's asset mix is established by the Treasurer and the IAC based on capital market theory, the CRPTF's financial requirements and the CRPTF's liquidity needs.

The CRPTF's investment portfolio is overseen by the Treasurer (as sole trustee of the CRPTF) and is invested in accordance with applicable statutory requirements and fiduciary standards.[3]

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[3] See Sections 3-13c and 3-13d of the Connecticut General Statutes.

Teachers' Retirement Fund

Investment Authority

The Teachers' Retirement Fund ("TERF") was established by Public Act 78-208. Fund administration is overseen by The Teachers' Retirement Board, which is within the Office of the State Comptroller for administrative purposes only.

Statement of Purpose

Public Act 78-208 established the TERF for the purpose of providing retirement and other benefits to teachers, their survivors and beneficiaries that have fulfilled the requirements as set forth in the TERF guidelines and Sections 10-183b to 10-183h of the Connecticut General Statutes.

Asset Allocation Target Policy and Relative Ranges

COMBINED INVESTMENT FUND:	TARGET POLICY	LOWER BOUND	UPPER BOUND
CORE FIXED INCOME FUND	**13%**	8%	18%
PUBLIC CREDIT FUND	**2%**	0%	7%
PRIVATE CREDIT FUND	**10%**	5%	15%
PRIVATE INVESTMENT FUND	**15%**	10%	20%
REAL ESTATE FUND	**10%**	5%	15%
INFRASTRUCTURE AND NATURAL RESOURCES FUND	**7%**	2%	12%
ABSOLUTE RETURN FUND	**5%**	0%	10%
LIQUIDITY FUND	**1%**	0%	3%
DEVELOPED MARKET STOCK FUND	**11%**	6%	16%
EMERGING MARKET STOCK FUND	**4%**	0%	9%
DOMESTIC EQUITY FUND	**22%**	17%	27%

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State Employees' Retirement Fund

Investment Authority

The State Employees' Retirement Fund ("SERF") was authorized by Public Act 234 of the 1961 General Assembly and is codified in Section 5-156 et seq. of the Connecticut General Statutes. Beginning in 1981, the SERF's terms and conditions have been the subject of collective bargaining between the State and a coalition of bargaining units representing state employees, commonly known as the State Employees' Bargaining Coalition (SEBAC). Fund administration is overseen by the Office of the State Comptroller and the State Employees Retirement Commission.

Statement of Purpose

Public Act 61-234 re-stated the State Employees Retirement Act and reaffirmed the SERF as the entity that would provide retirement and other benefits to State employees, their survivors and beneficiaries who have fulfilled the requirements as set forth in the SERF guidelines, and as negotiated with SEBAC.

Asset Allocation Target Policy and Relative Ranges

COMBINED INVESTMENT FUND:	TARGET POLICY	LOWER BOUND	UPPER BOUND
CORE FIXED INCOME FUND	**13%**	8%	18%
PUBLIC CREDIT FUND	**2%**	0%	7%
PRIVATE CREDIT FUND	10%	5%	15%
PRIVATE INVESTMENT FUND	**15%**	10%	20%
REAL ESTATE FUND	**10%**	5%	15%
INFRASTRUCTURE AND NATURAL RESOURCES FUND	**7%**	2%	12%
ABSOLUTE RETURN FUND	**5%**	0%	10%
LIQUIDITY FUND	**1%**	0%	3%
DEVELOPED MARKET STOCK FUND	**11%**	6%	16%
EMERGING MARKET STOCK FUND	**4%**	0%	9%
DOMESTIC EQUITY FUND	**22%**	17%	27%

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Connecticut Municipal Employees' Retirement Fund

Investment Authority

The Connecticut Municipal Employees' Retirement Fund ("CMERF") was established by Public Act 191(s. 2) of the 1969 General Assembly. Fund administration is overseen by the Office of the State Comptroller.

Statement of Purpose

Public Act 69-191(s. 2) established the CMERF for the purpose of providing retirement and other benefits to employees and their beneficiaries of participating municipal and local governmental units. The retirement plan permits municipalities with a small number of employees to get the benefit of the so-called "law of averages" by pooling their contributions with those of other municipalities. This pooling of retirement assets by participating municipalities reduces the risk of excessive cost to an individual municipality because of actuarial vagaries in that municipality. CMERF also takes advantage of economies of scale in its investment strategies and assures that the benefits will be uniform among the participating municipalities.

Asset Allocation Target Policy and Relative Ranges

COMBINED INVESTMENT FUND:	TARGET POLICY	LOWER BOUND	UPPER BOUND
CORE FIXED INCOME FUND	**13%**	8%	18%
PUBLIC CREDIT FUND	**2%**	0%	7%
PRIVATE CREDIT FUND	10%	5%	15%
PRIVATE INVESTMENT FUND	**15%**	10%	20%
REAL ESTATE FUND	**10%**	5%	15%
INFRASTRUCTURE AND NATURAL RESOURCES FUND	**7%**	2%	12%
ABSOLUTE RETURN FUND	**5%**	0%	10%
LIQUIDITY FUND	**1%**	0%	3%
DEVELOPED MARKET STOCK FUND	**11%**	6%	16%
EMERGING MARKET STOCK FUND	**4%**	0%	9%
DOMESTIC EQUITY FUND	**22%**	17%	27%

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Probate Judges' and Employees' Retirement Fund

Investment Authority

The Probate Court Retirement Fund ("PROB") was established by Public Act 558(s. 40) of the 1967 General Assembly. Fund administration is through the State Employees' Retirement Commission and the Office of the State Comptroller.

Statement of Purpose

Public Act 67-558(s. 40) established the PROB for the purpose of providing retirement and other benefits to Judges of Probate and Probate Court employees and their beneficiaries.

Asset Allocation Target Policy and Relative Ranges

COMBINED INVESTMENT FUND:	TARGET POLICY	LOWER BOUND	UPPER BOUND
CORE FIXED INCOME FUND	**13%**	8%	18%
PUBLIC CREDIT FUND	**2%**	0%	7%
PRIVATE CREDIT FUND	10%	5%	15%
PRIVATE INVESTMENT FUND	**15%**	10%	20%
REAL ESTATE FUND	**10%**	5%	15%
INFRASTRUCTURE AND NATURAL RESOURCES FUND	**7%**	2%	12%
ABSOLUTE RETURN FUND	**5%**	0%	10%
LIQUIDITY FUND	**1%**	0%	3%
DEVELOPED MARKET STOCK FUND	**11%**	6%	16%
EMERGING MARKET STOCK FUND	**4%**	0%	9%
DOMESTIC EQUITY FUND	**22%**	17%	27%

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State Judges' Retirement Fund

Investment Authority

The State Judges' Retirement Fund ("JURF") was established by Public Act 81-456(S, 5). Fund administration is through the State Employees' Retirement Commission and the Office of the State Comptroller.

Statement of Purpose

The JURF was established for the purpose of providing retirement and other benefits to state judges, family support magistrates, and workers compensation commissioners and their beneficiaries who have fulfilled the requirements set forth in the JURF guidelines.

Asset Allocation Target Policy and Relative Ranges

COMBINED INVESTMENT FUND:	TARGET POLICY	LOWER BOUND	UPPER BOUND
CORE FIXED INCOME FUND	**13%**	8%	18%
PUBLIC CREDIT FUND	**2%**	0%	7%
PRIVATE CREDIT FUND	10%	5%	15%
PRIVATE INVESTMENT FUND	**15%**	10%	20%
REAL ESTATE FUND	**10%**	5%	15%
INFRASTRUCTURE AND NATURAL RESOURCES FUND	**7%**	2%	12%
ABSOLUTE RETURN FUND	**5%**	0%	10%
LIQUIDITY FUND	**1%**	0%	3%
DEVELOPED MARKET STOCK FUND	**11%**	6%	16%
EMERGING MARKET STOCK FUND	**4%**	0%	9%
DOMESTIC EQUITY FUND	**22%**	17%	27%

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State's Attorneys' Retirement Fund

Investment Authority

The State's Attorneys' Retirement Fund ("SARF") was established by Public Act 84-399(S.9.17) Fund administration is through the State Employees Retirement Commission and the Office of the State Comptroller.

Statement of Purpose

The SARF was established for the purpose of providing retirement and other benefits to certain states attorneys and certain public defenders and their beneficiaries who have fulfilled the requirements set forth in the SARF guidelines.

Asset Allocation Target Policy and Relative Ranges

COMBINED INVESTMENT FUND:	TARGET POLICY	LOWER BOUND	UPPER BOUND
CORE FIXED INCOME FUND	**13%**	8%	18%
PUBLIC CREDIT FUND	**2%**	0%	7%
PRIVATE CREDIT FUND	10%	5%	15%
PRIVATE INVESTMENT FUND	**15%**	10%	20%
REAL ESTATE FUND	**10%**	5%	15%
INFRASTRUCTURE AND NATURAL RESOURCES FUND	**7%**	2%	12%
ABSOLUTE RETURN FUND	**5%**	0%	10%
LIQUIDITY FUND	**1%**	0%	3%
DEVELOPED MARKET STOCK FUND	**11%**	6%	16%
EMERGING MARKET STOCK FUND	**4%**	0%	9%
DOMESTIC EQUITY FUND	**22%**	17%	27%

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Policemen and Firemen Survivors' Benefit Fund

Investment Authority

The Policemen and Firemen Survivors' Benefit Fund ("POFI") was established by Public Act 390 of the 1963 General Assembly. Fund administration is through the State Employees Retirement Commission and the Office of the State Comptroller.

Statement of Purpose

The POFI was established for the purpose of providing retirement and other benefits to participants and their beneficiaries who have fulfilled the requirements set forth in the POFI guidelines.

Asset Allocation Target Policy and Relative Ranges

COMBINED INVESTMENT FUND:	TARGET POLICY	LOWER BOUND	UPPER BOUND
CORE FIXED INCOME FUND	**13%**	8%	18%
PUBLIC CREDIT FUND	**2%**	0%	7%
PRIVATE CREDIT FUND	10%	5%	15%
PRIVATE INVESTMENT FUND	**15%**	10%	20%
REAL ESTATE FUND	**10%**	5%	15%
INFRASTRUCTURE AND NATURAL RESOURCES FUND	**7%**	2%	12%
ABSOLUTE RETURN FUND	**5%**	0%	10%
LIQUIDITY FUND	**1%**	0%	3%
DEVELOPED MARKET STOCK FUND	**11%**	6%	16%
EMERGING MARKET STOCK FUND	**4%**	0%	9%
DOMESTIC EQUITY FUND	**22%**	17%	27%

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Agricultural College Fund

Investment Authority

The Agricultural College Fund ("AGRI") is described in Section 10a-115 and 3-40 of the Connecticut General Statutes.

Statement of Purpose

The AGRI dates back to 1862 when funds were received as proceeds from the sale of federal land granted to the States from the federal government. The beneficiary of the congressional grant became the University Of Connecticut School Of Agriculture, with the income from the assets "inviolably appropriated for teaching; principally, the science of agriculture and the mechanical arts." The Treasurer annually transfers a distribution to the University of Connecticut.

Asset Allocation Target Policy and Relative Ranges

COMBINED INVESTMENT FUND:	TARGET POLICY	LOWER BOUND	UPPER BOUND
CORE FIXED INCOME FUND	100%	0%	0%

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Andrew C. Clark Fund

Investment Authority

The Andrew C. Clark Fund ("ACCF") was established by Public Act 261 of the Connecticut General Assembly, May 3, 1917.

Statement of Purpose

The Treasurer was authorized by an act of the Connecticut General Assembly in 1917 to enter into an agreement with the executors of the will of Andrew C. Clark of New Milford, wherein certain proceeds of his estate would be shared equally by the State and the Congregational Home Missionary Society of New York. In his will, Andrew C. Clark bequeathed that one half of his entire estate be held and invested for the same objects and purposes for which the School Fund was established (as described in Article XIII of this Part.)

Asset Allocation Target Policy and Relative Ranges

COMBINED INVESTMENT FUND:	TARGET POLICY	LOWER BOUND	UPPER BOUND
CORE FIXED INCOME FUND	**62%**	57%	67%
LIQUIDITY FUND	**1%**	0%	3%
DEVELOPED MARKET STOCK FUND	**11%**	6%	16%
EMERGING MARKET STOCK FUND	**4%**	0%	9%
DOMESTIC EQUITY FUND	**22%**	17%	27%

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Arts Endowment Fund

Investment Authority

The Connecticut Arts Endowment Fund ("AEF") is established in Section 10-406 of the Connecticut General Statutes.

Statement of Purpose

The AEF was established under the provisions of Public Act 88-355 with the purpose of providing income to support nonprofit arts organizations in Connecticut. In 2017, the General Assembly enacted a spending policy which requires an annual distribution equivalent to four (4) percent of the average market value of the AEF over the preceding three years.

The Treasurer annually advises the Department of Economic and Community Development and the Connecticut Arts Council of the amounts available for distribution to organizations for participation in, promotion, development, acceptance and appreciation of artistic and cultural activities.

Asset Allocation Target Policy and Relative Ranges

COMBINED INVESTMENT FUND:	TARGET POLICY	LOWER BOUND	UPPER BOUND
CORE FIXED INCOME FUND	**33%**	28%	38%
PUBLIC CREDIT FUND	**2%**	0%	7%
PRIVATE CREDIT FUND	**10%**	5%	15%
LIQUIDITY FUND	**1%**	0%	3%
DEVELOPED MARKET STOCK FUND	**16%**	11%	21%
EMERGING MARKET STOCK FUND	**6%**	1%	11%
DOMESTIC EQUITY FUND	**32%**	27%	37%

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Hopemead State Park Fund

Investment Authority

The Hopemead State Park Fund ("HOPE") is established in Section 3-13c of the Connecticut General Statutes.

Statement of Purpose

The HOPE was created pursuant to the August 14, 1964 Last Will and Testament of Charlotte Fuller Eastman of Norwich, Connecticut. Upon the death of H. Louise Fuller in 1975, Mrs. Eastman's last surviving heir, the bequeathed Hopemead Fund ($143,288.18) was paid to the Department of Environmental Protection, as the successor of the Connecticut State Park and Forest Commission. As mandated, these assets were designated for the development of the Hopemead State Park. On March 22, 1976, by mutual agreement of the parties these assets were transferred to the Office of the State Treasurer in order to invest the principal.

Asset Allocation Target Policy and Relative Ranges

COMBINED INVESTMENT FUND:	TARGET POLICY	LOWER BOUND	UPPER BOUND
CORE FIXED INCOME FUND	**62%**	57%	67%
LIQUIDITY FUND	**1%**	0%	3%
DEVELOPED MARKET STOCK FUND	**11%**	6%	16%
EMERGING MARKET STOCK FUND	**4%**	0%	9%
DOMESTIC EQUITY FUND	**22%**	17%	27%

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Ida Eaton Cotton Fund

Investment Authority

The Ida Eaton Cotton Fund ("IECF") is established under the provisions of Section 3-31a of the Connecticut General Statutes.

Statement of Purpose

The New Haven County Cotton Fund as originally established in 1963, mandated that interest income from the principal of the IECF bequest be used to sponsor and encourage industry among the adult blind community. Thus, on behalf of IECF, a distribution is transferred annually to the General Fund for use by the Board of Education Services for the Blind.

Asset Allocation Target Policy and Relative Ranges

COMBINED INVESTMENT FUND:	TARGET POLICY	LOWER BOUND	UPPER BOUND
CORE FIXED INCOME FUND	**62%**	57%	67%
LIQUIDITY FUND	**1%**	0%	3%
DEVELOPED MARKET STOCK FUND	**11%**	6%	16%
EMERGING MARKET STOCK FUND	**4%**	0%	9%
DOMESTIC EQUITY FUND	**22%**	17%	27%

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School Fund

Investment Authority

The School Fund ("SCOL") is established under the provisions of Section 3-40 of the Connecticut General Statutes.

Statement of Purpose

The SCOL was established through an Act of Congress on July 2, 1862 (as was the Agricultural College Fund) from the proceeds of the sale of federal land and was approved by a Special Session of the Connecticut General Assembly in December 1862. The SCOL was originally under the jurisdiction of the Agricultural College of the University of Connecticut but is now within the Department of Education. A distribution is transferred to the Department of Education for general use through the Office of Policy and Management's budget allocation process.

Asset Allocation Target Policy and Relative Ranges

COMBINED INVESTMENT FUND:	TARGET POLICY	LOWER BOUND	UPPER BOUND
CORE FIXED INCOME FUND	**62%**	57%	67%
LIQUIDITY FUND	**1%**	0%	3%
DEVELOPED MARKET STOCK FUND	**11%**	6%	16%
EMERGING MARKET STOCK FUND	**4%**	0%	9%
DOMESTIC EQUITY FUND	**22%**	17%	27%

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Soldiers' Sailors' and Marines' Fund

Description

The Soldiers' Sailors' and Marines' Fund ("SSMF") is established under the provisions of Section 27-140 of the Connecticut General Statutes.

Statement of Purpose

The SSMF was established by an Act of the General Assembly in 1917 and, through numerous revisions, remains obligated to serve the interest of military personnel who were engaged in any of the wars waged by the United States, as specified by statute, who were honorably discharged, or to their spouses, survivors and dependents. The distribution is controlled and accounted for by the American Legion for the purposes of providing food, shelter, clothing and other subsistence payments to applicants under the provisions of Sections 27-138 and 27-140 of the Connecticut General Statutes.

Asset Allocation Target Policy and Relative Ranges

COMBINED INVESTMENT FUND:	TARGET POLICY	LOWER BOUND	UPPER BOUND
CORE FIXED INCOME FUND	**62%**	57%	67%
LIQUIDITY FUND	**1%**	0%	3%
DEVELOPED MARKET STOCK FUND	**11%**	6%	16%
EMERGING MARKET STOCK FUND	**4%**	0%	9%
DOMESTIC EQUITY FUND	**22%**	17%	27%

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State of Connecticut Other Post-Employment Benefits Plan

Investment Authority

A Retiree Health Care Trust Fund (also known as Other Post-Employment Benefits Trust Fund or "OPEB Trust Fund") was established by Public Act 07-1 and was later defined in 2008 by gubernatorial authority as an irrevocable trust. Subsequent agreements in 2009 and 2011 between the State of Connecticut and the State Employees Bargaining Agent Coalition (SEBAC) further addressed the funding for and contractual obligations concerning the OPEB Trust Fund. Administration of other post-employment benefits is through the Office of the State Comptroller.

Statement of Purpose

The OPEB Trust was established for the purpose of supplementing the payment of the costs of health care and other post-employment benefits for retirees of the State of Connecticut retiring after the effective date of SEBAC 2011 and its subsequent revisions.

Asset Allocation Target Policy and Relative Ranges

COMBINED INVESTMENT FUND:	TARGET POLICY	LOWER BOUND	UPPER BOUND
CORE FIXED INCOME FUND	**13%**	8%	18%
PUBLIC CREDIT FUND	**2%**	0%	7%
PRIVATE CREDIT FUND	10%	5%	15%
PRIVATE INVESTMENT FUND	**15%**	10%	20%
REAL ESTATE FUND	**10%**	5%	15%
INFRASTRUCTURE AND NATURAL RESOURCES FUND	**7%**	2%	12%
ABSOLUTE RETURN FUND	**5%**	0%	10%
LIQUIDITY FUND	**1%**	0%	3%
DEVELOPED MARKET STOCK FUND	**11%**	6%	16%
EMERGING MARKET STOCK FUND	**4%**	0%	9%
DOMESTIC EQUITY FUND	**22%**	17%	27%

The investment objectives of the OPEB Trust Fund remain under consideration and will be formalized through the Asset Allocation and Liability Study, actuarial reporting, and other relevant policy considerations that may impact the investment horizon of this Trust Fund.

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Teachers' Retirement Health Insurance Fund

Investment Authority

Teachers' Retirement Health Insurance Fund (also known as "TRHIF" Trust Fund) was established through a series of legislative actions starting with 1978 Public Act 78-208. Fund administration is overseen by The Teachers' Retirement Board, which is within the Office of the State Comptroller for administrative purposes only.

Statement of Purpose

Public Act 78-208 established the TRHIF for the purpose of providing retirement and other benefits to teachers, their survivors and beneficiaries. Series of legislative actions were undertaken in response to the dramatically rising cost of health insurance during the 1970's and retired members sought assistance from the state to meet the cost of their health insurance premiums.

Asset Allocation Target Policy and Relative Ranges

COMBINED INVESTMENT FUND:	TARGET POLICY	LOWER BOUND	UPPER BOUND
CORE FIXED INCOME FUND	**13%**	8%	18%
PUBLIC CREDIT FUND	**2%**	0%	7%
PRIVATE CREDIT FUND	10%	5%	15%
PRIVATE INVESTMENT FUND	**15%**	10%	20%
REAL ESTATE FUND	**10%**	5%	15%
INFRASTRUCTURE AND NATURAL RESOURCES FUND	**7%**	2%	12%
ABSOLUTE RETURN FUND	**5%**	0%	10%
LIQUIDITY FUND	**1%**	0%	3%
DEVELOPED MARKET STOCK FUND	**11%**	6%	16%
EMERGING MARKET STOCK FUND	**4%**	0%	9%
DOMESTIC EQUITY FUND	**22%**	17%	27%

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Participants' Retirement Investment Fund

Investment Authority

The Participants' Retirement Investment Fund was established under authority of the Office of the Treasurer pursuant to Article Four, Section 22 of the Connecticut State Constitution and Title 3 of the Connecticut General Statutes. In general, the Treasurer is responsible for the safe custody of the property and money belonging to the State.

Statement of Purpose

Special Session Public Act 21-2 allowed municipalities to invest the assets of their pension, retirement or other postemployment health and life benefit systems in any trust fund administered, held or invested by the Treasurer. Pursuant to such authorization, the Participants' Retirement Investment Trust Fund was established.

Asset Allocation Target Policy and Relative Ranges

COMBINED INVESTMENT FUND:	TARGET POLICY	LOWER BOUND	UPPER BOUND
CORE FIXED INCOME FUND	**13%**	8%	18%
PUBLIC CREDIT FUND	**2%**	0%	7%
PRIVATE CREDIT FUND	10%	5%	15%
PRIVATE INVESTMENT FUND	**15%**	10%	20%
REAL ESTATE FUND	**10%**	5%	15%
INFRASTRUCTURE AND NATURAL RESOURCES FUND	**7%**	2%	12%
ABSOLUTE RETURN FUND	**5%**	0%	10%
LIQUIDITY FUND	**1%**	0%	3%
DEVELOPED MARKET STOCK FUND	**11%**	6%	16%
EMERGING MARKET STOCK FUND	**4%**	0%	9%
DOMESTIC EQUITY FUND	**22%**	17%	27%

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Participants' Investment Fund

Investment Authority

The Participants' Investment Fund was established under authority of the Office of the Treasurer pursuant to Article Four, Section 22 of the Connecticut State Constitution and Title 3 of the Connecticut General Statutes. In general, the Treasurer is responsible for the safe custody of the property and money belonging to the State.

Statement of Purpose

Public Act 21-111 established the Connecticut Baby Bond Trust, and Public Act 22-118 delayed its effective date to July 1, 2023. The Trust is authorized to receive and invest funds, the corpus and earnings of which may be distributed on behalf of eligible classes of individuals born on or after July 1, 2023, for statutorily prescribed expenditures that are proven to build wealth and reduce inequality. The Trust has been created to accommodate other non-retirement investment needs of the state and other organizations as designated by the Treasurer.

Asset Allocation Target Policy and Relative Ranges

COMBINED INVESTMENT FUND:	TARGET POLICY	LOWER BOUND	UPPER BOUND
CORE FIXED INCOME FUND	**13%**	8%	18%
PUBLIC CREDIT FUND	**2%**	0%	7%
PRIVATE CREDIT FUND	10%	5%	15%
PRIVATE INVESTMENT FUND	**15%**	10%	20%
REAL ESTATE FUND	**10%**	5%	15%
INFRASTRUCTURE AND NATURAL RESOURCES FUND	**7%**	2%	12%
ABSOLUTE RETURN FUND	**5%**	0%	10%
LIQUIDITY FUND	**1%**	0%	3%
DEVELOPED MARKET STOCK FUND	**11%**	6%	16%
EMERGING MARKET STOCK FUND	**4%**	0%	9%
DOMESTIC EQUITY FUND	**22%**	17%	27%

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Appendix C – Detailed Asset Class Structure

Global Equity

Global Equity's goal is to primarily achieve capital appreciation and, secondarily, achieve a long-term, real rate of return significantly above the inflation rate. The inclusion of global equities will provide a source of diversification to other asset classes within the CRPTF, given the different economic environments.

Asset Class Strategy

To meet the benchmark and fund objectives of each Global Equity sub-asset classes, the Treasurer will utilize a combination of investment styles and strategies. The size, number and styles retained will be determined by the creation of an optimal portfolio that achieves its desired return target, while maintaining acceptable levels of risk and diversification. Asset classes included in Global Equity are Domestic Equity, Developed Markets (ex U.S.) and Emerging Markets. Strategies include, but are not limited to:

- **Passive** – investment strategy that attempts to match the index in terms of performance and risk characteristics.
- **Enhanced Index** – a proprietary investment strategy designed to add incremental return with minimal increase in risk and modest tracking error.
- **Active Core** – investment strategy acutely aware of benchmark-relative exposures (capitalization, style, industries, etc.) and actively seeks performance above that of its benchmark with a normalized tracking error.
- **Active Specialist** – investment strategy acutely aware of benchmark-relative exposures within a Sub-Asset Class (ex: within a particular capitalization, style, or industry) and actively seeks performance above that of its benchmark.
- **Opportunistic** – new, innovative, or proprietary strategies which may not be easily classifiable within traditional categories (e.g. cross-over, activist, hybrid) and could not be currently widely available in the institutional marketplace.

The benchmark for Global Equity is the MSCI All-Country World Investable Market Index (IMI) which captures large-cap, mid-cap and small-cap representation across 23 Developed Markets (DM) and 24 Emerging Markets (EM) countries. This index covers approximately 99% of the global equity investment opportunity set.[4]

Asset Class Characteristics

The following are some of the most-commonly referenced characteristics of Global Equity: market capitalization, geographic regions, sectors, active/passive strategies and liquidity.

- Market capitalization: Dissection could occur across any of the market capitalization segments, for example, large-cap, mid-cap, small-cap and micro-cap.

[4] MSCI.

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- Geographic regions: Dissection could occur via investing in regions in the US markets, Developed Markets (ex. US), and Emerging Markets. More detailed information at the country level is also utilized. Asset class-level regional and country allocations are the result of the bottom-up allocations of managers in the portfolio.

- Sectors: GICS sectors are used in the US, developed and emerging markets. Asset-class sector and industry allocations are the result of the bottom-up allocations of managers in the portfolio.

- Active/passive strategies: Passive strategies are utilized in investments considered to be more "efficient", where the "information edge" is noticeably smaller than it is in other investment areas. Active strategies are used for less efficient investments.

- Liquidity: Public equity asset classes tend to consist of publicly-traded securities that have higher liquidity than other asset classes. As such, there are liquidity variations within public equities depending on, for example, region/country and market capitalization.

Portfolio Construction Considerations

The number of investment managers retained will be minimized subject to considerations regarding reasonable and prudent levels of risk and diversification.

As noted in the Risk Framework section in this IPS, general diversification and concentration limits for "liquid" asset classes include the size of each sub-manager portfolio and the number of sub-manager portfolios utilized within the CRPTF.

Investment vehicles tend to be separately managed accounts ("SMAs") within a fund-of-funds structure, which provides the desired level of control for CRPTF.

Risk Considerations

Measures such as liquidity, tracking error, active shares and correlations are considered. Passive manager allocations are considered a source for reducing active risk. Diversification restrictions are implemented where security size could be limited based on security type (e.g. short-term, depository receipts), percentage of the total fund, or total outstanding equity capital.

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Core Fixed Income

Core Fixed Income's goal is primarily to preserve capital and secondarily to provide current income to the CRPTF. The inclusion of fixed income will provide a source of diversification to other asset classes within the CRPTF given the different economic environments.

Asset Class Strategy

To meet the benchmark and fund objectives, the Core Fixed Income asset class will utilize a combination of investment styles and strategies. The size, number and styles retained will be determined by the creation of an optimal portfolio that achieves its desired return target, while maintaining acceptable levels of risk and diversification.

- **Passive** – investment strategy that attempts to match the index in terms of performance and risk characteristics. Passive strategies may be used across all styles of fixed income portfolios.
- **Active Core** – investment strategy aware of benchmark-relative exposures (*sector, sub-sector, duration, convexity and yield curve positioning, etc*.) and actively seeks performance above that of its benchmark with an acceptable tracking error.
- **Active Sector** – investment strategy acutely aware of benchmark-relative exposures within a Sub-Asset Class (*sector, sub-sector, duration, convexity and yield curve positioning, etc*.) and actively seeks performance above that of its benchmark.

The benchmark for Core Fixed Income is a blend of the Bloomberg Barclays U.S. Aggregate Bond and the Bloomberg Barclays U.S. Treasuries Indices.

Core Fixed Income has many characteristics with the following being those characteristics that are given the most attention:

- Sector – fixed income sectors include, but are not limited to, the following types of securities: US Government, corporate, securitized, municipal, and foreign government.
- Subsector – fixed income subsectors further define the industry, collateral, structure, and degree of government guarantee.
- Duration – the interest rate sensitivity of the portfolio. This is often represented by a singular sensitivity number and may include where the portfolio is invested across maturity ranges.
- Rating – credit ratings within core fixed income are those considered investment grade, or higher quality and having default and loss characteristics of higher quality investments.
- Liquidity – liquidity is determined by the ability to buy and sell securities within a sector or subsector. Liquidity ranges from illiquid to extremely liquid and varies from sector to sector.

Portfolio Construction Considerations

The following factors will be considered when creating or rebalancing the Core Fixed Income Fund:

- Number of Managers -The number of investment managers partners retained will be minimized subject to considerations regarding reasonable and prudent levels of risk and

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diversification. However, to avoid manager concentration, core fixed income will utilize a minimum of three (3) managers.

- Manager Allocation – to minimize investment fees, investment mandates (regardless of focus) will generally be a minimum of $100 million and should not generally constitute more than thirty-three percent (33%) of the investment manager's particular strategy for which it is being engaged at the time of investment.
- The benchmark(s) of the portfolio(s) will be selected in such a manner as to represent the broader fixed income market or the appropriate sector of the market (ex. Securitized sector). The portfolio in aggregate will have similar characteristics to the broader fixed income market.
- The portfolio(s) shall consider the interest rate risk (duration) relative to the broader fixed income market and the duration appropriate for the asset class objectives

Investment vehicles tend to be separately managed accounts ("SMAs") within a fund-of-funds structure.

Risk Considerations

- Portfolios will control for duration risk by creating acceptable duration ranges around the benchmark.
- Portfolios will control for quality by creating acceptable deviations from the credit rating(s) of the broader market and/or sector.
- Portfolios will control for liquidity with sector/subsector constraints.
- Additional measures considered include tracking error, asset class, sector, and subsector correlations, convexity, and default status.

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Public Credit

Public Credit's goal is providing high levels of current income as well as capital appreciation. The inclusion of fixed income will provide a source of diversification to other asset classes within the CRPTF given the different economic environments.

Asset Class Strategy

To meet the fund objectives, Public Credit will utilize a combination of investment styles and strategies. The size, number and styles retained will be determined by the creation of an optimal portfolio that achieves its desired return target, while maintaining acceptable levels of risk and diversification.

- **Passive** – investment strategy that attempts to match the index in terms of performance and risk characteristics. Passive strategies may be used across all styles of fixed income portfolios.
- **Active Sector** – investment strategy acutely aware of benchmark-relative exposures within a Sub-Asset Class (*sector, sub-sector, duration, convexity and yield curve positioning, etc*.) and actively seeks performance above that of its benchmark.
- **Active High Yield** – investment strategy is benchmark aware but flexible in pursuit of return and opportunistic investments. Strategy actively seeks performance above that of its benchmark with an acceptable tracking error.
- **Active Emerging Markets** – investment strategy is benchmark aware but flexible in pursuit of return and opportunistic investments.
- **Active Convertibles** - investment strategy is benchmark aware but flexible in pursuit of return and opportunistic investments. Strategy actively seeks performance above that of its benchmark with an acceptable tracking error.

The benchmark for Public Credit is the Bloomberg Barclays U.S. High Yield 2% Issuer Cap Index.

Asset Class Characteristics

Public Credit has many characteristics with the following being those characteristics that are given the most attention:

- Sector – fixed income sectors include, but are not limited to, the following types of securities: US Government, corporate, securitized, municipal, and foreign government.
- Subsector – fixed income subsectors further define the industry, collateral, structure, and degree of government guarantee.
- Duration – the interest rate sensitivity of the portfolio. This is often represented by a singular sensitivity number and may include where the portfolio is invested across maturity ranges.
- Rating – credit ratings within public credit are those generally considered below investment grade which have default and loss characteristics of higher risk investments.
- Liquidity – liquidity is determined by the ability to buy and sell securities within a sector or subsector. Liquidity ranges from illiquid to extremely liquid and varies from sector to sector.
- Equity Sensitivity – the sensitivity to changes in the equity of issuing entities and the valuation of the underlying fixed income securities.

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Portfolio Construction Considerations

The following factors will be considered when creating or rebalancing the Core Fixed Income Fund:

- Number of Managers -The number of investment managers retained will be minimized subject to considerations regarding reasonable and prudent levels of risk and diversification. However, to avoid manager concentration, public credit will seek to utilize a minimum of two (2) managers in each active strategy.
- Manager Allocation – to minimize investment fees, investment mandates (regardless of focus) will generally be a minimum of $100 million and should not generally constitute more than thirty-three percent (33%) of the investment manager's particular strategy for which it is being engaged at the time of investment.
- The benchmark(s) of the portfolio(s) will be selected in such a manner as to represent the strategy being employed. The portfolio in aggregate will have similar characteristics to the broader fixed income market.
- The portfolio(s) shall consider the characteristics of each style employed, the correlation among and between styles, and the aggregated characteristics in order to achieve the expected risk and return profile.

Risk Considerations

- Portfolios will control for duration risk by creating acceptable duration ranges around the benchmark.
- Portfolios will control for quality by creating acceptable deviations from the credit rating(s) of the focus market and/or sector.
- Portfolios will control for liquidity with sector/subsector constraints.
- Additional measures considered include tracking error, asset class, sector, and subsector correlations, equity sensitivity, convexity, leverage, capital seniority and default status.

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Absolute Return

The Absolute Return (AR) asset class serves as a vehicle for strategies that provide diversification benefits and are not easily classified, categorized, or described in the other asset classes of the CRPTF.

Historically, the AR asset class has been focused on a broad set of investments that target absolute return mandates utilizing hedge fund vehicles. The current implementation of the AR asset class operates as a diversifier to the overall CRPTF.

Asset Class Strategy

The asset class strategy for AR will focus on absolute returns premia. The term “absolute return” is used to denote strategies that focus on the generation of positive returns over market cycles. The expectation is that an AR strategy will generate a positive return when the market within which it is investing experiences periodic negative returns. As such, AR is expected to have low correlation to traditional markets (i.e., equity, fixed income and/or subclasses thereof).

These are the various types of strategies in the AR asset class

Strategy	Description
Equity-Linked	Investment managers maintain positions both long and short in primarily equity and equity derivative securities.
Credit-Linked	Investment managers seek to profit from the realization of a valuation discrepancy in the relationship between multiple credit-linked securities.
Event Driven	Investment managers that hold positions in companies currently or prospectively involved in corporate transactions of a wide variety including, but not limited to, mergers, restructurings, financial distress, tender offers, shareholder buybacks, debt exchanges, security issuance or other capital structure adjustments.
Derivatives	Investment managers trade a broad range of strategies predicated on movements in underlying economic variables and the impact these have on equity, fixed income, currencies and other derivative instruments.
Multi-Strategy	Investment managers in this strategy use any combination of the strategies noted above in an attempt to produce returns in any market condition.

The AR strategy will focus on, but not be limited to, Risk Mitigating Strategies or "RMS" designed to provide the CRPTF with robust diversification benefits and defensive characteristics relative to the growth exposures in the portfolio (equities or credit allocations).

The RMS strategy will be the main strategy for the AR asset class and will incorporate, but not be limited to, the following:

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Strategy for RMS	Description
Long Term Treasuries	Fixed-rate US dollar denominated debt that serves as a defensive exposure
Trend Following	Systematic processes based to invest on the direction of various market asset classes like equities, rates, bonds, currency, commodities using futures contracts
Global Macro	Exposures that target macroeconomic conditions utilizing top-down views and economic analyses leveraging both long and short strategies with various degrees of leverage and instruments
Long Volatility & Tail Risk Hedging	Derivatives on asset classes that benefit from increased volatility in the underlying assets
Alternative Risk Premia	Strategies that benefit from non-traditional risk premia factors such as carry, value, momentum, low-volatility and quality factors.

The benchmark for Absolute Return is Dynamic weighted strategy (HFRX).

Asset Class Characteristics

The AR asset class will have a defensive characteristic in the CRPTF providing downside protection during equity market downturns while potentially yielding a lower expected return during up equity markets.

Liquidity - AR investment vehicles have initial lock-up provisions that are demanded by an investment manager to ensure that a sufficient level of capital is available to support the manager's investment strategy. The AR will strive to minimize its exposures to such requirements. For the AR's investments in funds with lock-up provisions, exposure to investments with lock-up provisions greater than one year but less than five years will be limited to 10% of the target allocation to AIF. The balance of the ARs exposure to funds with lock-up provisions will have minimum lock-up of one year or less with redemption periods of no less than once per year.

Under no circumstances will liquid investment strategies be permitted in vehicles or structures that require a commitment of capital of more than 10 years.

Investment in limited partnership vehicles with standard expiration and extension provision are permissible and are not included as part of the liquidity parameters noted above.

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Portfolio Construction Considerations

Investment Vehicles: AR investments will generally be made in both private and public investment manager mandates including the following:

- Commingled funds
- Limited partnerships
- Limited Liability Companies
- Offshore corporations
- Managed accounts
- Fund-of-One mandates
- Fund of Funds mandate

Risk Considerations

- Investment managers will adhere to the investment strategy, diversification limits and administrative guidelines described in their investment management agreements, private placement memorandum and related contracts
- Investment managers will be required to ensure that all AR investments adhere to all limitations imposed by Connecticut General Statutes and/or federal law
- The correlation of the AR portfolio to CRPTF's target asset allocation is expected to be less than 0.40 over a cycle
- No more than 20% of the AR's policy target allocation should be invested in any one investment vehicle

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Private Markets Asset Classes

Private Markets consists of Private Equity, Private Credit, Real Estate, Infrastructure and Natural Resources. A broad set of asset class strategies and characteristics apply across these investments and are described in this section. These are further refined within each asset class description that follows.

Private Markets Asset Classes will invest in various private strategies and vehicles in order to meet the CRPTF's asset allocation guidelines. The investments will generally be made in externally managed limited partnerships or through separate accounts that focus on private investments as well as through co-investments. In addition, Fund interests may be acquired and divested through secondary or other transactions.

Portfolio Construction Considerations for Private Markets Asset Classes

Private Markets investments will generally be made in partnerships with the CRPTF as a limited partner and the investment manager serving as the general partner. The investment managers' discretion regarding the selection of underlying investments in the partnership will be limited by the Treasurer's exercise of his/her duty to consider the consequences of such discretion in accordance with state laws and as may be addressed in the IPS.

The following investment vehicle structures will be considered eligible for CRPTF's portfolio:

- **Primary Funds:** Investment vehicles that generally invest in directly negotiated equity, debt or other securities issued by privately held entities. The fund manager has discretion, subject to investment guidelines, to invest the capital committed to the vehicle by its investors, or limited partners.

- **Secondary Funds:** Investment vehicles that purchase interests in (i) primary investment funds from other limited partners, or (ii) assets in existing investment funds.

- **Fund-of-Funds:** Investment vehicles that make capital commitments to primary funds managed by independent fund managers.

- **Separate Accounts:** The CRPTF may seek to establish customized investment vehicles where it is the only investor in the vehicle and an investment manager is retained to invest capital on behalf of the CRPTF.

- **Direct and Co-Investments:** The CRPTF, or a designated partner investing on its behalf, may invest in a company directly or through a co-investment made alongside an investment manager.

Risk Considerations for Private Markets Asset Classes

Each Private Asset Class will be diversified with respect to strategy, manager and fund, vintage year, geography, industry, and stage. Given the illiquid nature of private equity investments, attempting to "time the market" is not a realistic alternative. The CRPTF will seek to make Private Markets commitments on a steady, annual basis.

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As described below, diversification factors will help provide maximum return and safety of principal for the Private Markets portfolios. Each Private Markets portfolio will be diversified by the relevant strategies identified in the specific asset class section.

Manager and Fund Diversification for Private Markets Asset Classes

To avoid undue exposure to individual managers or funds, the Private Markets investments will also adhere to the following diversification guidelines:

- The CRPTF's capital commitment to an investment vehicle shall not exceed thirty-three percent (33%) of the total capital commitments to the investment vehicle, unless the vehicle is specifically structured such that the CPRTF is intended to be the only investor, or one of a small number of investors, in the vehicle.
- The CRPTF's investment(s) with any one manager may not exceed twenty percent (20%) of that manager's total assets under management as measured by unfunded commitments and market value.
- No more than 25% of the CRPTF's exposure in each Asset Class should be managed by one investment management firm, with exposure defined as the sum of market value and unfunded capital commitments.

Vintage Year Diversification

Private Markets commitments will be made at a steady, annual pace to avoid excessive under or overexposure to any one vintage year. This policy will have the effect of dollar cost averaging the investments over business cycles and will help insulate the portfolio from event risk.

Geographical Diversification

One measure of diversification is by geographical location of the underlying portfolio companies and/or assets. Over the long term, each Private Markets portfolio should seek portfolio diversification to both developed and developing geographic regions. However, in certain situations, geographically targeted strategies may be appropriate for the portfolio.

Industry & Sector Diversification

The Private Markets portfolios will also seek to diversify by industry sector at the overall portfolio level, through a combination of investments with sector-focused managers as well as those that invest more opportunistically across a number of industry sectors.

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Private Credit

The Private Credit Fund ("PCF") will invest in direct and indirect debt investments in order to meet the CRPTF asset allocation guidelines for Private Credit. The purpose of the PCF is to generate attractive, risk-adjusted returns in excess of public debt investments by capturing an illiquidity premium and certain market inefficiencies relative to public debt markets. The PCF is expected to contribute to the diversification of the CRPTF's overall portfolio through investments having lower correlations to other asset classes.

The benchmark for the PCF portfolio is the S&P/LSTA Leveraged Loan Index plus a 150 basis points premium. Due to vintage year impacts, valuation methodologies and illiquid nature of private investments, comparisons relative to the benchmark are best measured over a period of five-years or more.

Asset Class Strategy

The PCF will invest in a diversified portfolio of yield-oriented credit strategies, where returns are expected to be generated through current income and capital preservation, as well as total return strategies, which may also generate capital appreciation opportunities. The PCF investments will generally be made in externally managed limited partnerships or through separate accounts that focus on private debt strategies, which may include senior credit, mezzanine debt, credit opportunities, special situations, and specialty finance investments.

Asset Class Characteristics

The PCF will invest in credit-related strategies not available through other asset classes and may include senior, mezzanine, special situations, and distressed credit strategies as outlined below.

- **Senior Credit** strategies involve providing senior debt directly to borrowers, most often through directly originated and negotiated transactions. Senior debt instruments generally include a senior secured interest in the borrower's assets or cash flow. Variations may include second-lien and uni-tranche investment strategies, which generally may be higher risk than first lien, secured lending strategies.

- **Mezzanine or Subordinated Debt** managers generally focus on loans that are subordinated to a borrower's senior debt but have a priority interest over equity interests. Mezzanine debt is often used in conjunction with senior debt to finance growth initiatives, leveraged buyouts, recapitalizations, or acquisitions.

- **Special Situations** may include strategies such as opportunistic or specialty credit. Opportunistic credit managers generally seek to generate attractive risk-adjusted returns by providing debt capital needed as a result of specific conditions such a borrower's impaired liquidity or short-term market dislocations. Specialty finance investors generally focus on specific market niches requiring industry expertise, including aviation finance, pharmaceutical and music royalties, non-performing loans, etc.

- **Distressed Debt** managers typically target the purchase of discounted debt securities, which may result from borrower specific challenges or broader market conditions. Distressed debt

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strategies may vary from those focused on returns through the expected improvement in a borrower's financial condition to those focused on acquiring distressed debt as a means to negotiate a favorable refinancing or restructuring to generate targeted returns.

The PCF may also invest in any opportunistic investment strategy approved by the Treasurer as an eligible investment.

As outlined in the Private Markets section, Private Credit investments may be accessed through primary, secondary, and co-investment opportunities.

Portfolio Construction Considerations

In addition to the parameters outlined in the *Private Markets* section, the PCF portfolio will seek to be diversified by investment strategy, risk and liquidity profile, manager, and underlying asset or sector-level exposures. In accordance with the CRPTF's investment strategy of achieving risk mitigation through the construction of well-diversified portfolios, the PCF will target the following exposures to private credit strategies. The strategy targets shown below are based on the PCF's percentage of total exposure, defined as market value plus unfunded commitments.

Strategy	Lower Range %	Upper Range %
Senior	30%	70%
Mezzanine	0%	30%
Special Situations	0%	40%
Distressed	0%	20%

The PCF's investments will be primarily focused on credit-related strategies; however, certain strategies may provide the PCF with equity or equity-like exposure through equity participation, conversion rights, or the restructuring of debt instruments into equity interests. To avoid excessive equity risk, the PCF will avoid investment strategies where significant standalone equity investments would be expected. In addition, the PCF will be managed to limit overall equity exposure to 30% or less of the PCF's total portfolio.

Risk Considerations

In addition to the Risk Considerations outlined in the *Private Markets* section above, additional Private Credit risk factors that will be managed and monitored include, but are not limited to, sector and geographic exposures. To address these risks, the PCF's portfolio will seek to be diversified with respect to manager, strategy, vintage year, geography, and industry exposure. These diversification objectives will be managed and monitored through the PCF's strategic plan, which will identify the appropriate pace and level of commitments to achieve strategy, vintage year, geographic, and sector diversification and liquidity objectives.

The PCF's geographic exposure will be focused on investments made in developed economies to limit exposures to undue market, currency, or political risk. Allocation to emerging markets should be considered within the context of the PCF's total portfolio and be limited to 10% or less of the total PCF exposure.

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Private Equity

The Private Investment Fund ("PIF") will invest in various Private Equity strategies and vehicles in order to meet the CRPTF asset allocation guidelines for Private Equity. The purpose of the PIF is to generate attractive risk-adjusted rates of return through investments in private companies and earn returns in excess of the public equity markets over the long-term. The PIF is also expected to reduce the impact of market volatility by diversifying the total asset base by providing the CRPTF with exposure to investment opportunities not available through public market investments.

The benchmark for the PIF portfolio is the Russell 3000 plus a 250-basis point premium, while the expected rate of return of individual investments within PIF may vary based on the particular investment strategy deployed. Due to vintage year impacts, valuation methodologies and illiquid nature of private investments, comparisons relative to the benchmark are best measured over a period of five-years or more.

Asset Class Strategy

The PIF will invest in various Private Equity strategies and vehicles, with a particular focus on Venture Capital and Corporate Finance investment strategies. Venture Capital typically involves equity capital invested in young or development stage companies, whether start-up, early, mid or late stage companies. Corporate Finance typically involves equity and debt capital invested in growth, mature or distressed stage companies, often through the financing of acquisitions, spin-offs, mergers, or changes in capitalization.

Private Equity investments will generally be made in partnerships with the CRPTF as a limited partner and the investment manager serving as the general partner. The Private Equity investment managers execute active strategies that are subject to the investment guidelines agreed to between the manager, the CRPTF, and other investors in the investment vehicle.

Asset Class Characteristics

The following Corporate Finance private equity strategies will be considered eligible for CRPTF's portfolio:

- Buyouts
- Growth equity
- Mezzanine and structured capital
- Turnround, distressed, restructuring, and special situations
- Any opportunistic investment strategy approved by the Treasurer as an eligible investment.

The following Venture Capital private equity strategies will be considered eligible for CRPTF's portfolio:

- Early, mid, late and balanced stage venture capital
- Any opportunistic investment strategy approved by the Treasurer as an eligible investment.

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As outlined in the *Private Markets* section, Private Equity investments may be accessed through primary, secondary, and co-investment opportunities.

Portfolio Construction Considerations

In addition to the parameters outlined in the *Private Markets* section, the following sub-allocation targets to Corporate Finance and Venture Capital investments will be utilized to allocate capital where there is the greatest opportunity for enhanced return while managing overall portfolio risks through diversification. The sub-allocation targets shown below are based on the PIF's percentage of total exposure, defined as market value plus unfunded commitments.

	Lower Range %	**Upper Range %**
Corporate Finance	70	100
Venture Capital	0	30

Risk Considerations

In addition to the Risk Considerations outlined in the *Private Markets* section above, additional Private Equity risk factors that will be managed and monitored include, but are not limited to sector, development stage and geographic exposures. These diversification objectives will be managed and monitored through the implementation of the PIF's strategic plan, which will identify the appropriate pace and level of commitments to achieve strategy, vintage year, geographic, and sector diversification and liquidity objectives.

The PIF will consider sector agnostic as well as sector-focused strategies to provide the portfolio with diversified exposure across economic sectors.

Stage diversification refers to investments made in companies at various stages of the business life cycle, including start-up, growth, and established stages where different financial and business strategies are utilized. The PIF will be well diversified by stage through commitments made to managers focusing on investments in companies at early, expansion and mature development stages.

The PIF's geographic exposure will be focused on investments made in developed economies to limit exposures to undue market, currency, or political risk. Allocation to emerging markets should be considered within the context of the PIF's total portfolio and be limited to 10% or less of the total PIF exposure.

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Real Estate

The Real Estate Fund's ("REF") strategic objectives are to provide diversification to the overall CRPTF investment program, preserve investment capital and generate attractive risk-adjusted rates of return. In addition to providing current income and the potential for capital appreciation, real assets provide at least two primary benefits to a diversified plan. First, real estate assets have low correlation to equities and fixed income markets and should thereby provide diversification benefits to the CRPTF. Real estate is also designed to yield an inflation-adjusted or positive "real" return.

Asset Class Strategy

The REF will invest in various strategies and vehicles, with a particular focus on Real Estate Investment strategies. Real Assets investments will generally be made in partnerships with the CRPTF as a limited partner and the investment manager serving as the general partner; in open end or closed end diversified funds; directly in the form of limited partnership or other appropriate limited liability vehicle and for which the CRPTF is the sole investor or through publicly traded portfolios. The Real Estate investment managers execute active strategies that are subject to the investment guidelines agreed to between the manager, the CRPTF, and other investors in the investment vehicle.

The Real Estate Portfolio will be sub-divided into two segments: the Core Portfolio and the Non-Core Portfolio.

Under this structure, the strategic objectives of the Core Portfolio are to: (i) produce stable current income; and (ii) generate market level returns commensurate with a low to moderate level of risk. At least 30% of the Real Estate Portfolio will be allocated to the Core Portfolio.

The Non-Core Portfolio is expected to produce higher returns than the Core Portfolio, subject to an incrementally greater amount of risk, thereby enhancing the overall performance of the REF. The Opportunistic Portfolio may offer limited current income and returns are often largely dependent on future appreciation. The Non-Core portfolio can include value-added and opportunistic real estate funds as well as investments in publicly traded real estate, primarily Real Estate Investments Trusts, "REITS". No more than 20% of the Real Estate Fund will be allocated to the Publicly Traded Portfolio.

The benchmark for the real estate portfolio is the NCREIF Open End Diversified Core Equity Index. Due to vintage year impacts, valuation methodologies and illiquid nature of private investments, comparisons relative to the benchmark are best measured over a period of five-years or more.

Asset Class Characteristics

The following real estate investment types will be considered eligible for CRPTF's Real Estate Fund:

- Residential
- Industrial

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- Office
- Retail
- Hotel
- Other niche types which are institutionally invested (ie, self-storage, student housing, data centers, life science)

As outlined in the *Private Markets* section, Real Estate investments may be accessed through primary, secondary, and co-investment opportunities. The REF may invest in open ended funds that have investment and redemption provisions and/or limited partnerships that have fund expiration and extension provisions. The CRPTF will utilize its annual pacing plans and liquidity fund management process to ensure that optimum liquidity is available to manage liquidity needs.

Portfolio Construction Parameters

In addition to the parameters outlined in the *Private Markets* section, the following limits are intended to further limit potential concentrations.

	Lower Range %	Upper Range %
Individual company/property	0%	10%
Country: U.S.	70%	100%
Individual Non-US Country	0%	15%
Individual Metropolitan Area in U.S.	0%	15%
Property Type	0%	40%

Risk Considerations

Risk Considerations that will be managed and monitored include but are not limited to sector and geographic exposures and leverage levels.

To address these risks, REF's portfolio will seek to be diversified with respect to manager, strategy, vintage year, geography, and sector exposure. These diversification objectives will be managed and monitored through the REF's strategic plan, which will identify the appropriate pace and level of commitments to achieve strategy, vintage year, geographic, and sector diversification and liquidity objectives.

The REF's geographic exposure will be focused on investments made in developed economies to limit exposures to undue market, currency, or political risk. Allocation to emerging markets should be considered within the context of the REF's total portfolio and be limited to 5% or less of the total REF exposure.

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Infrastructure and Natural Resources Fund The Infrastructure and Natural Resources Fund's ("INR") strategic objectives are to provide diversification to the overall CRPTF investment program, preserve investment capital and generate attractive risk-adjusted rates of return. In addition to providing current income and the potential for capital appreciation, Infrastructure and Natural Resources Investments provide at least two primary benefits to a diversified plan. First, INR assets have low correlation to equities and fixed income markets and should thereby provide diversification benefits to the CRPTF.

Asset Class Strategy

The INR will be sub-divided into three segments:

- Core Infrastructure
- Non-Core Infrastructure
- Natural Resources

Under these segments, the Core Infrastructure Portfolio is to produce stable current income and generate market level returns commensurate with a low to moderate level of risk. At least 20% of the INR will be allocated to the Core Infrastructure Portfolio.

The Non-Core Portfolio is expected to provide greater levels of appreciation for the CRPTF through enhancements and occasionally development of greenfield or brownfield assets.

The portfolio can include investments in publicly traded Infrastructure or Natural Resources. No more than 20% of the INR will be allocated in publicly traded investments. While most investments in the INR will be equity investments, additional strategies across the capital stack may be implemented.

The benchmark for infrastructure and natural resources is the CPI + 400 basis points. Due to vintage year impacts, valuation methodologies and illiquid nature of private investments, comparisons relative to the benchmark are best measured over a period of five-years or more.

Asset Class Characteristics

INRF will be invested across sectors facilities, services, and installations considered essential to the functioning and economic productivity of a society.

The natural resources portfolio will be invested in land, facilities, services and the acquisition of materials/substances that can be mined, farmed or collected in raw form for economic value.

Investments in Infrastructure and/or Natural resources asset types/segments include and are not limited to:

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Infrastructure	Natural Resources
Communications	Agriculture
Energy Generation, Distribution	Agribusiness
Energy Transportation, Storage	Commodities
IT Services	Food Products
Municipal Buildings and Schools	Metals and Minerals/Mining
Roadways, Bridges, Ports, Airports, Railways	Oil, Gas & Fuels
Transportation	Sustainability Products and Services
Utilities	Timber
Waste	Water

Portfolio Construction Considerations

In addition to the parameters outlined in the Private Markets section, the following limits are intended to further limit potential concentrations.

	Lower Range %	Upper Range %
Individual company/asset	0%	15%
Country: U.S.	50%	100%
Individual Non-OECD Country	0%	20%
Asset Type/Segment	0%	40%

Risk Considerations

Outside of the Parameters above, additional risk factors that will be monitored include, but are not limited to: leverage, construction risk, currency, asset type mix, lease and/or contract expirations, and geographic exposures.

Risk Considerations that will be managed and monitored include, but are not limited to, sectors and geographic exposures. To address these risks, REF's portfolio will seek to be diversified with respect to manager, strategy, vintage year, geography, and sector exposure. These diversification objectives will be managed and monitored through the REF's strategic plan, which will identify the appropriate pace and level of commitments to achieve strategy, vintage year, geographic, and sector diversification and liquidity objectives.

The INRF's geographic exposure will be focused on investments made in developed market to limit exposures to undue market, currency, or political risk. Allocation to non-OECD markets should be considered within the context of the total portfolio and be limited to 30% or less of the total INRF exposure. Wherever possible, investments in non-OECD markets should be dollar or other OECD currency denominated.

As outlined in the Private Markets section, INR investments may be accessed through primary, secondary, and co-investment opportunities The INR may invest in open-end funds that have investment and redemption provisions and/or limited partnerships that have fund expiration and extension provisions. The CRPTF will utilize its annual pacing plans and liquidity fund management process to ensure that optimum liquidity is available to manage liquidity needs.

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Appendix D – Detailed Risk Framework

Introduction

Risk management does not require the elimination of risk but instead strives to achieve a balance between risk and return. The Treasurer recognizes that the CRPTF must assume some level of risk to achieve desired levels of return. The objectives of the CRPTF's risk management framework, are to ensure that risks taken are evaluated and determined to be appropriate in light of the CRPTF's investment objectives and are properly managed.

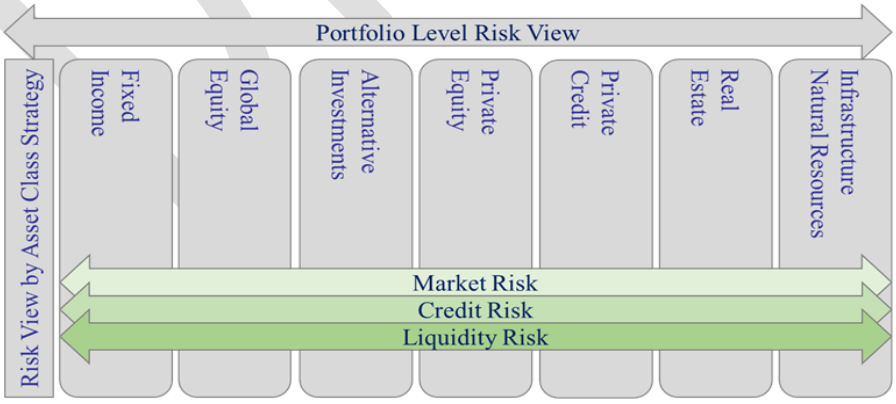
The risk framework is intended to be a dynamic document and may be modified periodically to reflect the changing nature of economic conditions, investing markets, Trust Fund assets, investment programs, and benefit obligations.

Risk Management Approach

Investment decisions are made within a broad and complex risk environment and risks are market dependent. Market-dependent risks are determined by numerous market factors such as interest rates, credit quality, liquidity, and price volatility. For purposes of this framework, risk is defined as the uncertainty that accompanies the CRPTF's investment activities.

CRPTF's risk management approach is concerned with measuring, mitigating, and controlling potential large financial losses associated with unexpected market moves and unanticipated variations in financial conditions. CRPTF Staff manages risk by establishing and adhering to investment guidelines, pursuing multiple approaches to diversification (such as asset class, geography, liquidity profile, currency, and degree of active management), and conducting regular measurement and analytical exercises.

CRPTF's framework takes a Trust Fund level portfolio-wide approach to risk management. This approach has two distinct, although related, dimensions: coordinated risk assessment and management for each asset class strategy; and the integrated evaluation of investment risk across all asset classes.



CRPTF Staff seeks to diligently identify, assess, and monitor relevant investment risks throughout the investment process, from determining its strategic asset allocation to ongoing evaluation and

monitoring of the Fund's exposures and performance. This helps to ensure that risks assumed by the Fund are intentional and adequately compensated. Specific risk management guidelines will be required for each investment manager's underlying investment strategy. Strategy level and aggregate risk exposures of the entire portfolio will be reviewed on a periodic basis and may be managed through a third-party risk aggregator with an analysis of fundamental factors, sector analysis, Value at Risk (VAR) analysis and stress testing. The preponderance of the portfolio will be transparent in terms of the risk profile.

CRPTF measures investment risk using multiple metrics on both an absolute and relative basis at all relevant levels (i.e., total Fund, functional asset categories, and underlying asset classes). CRPTF Staff also strives to employ stress testing, scenario analyses, and broader financial and economic analyses to understand current and potential risks related to its investment strategy and decisions. CRPTF selects appropriate benchmarks to assess and determine whether investment risks taken by the Fund are appropriate in order to achieve expected investment returns.

Goals for Risk Management

- Seek to achieve the desired rate of total return within appropriate levels of risk and liquidity.
- Seek to maintain sufficient diversification to reduce the potential for large losses, minimize exposure to unintended risk, and preserve capital.
- Provide an integrated process for overall investment risk management on both a consolidated and disaggregated basis.
- Select, implement, and maintain risk management tools to provide analyses that inform and support the investment process across portfolios and strategies.
- Confirm that external managers have established and will maintain appropriate risk management programs to reduce risks potentially affecting their portfolios.

Risk Parameters

Liquidity: The CRPTF has liquidity needs based upon net annual benefits withdrawals from the portfolio as well as rebalancing needs and private investment capital calls. Liquidity is evaluated holistically across the portfolio and is primarily based on the following:

- Having adequate net funding to pay beneficiaries
- Rebalance the portfolio and maintain the integrity of the portfolio's asset allocation
- Fund net capital calls for private investments
- Maintaining sufficient funding resources to avoid forced liquidation of assets during periods of market turbulence.

Based upon, but not limited to, the factors listed above, the Treasurer will determine the appropriate allocation to cash equivalents in order to meet the Trust Funds' liquidity needs in the near term. Liquidity requirements will be reviewed regularly by Staff (generally monthly and quarter, as well as daily when necessary) to ensure that each of the CRPTF's policies and practices are structured so as to accommodate changing liquidity needs.

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Leverage: the policy of the CRPTF is to not use leverage in the portfolio, with the exception of approved private and alternative asset classes that prudently use leverage within the underlying active manager's strategy level (fund level) guidelines and risk parameters.

Diversification and concentration risk: CRPTF's investments will be diversified by asset class and strategy to reduce volatility associated with concentrated portfolios and to limit the probability of large losses on individual money managers within the portfolio. Diversification is an important risk mitigant and underpins the structure of the CRPTF as a global, diversified portfolio. It is also important to avoid excessive diversification. Accordingly, the CRPTF will be constructed and maintained to provide prudent diversification among the asset classes in accordance with the asset allocation policy.

Within each asset class, the holdings in aggregate should have broad exposure across geographies, industries, sectors, and styles. Within actively managed portfolios, holdings should be meaningfully different from a passive alternative to justify the higher fees associated with active management and create a higher probability of generating outperformance relative to the appropriate benchmark.

Actively managed portfolios should also be prudently diversified regarding the concentration of holdings in individual issues, corporations, partnerships or industries in accordance with each underlying active manager's strategy level (fund level) guidelines and risk parameters. CRPTF's general diversification and concentration limits are as follows:

- Liquid portfolios: To minimize investment fees, investment mandates (regardless of asset class) will generally be a minimum of $100 million and should not constitute more than 33% of the investment manager's particular strategy for which it is being engaged at the time of investment. However, the Treasurer at his/her discretion and acting in consultation with the IAC may develop programs intended to encourage the development of investment managers who demonstrate the capacity to add value to the CRPTF but may not have the requisite amount of assets under management.
- Private (illiquid portfolios): The CRPTF will be diversified with respect to vintage year, geography, industry, strategy, and stage focus. Given the illiquid nature of private equity investments, attempting to "time the market" is not a realistic alternative. The CRPTF will dollar cost average into the market with new commitments on a steady, annual basis. The CRPTF's commitment should be no more than 33% of the total amount committed to a single commingled fund unless waived.
- Hybrid liquid (alternative) portfolios: The CRPTF's commitment should be no more than 33% of the total amount committed to a single commingled fund unless waived.
- Number of Portfolios: for the purpose of avoiding concentration, all asset classes representing more than 3% of the CRPTF will have at least two managers, which includes internally or externally managed indexed or passive funds.

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Use of Derivatives

Derivative instruments are defined as any contract or investment vehicle whose performance, risk characteristics or value is based on a specific asset, interest rate or index value. The policy of CRPTF is to allow managers in the underlying portfolio (and Staff) to use derivatives to hedge risk and manage exposures, and not to engage in speculation. All other uses of derivatives are prohibited unless specifically approved by the Treasurer and endorsed by the IAC. Money managers are expected to have internal risk management programs in place to ensure that derivatives-based strategies do not result in undue risk to the portfolio.

Currency Exposure and Hedging:

As an investor in international markets, the CRPTF is exposed to the foreign currencies in which securities are denominated. Over the long term, returns of foreign currencies are expected to be zero. The policy of the CRPTF is not to directly hedge currency exposure. Managers with holdings exposed to foreign currencies may hedge currency in accordance with their strategy guidelines and documented policies in the investment management agreement or other contract.

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Appendix E -- Responsible Contractor Policy

I. Introduction

The State of Connecticut Retirement Plans & Trust Funds ("CRPTF" or "the Plan") has a deep interest in the condition of workers employed on behalf of the Plan and its advisors. The Plan, through the Responsible Contractor Policy ("Policy") described below, supports and encourages fair wages and fair benefits for workers employed by its contractors and subcontractors, subject to fiduciary principles concerning duties of loyalty and prudence, both of which further require competitive returns on the Plan's investments in real assets. The Plan endorses small business development, market competition, and control of operating costs. The CRPTF supports many of the ideals espoused by labor unions and encourages participation by labor unions and their signatory contractors in the development and management of its investments in real assets. The Plan believes that an adequately compensated and trained worker delivers a higher quality product and service.

II. Definition of a Responsible Contractor

A Responsible Contractor, as used in this Policy, is a contractor or subcontractor who: (1) pays workers a fair wage and a fair benefit as evidenced by payroll and employee records; and (2) is not debarred by and whose principal officer is not debarred by a municipal, state or federal government. "Fair benefits" are defined as including, but are not limited to, employer-paid family health care coverage, pension benefits, employee safety training, apprenticeship programs and paid time off. What constitutes a "fair wage" and "fair benefit" depends on the wages and benefits paid on comparable projects, based upon local market factors, that include the nature of the project (e.g., residential or commercial; public or private), comparable job or trade classifications, and the scope and complexity of services provided.

For real estate or infrastructure projects that include local, state or federal financing that triggers prevailing wage laws, the Plan supports and requires investment managers to pay such prevailing wages. Responsible contractors recognize the right of all workers to freedom of association in the workplace as protected under local, state and federal law and as recognized by International Labour Organization (ILO) standards (https://www.ilo.org/global/standards/lang--en/index.htm).

III. Initial Requirements of the Responsible Contractor Policy

A. Duty of Loyalty: Notwithstanding any other considerations, assets shall be managed for the exclusive benefit of the participants and the beneficiaries of the CRPTF. The Plan's, as well as its advisors', duty to the participants and their beneficiaries shall take precedence over any other duty.

B. Prudence: The Treasurer, IAC and CRPTF's advisors are charged with the fiduciary duty to exercise the care, skill, prudence and diligence appropriate to the task.

C. Competitive Return: To comply with duties of loyalty and prudence, all investments and services must be made and managed in a manner that produces a competitive risk-adjusted return.

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D. Competitive Bidding: Contractors and their subcontractors for construction, maintenance, and services shall be selected through a competitive bidding and selection process. The purpose of this provision is to encourage fair competition and to actively seek bids from all qualified sources within an area, particularly those identified as Responsible Contractors. Advisors and their subcontractors shall create a bidding process that includes notification and invitations to bid, distributed to a broad spectrum of potential bidders, particularly those identified as Responsible Contractors. The review of the bids shall include considerations of loyalty, prudence, competitive risk-adjusted returns, experience, reputation for honesty, integrity, timeliness, dependability, fees, safety record, and the adherence to the Responsible Contracting Policy.

E. Local, State and National Laws: All advisors, property managers, contractors, and their subcontractors shall observe all local, state, and national laws (including, by way of illustration, those pertaining to insurance, withholding taxes, minimum wage, labor relations, health, and occupational safety).

IV. Selection Preference of a Responsible Contractor

If Initial Requirements A through D (see Section III above) are satisfied, CRPTF expresses a strong preference that Responsible Contractors be hired.

V. Transition, Enforcement, Monitoring and Administration

A. Applicable Investments and Phasing: This Policy shall apply to equity real estate and infrastructure investments. The Policy shall not apply to investments such as mezzanine debt, hybrid debt, joint ventures, opportunity funds, international investments, secondary funds, indirect, specialty, and mortgage investments that lack equity features, and other real estate investments where CRPTF owns 50% or less and/or lacks control of the investment. However, in those instances where CRPTF does not have a majority ownership stake and/or control of the investment, staff will make reasonable attempts to encourage partners to comply with the spirit and practice of Responsible Contracting. In addition, reasonable efforts will be made to include fund managers that have adopted responsible contractor policies and to seek out investment opportunities that have responsible contractor policies in place for investment consideration.

B. Notification: CRPTF shall provide all applicable current and prospective real assets fund advisors with a copy of this Policy, including investments where CRPTF does not have more than 50% ownership and control of the investment.

C. Solicitation Documents: All requests for proposal and invitations to bid covered by this Policy shall include the terms of this Policy. Responses by bidders shall include information to assist the staff in evaluating a bid.

D. Contracts and Renewals: All contracts entered into after the effective date of this Policy and pertaining to applicable real assets investments, including renewals of such contracts, shall include the terms of this Policy.

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E. Responsibilities: The responsibilities of CRPTF's staff, advisors, property managers, contractors, and unions are defined as follows:

1. Staff: CRPTF staff shall have the following responsibilities:
   a. Review the advisors' annual certification reports regarding compliance with the Policy, which reports may be included in overall compliance reports submitted by advisors to CRPTF.
   b. Insert appropriate contract language where applicable.
   c. In those instances where CRPTF does not have more than 50% ownership and control of an investment, make reasonable attempts to encourage partners to comply with the spirit and practice of Responsible Contracting.

2. Advisors: Advisors' responsibilities shall include:
   a. Communicate the Policy to all property managers and incorporate its requirements, including without limitation the property manager requirements under Section V.E.3, into applicable contracts with property managers.
   b. Review a contract listing for each property prepared by each property manager.
   c. Maintain a simplified bid summary for each applicable contract. The summary should include identifying contract, successful bidder, and bidder's status as Responsible Contractor.
   d. Maintain an annual report in their home office, describing their own efforts as well as those by property managers and their subcontractors.
   e. Monitor and enforce the Policy including investigation of potential violations.
   f. Annually, the signatory to the CRPTF contract will submit a report regarding compliance with the Policy, which report may be included in overall compliance reports submitted by the advisor to the CRPTF. At a minimum, the report shall include: (1) a description of any report or investigation into non-compliance to the Policy; and (2) certify that the advisor complied with its responsibilities under the Policy. The advisor, upon request, will provide additional written substantiation of such compliance.
   g. Develop and maintain a list of all CRPTF properties that are more than 50% owned and controlled. The list will include the property name, address, advisor and property manager, and phone number of the property manager and real assets fund advisors.

3. Property Managers: Property managers will have responsibility for the following:
   a. Communicate in bid documents the Responsible Contractor Policy to contractors seeking to secure construction or building service contracts.
   b. Communicate the Policy to any interested party.

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c. Ensure there is a competitive bidding process that is inclusive of potentially eligible Responsible Contractors.

d. Send a project bid Notification Form to the Real Estate Management Tracking System (REMATS) maintained by participating national trades unions. Such notice shall be sent as soon as practical prior to the bid due date.

e. Require bidders to provide to property manager a Responsible Contractor self-certification on a form approved by CRPTF.

f. Prepare and send to advisors a contract listing for applicable service contracts for each property under management. The building trades and service trades and other potential bidders will have access to this list.

g. Provide advisors with a simplified bid summary for each contract.

h. Provide property level annual report information to advisor.

i. Maintain documentation for successful bidders.

j. Seek from trade unions/service unions input in the development of Responsible Contractor lists.

k. Maintain list of any interested Responsible Contractors (names, addresses and telephone numbers).

l. Provide solicitation documents to any potential contractor who has, in writing, expressed an interest in bidding for the relevant contract.

4. Contractors: Contractors will have the responsibility for the following:

a. Submit to property manager a Responsible Contractor self-certification on a form approved by CRPTF.

b. Communicate to subcontractors the Responsible Contractor Policy.

c. Provide to property manager Responsible Contractor documentation.

5. Unions: Trade unions/service unions shall be asked to perform the following tasks:

a. Deliver to the property manager or advisor lists of names and phone numbers of Responsible Contractors.

b. Refer interested and qualified Responsible Contractors to the property manager.

c. Continually monitor the local labor markets to update the lists.

d. Provide technical input as appropriate.

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e. Send project notifications to applicable Local Building Trades Councils.

F. Reserved

G. Minimum Contract Size: The Policy shall absolutely apply to all contracts of a minimum size of $100,000, individually or annually, as applicable. Minimum contract size refers to the total project value of the work being contracted for and not to any disaggregation by trade or task. For example, a $100,000 contract to paint two buildings in a single office complex would not be treated as two $50,000 contracts, each less than the minimum contract size. Disaggregation designed to evade the requirements of the Policy is not permitted.

H. Applicable Expenditures Categories: The Policy shall apply to tenant improvements, capital expenditures, and operational service contracts (such as cleaning).

I. Fair Wage, Fair Benefits, Training: The Policy avoids a narrow definition of "fair wage", "fair benefits" and "training" that might not be practical in all markets. Furthermore, the Policy does not require a "prevailing wage" as defined by government surveys. Instead, the Policy looks to local practices with regard to type of trade and type of project. The Policy recognizes that practices and labor market conditions vary across the country and that flexibility in its implementation is important.

In determining "fair wages" and "fair benefits" with regard to a specific contract in a specific market, items that may be considered include local wage practices, state laws, prevailing wages, labor market conditions, and other items.

In place of a prevailing wage standard, the Policy requires a broad outreach and competitive bidding program, as described in Section III.D, and V.F and J. This program is premised upon the availability of a list of Responsible Contractors in every market in which CRPTF directly owns a property. While advisors and their property managers and contractors are responsible for gathering and analyzing information relevant to identifying and hiring a Responsible Contractor, compilation of this list does not depend solely on the advisors, property managers, or contractors. This Policy instead invites the various local trades to suggest contractors, which in their view qualify as Responsible Contractors. Sources of information include local building and service trade councils, builders associations, and governments.

J. Competitive Bidding: Property managers and contractors should give notice for applicable bids in local trade publications, bulletins and union building trades councils. Property managers should seek input from building trades councils to develop lists of Responsible Contractors for inclusion in the bidding process.

Property managers may choose from the list of Responsible Contractors a reasonable number of contractors to be invited to bid. Given the time and expense required to solicit and evaluate bids, it is not essential that advisors, property managers, and contractors invite all potential bidders.
The property manager must ensure that there is a competitive bidding process, which is inclusive of potentially eligible Responsible Contractors. Inclusion is not

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necessarily assured by large numbers of bidders. Care must be taken that bidders include potentially eligible Responsible Contractors.

Although the Policy does not require hiring union workers, the trade unions will be invited to: (1) deliver to the property manager or advisor lists of names and phone numbers of Responsible Contractors, including those Responsible Contractors who have expressed any interest in bidding; and (2) continually monitor the local markets to update the lists. Property managers shall maintain these lists supplied by the trade unions.

K. Neutrality: CRPTF recognizes the rights of employees to representation, and supports and strongly encourages a position of neutrality, in the event there is a legitimate attempt by a labor organization to organize workers employed in the construction, maintenance, operation, and services at a CRPTF-owned property.

Resolution of any inter-jurisdictional trade disputes will be the responsibility of the trades and the various state and national building trades councils. This Policy does not call for any involvement by the advisors, property managers, or contractors in inter-jurisdictional trade disputes.

L. Enforcement: If Staff becomes aware of non-compliance, this Plan will place a non-complying advisor or property manager on a probation watch list. If the advisor or property manager does not modify this pattern of conduct even after discussions with CRPTF's staff, the Plan will consider this pattern of conduct along with other information when it reviews the advisor or property manager contract for possible renewal. The key indicator is a pattern of conduct that is inconsistent with the provisions of this Policy.

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Appendix F -- Policy for Implementation of Investment Restrictions

Primary among the Treasurer's considerations for the investment of the assets of the Connecticut Retirement Plans and Trust Funds ("CRPTF") is the long-term economic benefit of plan participants and beneficiaries. Toward this end, the Treasurer may divest, decide to not further invest state funds, or not enter into any future investment, consistent with Connecticut statute,[5] the CRPTF's Investment Policy Statement and common law standards of fiduciary duty.

State law directs the Treasurer to "consider the implications of any particular investment in relation to the foreign policy and national interests of the United States."[6] In addition to this general directive, specific matters implicating foreign policy and U.S. national interests have been embodied in state statutes for consideration in making investments in companies doing business in Iran[7] and Sudan.[8] These statutes provide guidance to the Treasurer when making investment decisions, have been incorporated into the investment processes and are reflected in all contracts under which CRPTF assets are invested.

This ***Policy for Implementation of Investment Restrictions*** sets forth the process by which the Treasurer may prohibit specific investments, as well as the administrative procedures to be followed to ensure that the CRPTF's managers are compliant with said Policy.

I. Prohibition of Investments

The Treasurer may prohibit investment of CRPTF assets in particular securities, types of securities, or companies pursuant to the Treasurer's statutory investment restriction authority and/or based on the following determination:

- there are one or more risk factors that may impact profitability and long-term shareholder value
- said risks run counter to the goals and objectives of the CRPTF to provide investment income and appreciation in line with the long-term liabilities that the CRPTF is designed to support; and
- said prohibition will not adversely or materially impact the CRPTF's risk/return profile.

The consolidated list of all restricted investments, whether pursuant to statutory investment restrictions or otherwise based on the exercise of the Treasurer's discretion (e.g., civilian firearms manufacturers or Russia-domiciled investments) shall be referred to as the "Restricted Investments List."

The Principal Investment Officer for Corporate Governance and Sustainable Investment ("PIO/CGSI") shall compile the update to the Restricted Investments List annually, incorporating any statutory investment restriction updates from the Chief Compliance Officer ("CCO"). They will collaborate on updates to the Restricted Investments List annually for the Chief Investment Officer's review and Treasurer's approval.

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[5] See Conn. Gen. Stat. § 3-13d(a), which allows the Treasurer to consider the "social, economic, and environmental implications of investments of trust funds in particular securities or types of securities." See also Conn. Gen. Stat. §§ 3-13g and 3-21e.
[6] Conn. Gen. Stat. § 3-13d(a).
[7] Conn. Gen. Stat. § 3-13g.
[8] Conn. Gen. Stat. § 3-21e (collectively with § 3-13d(a) and § 3-13g, the "statutory investment restrictions").

II. Notice Provisions

The Treasury's investment staff will publish the Restricted Investments List on the Treasury's website, annually on or about July 1st of each year, or as changes are made from time to time.

Treasury investment staff will annually provide a copy of the Restricted Investments List to the CRPTF's investment managers, as applicable, and said List shall be incorporated by reference in all contracts under which CRPTF assets are invested.

The CCO will implement the Treasurer's required notice to companies from which CRPTF assets may be divested as a result of a statutory investment restriction.

III. Monitoring and Enforcement of Investment Restrictions

A. Monitoring by Treasury Staff

1. Monthly Review – The CRPTF's investment staff shall, on a monthly basis, review the investments held by the CRPTF custodian bank to confirm that that no restricted investments are owned by the CRPTF. The PIO/CGSI shall confirm each monthly review.
2. Quarterly and Annual Reviews -- The CRPTF's investment staff shall, as part of ongoing performance reviews, verify investment managers' compliance with the Restricted Investments List.
3. Annual Global Risk Assessment Certification – The CCO shall request and review investment managers' annual certification regarding compliance with the Restricted Investments List.

B. Investment Managers' Responsibilities

1. Investment managers shall adhere to specific investment restrictions imposed by the Treasurer, within the timeframes specified in applicable instructions.
2. Investment managers shall implement procedures to monitor portfolios they manage on behalf of the CRPTF to ensure compliance with the Restricted Investments List and related instructions.
3. Investment managers shall confirm, as part of their performance reviews with investment staff, that no restricted investments are held within the portfolio of CRPTF's assets.
4. Investment managers shall certify annually to the Treasury's Chief Compliance Officer that no restricted investments were acquired for the CRPTF's portfolio during the preceding year.

C. Enforcement

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Failure to comply with investment restrictions imposed by the Treasurer herein constitutes a violation of this Policy and a breach of contract. In the event of non-compliance, the PIO/CGSI shall recommend to the Chief Investment Officer that an investment manager be directed to divest the restricted investment, where applicable, with due consideration to minimizing transaction costs. Investment staff will review the circumstances giving rise to non-compliance, and may recommend to the Treasurer that an investment manager be placed on a Watch List or terminated.

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Appendix G -- Proxy Voting Policies

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I. INTRODUCTION

This document sets forth the State of Connecticut Retirement Plans and Trust Funds' ("CRPTF") Proxy Voting Policies that guide the CRPTF's proxy voting and shareholder activities, which are essential elements of protecting and increasing the long-term value of the CRPTF's equity investments.

The CRPTF does not expect that the board of directors of each company in which it invests will adopt or embrace every issue in these proxy voting policies. The CRPTF recognizes that some policies may not be appropriate for every company, due to differing business needs and structures as well as risk factors and competitive needs. The CRPTF looks to each board of directors to take appropriate action in the best interests of the company and its shareholders. The policies in this document represent the CRPTF's views on best practices relative to corporate policy.

The proxy voting policies conform to common law fiduciary standards, including Connecticut statutes pertinent to fiduciary conduct, such as the Uniform Prudent Investor Act. These policies also are consistent with Connecticut statutes that permits the Treasurer to consider the environmental, social and economic implications of investment decisions.[1]

All votes will be reviewed on a company-by-company basis and no issues will be considered routine. Each issue will be considered in the context of the company under review and subject to a rigorous analysis of the economic impact an issue may have on the long-term shareholder value.

The CRPTF also actively engages companies on issues of concern in an effort to increase shareholder value. When appropriate, the CRPTF will itself sponsor shareholder resolutions. These proxy voting policies provide guidance for these activities as well.

II. THE BOARD OF DIRECTORS

Electing the board of directors is the most important stock ownership right that shareholders can exercise. By electing directors with views similar to their own, shareholders can help to define performance standards against which management can be held accountable.

The CRPTF believes that at least a majority of board members be independent of management and that all members of key board committees (e.g. nominating, compensation, and audit) be independent. For these purposes, the CRPTF defines an independent director as:

Someone whose only nontrivial professional, familial or financial connection to the corporation, its chairman, CEO or any other executive officer is his or her directorship. Stated most simply, an independent director is a person whose directorship constitutes his or her only connection to the corporation.[2]

The CRPTF also believes that ongoing assessment of directors' skills and performance is an important attribute of a well-functioning board, and that boards have an obligation to ensure a balance of experience and tenure of their directors.

Accordingly, the CRPTF will consider all relevant facts and circumstances to determine whether a director is independent, including a director's years of service on the board.[3]

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A director will NOT be considered independent under the following conditions:

- The director is employed by the company or one of its affiliates;
- The Board has determined by attestation that the director is not independent;
- The director is a former CEO of the company (except if served on an interim emergency basis);
- The director is a former CEO of an acquired company within the past five years;
- The director is a former significant executive of the company, an affiliate or an acquired firm within the past five years;
- The director is a relative of a current significant executive level employee of the company or its affiliates;
- The director is a relative of an individual who was a significant executive within the past five years of the company or its affiliate;
- The director currently provides (or a relative provides) professional services directly to the company, to an affiliate of the company or an individual officer of the company or one of its affiliates;
- The director is employed by (or a relative is employed by) a significant customer or supplier;
- The director has (or a relative has) any transactional relationship with the company or its affiliates; or
- The director has any material financial tie or other related party transactional relationship to the company.

A. Voting for Director Nominees in Uncontested Elections

Traditionally in an uncontested election, all nominees are elected because only a plurality vote is needed to elect each director. Recently, at the urging of shareholders, many companies have moved to either requiring a majority vote to elect a director in an uncontested election, or to require a director that did not receive a majority vote to tender his/her resignation (which can be accepted or rejected by the board). Therefore, uncontested elections have become real elections.

For companies where there is a majority vote standard, the vote options on the proxy are FOR/AGAINST. At plurality vote companies, the proxy vote options are FOR/WITHHOLD.

Votes on director nominees are made on a CASE-BY-CASE basis, considering company performance and individual director performance.

The CRPTF will WITHHOLD votes from or vote AGAINST directors individually or the entire board, for egregious actions or failure to replace management as appropriate.

The CRPTF may WITHHOLD votes from or vote AGAINST directors individually or the entire board where the company has failed to align their business plans with the goals of the Paris Climate Agreement, to establish a plan to achieve net zero emissions by 2050, or where a director individually or the entire board have failed to exercise appropriate risk oversight of environmental and social issues.

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The CRPTF will WITHHOLD votes from or vote AGAINST individual directors in some cases based on examination of the following factors:

- Nominee is both the CEO and chairman of the board of directors (except for certain situations as cited in Section II.D.);
- Nominee's attendance of meetings is less than 75 percent without valid reason;
- Non-independent nominee being a member of a key board committee (audit, nominating and compensation committee);
- Nominee is serving on an excessive number of other boards; for a CEO this would be more than two (2) public company boards (one plus his or her own), for a non-CEO with a full time job this would be more than three (3) public company boards and for a non-CEO with no other employment except as a board member, this would be five (5) public company boards unless the company has disclosed in the annual proxy statement reasons why additional board service exceeding the guidelines above would not interfere with a nominee's ability to perform his or her responsibilities or there are other mitigating circumstances (e.g. a CEO sitting on the board of a wholly-owned subsidiary);
- Nominee is serving on the board or in an executive position of another company where that company was involved in Chapter 7 bankruptcy, or where there were proven SEC violations, or a proven criminal offense related to the nominee;
- Poor performance by nominee on the board of another company, such as being a director of a company which filed for bankruptcy and where there are credible allegations of fraud;
- Interlocking directorships where the CRPTF Proxy Voting Advisor and/or other experts deem those relationships an impairment to independent judgment and action;
- Related party transactions where the CRPTF Proxy Voting Advisor and/or other experts deem those transactions to be more in the interest of the director nominee than the shareholders.

The CRPTF will WITHHOLD votes from or vote AGAINST the entire board of directors (excepting new nominees, who the CRPTF will evaluate based on the other criteria in this section) if:

- The company's poison pill has a dead-hand or modified dead-hand feature;
- The board adopts or renews a poison pill unless the poison pill is subject to shareholder approval;
- The board failed to act on a shareholder proposal that received approval by a majority of shares outstanding the previous year;
- The board failed to act on takeover offers where the majority of the shareholders tendered their shares;
- The board failed to address an issue(s) that caused a 50% or greater withhold vote for any director in the previous director election;
- The board did not respond to a request from major institutional investors about significant policy issues that have material significance to shareholder value;
- The Board does not have in place a succession plan for the CEO and key board members such as the chairman and/or lead director;
- Issues specific to key board committees (as outlined below) are not addressed by the board as a whole;
- The company has no women on its board;

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- The board has not ensured that management has installed effective mechanisms to manage risks that may affect the company, its industry and the economy.

The CRPTF will WITHHOLD votes from or vote AGAINST non-independent directors when:

- The non-independent director serves on any of the three key committees: audit, compensation or nominating;
- The company lacks an audit, compensation or nominating committee, enabling the board to function as that committee;
- The full board is less than majority independent.

The CRPTF will WITHHOLD votes from or vote AGAINST members of key board committees in cases of poor performance of those committees of which the nominee is a member.

The CRPTF will WITHHOLD votes from or vote AGAINST members of the Nominating Committee if:

- The committee does not seek out candidates for the board from a diverse candidate pool, with particular attention to race and gender diversity, particularly when such diversity is underrepresented or nonexistent on the board;
- The board did not respond to a request from major institutional investors for information about the racial and/or ethnic composition of its board, or declined to disclose such information**;**
- The board lacks appropriate skills and attributes, including when there is only one woman on the board.

The CRPTF will WITHHOLD votes from or vote AGAINST members of the Audit Committee if:

- The non-audit fees paid to the accounting firm performing the audit are greater than 25% of the total fees paid to the firm by the company (see also Section V.);
- The Audit Committee failed to respond to a material weakness identified in the Section 404 Sarbanes-Oxley Act disclosures;
- There are chronic internal control issues and an absence of established effective control mechanisms identified by the external auditors that are not being addressed in a timely manner;
- The committee has poor oversight of the company's procedures to assure independence of the auditors (see Section V. for further discussion);
- The company fails to allow shareholders the opportunity to vote to ratify the company's audit firm.

The CRPTF may WITHHOLD votes from or vote AGAINST the members of the Compensation Committee if the company has poor compensation practices. (See section IX. B. for discussion of poor compensation practices.)

Appendix A to these guidelines contains a discussion and enumeration of poor compensation practices, is incorporated by reference to this section and will be the criteria used for both voting

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for re-election of members of the Compensation Committee, as well as for the Say on Pay vote (see Section IX.B.)

If the company holds an annual advisory vote on executive compensation, the CRPTF may vote AGAINST the advisory vote to signal its concerns on compensation issues rather then vote against members of the compensation committee. If the pay practices that raise concerns are not corrected, the CRPTF would vote against re-election of the compensation committee member in the subsequent year.

For companies that do not hold an advisory vote on executive compensation in a particular year, the CRPTF may vote AGAINST the members of the compensation committee as dictated by this subsection.

B. Voting for Director Nominees in Contested Elections

Competing slates will be evaluated based upon the personal qualifications of the candidates, the economic impact of the policies that they advance, and their expressed and demonstrated commitment to the interests of all shareholders and stakeholders (e.g. employees, customers, and communities in which a company resides), as well as using the criteria outlined in Section II.A. regarding uncontested elections.

Votes in a contested election of directors are evaluated on a CASE-BY-CASE basis, considering the following factors:

- Long-term financial performance of the company relative to its industry;
- Management's track record;
- Performance evaluation of any director standing for re-election;
- Background to the proxy contest;
- Qualifications of director nominees (both slates);
- Evaluation of what each slate is offering shareholders, as well as the likelihood that the proposed objectives and goals can be met;
- Stock ownership positions of individual directors;
- Impact on stakeholders such as the community, employees, customers, etc.

C. Board Diversity

The CRPTF supports company efforts to ensure a diverse and inclusive board of directors as a means of enhancing long-term financial performance. The charter of the nominating committee should include a policy that commits the company to seeking a diverse slate of candidates, including ethnic, racial and gender diversity, as well as consideration of candidates' experience, skills, age, geography, sexual orientation and gender identity.

Generally, the CRPTF will vote FOR shareholder resolutions requesting reports on the company's efforts to diversify the board, unless:

- The board composition is reasonably inclusive in relation to companies of similar size and business; or

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- The board already reports on its nominating procedures and diversity initiatives.

The CRPTF will vote on a CASE-BY-CASE basis on shareholder resolutions asking the company to increase the board's diversity taking into account:

- The degree of board diversity;
- Comparison with peer companies;
- Established processes for improving board diversity including existence of independent nominating committees and use of an outside search firm;
- History of Equal Employment Opportunity (EEO) violations.

D. Independent Director as Chairman of the Board

The CRPTF believes that the positions of chairman and CEO should be held by different persons, except in extraordinary circumstances. In those circumstances, there should be a lead independent director.

Generally, the CRPTF will WITHHOLD its vote from or vote AGAINST a director nominee who holds both positions.

Overall, the CRPTF will vote FOR shareholder resolutions that ask companies to require the position of chairman of the board be filled by an independent director, except in extraordinary circumstances that are explicitly spelled out.

E. Substantial Majority of Independent Directors

The CRPTF believes that at a minimum, a substantial majority of every board of directors should be independent from management. Boards should strive to maintain board composition made up of a substantial majority of independent directors.

The CRPTF will vote FOR shareholder resolutions asking that a substantial majority of directors be independent.

F. Shareholder Access to the Proxy

The CRPTF supports proxy ballot access for shareholders' nominees to the board, provided that shareholders, holding in aggregate at least 3% of a company's voting stock with 3 years of continuous ownership, have shown support for each nominee.

Generally, the CRPTF will vote FOR shareholder resolutions asking companies to provide shareholders, holding in aggregate at least 3% of shares with 3 years of continuous ownership, with the ability to nominate director candidates to be included on management's proxy card.

G. Nominating Directors on a Company's Proxy Card

Securities and Exchange Commission (SEC) rules permit a shareholder or group of shareholders meeting certain requirements to nominate candidates to the board of directors through the company's proxy card.

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The CRPTF will evaluate whether the replacement of individual board members is beneficial to the company and will join other shareholders in nominating candidates on a CASE-BY-CASE basis.

H. Majority Vote for Election of Directors

Generally, the CRPTF will vote FOR shareholder resolutions (including binding resolutions requesting that the board amend the company's bylaws) calling for directors to be elected with a majority of votes cast[4] for electing directors, provided the proposal includes a carve-out for a plurality voting standard when there are more director nominees than board seats (e.g. contested elections).[5]

I. Stock Ownership Requirements

The CRPTF will vote FOR shareholder resolutions that ask companies to require members of the board of directors to own some amount of stock of the companies on which they serve as board members. Exceptions should be made for clergy.

J. Annual Election of Directors

The CRPTF will vote FOR shareholder resolutions that ask companies to ensure all members of the board of directors be elected by shareholders every year.

K. Term of Office

The CRPTF will vote FOR shareholder resolutions proposing term limits or mandatory retirement age for members of the board of directors, provided that such proposals permit the board to waive this requirement on a CASE-BY-CASE basis.

L. Cumulative Voting

The CRPTF will generally vote FOR shareholder resolutions to allow cumulative voting in contested elections, provided that the resolution does not require cumulative voting in uncontested elections. Under a cumulative voting scheme, the shareholder is permitted to have one vote per share for each director to be elected and shareholders are permitted to apportion those votes in any manner they wish among the director candidates.

M. Director and Officer Indemnification and Liability Protection

Management proposals typically seek shareholder approval to adopt an amendment to the company's charter to eliminate or limit the personal liability of directors to the company and its shareholders for monetary damages for fiduciary breaches arising from gross negligence.

Generally, the CRPTF will vote AGAINST management proposals to limit or eliminate entirely director and officer liability for:

- A breach of the duty of loyalty,

- Acts or omissions not in good faith or involving intentional misconduct or knowing violations of the law,
- Acts involving the unlawful purchases or redemptions of stock,
- The payment of unlawful dividends, or
- Use of the position as director for receipt of improper personal benefits.

III. COMPANY RESPONSIVENESS TO SHAREHOLDERS

Shareholders are the owners of the company and, as such, have an important right and duty to elect members of the board of directors. The members of the board of directors in turn oversee the company and act on behalf of shareholders to protect shareholders' interests. Shareholders often express their concerns through written communications, direct conversations, shareholder resolutions, and voting on proxy issues including voting for directors. Boards of directors need to be responsive to these shareholder communications.

A. Response to Majority Votes

When a shareholder resolution receives the support of a majority of the shareholders voting, the board of directors and management has an obligation to affirmatively consider the wishes of the shareholders.

The CRPTF will vote FOR shareholder resolutions that request companies to adopt a policy that creates a mechanism and an obligation for the board of directors to take action on any shareholder resolution that receives an affirmative vote of a majority of those shares voted.

B. Communication with Shareholders

Members of the board of directors have a responsibility to listen to shareholders and to be responsive to their concerns.

The CRPTF will vote FOR shareholder resolutions that request companies to create a formal mechanism for shareholder communication with independent directors.

The CRPTF will vote FOR shareholder resolutions that request companies to require that all directors be present at the annual meeting of shareholders (unless there are extenuating circumstances) and that there is a period set aside at the annual meeting for the independent directors to answer questions from shareholders on issues of concern (management may be present).

IV. PROXY CONTEST DEFENSES

A. Poison Pills

"Shareholder rights plans," typically known as poison pills, provide the target board with veto power over takeover bids and insulate management from the threat of a change in control. Because poison pills greatly alter the balance of power between shareholders and management, shareholders should be allowed to make their own evaluation of such plans.

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The CRPTF will vote FOR shareholder resolutions that request companies to submit its poison pill for shareholder ratification.

The CRPTF will review on a CASE-BY-CASE basis shareholder resolutions that request companies to redeem a company's poison pill.

The CRPTF will review on a CASE-BY-CASE basis management proposals to ratify a poison pill.

B. Amend Bylaws without Shareholder Consent

The CRPTF will vote AGAINST management proposals giving the board exclusive authority to amend the bylaws.

The CRPTF will vote AGAINST shareholder resolutions giving the board the ability to amend the bylaws without shareholder approval.

V. AUDITORS

The CRPTF believes that a company's auditors should be independent of outside influence and therefore should not perform non-audit-related consulting work. The audit committee should adopt and implement a formal policy on the independence of the auditors that is disclosed in the audit committee report of the proxy statement. Such policy should state that the auditors will not be considered independent if they provide significant non-audit services to the company apart from the audit. Services are considered significant if they are worth the lesser of $50,000 or 1 percent of the audit firm's gross revenues for the most recent fiscal year. Under no circumstances should the amount of payment paid to the auditor for non-audit services (including audit related services) be larger than the payment for audit services. The audit committee should not indemnify the auditor. The appointment of the auditor should always be placed before shareholders for approval.

The CRPTF will vote AGAINST management proposals to ratify auditors if:

- An auditor has a financial interest in or association with the company, and is therefore not independent;
- There is reason to believe that the independent auditor has rendered an opinion which is inaccurate or non-indicative of the company's financial position;
- During the prior year, the fees paid to the audit firm for non-audit-related services was more than 25% of total fees paid to the firm by the company.

VI. ACQUISITIONS AND MERGERS

Votes on mergers and acquisitions and related issues are considered on a CASE-BY-CASE basis, with the primary concern being the best long-term economic interests of shareholders. In making this evaluation, the CRPTF will take into account at least the following:

- Anticipated financial and operating benefits;
- Offer price (cost vs. premium);
- Prospects of the combined companies;
- How the deal was negotiated;

- Fairness opinion (or the lack of one);
- Changes in corporate governance and its impact on shareholder rights;
- Impact on community stakeholders and workforce;
- Strategic rationale for the merger or acquisition;
- Analysis of whether there are any conflicts of interest;
- Analysis of corporate governance of the newly formed entity - both compared to the governance provisions of the companies prior to the merger or acquisition and compared to the governance provisions of these proxy voting policies.

A. Fair Price Provisions

The CRPTF will vote on a CASE-BY-CASE basis on proposals to adopt fair price provisions (provisions that stipulate that an acquirer must pay the same price to acquire all shares as it paid to acquire the control shares), evaluating factors such as the vote required to approve the proposed acquisition, the vote required to repeal the fair price provision, and the mechanism for determining the fair price.

B. Greenmail

Greenmail payments are targeted repurchases by management of company stock from individuals or groups seeking control of the company. Since only the hostile party receives payment, usually at a substantial premium over the market value of its shares, the practice discriminates against all other shareholders.

The CRPTF will vote FOR shareholder resolutions to adopt anti-greenmail charter or bylaw amendments or otherwise restrict a company's ability to make greenmail payments.

C. Stakeholder Provisions

The CRPTF will vote FOR shareholder resolutions that ask the board to consider non-shareholder constituencies including employees, customers, the community in which a company resides, and stakeholder or constituency issues of concern, when evaluating a merger or business combination.

VII. SHAREHOLDER RIGHTS

A. Confidential Voting

The CRPTF will vote FOR shareholder resolutions that request companies to adopt a policy allowing for confidential voting.

B. Shareholder Ability to Call Special Meetings

Shareholders should be permitted to call special meetings of shareholders to address and vote on issues that the Board of Directors is not addressing, including but not limited to, removal of members of the board. The rules implementing this provision should provide for timely calling of such meetings.

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The CRPTF will vote FOR shareholder resolutions that request companies to adopt a policy allowing for shareholders' right to call special meetings within the parameters of corporate law of the state in which the company is incorporated to take action on certain matters, including removal of directors, submitting shareholder resolutions or responding to a beneficial offering.

The CRPTF will vote AGAINST proposals to restrict or prohibit shareholder ability to call special meetings and AGAINST provisions that would require advance notice of more than sixty days.

C. Shareholder Ability to Act by Written Consent

The CRPTF will vote FOR shareholder resolutions that request companies to adopt a policy allowing for shareholders' ability to take action by written consent within the parameters of corporate law of the state in which the company is incorporated to take action on certain matters including removal of directors, submitting shareholder resolutions or responding to a beneficial offering.

The CRPTF will vote AGAINST proposals to restrict or prohibit shareholder ability to take action by written consent.

D. Equal Access

The CRPTF will vote FOR shareholder resolutions that request companies to give shareholders (or group of shareholders), holding in aggregate at least 3% of a company's voting stock with 3 years of continuous ownership, access to management's proxy material for the purpose of nominating candidates to the board of directors.

E. Unequal Voting Rights

The CRPTF will vote FOR shareholder resolutions that request companies to maintain or provide one-share one-vote and will vote AGAINST management proposals for dual class stock with different voting rights.

F. Supermajority Shareholder Vote Requirement to Amend the Charter or Bylaws

The CRPTF will vote FOR management or shareholder proposals to reduce supermajority vote requirements for charter and bylaw amendments and mergers. However, for companies with shareholders who have significant ownership levels, the CRPTF will vote CASE-BY-CASE, taking into account: (1) ownership structure; (2) quorum requirements; and (3) supermajority requirements.

The CRPTF will vote AGAINST management proposals to adopt supermajority requirements for a shareholder vote to approve charter, bylaw amendments and mergers. The CRPTF also will vote AGAINST management proposals seeking to lower supermajority shareholder vote requirements when such requirements accompany management sponsored proposals which would also change certain charter or bylaw provisions.

G. Reimbursement of Proxy Solicitation Expenses

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The CRPTF will vote on CASE-BY-CASE basis for shareholder proposals to fully reimburse all appropriate proxy solicitation expenses associated with dissidents waging a proxy contest.

H. Shareholder Ability to Remove Directors

The CRPTF will vote FOR resolutions requiring shareholder resolutions that request companies to adopt a policy allowing shareholders the ability to remove directors with cause, including causes that do not rise to the level of legal malfeasance. Such causes include: not attending meetings, failure to carry out committee responsibilities, or actions which may be detrimental to the interests of shareholders.

The CRPTF will vote AGAINST resolutions that provide that directors may be removed only for cause and AGAINST resolutions that provide only continuing directors may elect replacements to fill board vacancies.

I. Action to Fill Board Vacancies

The CRPTF will vote FOR proposals that any board member named to fill a vacancy must be elected by shareholders at the next annual meeting.

The CRPTF will vote AGAINST proposals to allow management or the board to fill vacant board seats on an interim basis if the board fails to allow a shareholder vote for the interim members at the next annual meeting.

J. Shareholder Ability to Alter the Size of the Board

The CRPTF will vote AGAINST proposals to allow management or the board to alter the size of the board without shareholder approval.

VIII. CAPITAL STRUCTURE

The management of a corporation's capital structure involves a number of important issues, including dividend policy, types of assets, opportunities for growth, ability to finance new projects internally, and the cost of obtaining additional capital. Many financing decisions have a significant impact on shareholder value, particularly when they involve the issuance of additional common stock, preferred stock, or debt.

The CRPTF will review these proposals for changes in capital structure on a CASE-BY-CASE basis.

In general, the CRPTF will vote FOR proposals that are based on a solid business plan, while opposing proposals that:

- Diminish the rights of the current stockholders;
- Are intended to be used as a takeover defense; or
- Unduly dilute the economic or voting interests of current shareholders.

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A. Common Stock Authorization

CRPTF supports management proposals requesting shareholder approval to increase authorized common stock when management provides persuasive justification for the increase.

CRPTF will evaluate on a CASE-BY-CASE basis proposals where the company intends to use the additional authorized stock to implement a poison pill or other takeover defense.
Generally, the CRPTF will review on a CASE-BY-CASE basis, proposals to increase the number of shares of common stock authorized for issue.
Generally, the CRPTF will vote AGAINST proposed common stock authorizations that increase the existing authorization by more than 50 percent unless a clear need for the excess shares is presented by the company.

B. Preferred Stock

Preferred stock is an equity security, which has certain features similar to debt instruments, such as fixed dividend payments; seniority of claims compared to common stock; and, in most cases, no voting rights. The terms of blank check preferred stock give the board of directors the power to issue shares of preferred stock at its discretion—with voting rights, conversion, distribution and other rights to be determined by the board at time of issue. Blank check preferred stock can be used for sound corporate purposes but could be used as a devise to thwart hostile takeovers.

Generally, the CRPTF will vote FOR management proposals to create blank check preferred stock in cases where the company expressly states that the stock will not be used as a takeover defense or carry superior voting rights.
Generally, the CRPTF will vote on a CASE-BY-CASE basis on management proposals when the company indicates that such preferred stock may be used as a takeover defense.

C. Adjust Par Value of Common Stock

The CRPTF will vote FOR management resolutions to reduce the par value of common stock.

D. Preemptive Rights

Preemptive rights permit shareholders to share proportionately in any new issues of stock of the same class. These rights guarantee existing shareholders the first opportunity to purchase shares of new issues of stock in the same class as their own and in the same proportion. The absence of these rights could cause shareholders' interest in a company to be reduced by the sale of additional shares without their knowledge and at prices unfavorable to them. Preemptive rights, however, can make it difficult for corporations to issue large blocks of stock for general corporate purposes. Both corporations and shareholders benefit when corporations are able to arrange issues without preemptive rights that do not result in a substantial transfer of control.

Generally, the CRPTF will vote on a CASE-BY-CASE basis on management proposals to create or abolish preemptive rights. In evaluating proposals on preemptive rights, the CRPTF will look at the size of a company and the characteristics of its shareholder base.

E. Debt Restructuring

The CRPTF will vote on a CASE-BY-CASE basis on management proposals to increase common and/or preferred shares and to issue shares as part of a debt restructuring plan. The CRPTF will consider the following issues:

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- Dilution - How much will ownership interests of existing shareholders be reduced, and how extreme will dilution to any future earnings be?
- Change in control - Will the transaction result in a change in control of the company?
- Bankruptcy - Is the threat of bankruptcy, which would result in severe losses in shareholder value, the main factor driving the debt restructuring?

Generally, the CRPTF will vote FOR management proposals that facilitate debt restructuring unless there are clear signs of self-dealing or other abuses.

F. Dual-Class Stock

The CRPTF will vote FOR a one-share one-vote structure.

The CRPTF will vote AGAINST management proposals to create a new class of common stock with superior voting rights.

The CRPTF will vote AGAINST management proposals at companies with dual-class capital structures to increase the number of authorized shares of the class of stock that has superior voting rights.

G. Issue Stock for Use with Rights Plan

The CRPTF will vote AGAINST management proposals that increase authorized common stock for the explicit purpose of implementing a non-shareholder approved shareholder rights plan (poison pill).

H. Recapitalization

The CRPTF will vote on a CASE-BY-CASE basis on recapitalizations (reclassifications of securities), taking into account the following:

- More simplified capital structure;
- Enhanced liquidity;
- Fairness of conversion terms;
- Impact on voting power and dividends;
- Reasons for the reclassification;
- Conflicts of interest;
- Other alternatives considered.

I. Reverse Stock Splits

A reverse stock split occurs when blocks of more than one share of stock are converted into one share.

The CRPTF will vote FOR management proposals to implement reverse stock splits when the number of authorized shares will be proportionately reduced.

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The CRPTF will vote on a CASE-BY-CASE basis on management proposals to implement reverse stock splits that do not proportionately reduce the number of shares authorized for issues as determined using a model developed by a proxy voting service.

J. Share Repurchase Programs

The CRPTF will vote FOR management proposals to institute open-market share repurchase plans in which all shareholders may participate on equal terms, provided that adjustments are made to executive compensation programs to reflect the reduced number of shares outstanding (e.g. calculations of earnings per share).

K. Stock Distributions: Splits and Dividends

The CRPTF will vote FOR management proposals to increase the common share authorization for a stock split or share dividend, provided that the increase in authorized shares would not result in an excessive number of shares available for issuance as determined using a model developed by a proxy voting service.

L. Tracking Stock

The CRPTF will vote on a CASE-BY-CASE basis on the creation of tracking stock, weighing the strategic value of the transaction against such factors as:

- Adverse governance changes;
- Excessive increases in authorized capital stock;
- Unfair method of distribution;
- Diminution of voting rights;
- Adverse conversion features;
- Negative impact on stock option plans;
- Alternatives such as spin-off.

IX. EXECUTIVE AND DIRECTOR COMPENSATION

A. CRPTF's General Principles for Voting on Executive Compensation

Executive compensation is generally comprised of three basic components: salary, bonus and equity compensation. In addition, there are other forms of compensation, such as retirement benefits, severance benefits, basic employee benefits (such as health and life insurance), loans (and forgiveness of loans), payment of taxes on certain compensation, and "perks" including personal use of company facilities (such as company aircraft).

The CRPTF considers a good compensation policy as one that balances these different forms of compensation to provide incentives for continuous improvement and ties pay to performance. Developing measures of performance for the CEO and other executives is a key component of a compensation plan.

It is the role of the compensation committee to set the compensation for top management and approve compensation policy for the company as a whole. Shareholders look to the compensation

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committee to align management's interests with shareholder interests while providing incentives for long-term performance.

Exorbitant pay, unwarranted severance packages, lack of internal pay equity, abuse of perquisites ("perks"), and corporate scandals, where executives have been highly paid while shareholders have lost billions of dollars, and employees have lost their jobs and much of their life savings, have shown that many compensation committee members have not been doing their jobs. These examples provide a reminder to all compensation committee members of the importance of their responsibility to align pay with performance, to encourage management to effectively manage risks that may affect the company, its industry and the economy, and to provide compensation incentives for management while protecting the financial interests of shareholders.

The compensation committee should commit to providing full descriptions of the qualitative and quantitative performance measures and benchmarks used to determine annual incentive compensation, including the weightings of each measure. At the beginning of the period during which an executive's performance is to be measured, the compensation committee should calculate and disclose the maximum compensation payable in the event that performance-related targets are met. At the end of the performance cycle, the compensation committee should disclose actual targets and details on the determination of final payouts.

The compensation committee should adopt and implement a formal policy on the independence of compensation consultants that is disclosed in the Compensation Discussion and Analysis (CD&A) of the proxy statement. Such policy should state that a compensation consultant will not be considered independent if the consultant firm provides significant services to the company apart from work performed for the compensation committee. Services are considered significant if they are worth the lesser of $50,000 or 1 percent of the consultant firm's gross revenues for the most recent fiscal year. Under no circumstances should the amount of payment paid to a consultant be larger for management services than the payment for compensation committee services. The compensation committee should not indemnify the compensation consultant for work provide to the committee.

The CRPTF proxy voting policies are based on pay for long-term sustained performance, and the responsibility of the compensation committee to make this happen.

B. Advisory Vote on Executive Compensation

The CRPTF supports the right of shareholders to exercise an advisory vote on executive compensation practices.

The CRPTF will vote FOR management proposals to require annual advisory votes on executive compensation.

When evaluating executive compensation for the purposes of casting an advisory vote on executive compensation, the CRPTF will evaluate the criteria as enumerated in Appendix A, which is incorporated by Reference into this section.

In evaluating executive compensation for the purposes of casting an advisory vote, the CRPTF will review:

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- **Pay for performance** – including how both pay and performance are measured.
- The company's **compensation policy** (for both named executives, other employees) as spelled out in the Compensation Discussion and Analysis – including the clarity and transparency of that policy, as well as how the policy ties compensation to the creation of long term shareholder value.
- The company's responsiveness to **input from shareholders** on compensation policy and practices.
- The degree to which the company employs **poor compensation practices,** as delineated in the CRPTF proxy voting guidelines, and as outlined below.

The CRPTF will evaluate these issues in a holistic way, considering all of a company's compensation practices (rather than any one issue) in determining how to vote. How a company's compensation policy and practices have changed from previous years – or not changed in the case of poor compensation practices – will be an additional factor considered.

See Appendix A for the factors to be evaluated in determining how to vote.

C. Golden Parachutes/Severance Agreements for Executives

Golden parachute compensation is defined as any type of compensation (whether present, deferred, or contingent) that is based on or otherwise relates to a merger, acquisition, or sale transaction. (A separate vote would not be required if disclosure of that compensation had been included in a prior advisory vote on Executive Compensation, and that compensation arrangement remained unchanged.)

The CRPTF will vote on these issues on a CASE-BY-CASE basis. When evaluating such benefits, the CRPTF will evaluate a number of criteria outlined below. The CRPTF will evaluate these issues in a holistic way, and no one issue will be decisive in determining how to vote.
An acceptable "golden parachute" change-in-control payment and policy should include, but is not limited to, the following:

- The triggering mechanism is beyond the control of management;
- The amount of the payment does not exceed three times the base amount, defined as the average annual taxable W-2 compensation during the five years prior to the year in which the change-in-control occurs;
- The change-in-control payment is double-triggered, i.e., 1) after a change in control has taken place, and 2) termination of the executive as a result of the change in control. Change-in-control is defined as a change in the company ownership structure;
- The company does not provide tax gross-ups on parachute payments;
- The company takes into account the amount of company stock owned by the executive, the benefits payable under any retirement plan(s) in which the executive is a participant, and the amount of compensation deferred by the executive;
- There is no accelerated vesting of equity held by the executive as a result of a change-in-control, provided that in the case where unvested equity no longer exists, the executive is granted equity of equal value with comparable vesting requirements by the new entity.

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The CRPTF will vote FOR shareholder proposals requesting companies to eliminate accelerated vesting of equity following the termination of employment for any reason, excepting change-in-control.

The CRPTF will vote FOR shareholder proposals requesting companies to eliminate accelerated vesting of equity held by the executive as a result of a change-in-control, provided that in the case where unvested equity no longer exists, the executive is granted equity of equal value with comparable vesting requirements by the new entity.

D. Equity Compensation

The CRPTF supports compensating executives at a reasonable rate and believes that executive compensation should be strongly correlated to the long-term performance of the company.

Stock option grants and other forms of compensation should be performance-based with an objective of improving shareholder value and maintaining that value over the long term. Well-designed stock option plans align the interests of executives and shareholders by providing that executives benefit when stock prices rise as the company, and shareholders, prosper over the long-term.

The CRPTF will vote on a CASE-BY-CASE basis on proposals for equity-based compensation plans.

The CRPTF will vote FOR proposals for equity compensation plans that provide challenging performance objectives and serve to motivate executives to deliver long-term performance, and vote AGAINST plans that permit reloading of exercised stock options and apparent unreasonable benefits to executives that are not available to any other employees.

The CRPTF will vote on a CASE-BY-CASE basis for management proposals for equity-based compensation plans that link executive compensation to corporate responsibility, such as corporate downsizing, customer or employee satisfaction, community involvement, human rights, environment performance, predatory lending, and executive/employee pay disparities. The CRPTF considers many of these corporate responsibility issues as key business issues linked directly to long-term shareholder return and will evaluate them accordingly.

The CRPTF will vote AGAINST proposals for equity-based compensation plans if any of the following factors apply:

- The total cost of the company's equity-based compensation plans is unreasonable, based on a model developed by a proxy voting service;
- The plan expressly permits the repricing of stock options without prior shareholder approval;
- The plan expressly permits the reloading of stock options;
    - There is a disconnect between CEO pay and the company's performance;
    - The company's three-year burn rate exceeds 3% or the industry average;
    - The plan is a vehicle for poor pay practices.

E. Employee Stock Ownership Plans (ESOPs)

The CRPTF will vote FOR proposals to implement an ESOP or increase authorized shares for existing ESOPs, unless the number of shares allocated to the ESOP is excessive (more than five percent of outstanding shares).

F. Incentive Bonus Plans and Tax Deductibility Proposals

The CRPTF will vote FOR management proposals that amend shareholder-approved compensation plans to include administrative features or place a cap on the annual grants that any one participant may receive to comply with the provisions of Section 162(m).

The CRPTF will vote FOR management proposals to add performance goals to existing compensation plans to comply with the provisions of Section 162(m) unless they are clearly inappropriate.

The CRPTF will vote on a CASE-BY-CASE basis on management proposals to amend to existing plans to increase shares reserved and to qualify for favorable tax treatment under the provisions of Section 162(m), as long as the plan does not exceed the allowable cap and the plan does not violate any of the supplemental policies.

Generally, the CRPTF will vote FOR cash or cash and stock bonus plans that are submitted to shareholders for the purpose of exempting compensation from taxes under the provisions of Section 162(m), if no increase in shares is requested.

G. Option Exchange Programs/Repricing Options

The CRPTF will vote on a CASE-BY-CASE basis on management proposals seeking approval to exchange/reprice options, taking into consideration:

- Historic trading patterns;
- Rationale for the re-pricing;
- Value-for-value exchange;
- Treatment of surrendered options;
- Option vesting;
- Term of the option;
- Exercise price;
- Participation;
- If the surrendered options are added back to the equity plans for re-issuance, the CRPTF will also take into consideration the company's three-year burn rate.

H. Director Compensation

The CRPTF will vote on a CASE-BY-CASE basis on compensation plans for non-employee directors.

The CRPTF will vote FOR a director compensation plan if ALL of the following qualitative factors are met and disclosed in the proxy statement:

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- Director stock ownership policies that require payment of a minimum of 50% of annual director compensation in equity and encourage directors to hold their equity interests while serving on the board.
- A vesting schedule or mandatory holding/deferral period (a minimum vesting of three years for stock options or restricted stock or deferred stock payable at the end of a three-year deferral period);
- Mix between cash and equity;
- No retirement benefits or perquisites provided to non-employee directors;
- Detailed disclosure provided on cash and equity compensation delivered to each non-employee director for the most recent fiscal year, including annual retainer, board meeting fees, committee retainer, committee-meeting fees, and equity grants.

I. Director Retirement Plans

The CRPTF will vote AGAINST management proposals for retirement plans for non-employee directors.

X. SHAREHOLDER RESOLUTIONS ON COMPENSATION

A. Option Expensing

Generally, the CRPTF will vote FOR shareholder resolutions that request companies to expense stock options, unless the company has already publicly committed to expensing options by a specific date.

B. Option Repricing

The CRPTF will vote FOR shareholder resolutions that require companies to put option repricing to shareholder vote.

C. Limiting Executive and Director Pay

Shareholder resolutions to limit executive and director pay need to be evaluated on a CASE-BY-CASE basis.

Generally, the CRPTF will vote FOR shareholder proposals that seek additional disclosure of a significant change in executive and director pay information.

Generally, the CRPTF will vote FOR shareholder proposals that seek to eliminate outside directors' retirement benefits.

Generally, the CRPTF will vote FOR shareholder proposals that seek to provide for indexed and/or premium priced options.

Generally, the CRPTF will vote FOR shareholder proposals that seek non-discrimination in retirement benefits (e.g. retirement benefits and pension plans that are different based on age of employee such as cash balance plans).

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Generally, the CRPTF will vote FOR shareholder resolutions that request that earnings from a company's pension plan not be included in company earnings for the purpose of evaluating whether an executive met performance targets in their compensation agreement.

The CRPTF will vote FOR shareholder resolutions that request companies to require executives to repay long-term incentive compensation or other performance-based compensation to the company in the event a company restates its financial statements for a previous reporting period and such compensation as recalculated is found not to have been earned.

Generally, the CRPTF will vote FOR shareholder resolutions that request companies to advocate the use of performance-based awards like indexed, premium-priced, and performance-vested options or performance-based shares.

Generally, the CRPTF will vote FOR shareholder resolutions that ask companies to prohibit tax gross-up payments to executives.

D. Clawbacks

Compensation that is paid based on financial results that are later stated, or on meeting performance metrics that are later revised downward, is compensation that has not been earned. Companies should have policies that "claw-back" unearned compensation.

The CRPTF will vote on a CASE-BY-CASE basis on proposals to recoup unearned incentive bonuses or other incentive payments made to senior executives if it is later determined that the performance metrics upon which the incentive compensation is earned later turn out to have been in error. When making its determination, the CRPTF will take into account:

- If the company has adopted a formal recoupment bonus policy;
- If the company has chronic restatement history or material financial problems; or
- If the company's policy substantially addresses the concerns raised by the proponent.

E. Internal Pay Equity

Significant differences in pay between top executives and non-executives of a company may adversely impact employee performance, are often an indication of poor compensation practices. The CRPTF will vote on a CASE-BY-CASE basis for shareholder proposals that ask the board compensation committee to adopt a policy regarding internal pay equity, and the relationship between the compensation received by the CEO and other named executive officers whose compensation is disclosed in the proxy statement.

The CRPTF will vote FOR shareholder proposals requesting the company to adopt a policy that asks the board compensation committee to consider internal pay equity in: (a) the establishment, modification and termination of senior executive pay plans and programs; and (b) making specific awards under those plans and programs.

The CRPTF will vote FOR shareholder proposals that ask the company to disclose to shareholders the role of internal pay equity considerations in the process of setting compensation for the CEO and other named executive officers.

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The CRPTF will vote AGAINST shareholder proposals asking the board to adopt a policy that would fix the pay ratio between the CEO and other named executive officer to a specific percentage or multiple of pay.

G. Golden Coffins/Executive Death Benefits

The CRPTF will vote FOR shareholder resolutions that ask the board of directors to submit for shareholder approval any future agreements and corporate policies that would obligate the company to make payments, grants, or awards following the death of a senior executive in the form of unearned salary or bonuses, accelerated vesting of equity awards, perquisites and other payments or awards made in lieu of compensation. This would not apply to any benefit programs or equity plan proposals for which the broad-based employee population are eligible, nor would it apply to compensation earned by the executive and deferred during his or her lifetime.

H. Supplemental Executive Retirement Plans

Supplemental Executive Retirement Plans (SERPs) are retirement plans for senior executives that are separate from and in addition to retirement plans for all other employees. Often these plans are used to provide compensation to a senior executive that is not based on performance or provides excessive retirement benefits.

Generally, the CRPTF will vote FOR shareholder resolutions that request companies to allow for a shareholder vote to approve SERP agreements, unless the company's executive pension plans do not contain excessive benefits (based on an analysis by the CRPTF's proxy voting service and other expert analysis).

Generally, the CRPTF will vote FOR shareholder resolutions that request companies to call for limitations of annual retirement benefits to a maximum of earned annual salary and bonus.

I. Stock Retention

The purpose of grants of stock and stocks options to senior executives (rather than cash compensation) is to align their financial interest with that of shareholders. This alignment is maintained only if the executive retains the ownership of the stock.

Generally, the CRPTF will vote FOR shareholder proposals requiring senior executives to retain a percentage of shares acquired through equity compensation programs. When voting for these proposals, the CRPTF will take into account current stock ownership guidelines, existing long-term stock-holding requirements and actual equity ownership by executives, and the length of the current holding period.

J. Responsible Use of Company Stock

The purpose of grants of stock and stocks options to senior executives (rather than cash compensation) is to align their financial interest with that of shareholders. This alignment can be undermined if the executive enters into a derivative transaction that limits the loss in the event that the company performs poorly, and the stock value declines.

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Generally, the CRPTF will vote FOR shareholder proposals asking the board of directors to adopt policies limiting the ability of named executive officers to enter into derivative or speculative transactions involving company stock, including but not limited to trading in puts, calls, covered calls or other derivative products; engaging in hedging or monetization transactions with respect to company stock; holding company stock in a margin account; or pledging company stock as collateral for a loan.

K. Compensation Consultant Independence

The CRPTF will vote FOR shareholder resolutions that request companies to include in their corporate governance guidelines that any compensation consultant employed by the compensation committee is independent of management and that such consultant should not provide significant consulting services to the management of the company (see Section IX.A. for further discussion).

XI. STATE AND COUNTRY OF INCORPORATION

A. Voting on State Takeover Statutes

The CRPTF will vote on a CASE-BY-CASE basis on proposals to opt in or out of state takeover statutes (including control share acquisition statutes, control share cash-out statutes, freeze out provisions, fair price provisions, stakeholder laws, poison pill endorsements, severance pay and labor contract provisions, anti-greenmail provisions, and disgorgement provisions).

The CRPTF generally supports opting into stakeholder protection statutes if they provide comprehensive protections for employees and community stakeholders. The CRPTF would be less supportive of takeover statutes that only serve to protect incumbent management from accountability to shareholders, and which negatively influence shareholder value.

B. Voting on Reincorporation Proposals

The CRPTF will vote on a CASE-BY-CASE basis on proposals to change a company's state of incorporation, taking into consideration both financial and corporate governance concerns, including the reasons for reincorporating, a comparison of the governance provisions, comparative economic benefits, and a comparison of the jurisdictional laws.

The CRPTF will vote FOR reincorporation when the economic factors outweigh any neutral or negative governance changes.

C. Off-Shore Reincorporation

Proposals to reincorporate outside of the U.S. and management proposals to expatriated companies to reincorporate back in the U.S. will be examined closely.

The CRPTF will vote AGAINST any reincorporation management proposals that are found to reduce the rights of shareholders.

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The CRPTF will vote FOR shareholder resolutions that request an expatriated company to study reincorporation back in the U.S. and report back to shareholders.

The CRPTF will vote FOR shareholder resolutions to reincorporate back in the U.S. if those proposals are found to increase the rights of shareholders, and/or have financial benefits to shareholders.

XII. SHAREHOLDER RESOLUTIONS ON EQUAL EMPLOYMENT OPPORTUNITY AND OTHER WORKPLACE PRACTICE REPORTING ISSUES

A. Equal Employment Opportunity

These proposals generally request that a company establish a policy of reporting to shareholders its progress with equal opportunity and affirmative action programs. The costs of violating federal laws that prohibit discrimination by corporations are high and can affect corporate earnings.

The CRPTF will vote FOR shareholder resolutions that request companies to take action on equal employment opportunity and anti-discrimination.

The CRPTF will vote FOR shareholder resolutions calling for legal and regulatory compliance and public reporting related to non-discrimination, affirmative action, workplace health and safety, environmental issues, and labor policies and practices that affect long-term corporate performance.

The CRPTF will vote FOR shareholder resolutions that request companies to take action calling for non-discrimination in salary, wages and all benefits.

The CRPTF will vote FOR shareholder resolutions that request companies to ask for disclosure of statistical information and policy statements regarding non-discriminatory hiring, performance evaluation and advancement, and workforce composition.

The CRPTF will vote FOR shareholder resolutions that request companies to disclose the EEO-1 consolidated data report that is filed with the Equal Opportunity Commission (EEOC).

The CRPTF will vote FOR shareholder resolutions that request companies to create policy statements regarding non-discriminatory hiring, performance evaluations, advancement and affirmative action.

The CRPTF will vote FOR shareholder resolutions that request companies to add the terms "sexual orientation," "gender identity," and/or "gender expression" to written non-discrimination policies.

B. Non-Discrimination in Retirement Benefits

Many companies are changing their retirement benefits, including moving to cash balance and defined contribution pension plans. There is the potential for some employees to benefit more than others due to these changes.

The CRPTF will vote FOR shareholder resolutions that request companies to ensure non-discrimination with regard to retirement benefits.

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C. Workplace Diversity

i. Glass Ceiling

Generally, the CRPTF will vote FOR reports outlining the company's progress towards race and gender inclusiveness in management and the board of directors.

ii. Sexual Orientation, Gender Identity

The CRPTF will vote FOR shareholder resolutions that request companies to amend EEO statements in order to prohibit discrimination based on sexual orientation or gender identity.

D. International Labor Standards/Human Rights

i. Contract Supplier Standards / International Codes of Conduct / Vendor Standards

This section addresses shareholder resolutions that call for compliance with governmental mandates and corporate policies regarding nondiscrimination, affirmative action, right to affiliate or organize, work place safety and health, and other basic labor and human rights protections, particularly in relation to the use of international suppliers. The global labor standards and human rights resolutions call for global companies to implement comprehensive codes of conduct, and to abide by conventions of the International Labor Organization (ILO) on workplace human rights, in order to assure that its products are made under humane conditions and workers are paid at a minimum the legal minimum wage. The CRPTF proxy voting policies support these resolutions on the grounds that these standards are good business practices that protect shareholder value by improving worker productivity, reducing turnover and time lost due to injury, etc, as well as avoiding negative publicity and a loss of consumer confidence.

Generally, the CRPTF will vote FOR resolutions that request companies to ensure that its products are not made in “sweatshops.”

Generally, the CRPTF will vote FOR resolutions that request companies to help eradicate forced labor and child labor, promote the rights of workers to form and join labor unions and to bargain collectively, seek to ensure that all workers are paid a living wage, and require that company contractors submit to independent monitoring of their factories.

Generally, the CRPTF will vote FOR resolutions that request companies to adopt labor standards – a “Code of Conduct” - for foreign and domestic suppliers and licensees, and a policy that the company will not do business with suppliers that manufacture products for sale using forced labor, child labor, or that fail to comply with applicable laws protecting employees' wages and working conditions including all applicable standards and laws protecting employees’ wages, benefits, working conditions, freedom of association (right to organize), and other rights.

Generally, the CRPTF will vote FOR resolutions that request companies to publish their “Code of Conduct.”

Generally, the CRPTF will vote FOR resolutions that request companies to publish a report summarizing the company's current practices for enforcement of its “Code of Conduct.”

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Generally, the CRPTF will vote FOR resolutions that request companies to engage independent monitoring programs by non-governmental organizations to monitor suppliers and licensee compliance with a company's "Code of Conduct."

Generally, the CRPTF will vote FOR resolutions that request companies to create incentives to encourage suppliers to raise standards rather than terminate contracts.
Generally, the CRPTF will vote FOR resolutions that request companies to implement policies for ongoing wage adjustments, ensuring adequate purchasing power and a sustainable living wage for employees of foreign suppliers and licensees.

Generally, the CRPTF will vote FOR resolutions that request companies to improve transparency of their contract supplier reviews.

Generally, the CRPTF will vote FOR shareholder resolutions that request companies to outline vendor standards.

ii. Corporate Conduct and Human Rights

The CRPTF will generally support proposals that call for the adoption and/or enforcement of principles or codes relating to countries in which there are systematic violations of human rights, such as: the use of slave, child, or prison labor; a government that is illegitimate; or where there is a call by human rights advocates, pro-democracy organizations, or legitimately-elected representatives for economic sanctions.

Generally, the CRPTF will vote FOR resolutions that request companies to support Principles or Codes of Conduct relating to the company investment in countries with patterns of workplace and/or human rights abuses.

Generally, the CRPTF will vote FOR shareholder resolutions that request companies to adopt policies that reflect the provisions of the General Statutes of Connecticut.

E. Equal Credit and Insurance Opportunity

Access to capital and insurance is essential to participating in our society. The Equal Credit Opportunity Act prohibits lenders from discriminating with regard to race, religion, national origin, sex, age and the like. "Redlining," the systematic denial of services in an area based on its economic or ethnic profile has a similar negative impact on denying participation in our society.

The CRPTF will vote FOR shareholder resolutions that request companies to provide reports on lending practices in low/moderate income or minority areas and on steps to remedy mortgage lending discrimination.

The CRPTF will vote FOR shareholder resolutions that request companies to develop fair "lending policies" that would assure access to credit for major disadvantaged groups and require annual reports to shareholders on their implementation.

The CRPTF will vote FOR shareholder resolutions that request insurance companies and banks to appraise their practices and develop policies to avoid redlining.

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XIII. SHAREHOLDER RESOLUTIONS ON ENVIRONMENTAL, SOCIAL AND GOVERNANCE ISSUES

The CRPTF supports the integration of environmental, social, and governance (ESG) factors in the investment decision making process, given that such factors can impact both risk and return over the long term.

In most cases, the CRPTF will vote FOR shareholder resolutions that request companies to disclose non-proprietary information related to ESG issues.

In determining the CRPTF's vote on shareholder resolutions that address these issues, the CRPTF will analyze the following factors:

- Whether adoption of the resolution would have a positive or negative impact on the company's long-term share value;
- The degree to which the company's stated position on the issues could affect its reputation or sales, or leave it vulnerable to boycott or selective purchasing;
- Whether the company has already responded in some appropriate manner to the request embodied in a proposal;
- Whether the company's analysis and voting recommendation to shareholders is persuasive;
- What other companies have done in response to the issue;
- Whether the proposal itself is well framed and reasonable;
- Whether implementation of the resolution would achieve the objectives sought in the proposal; and
- Whether the subject of the resolution is best left to the discretion of the board.

In general, the CRPTF will vote FOR shareholder resolutions that request companies to furnish information helpful to shareholders in evaluating the company's operations. In order to be able to monitor their investments, shareholders often need information best provided by the company in which they have invested. Requests to report such information merits support.

The CRPTF will evaluate on a CASE-BY-CASE basis proposals that request the company to cease certain actions that the proponent believes is harmful to society or some segment of society, with special attention to the company's legal and ethical obligations, its ability to remain profitable, and potential negative publicity if the company fails to honor the request.

A. Principles for Responsible Investment

The Principles for Responsible Investment (PRI)[6] provide a framework to give consideration to ESG issues that can affect the performance of investment portfolios. The Principles were developed in 2006 by a number of institutional investors, including the Connecticut State Treasurer's Office. These proxy voting policies reflect the principle of active ownership, and the associated responsibility to "incorporate ESG issues into our ownership policies and practices."

C. Climate Change, Energy, and Environment

i. Global Warming, Climate Change, and Sustainability

The United Nations' Intergovernmental Panel on Climate Change concluded in 2018 that the current pace of greenhouse gas emissions will have significant, adverse impact on the world's economy as soon as 2040.[7] And, according to a joint study by the World Bank's International Finance Corporation and Mercer, climate change "will inevitably have an impact on investment returns, so investors need to view it as a new return variable." [8]

There are direct economic and financial risks to companies from physical damage due to extreme weather patterns caused by climate change. Economic and financial risks can also occur when companies are not prepared for complying with new regulations curbing carbon emissions.

The CRPTF will vote FOR shareholder resolutions that request companies to assess actions the company is taking to mitigate the economic impact on the company of increasing regulatory requirements, competitive pressures, and public expectations to significantly reduce carbon dioxide and other emissions and issue a report to shareholders.

The CRPTF will vote FOR shareholder resolutions that request companies to assess financial risks resulting from climate change and its impacts on shareholder value in the short-, medium- and long-terms, as well as actions the board of directors deems necessary to provide long-term protection of business interests and shareholder value and issue a report to shareholders.

The CRPTF will vote FOR shareholder resolutions that request companies to report on greenhouse gas emissions from company operation and of the company's products in relation to their impact on global climate change.

The CRPTF will vote FOR shareholder resolutions that request companies to develop a standard reporting format and data baseline so that data from the company can be accurately compared to data from other companies and compared to recognized measurement standards.

The CRPTF will vote FOR shareholder resolutions that request companies to provide a "sustainability report (also called a "corporate social responsibility report)," such as the Global Reporting Initiative, that describes how the company plans to address issues of climate change and other long-term social, economic and environmental issues in order to maintain the long-term financial health of the company in a changing environment.

The CRPTF will vote FOR shareholder resolutions that request companies respond to the annual questionnaire of the Carbon Disclosure Project.

ii. Paris Climate Agreement

The global climate change agreement reached at the 21st Conference of the Parties, also known as "The Paris Agreement", provides globally supported targets related to climate change.
Generally, the CRPTF will vote FOR shareholder resolutions that request that companies to outline their preparations to comply with standards established by The Paris Agreement and any successor protocol in countries in which the protocol applies.

Generally, the CRPTF will vote FOR shareholder resolutions that request companies to report on or adopt accounting metrics that can better address market changes induced by climate change.

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Generally, the CRPTF will vote FOR shareholder resolutions that request companies to conduct and disclose planning and policies for transitioning the company business model to align with a low carbon economy including, specifically, alignment with the Paris Agreement's goal of limiting global warming to well below 2°C, including addressing the company's (Scope 1-3) greenhouse gas emissions.

iii. CERES Principles

The CRPTF will vote FOR shareholder resolutions requesting companies to adopt the CERES Principles, taking into account:

- The company's current environmental disclosure beyond legal requirements, including environmental health and safety (EHS) audits and reports that may duplicate CERES;
- The company's environmental performance record, including violations of federal and state regulations, level of toxic emissions, and accidental spills;
- Environmentally conscious practices of peer companies, including endorsement of CERES;
- Costs to the company of membership and implementation.

Generally, the CRPTF will vote FOR shareholder resolutions that request companies to sign onto the Global Compact, Equator Principles, and other similarly broadly recognized commitments to sustainability principles.
The CRPTF will vote FOR shareholder resolutions that request companies to address matters of specific ecological impact, e.g. sustainable use of natural resources, waste reduction, wiser use of energy, reduction of health and safety risks, marketing of safer products and services, reduction or elimination of chlorine in production processes, responsible environmental restoration, etc.

The CRPTF will vote FOR shareholder resolutions that request companies to report on, assess the impact of, and curtail environmental hazards to communities that result from their activities.

The CRPTF will vote FOR shareholder resolutions that request oil companies not to explore and oil and gas extraction in areas where there is a significant danger of permanent damage to the environment.

iv) Water Risk

Shareholders may ask for a company to prepare a report evaluating the business risks linked to water use and impacts on the company's supply chain, including subsidiaries and bottling partners. Such proposals also ask companies to disclose current policies and procedures for mitigating the impact of operations on local communities in areas of water scarcity.

The CRPTF will vote FOR shareholder resolutions that request companies to assess their current and future water usage, evaluate whether sufficient water will be available in the future, develop plans to reduce water usage, and report to shareholders on these assessments.

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The CRPTF will vote FOR shareholder resolutions that request companies to respond to the Carbon Disclosure Project's water disclosure questionnaire and similar investor-backed initiatives.

The CRPTF will vote FOR shareholder resolutions that request companies to on or adopt policies for water use that incorporate social and environmental factors.

v) Arctic National Wildlife Refuge

Generally, the CRPTF will vote FOR shareholder resolutions that request companies to provide reports outlining how it would prevent potential environmental damages from drilling in the Arctic National Wildlife Refuge (ANWR).

vi) Environmental - Economic Risk Report

Generally, the CRPTF will vote FOR shareholder resolutions that request companies to perform an economic risk assessment of environmental performance, unless the company has already publicly demonstrated compliance with the spirit of the resolution by including a report of such risk assessment in a sustainability report, corporate responsibility report, or similar report.

vii) Environmental Reports

Generally, the CRPTF will vote FOR shareholder resolutions that request companies to provide reports disclosing the company's environmental policies, unless the company already has environmental management systems that are well-documented and available to the public.

viii) Nuclear Safety

Generally, the CRPTF will vote FOR shareholder resolutions that request companies to provide reports on risks and/or benefits associated with their nuclear reactor designs and/or the production and interim storage of irradiated fuel rods.

ix) Operations in Protected Areas

Generally, the CRPTF will vote FOR shareholder resolutions that request companies to provide reports outlining potential environmental damage from operations in protected regions, including wildlife refuges.

x) Renewable Energy

Generally, the CRPTF will vote FOR requests for reports on the feasibility of developing renewable energy sources, unless the report is duplicative of existing disclosure or irrelevant to the company's line of business.

xi) Environmental Justice

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The CRPTF will generally support proposals asking companies to report on whether environmental and health risks posed by their activities fall disproportionately on any one group or groups, and to take action to reduce those risks at reasonable costs to the company.

The CRPTF will generally support proposals asking companies when sitting and addressing issues related to facilities which may have impact on local environment and to respect the rights of local communities to participate in decisions affecting their local environment.

D. Special Policy Review and Shareholder Advisory Committees

The CRPTF will vote FOR shareholder resolutions that request companies to support advisory committees when they appear to offer a potentially effective method for enhancing shareholder value.

E. Drug Reimportation

Generally, the CRPTF will vote FOR shareholder resolutions that request companies to provide reports on the financial and legal impact of their policies regarding prescription drug reimportation, unless such information is already publicly disclosed.

Generally, the CRPTF will vote AGAINST shareholder resolutions requesting that companies adopt specific policies to encourage or constrain prescription drug reimportation.

F. HIV/AIDS, Malaria, Tuberculosis

The CRPTF will vote FOR shareholder resolutions to request companies to establish, implement, and report on a standard of response to the HIV/AIDS, tuberculosis, and malaria health pandemic in Africa and other developing countries, unless the company doesn't have significant operations in these markets or has adopted policies and/or procedures to address these issues comparable to those of industry peers.

G. Predatory Lending

The CRPTF will vote FOR shareholder resolutions that request companies to adopt policies that preclude predatory lending practices.

The CRPTF will vote on a CASE-BY-CASE basis on requests for reports on the company's procedures for preventing predatory lending, including the establishment of a board committee for oversight, taking into account:

- Whether the company has adequately disclosed mechanisms in place to prevent abusive lending practices;
- Whether the company has adequately disclosed the financial risks of its subprime business;
- Whether the company has been subject to violations of lending laws or serious lending controversies;
- Peer companies' policies to prevent abusive lending practices.

H. Toxic Chemicals

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Generally, the CRPTF will vote FOR shareholder resolutions that request companies disclose its policies related to toxic chemicals.

The CRPTF will vote on a CASE-BY-CASE basis on resolutions requesting that companies evaluate and disclose the potential financial and legal risks associated with utilizing certain chemicals.

XIV. SHAREHOLDER RESOLUTIONS ON GENERAL CORPORATE ISSUES

A. Corporate Political Expenditures

Political contributions can benefit the strategic interests of a company. Shareholders understand that corporate participation in the political process including through political contributions can benefit companies strategically and contribute to value creation. However, shareholders are concerned that board level policies and processes need to exist to ensure that such giving is aligned with shareholders' long-term interests. Shareholders are concerned about the influence of corporate political giving. This activity has the potential to create risks to shareholder value, through reputational harm and through reactions by employees and/or customers.

Shareholders seek to understand who sets political giving policies, who makes the decisions on contributions, and what types of internal controls are in place at the board level to manage, monitor and disclose political contributions, and manage related risks. Shareholders are not interested in obtaining disclosure of the reason specific contributions are made, but instead seek data on contributions and an understanding of mechanisms, such as board-level policies and processes, through which the board exercises oversight over the process.

It is not an appropriate role for shareholders to vote on specific political expenditures--whether such vote is in the form of an advisory proposal or would be binding.

Corporate political expenditures can be direct in the form of campaign contributions or indirect in the form of advertising or publicity on politically-related issues.

In the aftermath of the U.S. Supreme Court ruling in *Citizens United*, which ruled that corporations have a constitutional right to free speech – including political advertising – new forms of corporate political spending have emerged. New organizations have been created under sections 501(c) (4), 501 (c) (5) and 501 (c) (6) of the Internal Revenue Code that receive corporate contributions and engage in political advertising. These organizations are not required to disclose their donors.

The CRPTF will vote FOR shareholder resolutions that request companies to provide greater disclosure of corporate campaign financing.

The CRPTF will vote FOR shareholder resolutions that request companies to disclose any and all corporate expenditures for advertising in support of, or in opposition to, any political candidate, issue, and/or ballot referendum, including contributions to political candidates, political action committees, 501(c) (3, 4, and 5) organizations or any other expenditure which may be used to influence an election.

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The CRPTF will vote FOR shareholder resolutions that call on the board to establish corporate political giving guidelines and internal reporting provisions or controls.

The CRPTF will vote AGAINST shareholder resolutions that seek shareholder input to corporate political giving policies or on the contributions themselves. The CRPTF will vote AGAINST shareholder resolutions seeking an advisory vote on political contributions.

B. Charitable Contributions

The CRPTF will vote AGAINST shareholder resolutions that request companies not to make charitable contributions.

C. Link Executive Compensation to Corporate Activities Promoting Sustainability

The CRPTF will vote on a on a CASE-BY-CASE basis on equity-based compensation plans that link executive compensation to responsible business practices that promote the long-term sustainability of the environment, the economic vibrancy of the local community and the welfare of the company's employees.

Such resolutions will be evaluated in the context of:

- The degree to which the issue can be linked to executive compensation and the long term financial performance of the company;
- The degree that performance standards are related to corporate activities those promote long-term sustainability.
- Violations or complaints filed against the company relating to such performance standards;
- Current company pays levels.

D. Outsourcing

The CRPTF will vote on a CASE-BY-CASE basis on proposals calling for companies to report on the risks and opportunities associated with outsourcing.

E. Military Sales

Generally, the CRPTF will vote FOR shareholder resolutions that request companies to report on foreign military sales and economic conversion of facilities, as long as such resolutions permit non-disclosure of confidential and proprietary information.

F. Operations in Nations Sponsoring Terrorism Business Strategy

The CRPTF will vote on a CASE-BY-CASE basis on shareholder resolutions that require the establishment of a board committee to review and report on the company's financial, legal and reputational risks from its operations in a terrorism-sponsoring state.

G. Business Strategy

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Shareholders have introduced resolutions asking boards of directors to examine the impact of particular business strategies on long-term corporate value in light of changing market conditions that could affect those particular business strategies, and to report back to shareholders. The CRPTF generally supports enhanced disclosure to shareholders on how the company addresses issues that may present significant risk to long-term corporate value.

XV. GLOBAL PROXY VOTING

All international proxies shall be voted consistent with the CRPTF's Proxy Voting Policies and the relevant provisions of contracts with advisors, as necessary, and take into account relevant market listing rules and regulations, local laws and regulations, as well as local market best practice standards.

APPENDIX A

Executive Compensation Evaluation Criteria

Pay for Performance

- The degree to which pay is tied to long term performance, and the alignment of compensation practice with long term shareholder value – including salary, bonus, equity compensation, long term incentive plans, retirement benefits, perquisites, etc.
- The rigor of performance metrics that are used to evaluate executive performance in determining compensation, and the company's practice in disclosing these metrics to shareholders.
- The amount of payments provided for in contracted severance agreements, including change of control, severance for cause, and severance without cause, and whether and how these payments would be based on past performance. (See section X.D. below for more detail on criteria).
- The relationship between compensation granted in the current year to amount of key executives' walk-away pay (compensation received at time of termination, including severance benefits, accelerated vesting of stock options, restricted stock and restricted stock units, deferred compensation, pension benefits, and other post retirement benefits).
- The inclusion of "claw back" provisions which recapture incentive payments that were made to executives on the basis of having met or exceeded performance targets and subsequent financial restatements show that performance targets were not met. Claw back provisions should be triggered whether or not the executive was involved in fraudulent activity or the executive was found personally responsible for the financial misstatements.
- Appropriate use of peer companies to benchmark compensation structures

Compensation Policy

- The clarity and thoroughness of the Compensation Committee's statement of their compensation philosophy contained in the committee's annual report to shareholders, (as well as in the Committee's charter).
- The clarity and transparency of the presentation in the Compensation Discussion and Analysis (CD&A).

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Input from Shareholders

- Willingness of the company's compensation committee members to engage with shareholders and discuss executive compensation policies and practices.
- Use of other mechanisms by the company to seek shareholder input, including surveys of shareholders, mechanisms for shareholders to provide written input to the compensation committee (letters, e-mail, directly from a website, etc.), management meetings with shareholders, etc.

Poor Compensation Practices

The CRPTF will consider the extent to which a company uses what are considered poor compensation practices. The CRPTF will review these criteria holistically, and no one poor practice will result in a no vote. The CRPTF considers the following to be poor compensation practices:

- Re-pricing of stock options and/or options policies that provide for "reloading" of exercised stock options.
- Awarding of equity compensation (including stock options, restricted stock, restricted stock units, etc.) that excessively dilutes shareholder economic value or shareholder voting rights.
- Awarding Golden Coffins - provisions that award continuing compensation after an executive's death.
- Implementing compensation schemes that encourage excessive risk-taking, including both risks to the company and, for financial service companies, risks to the national and global financial system and the economy.
- Allowing for tax gross ups (except for pay adjustments that recognize extraordinary expenses related to work assignments).
- Engaging a compensation consultant that is retained by the company to provide other significant services other than work performed for the compensation committee (non-independent compensation consultant).
- Allowing for contractual severance provisions that would reward poor performance.
- Including change-in-control agreements that do not require both a change-in-control and loss of employment or diminution of job responsibilities to trigger payments.
- Changing performance metrics during the performance period in a way that misaligns pay and performance or that are not adjusted to reflect stock repurchase programs.
- Paying for Supplemental Executive Retirement Plans (SERP) that are deemed overly generous, based on an analysis by the CRPTF's proxy voting service and other expert analysis.
- Awarding new hire packages to new CEOs which are deemed overly generous ("golden hello package"), based on an analysis by the CRPTF's proxy voting service and other expert analysis.
- Failing to provide for a "claw back" policy – requiring repayment of performance-based compensation when financial restatements shows that compensation was not earned. Failing to submit one-time transfers or stock options to a shareholder vote.

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[1] Conn. Gen. Stat. § 3-13(d)(a).
[2] Council of Institutional Investors' Corporate Governance Polices, Section 7.2, Revised September 17, 2019, https://www.cii.org/files/ciicorporategovernancepolicies/09_17_19_corp_gov_policies.pdf
[3] *See* Harvard Law School's Forum on Corporate Governance: "[C]ompanies with a balanced board composition relative to director tenure tend to show better financial results and have a lower risk profile compared to their peers. At the same time, companies whose directors' tenure is heavily concentrated (whether mostly short-tenured or mostly long-tenured) exhibit poorer performance and have a higher risk profile. Therefore, as an extension beyond practicing basic board refreshment, companies may gain significant benefits by maintaining a balance of experience and new capacity on the board. https://corpgov.law.harvard.edu/2018/09/01/board-refreshment-finding-the-right-balance/
[4] This would replace the plurality vote standard which is an election where the candidate with the most votes is elected rather than requiring a majority of the votes for election – withhold votes do not count.
[5] In contested elections a majority vote is not needed because these elections are competitive.
[6] www.unpri.org
[7] https://www.ipcc.ch/sr15/
[8] Investing in a Time of Climate Change, https://www.ifc.org/wps/wcm/connect/e9bfa328-e091-465b-9da6-8fe312261b98/Investing+in+a+time+of+climate+change.pdf?MOD=AJPERES&CVID=kTFEATf

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Proposed Revisions to the

Investment Policy Statement

for the

Connecticut Retirement Plans and Trust Funds

Presented to the Investment Advisory Council

July 20, 2022

The Investment Policy Statement ("IPS")

Sets forth the standards governing the investment of the assets of the Connecticut Retirement Plans and Trust Funds ("CRPTF")

- Requisite elements of the IPS are outlined in state statute,
  Conn. Gen. Stat. § 3-13b

- Treasurer tasked with recommending an IPS which ***shall*** include, with respect to each trust fund:
  - Investment objectives
  - Asset allocation policy and risk tolerance
  - Asset class definitions (including permissible and restricted investments)
  - Guidelines on manager selection and termination, performance evaluation and proxy voting

Statutory Process for Revising the IPS

Connecticut General Statutes Sec. 3-13b(c)(1)

Wednesday, July 20, 2022

- Treasurer submits draft IPS to IAC for review

Tuesday, August 30, 2022

- IAC shall publish recommended changes and provide public notice in accordance with statute at least two (2) weeks prior to the September meeting

Wednesday, September 14, 2022

- Treasurer shall adopt the IPS "with any such changes [he] deems appropriate, with the approval of a majority" of the IAC
- If not approved, the IAC shall provide the reasons for failure to approve to the Treasurer. He may thereafter submit an amended proposed IPS at a subsequent meeting of the IAC.

Revisions to the IPS

Drafting Approach

- Comprehensive review of the IPS, including a fresh look at Connecticut's approach to risk management, investment processes, asset class definitions
- Consultation with the Investment Advisory Council ("IAC") regarding revisions, in accordance with state statute
- Strategic asset allocation reviewed and refined by the Treasurer/PFM investment team – subject to approval by the IAC
- Comparison with best practices promulgated by the CFA Institute and other public pension funds
- Eliminate outdated and/or procedural language

RESULT: **A streamlined, principles-based document that**

- **underscores the IAC's approval of asset allocation, advisory role on strategic approach**
- **facilitates the exercise of the Treasurer's investment discretion**

Highlights of Substantive Revisions

(Current IPS vs. Revisions as of July 15, 2022)

- Explicit reference to investment objectives
- Detailed rationale for specific asset classes within the portfolio, performance expectations
- Formalized focus on risk management (including integration of ESG considerations in investment processes), rebalancing policy
- Transparency around the Treasury's investment process
  - ✓ approval of investment mandates
  - ✓ execution of investment policy
  - ✓ manager selection, performance reviews, reporting to the IAC
- Appendices streamlined, Asset class structures/guidelines reevaluated
- Scaled down from 212 pages to 113 pages

Summary of Proposed Revisions

(Current IPS vs. Revisions as of July 15, 2022)

Introduction

- Adds 3 new trusts to the CRPTF
  - Teachers' Retirement Health Insurance Fund
  - Participants' Retirement Investment Fund
  - Participants' Investment Fund

Governance

- Clarifies the process for amending appendices related to asset allocation policy
  - Follows the same process that applies to revisions to the IPS

Scope and Purpose

- Explicit statements of investment philosophy, objectives and risk tolerance
- Commitment to providing opportunities for diverse managers to compete for investment mandates and brokerage business

Summary of Proposed Revisions

(Current IPS vs. Revisions as of July 15, 2022)

Strategic Asset Allocation ("SAA")

- Last full SAA and Asset-Liability study were conducted in 2018
- New approach for 2022 SAA Update:
  - PFM staff-driven process, in consultation with Meketa and IAC's Asset Allocation Subcommittee
- Final SAA submitted for IAC approval on July 20, 2022
- Once approved, will be incorporated into the IPS

Summary of Proposed Revisions

(Current IPS vs. Revisions as of July 15, 2022)

Investment Process

- Description of the asset class framework, goals and role of each asset class
- Guidelines for manager selection, performance evaluation
- Provides authority to the Treasurer to establish operational procedures for investment staff
- Public Markets vs. Private Markets Investment Managers
  - Difference – Sourced via requests for proposals ("RFPs") vs. tracking of potential investments
- CIO reviews reports for submission to the IAC on a monthly and quarterly basis

Summary of Proposed Revisions

(Current IPS vs. Revisions as of July 15, 2022)

Risk Management

CIO, with input from the CRO, responsible for devising and implementing CRPTF's risk framework and mitigating investment-related risks

Goals:

Achieve the desired rate of total return within appropriate levels of risk and liquidity
Maintain sufficient diversification to reduce potential for large losses
Minimize exposure to unintended risk
Preserve capital

Objectives:

Appropriate risk-taking given the CRPTF's investment goals
Proper monitoring

Summary of Proposed Revisions

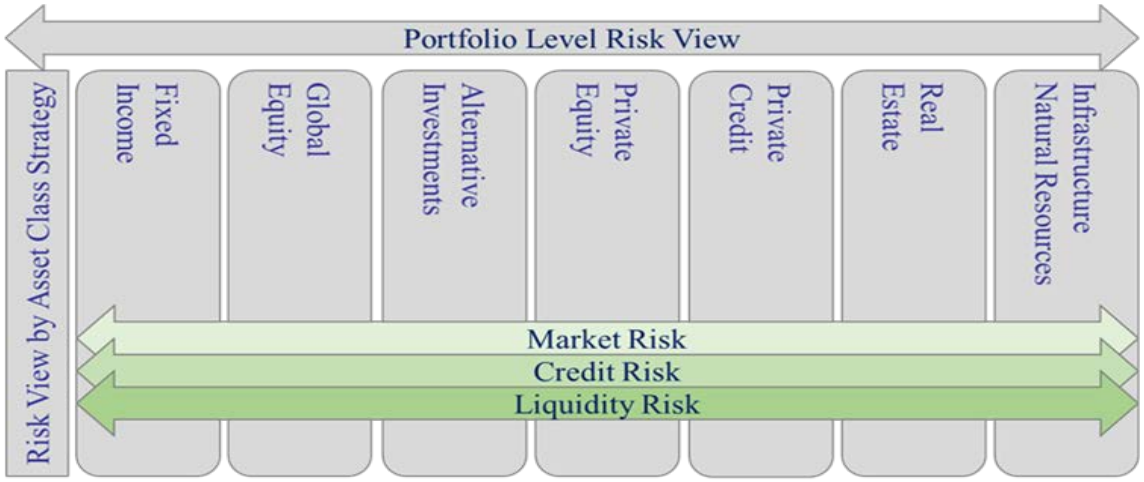
(Current IPS vs. Revisions as of July 15, 2022)

Risk Management Framework

Plan level portfolio-wide approach to risk management

Two distinct, related dimensions:

1) coordinated risk assessment and management for each asset class strategy, and
2) integrated evaluation of investment risk across all asset classes



Summary of Proposed Revisions

(Current IPS vs. Revisions as of July 15, 2022)

Other Considerations

- *Guidelines for Corporate Citizenship* replaced with section describing integration of environmental, social and governance factors
  - Recognizes the materiality of ESG and the impact of these factors on long-term returns
  - Describes how staff will evaluate managers' ESG policies and practices, relevant to each mandate

- Details Treasurer's discretion to restrict investments and/or divest based on specific criteria

- Consolidates Domestic and Global Proxy Voting Policies

Summary of Proposed Revisions

(Current IPS vs. Revisions as of July 15, 2022)

Appendices

A – Policy Target and Benchmarks *(To be approved by the IAC)*

B – Asset Allocations for each Plan and Trust

C – Asset Class Structure

D – Risk Framework

E – Responsible Contractor Policy

F – Policy for Implementation of Investment Restrictions

G – Proxy Voting Policies

Summary of Proposed Revisions

(Current IPS vs. Revisions as of July 15, 2022)

Appendix E – Responsible Contractor Policy

Approach to updates: Best practices review, peer comparison, Labor

Substantive revisions:

- Revises definition of "responsible contractor" to exclude those debarred by a municipal, state or federal governmental entity
- Applies to both real estate and infrastructure investments
- Applies where the CRPTF has more than 50% ownership and control
- Supports prevailing wages for real estate and infrastructure projects where required by funding source
- Recognizes workers' right to organize
- Advisors are required to:
  - Annually report on compliance with the Policy
  - Maintain a list of all CRPTF properties that are more than 50% owned and controlled

Summary of Proposed Revisions

(Current IPS vs. Revisions as of July 15, 2022)

Appendix F – Policy for Implementation of Investment Restrictions

- Replaces ***Compliance Policy for Implementation of Statutory Investment Restrictions***

- One comprehensive *Restricted Investments List* will include companies doing business in Iran and Sudan, Russia-domiciled companies and securities, and civilian firearms manufacturers

Summary of Proposed Revisions

(Current IPS vs. Revisions as of July 15, 2022)

Appendix G – Proxy Voting Policies

Approach to updates:

- Best practices review (Council of Institutional Investors, ISS, peer activity
- Experiences since last revisions in 2011, 2020

Substantive revisions:

- Separate policies for domestic and global proxy voting now consolidated
- New language: "All international proxies shall be voted consistent with the CRPTF's Proxy Voting Policies and the relevant provisions of contracts with advisors, as necessary, and take into account relevant market listing rules and regulations, local laws and regulations, as well as local market best practice standards."

SHAWN T. WOODEN
TREASURER

State of Connecticut
Office of the Treasurer

DARRELL V. HILL
DEPUTY TREASURER

M E M O R A N D U M

TO: **Members of Investment Advisory Council**

FROM: **Shawn T. Wooden, State Treasurer and Council Secretary**

DATE: **July 15, 2022**

SUBJECT: **Investment Advisory Council Meeting – July 20, 2022**

Enclosed is the agenda package for the Investment Advisory Council meeting on Wednesday, July 20, 2022, starting at 9:00 A.M. in the 1st floor conference rooms (G006D/D007E).

The following subjects will be covered at the meeting:

Item 1: **Approval of the Minutes of the June 8, 2022, IAC Meeting and Minutes of the June 8, 2022, IAC Asset Allocation Sub-Committee Meeting**

Item 2: **Opening Comments by the Treasurer**

Item 3: **Presentation and Consideration of a Ci3 Private Markets Mandate: GCM Grosvenor**
Raynald Leveque, Deputy Chief Investment Officer, will provide opening remarks on the implementation of the Ci3 program in the Private Markets. Olivia Wall, Senior Investment Officer, will present a proposed custom mandate with GCM Grosvenor for the Ci3 Program.

Item 4: **Presentation and Consideration of a Ci3 Private Markets Mandate: The RockCreek Group**
Kan Zuo, Investment Officer, will present a proposed custom mandate with The RockCreek Group for the Ci3 Program.

Item 5: **Connecticut Retirement Plans and Trust Funds**
2022 Strategic Asset Allocation Update Presentation
Ted Wright, Chief Investment Officer, will lead the discussion on final updates to the Strategic Asset Allocation for the Connecticut Retirement Plans and Trust Funds.

Item 6: **Connecticut Retirement Plans and Trust Funds**
2022 Investment Policy Statement Update Presentation
Christine Shaw, Principal Investment Officer, will present proposed revisions and updates to the Investment Policy Statement for the Connecticut Retirement Plans and Trust Funds.

Item 7: **Other Business**
Request For Proposal for Investment Consulting Services for PFM

Item 8: **Comments by the Chair**

Item 9: **Adjournment**

We look forward to reviewing these agenda items with you at the July 20th meeting. Please confirm your attendance with Raymond Tuohey (raymond.tuohey@ct.gov) as soon as possible.

STW/rt

Enclosures

DRAFT VERSION – MINUTES OF THE INVESTMENT ADVISORY COUNCIL MEETING
WEDNESDAY, JUNE 8, 2022 – SUBJECT TO REVIEW AND APPROVAL
FINAL VERSION OF THESE MINUTES WILL BE POSTED AFTER APPROVAL OF THE INVESTMENT ADVISORY COUNCIL AT THE NEXT SPECIAL MEETING, WHICH WILL BE HELD ON WEDNESDAY, JULY 20, 2022

MEETING NO. 506

Members present:	D. Ellen Shuman, Chair Treasurer Wooden, Secretary Myra Drucker Thomas Fiore, representing Secretary Jeffrey Beckham William Murray Michael Knight Steven Muench Patrick Sampson
Members absent:	Michael LeClair
Others present:	Darrell Hill, Deputy Treasurer Ted Wright, Chief Investment Officer Raynald Leveque, Deputy Chief Investment Officer Kevin Cullinan, Chief Risk Officer Mark Evans, Principal Investment Officer John Flores, General Counsel Ginny Kim, Chief Compliance Officer Peter Gajowiak, Principal Investment Officer Denise Stake, Principal Investment Officer Paul Osinloye, Principal Investment Officer Michael Terry, Principal Investment Officer Olivia Wall, Senior Investment Officer Kan Zuo, Investment Officer Raymond Tuohey, Executive Secretary
Guests:	Public Line

With a quorum present, Chair D. Ellen Shuman called the Investment Advisory Council ("IAC") meeting to order at 9:14 a.m.

Approval of Minutes of the April 13, 2022, IAC Meeting and April 25, 2022, IAC Special Meeting

Chair Shuman called for a motion to accept the minutes of the IAC meeting on April 13, 2022, and the IAC special meeting on April 25, 2022 (collectively, the "Minutes"). **Ms. Drucker moved to approve the Minutes. The motion was seconded by Treasurer Wooden.** Mr. Fiore noted

that he represents Secretary Jeffrey Beckham and asked that the minutes be amended to reflect the corrected representation. **There being no further discussion, the Chair called for a motion to approve the Minutes subject to the proposed amendment. Ms. Drucker moved to approve the Minutes. The motion was seconded by Treasurer Wooden.** There was one abstention from Mr. Sampson. **The Chair called for a vote to accept the Minutes of the meetings, as amended, and the motion passed.**

Comments by the Treasurer

Treasurer Wooden, welcomed the IAC members and began by sharing recent updates at the Office of the Treasurer (OTT). Treasurer Wooden announced he had proceeded with the selection of Moziac Capital Advisors as a preferred vendor to provide the CRPTF with secondary advisory services to the private markets portfolios. On the public markets side, the Treasurer announced he had decided to select TCW, PineBridge, Wellington and Conning as finalist firms from the Core Fixed Income RFP to restructure the CRPTF's Core Fixed Income portfolio totaling $5.2 billion. Lastly, Treasurer Wooden introduced Ginny Kim, Chief Compliance Officer, to the IAC members, and then gave a brief overview of the agenda.

Update on the Market and CRPTF Performance

Ted Wright, Chief Investment Officer, provided an update on the capital market environment and reported on the first quarter performance.

Presentation and Consideration of Reverence Capital Partners Opportunities Fund V

Mark Evans, Principal Investment Officer, provided opening remarks and made a presentation to the IAC regarding Reverence Capital Partners Opportunities Fund V, a Private Investment Fund opportunity.

Roll Call of Reactions for Reverence

Messrs. Steve Muench, Thomas Fiore, Patrick Sampson, William Murray, Michael Knight, Myra Drucker and Chair Shuman provided feedback on Reverence. There being no further discussion, Chair Shuman called for a motion to waive the 45-day comment period. A motion was made by Mr. Fiore, seconded by Mr. Murray, to waive the 45-day comment period for Reverence. The Chair called for a vote, and the motion passed.

Presentation and Consideration of Fortress Lending Fund III/IV MA-CPRTF

Mark Evans, Principal Investment Officer, provided opening remarks and made a presentation to the IAC regarding Fortress Lending Fund III/IV MA – CPRTF, a Private Credit Fund opportunity.

Roll Call of Reactions for Fortress

Messrs. Steve Muench, Thomas Fiore, Patrick Sampson, William Murray, Michael Knight, Myra Drucker and Chair Shuman provided feedback on Fortress. There being no further discussion, Chair Shuman called for a motion to waive the 45-day comment period. A motion was made by Ms. Drucker, seconded by Mr. Muench, to waive the 45-day comment period for Fortress. The Chair called for a vote, and the motion passed.

Presentation and Consideration of Sixth Street Lending Partners

Kan Zuo, Investment Officer, provided opening remarks and made a presentation to the IAC regarding Sixth Street Lending Partners, a Private Credit Fund opportunity.

Roll Call of Reactions for Sixth Street

Messrs. Steve Muench, Thomas Fiore, Patrick Sampson, William Murray, Michael Knight, Myra Drucker and Chair Shuman provided feedback on Sixth Street. There being no further discussion, Chair Shuman called for a motion to waive the 45-day comment period. A motion was made by Mr. Sampson, seconded by Ms. Drucker, to waive the 45-day comment period for Sixth Street. The Chair called for a vote, and the motion passed.

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Report on the Connecticut Retirement Plans and Trust Funds' Statutory Restrictions

Ginny Kim, Chief Compliance Officer, provided a report on the CRPTF Compliance Policy for Implementation of Statutory Investment Restrictions.

Other Business

Chair Shuman invited the council members to discuss any other matters of interest for future IAC meetings.

Comments by the Chair

Chair Shuman provided comments about portfolio performance, anticipated contributions, Treasurer transition, and made brief comments of her vision and aspirations for the IAC in the coming year.

Meeting Adjourned

There being no further business, Chair Shuman called for a motion to adjourn the meeting. **Mr. Fiore moved to adjourn the meeting, and the motion was seconded by Mr. Muench. There being no discussion, the motion passed and the meeting was adjourned at 11:19 a.m.**

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DRAFT VERSION – MINUTES OF THE INVESTMENT ADVISORY COUNCIL ASSET ALLOCATION SUB-COMMITTEE MEETING
WEDNESDAY, JUNE 8, 2022 – SUBJECT TO REVIEW AND APPROVAL
FINAL VERSION OF THESE MINUTES WILL BE POSTED AFTER APPROVAL OF THE INVESTMENT ADVISORY COUNCIL AT THE NEXT SPECIAL MEETING, WHICH WILL BE HELD ON WEDNESDAY, JULY 20, 2022

MEETING NO. 507

Members present:	D. Ellen Shuman, Chair
	Darrell Hill, Deputy Treasurer, representing Treasurer Wooden, Secretary
Left meeting at 12:22 p.m.	Myra Drucker
	Thomas Fiore, representing Secretary Jeffrey Beckham
	William Murray
	Steven Muench
IAC Members absent:	Michael LeClair
	Michael Knight
	Patrick Sampson
Others present:	Ted Wright, Chief Investment Officer
	Raynald Leveque, Deputy Chief Investment Officer
	Kevin Cullinan, Chief Risk Officer
	Mark Evans, Principal Investment Officer
	John Flores, General Counsel
	Ginny Kim, Chief Compliance Officer
	Peter Gajowiak, Principal Investment Officer
	Denise Stake, Principal Investment Officer
	Paul Osinloye, Principal Investment Officer
	Michael Terry, Principal Investment Officer
	Olivia Wall, Senior Investment Officer
	Kan Zuo, Investment Officer
	Raymond Tuohey, Executive Secretary
Guests:	Peter Woolley, Meketa Investment Group
	Mary Mustard, Meketa Investment Group
	Public Line

With a quorum present, Chair D. Ellen Shuman called the Investment Advisory Council ("IAC") Asset Allocation Sub-Committee special meeting to order at 11:37 a.m.

Connecticut Retirement Plans and Trust Funds 2022 Strategic Asset Allocation Update Presentation

Ted Wright, Chief Investment Officer, lead a discussion on proposed updates to the Strategic Asset Allocation for the Connecticut Retirement Plans and Trust Funds.

Meeting Adjourned

There being no further business, Chair Shuman called for a motion to adjourn the meeting. **Mr. Fiore moved to adjourn the meeting, and the motion was seconded by Ms. Muench. There being no discussion, the motion passed and the meeting was adjourned at 1:14 p.m.**

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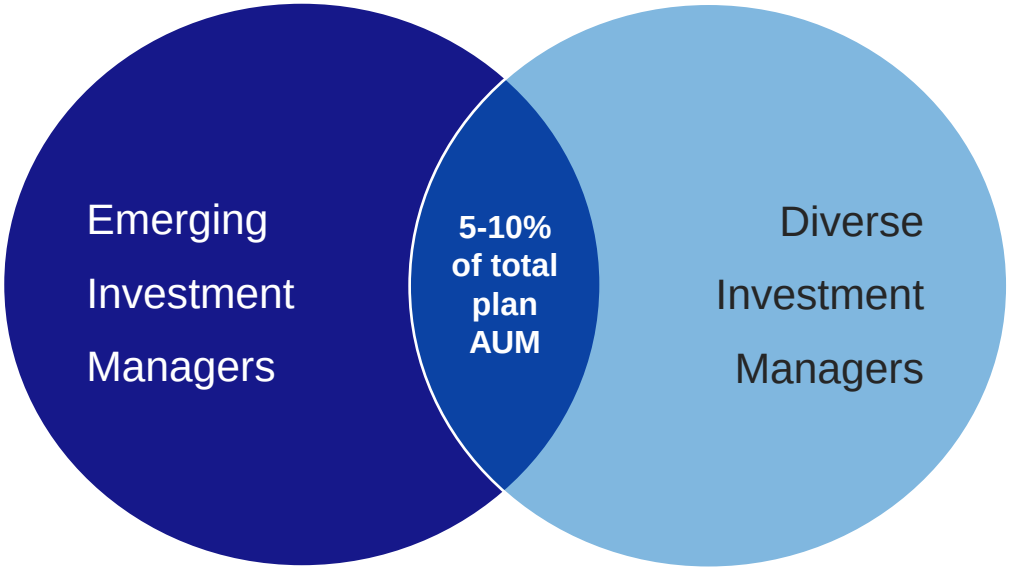
Connecticut Inclusive Investment Initiative (Ci^3)
Program Overview / Private Markets Mandates
July 2022

Pension Funds Management

Program Policy & Target

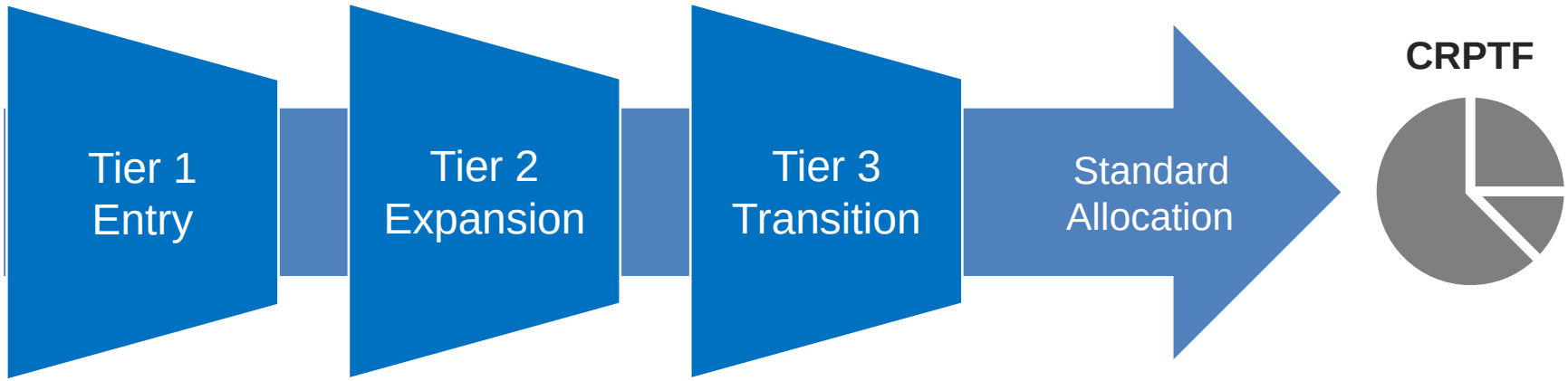
- The Ci^3 program affords opportunities to both emerging and diverse managers to compete for investment mandates consistent with the goals of the CRPTF and fiduciary standards.
- The Ci^3 program defines an emerging manager as a newly formed or relatively small asset management firm that has the minimum amount of assets under management ("AUM") and/or length of track record.
- The Ci^3 program defines a diverse manager as an asset management firm with the following qualifications: owned in a majority form by either minority individuals, women, veterans or persons with a disability. On a case-by-case basis, the Ci^3 program will consider a diverse manager as firm ownership by a group which qualifies as a protected class under Connecticut law.



Program Asset Class Criteria & Lifecycle

	Public Market Asset Classes		Alternative Asset Classes		
	Global Equity	**Global Fixed Income**	**Hedge Funds**	**Private Equity / Private Credit**	**Real Assets**
Total Firm Assets	< $10B	< $10B	< $3B	< $5B	< $5B
Fund Size	N/A	N/A	N/A	< $2B	< $2B
Fund #	N/A	N/A	N/A	Third generation or earlier	Third generation or earlier
Firm Tenure	< 10 years	< 10 years	< 7 years	Minimum one year	Minimum one year

Ci^3 Framework for Manager-of-Managers



Ci3 Program Partners

Public Markets
Global Equity & Global Fixed Income

Private Markets
Private Equity, Real Estate, Infrastructure

Xponance
RockCreek
ATTUCKS
BIVIUM CAPITAL
LeadingEdge LEIA®

m2 MULLER & MONROE
ONE ROCK CAPITAL PARTNERS
ARTEMIS
GenNx360 Capital Partners
PENZANCE
RUBICON POINT PARTNERS
GRAIN MANAGEMENT
ALDRICH CAPITAL PARTNERS
BASIS INVESTMENT GROUP, LLC
stellex CAPITAL MANAGEMENT
AVANCE

~$2.10B
Total Capital Allocated incl. Unfunded Commitments (3/31)

~5.04%
Percent of CRPTF incl. Unfunded Commitments

6 Mgr-of-Mgrs
37 Sub-Managers
Program Partners / Managers

Ci3 Program Transitions

Broader CRPTF Global Equity & Global Fixed Income	Ci3 Tier Framework Global Equity & Global Fixed Income
ARGA	PALMER SQUARE CAPITAL MANAGEMENT** Tier 2
LIM LONGFELLOW	
PUGH CAPITAL MANAGEMENT	

Summary of Activity To Date

- **Ci³ Program Partners**
  - In 2020, PFM concluded RFP search for three Manager-of-Managers in the Public Markets: **Xponance, RockCreek** & **Attucks**
  - In 2021, PFM added two additional partners in the small and microcap segments of Global Equities: **Bivium** & **LeadingEdge**
  - In 2022, PFM continued to build out program to recommend two high-quality private markets program partners: **GCM Grosvenor** & **RockCreek**

- **Why a Manager-of-Managers for Private Markets?**
  - **Potential for alpha** sourced from smaller, emerging managers
  - **Resource intensive for PFM** to source, allocate and oversee emerging managers in the CRTPF
  - Allocations to emerging managers are often **smaller** than CRPTF's standard allocation size
  - Maintain our investment approach toward **increasing the private markets** exposure as contemplated in our Strategic Asset Allocation
  - **Provides a diversified pool of potential managers** with unique strategies to "transition" into the broader program
  - **Opportunity for selective transitions** to the broader portfolio by the CIO & Principal Investment Officer over time

SHAWN T. WOODEN
TREASURER

State of Connecticut
Office of the Treasurer

DARRELL V. HILL
DEPUTY TREASURER

July 15, 2022

Members of the Investment Advisory Council ("IAC")

Re: GCM Grosvenor Inc. and CRPTF Ci3 Mandate

Dear Fellow IAC Member:

At the July 20, 2022, meeting of the IAC, I will present for your consideration a fund of one investment opportunity between the Connecticut Retirement Plans and Trust Funds (the "CRPTF") and GCM Grosvenor Inc. The custom mandate (referred to herein as the "Fund") will provide the CRPTF with an opportunity to invest in small and emerging or diverse managers as part of the implementation of the CRPTF's Inclusive Investment Initiative ("Ci3").

I am considering a commitment of up to $300 million in the Fund, which will seek to invest roughly equally across Private Equity and Real Estate asset classes over three years. The Fund will focus on primary fund investments and co-investments in North America and opportunistically in Europe across Real Estate and Private Equity. Further, within Real Estate, the mandate may include joint ventures/revenue sharing agreements. The Fund would provide the CRPTF exposure to a differentiated focus on investments in diverse and emerging managers largely unknown to institutional investors and who are often undercapitalized. Uncovering and investing in such managers can create a sourcing edge as there is less competition among allocators.

Attached for your review is the recommendation from Ted Wright, Chief Investment Officer, and the due diligence report prepared by Hamilton Lane. I look forward to discussing these materials at the next meeting.

Sincerely,

Shawn T. Wooden
State Treasurer

65 CAPITOL AVE, HARTFORD, CT 06106-1773, TELEPHONE: (860) 702-3000
AN EQUAL OPPORTUNITY EMPLOYER

Full Due Diligence Report

CIO Investment Recommendation

July 14, 2022

GCM Grosvenor/State of Connecticut Ci^3 Mandate

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Executive Summary

Manager Overview

- Founded in 1971, GCM Grosvenor Inc. ("GCM" or the "Firm") is a global alternative asset management and advisory company investing across private equity, infrastructure, real estate, credit, and absolute return investment strategies.
- GCM is headquartered in Chicago, with 8 offices globally.
- The Firm has been investing with small and emerging or diverse managers since 1999.
- GCM is majority management owned. In November 2020, the Firm floated approximately 23% of its equity on the NASDAQ (ticker: GCMG).
- The proposed custom mandate with GCM and the Connecticut Retirement Plans and Trust Funds (referred to herein as the "Fund") would be managed by the Firm's affiliate, GCM Customized Fund Investment Group, L.P. (the "GP"), an SEC registered investment adviser.

Fund Summary

- The $300 million Fund, committed over 3 years, would focus on investments in small, emerging or diverse managers as part of the Connecticut Retirement Plans and Trust Funds ("CRPTF") program, Inclusive Investment Initiative ("Ci3").
- The Fund will invest across the Private Equity and Real Estate asset classes via roughly a 50/50 split.
- The Fund will focus on primary fund investments and co-investments in North America and opportunistically in Europe. Further, within Real Estate, the mandate may include joint ventures/revenue sharing agreements.
- New/Existing Manager: Existing, given a change of control that took place in 2014 between Credit Suisse and GCM in the CRPTF's Cleantech Opportunities Fund, L.P. (a 2006 vintage).

Strategic Fit

- Discretionary, and collaborative program providing the CRPTF with the opportunity to invest in small, and emerging or diverse managers which represents a large, relatively untapped market to large allocators.
- Many such managers, though high-quality, are largely unknown to institutional investors, and are often undercapitalized. Uncovering and investing in such managers can create a sourcing edge as there is less competition among allocators.
- Sourcing, conducting due diligence, and monitoring such managers is resource intensive for large allocators. GCM has an experienced, global team of over 500 professionals, including 172 investment professionals, that focus on private markets. Pension Funds Management ("PFM") investment staff believe partnering with GCM will provide a cost-effective and more efficient approach to accessing the market within the target asset classes.

Recommendation

Recommendation

- Based on the strategic asset class fit, and the due diligence conducted by PFM investment professionals and consultant, Hamilton Lane, the Chief Investment Officer of the CRPTF recommends a commitment of $300 million, invested over a 3-year term, to be managed by GCM.
- GCM, through a fund of one, would manage a small and emerging or diverse mandate across Private Equity and Real Estate.
- The Firm's large team, strong track record, and flexible, open architecture of investing across the capital stack, and the broader private markets support GCM's strong candidacy as a potential partner for the implementation of the Connecticut Inclusive Investment Initiative (Ci^3) program.

Investment Considerations

- Experienced and cohesive team with investment, and operating expertise. Senior staff average over 20 years of industry experience, and the majority have worked together for at least a decade.
- A manager with a proven, long-term track record of investing with diverse managers. Robust manager sourcing platform with over 600 manager relationships spanning the private investment asset classes, including over 300 emerging and diverse managers.
- Ability to make investments across primary funds, co-investments, secondaries, joint ventures and other specialty structures.

General Partner

Global alternatives investment firm with a history of investing in Private Equity and Real Estate through custom accounts with small and emerging or diverse managers

- GCM is an established, global player in private markets with one of the industry's longest track records within real estate and private equity. GCM has $70.5 billion in assets under management ("AUM") in private markets including private equity, real estate, private credit and infrastructure, (approximately 62% of AUM), and absolute return strategies (approximately 38% of AUM).
- GCM is a market leader in managing custom separate account for institutional clients. Approximately 76% of AUM is within customized separate accounts. Each program is tailored, and proposed allocations are determined between GCM Grosvenor and the client.
- GCM has been investing with small and emerging managers since 1999, and with diverse managers since 2002.

Experienced team with significant resources for sourcing, due diligence, monitoring, and development

- GCM has a senior investment team that average over 20 years of industry experience and the majority have worked together for at least a decade.
- Firm-wide Investment Committee Members (title/name/years of experience/years with GCM): President Jonathan Levin/18/10, CIO Frederick Pollock/17/7; Chief Risk Officer Amy Wierenga 20/2; Managing Directors (Peter Braffman 36/11, Derek Jones 35/15, Jason Metakis 22/12, Brian Sullivan 25/8, and Bernard Yancovich 27/22).
- The GP also has individual investment committees for each strategy (private equity, real estate, private credit and infrastructure) that meet prior to the Firm-wide Investment Committee, demonstrating the Firm's level of diligence with investments.

Strong investment governance, due diligence and operational capability

- Following an initial preliminary due diligence review and before investment committee review, each opportunity is subjected to a more comprehensive investment due diligence review. This includes an in-depth track record and strategy analysis; a revaluation of unrealized investments; management team assessment, and detailed reference checks.
- Proposed investments will also be subjected to operational due diligence reviews which are intended to evaluate a manager's ability to meet the demands of managing institutional capital and the risks associated with this more complex level of investment. Notably the operations and investment teams are part of GCM's manager mentoring process as outlined on the following two pages.

Connecticut Inclusive Investment Initiative (Ci3) Mandate

Institutional Investor Experience with Emerging & Diverse Manager Programs

- GCM Grosvenor is a leader in the asset management industry in providing customized investment programs that focus on emerging and diverse managers in the alternatives space.
- GCM has a 20-year history of partnering with state pension plans to implement their emerging and diverse manager program via client-specific custom mandates.
- The Firm's emerging and diverse manager platform sits on top of GCM Grosvenor's 50-year tenure of investing across all private market strategies.

Why the Need for a Private Equity and Real Estate Partner in the Ci3 Program

- This strategic mandate will enable the Ci3 program to accelerate its commitments to emerging and diverse managers in the Private Equity and Real Estate.
- GCM, as our partner, will assist in CRPTF's ability to deploying smaller capital commitments to emerging managers, which is a significant constraint on our capital deployment and resource intensive for oversight and monitoring.
- GCM is well positioned with a deep, experienced team to track, source, diligence and invest in innovative managers for our mandate as defined.

GCM's Competitive Edge

- The Firm's size and scale allows it achieve deeper, and more frequent interactions with managers to provide the possible opportunity for preferred economics, terms (including board seats), and to stay abreast of the broader market trends.
- GCM's goal is to commit the necessary resources to complete comprehensive diligence, be constructive and transparent in its findings, and be able to go into a first close in a meaningful way. GCM views that forming early relationships with managers is their competitive edge and can create stronger outcomes for their clients.

How GCM Supports Emerging Managers

- Starting pre-fund and progressing through transition, GCM mentors managers throughout their lifecycle across a variety of best practices to help institutionalize their platforms while strengthen its relationship.

Organizational structure

- Budget analysis
- Service provider suggestions
- Conflicts of interest
- Capital planning

Market standards

- Fund terms
- Fee structures
- Industry references

Performance

- Cash management
- Valuations
- Track record template
- J-curve mitigation

Capital raising

- Presentation feedback
- Serve as a reference
- Investor referrals
- Anchor investor
- JV / Seeding structures

Operational best practices

- Policies & procedures
- Compliance
- Reporting
- Cash controls
- Expense disclosures

Source: GCM Grosvenor

Strategic Mandate for the Ci^3 Program

Fund of One Structure
GCM Grosvenor - Connecticut

- The commitment would help foster the implementation of the Connecticut Inclusive Investment Initiative (Ci^3) which was established to provide the CRPTF with opportunities for small and emerging or diverse managers to compete for investment mandates.
- The recommended commitment would span across CRPTF's Private Equity, and Real Estate sectors which are currently under review with the ongoing asset allocation study.
- GCM would also provide the CRPTF with the ability to gain early access to potential "best-in-class" managers where allocation growth may be achieved over time and provide those managers with a possible path to a more direct limited partner relationship eventually.

The commitment would be aligned with the CRPTF's strategic objectives:

- Enable the Ci3 program to grow its target allocation (5 – 10% of plan assets).
- Increase allocation in accordance with policy targets for Private Equity, and Real Estate investments.
- A fully customized mandate would target the specific subsectors below:
  - in Private Equity, GCM expects the target 60% buyout, 20% growth and 20% special situations,
  - in Real Estate, GCM expects to primarily target value-add and opportunistic investments across sectors.

Track Record and Performance

- Given that a large portion of GCM's business constitutes customized separate accounts and fund of ones that invest in primary funds, co-investments, joint-ventures/revenue shares, and secondaries across Private Equity and Real Estate, PFM investment professionals elected to review the total performance of each asset class in aggregate regardless of underlying structure (please see table below).
- Further, due to GCM's highly customized investment approach, PFM staff also reviewed the performance of primary fund investments on a stand-alone basis, by breaking out performance by vintage year and compared performance relative to asset class appropriate benchmarks (detailed on the following pages).

Total Asset Class Performance, Strategy inception thru December 31, 2021

Asset Class	Commitment	Invested Capital	Realized Proceeds	Unrealized Value	Investment Net TVPI	Investment Net DPI	Investment Net IRR
Private Equity	**$ 11,126.6**	**$ 9,954.6**	**$ 9,551.0**	**$ 7,762.9**	**1.74x**	**0.96x**	**16.9%**
Realized and Substantially Realized Investments	*$ 4,816.7*	*$ 5,089.4*	*$ 8,328.1*	*$ 1,500.7*	*1.93x*	*1.64x*	*17.5%*
Real Estate	**$ 2,688.1**	**$ 1,927.0**	**$ 1,198.4**	**$ 1,213.5**	**1.25x**	**0.62x**	**13.1%**
Realized and Substantially Realized Investments	*$ 466.8*	*$ 483.5*	*$ 726.8*	*$ 55.2*	*1.62x*	*1.50x*	*21.4%*

GCM Grosvenor data, USD millions, each asset class includes performance across primary funds, co-investments, joint-ventures/revenue shares, secondaries where applicable.

Private Equity, Small and Emerging or Diverse

Asset Class	Commitment	Invested Capital	Realized Proceeds	Unrealized Value	Investment Net TVPI	Investment Net DPI	Investment Net IRR	Burgiss IRR Quartile	Burgiss TVPI Quartile	Burgiss DPI Quartile
Private Equity (Excluding Venture)										
Small and Emerging or Diverse Manager Investments (Total)	**$ 14,537.1**	**$ 12,982.7**	**$ 12,835.2**	**$ 9,042.5**	**1.69x**	**0.99x**	**16.7%**			
Small and Emerging or Diverse Manager Primary Funds	***$ 10,007.8***	***$ 8,724.2***	***$ 9,678.7***	***$ 4,846.6***	***1.66x***	***1.11x***	***15.7%***			
1999	*$ 8.1*	*$ 9.3*	*$ 15.0*	*$ 0.0*	*1.60x*	*1.60x*	*11.4%*	*2nd*	*2nd*	*2nd*
2000	*$ 33.8*	*$ 35.3*	*$ 46.6*	*$ -*	*1.32x*	*1.32x*	*7.3%*	*3rd*	*3rd*	*3rd*
2001	*$ 34.5*	*$ 36.3*	*$ 116.6*	*$ 0.0*	*3.21x*	*3.21x*	*36.5%*	*1st*	*1st*	*1st*
2002	*$ 17.0*	*$ 17.8*	*$ 45.1*	*$ 0.0*	*2.53x*	*2.53x*	*24.0%*	*2nd*	*1st*	*1st*
2003	*$ 19.5*	*$ 20.0*	*$ 35.8*	*$ -*	*1.79x*	*1.79x*	*20.2%*	*2nd*	*2nd*	*2nd*
2004	*$ 107.5*	*$ 102.6*	*$ 162.8*	*$ 11.6*	*1.70x*	*1.59x*	*15.1%*	*2nd*	*2nd*	*2nd*
2005	*$ 325.5*	*$ 351.3*	*$ 481.6*	*$ 16.2*	*1.42x*	*1.37x*	*7.3%*	*3rd*	*3rd*	*3rd*
2006	*$ 381.1*	*$ 412.5*	*$ 751.5*	*$ 13.7*	*1.85x*	*1.82x*	*11.9%*	*2nd*	*1st*	*1st*
2007	*$ 602.7*	*$ 659.2*	*$ 1,160.8*	*$ 28.5*	*1.80x*	*1.76x*	*14.3%*	*1st*	*2nd*	*2nd*
2008	*$ 561.3*	*$ 622.9*	*$ 1,063.5*	*$ 17.6*	*1.74x*	*1.71x*	*16.9%*	*1st*	*2nd*	*1st*
2009	*$ 270.8*	*$ 342.2*	*$ 479.1*	*$ 41.9*	*1.52x*	*1.40x*	*13.4%*	*3rd*	*3rd*	*3rd*
2010	*$ 1,068.8*	*$ 1,232.3*	*$ 1,887.7*	*$ 149.3*	*1.65x*	*1.53x*	*16.9%*	*2nd*	*2nd*	*2nd*
2011	*$ 564.4*	*$ 683.1*	*$ 858.8*	*$ 242.5*	*1.61x*	*1.26x*	*13.4%*	*2nd*	*3rd*	*3rd*
2012	*$ 462.3*	*$ 500.4*	*$ 571.9*	*$ 304.0*	*1.75x*	*1.14x*	*18.0%*	*2nd*	*2nd*	*3rd*
2013	*$ 256.2*	*$ 279.6*	*$ 288.9*	*$ 174.0*	*1.66x*	*1.03x*	*14.0%*	*2nd*	*2nd*	*3rd*
2014	*$ 252.0*	*$ 292.0*	*$ 284.5*	*$ 176.2*	*1.58x*	*0.97x*	*16.1%*	*2nd*	*3rd*	*2nd*
2015	*$ 594.2*	*$ 659.8*	*$ 661.8*	*$ 503.1*	*1.77x*	*1.00x*	*19.2%*	*2nd*	*2nd*	*2nd*
2016	*$ 438.3*	*$ 419.0*	*$ 256.8*	*$ 640.9*	*2.14x*	*0.61x*	*29.1%*	*1st*	*1st*	*2nd*
2017	*$ 649.0*	*$ 589.6*	*$ 294.0*	*$ 801.6*	*1.86x*	*0.50x*	*32.1%*	*1st*	*2nd*	*2nd*
2018	*$ 520.8*	*$ 464.2*	*$ 148.3*	*$ 489.3*	*1.37x*	*0.32x*	*22.6%*	*2nd*	*2nd*	*2nd*
2019	*$ 981.0*	*$ 565.4*	*$ 31.0*	*$ 796.0*	*1.46x*	*0.05x*	*46.2%*	*1st*	*2nd*	*2nd*
2020	*$ 1,103.7*	*$ 360.4*	*$ 35.8*	*$ 363.9*	*1.11x*	*0.10x*	*15.5%*	*3rd*	*3rd*	*2nd*
2021	*$ 659.0*	*$ 68.8*	*$ 0.8*	*$ 76.1*	*1.12x*	*0.01x*	*58.2%*	*1st*	*2nd*	*1st*

GCM Grosvenor data as of December 30, 2021 (in USD millions)

- GCM has a long track record of investing in private equity across primary funds and co-investments going back to 1999.
- PFM staff analyzed all private equity investments in small and emerging or diverse managers as a single cohort and the respective primary funds subset as well.
- Since strategy inception, the Firm had invested $13 billion in the sector generating a net total value to paid in multiple ("TVPI"), distributions to paid in capital multiple ("DPI"), and internal rate of return ("IRR") of 1.7x, 1.0x, and 16.7%, respectively, as of December 31, 2021.
- Since strategy inception, the Firm had invested $8.7 billion in the primary fund subsector generating a net: TVPI, DPI, and IRR of 1.7x, 1.1x, and 15.7%, respectively, as of December 31, 2021.
- Primary funds were also broken out into vintage years and performance was compared against the Burgiss All Private Equity (ex-venture), North American Benchmark. As can be seen from the table above, GCM's performance was ranked either first or second quartile across all three relevant performance metrics for 77% of the last 23 years.

Real Estate, Small and Emerging or Diverse

Asset Class	Commitment	Invested Capital	Realized Proceeds	Unrealized Value	Investment Net TVPI	Investment Net DPI	Investment Net IRR	Burgiss IRR Quartile	Burgiss TVPI Quartile	Burgiss DPI Quartile
Real Estate										
Small and Emerging or Diverse Manager Investments (Total)	**$ 2,688.1**	**$ 1,927.0**	**$ 1,198.4**	**$ 1,213.5**	**1.25x**	**0.62x**	**13.1%**			
Small and Emerging or Diverse Manager Principal Investments	*$ 1,506.2*	*$ 919.1*	*$ 393.5*	*$ 692.9*	*1.18x*	*0.43x*	*12.8%*			
Small and Emerging or Diverse Manager Primary Funds	*$ 1,181.9*	*$ 1,007.9*	*$ 804.9*	*$ 520.6*	*1.32x*	*0.80x*	*13.2%*			
2010	*$ 15.0*	*$ 13.9*	*$ 23.3*	*$ 0.1*	*1.69x*	*1.68x*	*19.0%*	*1st*	*2nd*	*1st*
2011	*$ 93.8*	*$ 103.3*	*$ 157.7*	*$ 4.1*	*1.57x*	*1.53x*	*20.2%*	*1st*	*2nd*	*2nd*
2012	*$ 70.4*	*$ 87.3*	*$ 119.6*	*$ 6.3*	*1.44x*	*1.37x*	*12.6%*	*2nd*	*3rd*	*2nd*
2013	*$ 85.5*	*$ 99.7*	*$ 62.3*	*$ 25.1*	*0.88x*	*0.63x*	*(4.7%)*	*4th*	*4th*	*4th*
2014	*$ 106.0*	*$ 137.7*	*$ 151.4*	*$ 28.5*	*1.31x*	*1.10x*	*11.4%*	*2nd*	*3rd*	*2nd*
2015	*$ 103.1*	*$ 113.0*	*$ 79.2*	*$ 58.6*	*1.22x*	*0.70x*	*8.4%*	*3rd*	*3rd*	*2nd*
2016	*$ 170.4*	*$ 165.7*	*$ 109.0*	*$ 128.1*	*1.43x*	*0.66x*	*17.4%*	*2nd*	*3rd*	*2nd*
2017	*$ 56.0*	*$ 55.2*	*$ 10.6*	*$ 59.2*	*1.27x*	*0.19x*	*9.3%*	*3rd*	*3rd*	*3rd*
2018	*$ 155.0*	*$ 110.2*	*$ 71.8*	*$ 89.7*	*1.47x*	*0.65x*	*29.9%*	*1st*	*1st*	*1st*
2019	*$ 82.3*	*$ 40.2*	*$ 7.5*	*$ 43.6*	*1.27x*	*0.19x*	*25.5%*	*1st*	*1st*	*1st*
2020	*$ 108.8*	*$ 52.1*	*$ 6.4*	*$ 52.8*	*1.14x*	*0.12x*	*28.1%*	*2nd*	*2nd*	*1st*
2021	*$ 135.8*	*$ 29.6*	*$ 6.0*	*$ 24.6*	*1.03x*	*0.20x*	*10.2%*	*2nd*	*2nd*	*1st*

GCM Grosvenor data as of December 30, 2021 (in USD millions)

- GCM has been investing with small and emerging or diverse real estate managers going back to 2010.
- Within real estate the GP takes a differentiated approach when compared to GCM's other private market business lines by placing a large emphasis on joint ventures, co-investments, and seeding strategies ("Principal Investments"). GCM's joint venture strategy is focused on investing with high-quality operating partners that it can help grow into discretionary fund managers versus solely being a non-discretionary capital provider for one-off deals. GCM believes this provides a differentiated and attractive source of flexible capital to support emerging managers over the long-term and more properly aligns GCMs interests with the long-term interests of managers.
- PFM staff analyzed all real estate investments in small and emerging or diverse managers as a single cohort and the respective principal and primary fund subsets separately as well.
- Since strategy inception, the Firm had invested $1.9 billion in the sector generating a net TVPI, DPI, and IRR of 1.3x, 0.6x, and 13.1%, respectively, as of December 31, 2021.
- Since strategy inception, the Firm had invested $1.0 billion in the primary fund subsector generating a net TVPI, DPI, and IRR of 1.3x, 0.8x and 13.2% respectively, as of December 31, 2021.
- Primary funds were also broken out into vintage years and performance was compared against the Burgiss Opportunistic and Value-Add, North American Benchmark. As can be seen from the table above, GCM's performance was ranked either first or second quartile across all three relevant performance metrics for 69% of the last 12 years.

Strengths and Rationale

Long and strong track record

- The GP has one of the industry's longest tenured track records managing a large number of dedicated accounts with a focus on small and emerging or diverse funds across Private Equity and Real Estate. GCM has been investing in small and emerging or diverse managers in private equity since 1999, and real estate since 2010. As demonstrated on the previous slides pertaining to the GP's track record, the primary funds have outperformed their respective benchmarks the majority of the time.

Large and cohesive investment and back-office teams

- GCM's large investment and back-office teams allow for a robust sourcing, and monitoring platform, which would provide the CRPTF with a cost-effective opportunity to invest in managers that would otherwise be too small for the current program.
- GCM's large teams would also be able to provide value-add services for the CRPTF which would include strategic planning, regular deal flow calls, annual portfolio reviews, custom reporting, advisory on operational/compliance Issues, and due diligence. Furthermore, GCM has demonstrated discipline with hiring additional investment and operational staff with its growth in AUM over the last several years to manage staff capacity in deploying larger pools of capital.

Industry leader with broad market access

- GCM has a longstanding "Open Door" policy that encourages managers to meet with GCM investment professionals exploring fundraises, often years before official capital raises. This often results in GCM getting an early look at investment opportunities, and access to deal flow. GCM has a global presence with offices worldwide, employing over 500 professionals, including 172 investment professionals, that focus on private markets, which helps GCM maintain a broad and current view of the market.
- For over a decade, GCM has sponsored annual small and emerging or diverse manager conferences to raise visibility between institutional investors and managers. These conferences are an important source of deal flow for GCM's mandates. GCM has also indicated that it would provide support for the CRPTF's Ci3 program, including conference logistics, content, and thematic planning.

Key Risks and Mitigants

Additional layer of fees resulting from a "fund of funds" like strategy

- The approach of investing in a "fund of funds" like strategy, albeit one focused on small, and emerging, or diverse Private Equity and Real Estate managers, aims to achieve more diversification and asset allocation when compared to investing directly. In exchange for this approach, investors typically pay fees on both the underlying investments and to the manager of the "Fund of Funds", in this case GCM.
- PFM investment staff acknowledge this higher fee, but also acknowledge the benefit of not needing to build-out such a platform in-house. Significant resources and scale are required to appropriately diligence, and monitor smaller, emerging or diverse managers that are not typically targeted by larger institutional investors. PFM staff intend to work closely with GCM to negotiate an appropriate, market fee for this customized strategy. Lastly, the scale of GCM is expected to help offset overall fees, resulting in lower fees and/or more favorable economics on the underlying investments.

Multiple active separate accounts, fund of ones, and closed-end vehicles with a similar investment focus

- As a market leader in the small and emerging or diverse Private Equity and Real Estate business, GCM manages several active separate accounts/funds of one with similar mandates as Ci^3. Additionally, GCM has launched stand-alone co-investment and primary fund comingled vehicles with similar strategies as their separate account and fund of one mandates. At first glance, the business model would suggest a risk of overlapping deal flow and direct competition between multiple accounts for deal access.
- PFM investment staff, CRPTF consultant Hamilton Lane, and GCM discussed the allocation policy and gained comfort in the Firm's approach to managing access. To the extent investment opportunities overlap, GCM has strong operational teams and procedures given its firm size, including a dedicated allocation team, in order to manage its large number of similarly focused accounts which are given access on a pro-rata basis.

Key Terms Summary

Target Size	• $300 million
GP Commitment	• 0.5% (at least $1.5 million)
Investment Targets	• Focus on primary fund investments, joint ventures, and co-investments
Markets	• Primarily North America, across private equity, and real estate
Fund Term	• 15-year term with 2 one-year extensions at the discretion of the GP
Investment Period	• 3 years
Management Fee	• Primary fund investments and co-investments target mix will be determined during legal negotiations which impacts fees.
Waterfall Type	• European waterfall
Preferred Return	• 8% for primary fund investments and co-investments
Structure	• Fund of one
Carry	• 5% for primary fund investments and 10% for co-investments

Legal and Regulatory Disclosure

Separate Account GCM Grosvenor/State of Connecticut Emerging & Diverse Mandate

- Through its disclosure, GCM Customized Fund Investment Group, LP ("GCM"), states that it has no material litigation, lawsuits, legal proceedings or governmental investigations within the last five years.
- GCM does not have any material claims under its fidelity, fiduciary or E&O insurance policies, and no ongoing internal investigations of its employees.
- GCM states it has adequate procedures in place to undertake internal investigations of its employees, officers and directors.

Compliance Review

GCM Grosvenor/State of Connecticut Ci3 Mandate

I. Review of Required Legal and Policy Attachments

GCM CUSTOMIZED FUND INVESTMENT GROUP, LP ("GCM") completed all necessary attachments. It disclosed no impermissible third-party fees, campaign contributions, known conflicts, or gifts. The firm's disclosure of legal/regulatory proceedings is being reviewed by the Legal Unit.

II. Workforce Diversity

As of December 2021, GCM, a Chicago Illinois-based firm, employed 483 people, 30 more than the 453 employed as of December 2019. The firm identified 25 women and/or minorities as Executive/Senior Level Officials and Managers over the period reported from 2019 to 2021. Over the 3-year reported (2019 – 2021), the firm promoted 50 women and 44 minorities within the ranks of professionals or managers.

Workforce Statistics

For Executive/Senior Level Officials and Managers:

- Women held 33% (7 of 21) of these positions in December 2021, slightly down from 30% (6 of 20) in December 2020, but up from 17% (3 of 18) in December 2019.
- Minorities held 14% (3 of 21) (14% Black) of these positions in December 2021, slightly down from 15% (3 of 20) (15% Asian) in December 2020, and 17% (3 of 18) (17% Black) in December 2019.

At the Management Level overall:

- Women held 38% of these positions for the three years reported by the firm (2019-2021).
- Minorities held 30% of these positions both in December 2021 (71 of 237) (7% Black, 4% Hispanic, 19% Asian, and 0.42% Two or More Races) and in December 2020 (64 of 216) (8% Black, 4% Hispanic, 18% Asian, and 0.46% Two or More Races), up from 28% (57 of 207) (7% Black, 2% Hispanic, 17% Asian, and 0.48% Two or More Races) in December 2019.

Compliance Review

GCM Grosvenor/State of Connecticut Ci^3 Mandate

At the Professional Level:

- Women held 49% (100 of 205) of these positions in December 2021, up from 45% (85 of 191) in December 2020, and 49% (97 of 200) in December 2019.
- Minorities held 30% (61 of 205) (8% Black, 6% Hispanic, 13% Asian, and 2% Two or More Races) of these positions in December 2021, up from 28% (53 of 191) (6% Black, 5% Hispanic, 14% Asian, and 2% Two or More Races) in December 2020, and 29% (58 of 200) (5% Black, 7% Hispanic, 15% Asian, and 3% Two or More Races) in December 2019.

Firm-wide:

- Women held 47% (226 of 483) of these positions in December 2021, up from 45% (204 of 451) in December 2020, and 48% (216 of 453) in December 2019.
- Minorities held 31% (150 of 483) (8% Black, 6% Hispanic, 16% Asian, and 2% Two or More Races) of these positions in December 2021, slightly up from 30% both in December 2020 (135 of 451) (8% Black, 5% Hispanic, 15% Asian, and 2% Two or More Races) and December 2019 (134 of 453) (7% Black, 5% Hispanic, 15% Asian, and 2% Two or More Races).

Compliance Review

GCM Grosvenor/State of Connecticut Ci3 Mandate

Corporate Citizenship

Charitable Giving:

- Giving back to the communities is one of GCM's core values. This commitment is accomplished through hands-on volunteering, providing financial support, or acting as board members or mentors. Annually, GCM donates approximately $5 million to over 225 organizations to support financial literacy, college preparation, college to career readiness and pro-bono legal work and community beautification projects. The organizations GCM supports focus on education, civic and community development and recruitment/talent acquisition. Some of these organizations include After School Matters, Chicago Scholars, UNCF, Big Brothers Big Sisters, United Way, National Immigration Justice Center, Anti-Defamation League, A Better Chicago, Girls Who Invest, BLK Management among others. In addition, the firm encourages employees' charitable activities in several ways. For instance, GCM provides one day of paid time off per calendar year to its employees to volunteer with a 501 (c)(3) nonprofit or its equivalent and become involved and lend support to programs that positively impact the quality of life in neighborhoods and cities independent of the firm's sponsored volunteer events. To illustrate this, in the spring of 2020 and 2021 GCM sponsored a COVID-19 Employee Giving Campaign where the firm provided employees with funds to support individuals, local businesses, nonprofit organizations, and healthcare facilities impacted by the pandemic. GCM is proud to report that in 2021 employees made over 370 donations to causes that mattered them the most. Furthermore, the firm's employees fill approximately 200 board and junior board seats of various organizations.

Compliance Review

GCM Grosvenor/State of Connecticut Ci3 Mandate

Internships/Scholarships:

- The GCM Grosvenor Summer Internship Program targets rising seniors. This program offers meaningful work experience such as: a realistic preview of the full-time analyst program, senior management exposure through "Lunch and Learn" series, exposure to departments across the firm through overviews, pairing with an analyst or associate who serves as a coach and mentor, as well as networking events with interns, analysts, and senior staff. Women and/or minorities have been well represented in the summer internships. For instance, in 2020, 75% of interns were women and/or minorities while 69% of this group were interns in 2021.

- Since 2016 GCM is a voting member of the Thurgood Marshall College Fund (TMCF) Board of Director and provides funds for seven scholarships and contributes to the TMCF Forever Fund which ensures the organization's sustainability. As a result, the firm promotes TMCF's objective which is to provide a bridge between corporate America and the talent that exists at historically Black colleges and universities (HBCU). For 2021-22, the TMCF-GCM Grosvenor HBCU Scholarship Program will award seven (7) scholarships for up to $10,000 for a total of $68,000 to students submitting applications to TMCF's All-Around Scholarship. Moreover, GCM awards $18,000 in scholarship annually for 4 years to one female student from Chicago to attend Saint Xavier University.

Procurement:

- GCM recognizes the value of diversity in its workforce and as such communicates its commitment to diversity by providing the firm's Commitment and Diversity Statement as well as provisions in its subcontracts that are consistent with the purpose of GCM's Diversity Action Plan. Additionally, the firm seeks to partner with subcontractors or vendors that are certified as minority, women, or people with disability-owned businesses.

Environmental, Social and Governance Analysis

Overall Assessment : Evaluation and Implementation of Sustainable Principles

GCM Grosvenor described a comprehensive integration of ESG factors into its investment processes. GCM utilizes an evaluation and monitoring framework that is based on MSCI's ESG scoring methodology. The firm is a signatory of the UN Principles for Responsible Investment, the Task Force on Climate-Related Financial Disclosures, ILPA and GRESB. GCM integrates ESG initiatives across investment teams, with a managing director of sustainability leading the firm's overall ESG integration. The firm utilizes data from manager questionnaires, external ESG consultants, and the ESG Data Convergence Project for ESG trainings and research.

The firm applies investor-specific policies with respect to civilian firearms and manufacturers. The firm does not co-invest in this sector at this time.

Overall, GCM's disclosure shows meaningful integration of ESG factors into its processes.

SCORE

1

Criteria	Response
Firm has an ESG policy	Yes
If Yes, firm described its ESG policy	Yes
If Yes, firm provided examples of ESG factors considered in the decision-making process, explained the financial impact of these ESG factors	Yes
Designated staff responsible for sustainability policies and research	Yes
Firm provides training/resources on sustainability issues, explained sources of ESG-related data	Yes
Signatory/member of sustainability-related initiatives or groups	Yes
Policy for evaluating current or prospective relationships with manufacturers or retailers of civilian firearms	No

Criteria	Response
Policy that requires safe and responsible use, ownership or production of guns	No
Enhanced screening of manufacturers or retailers of civilian firearms	No
Enhance screening of any industry/sector subject to increased regulatory oversight, potential adverse social and/or environmental impact	Yes
Merchant credit relationship with retailers of civilian firearms and accessories	No
If Yes, firm confirms compliance with laws governing firearms sales	N/A

GCM Grosvenor/State of Connecticut Co-Investment Mandate (No PPM)

Memorandum

Details	
Meeting Date:	2/23/22; refreshed on 6/28/22
GP Attendees:	Sean Conroy, Fredrick Pollock, Jason Howard, Peter Braffman, Akhil Unni, Kate Pollan and Bryce Robertson
HL Attendees:	Katie Moore, Sean Barber and Victoria Basso

Conclusions

- GCM is well-positioned to execute on the mandate due to its well-established strategy-focused teams and overall experience investing in the private markets. The General Partner has established a strong reputation in the Emerging & Diverse manager space, positioning GCM with access to deal flow. GCM has hosted annual Small & Emerging Managers and Diverse & Women Managers Conferences for over a decade, further solidifying the General Partner's position in the Emerging & Diverse investing space.
- GCM maintains a highly experienced, cohesive senior investment team with an average of 12 years of tenure, demonstrating the team's ability to invest together. The investment professionals are specialized across private equity and real estate, driving strategy expertise.
- GCM has generated attractive net returns in its recent separately managed accounts across all targeted strategies. Additionally, the General Partner has one of the industry's longest tenured track records managing a large number of dedicated accounts with a focus on Emerging & Diverse funds.
- While GCM has strong operational teams and procedures, including a dedicated allocation team, the General Partner does not leverage any software or technology tools in order to manage its large number of similarly focused separate accounts.

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Fund Information	
General Partner:	GCM Grosvenor ("General Partner"), ("Grosvenor")
Fund:	GCM Grosvenor/State of Connecticut Co-Investment Mandate ("Fund")[1]
Target Size/Hard Cap:	$300 million/$300 million
Investment Period:	3 years
Fund Term:	15 years; + 2 one-year extensions at the discretion of the General Partner
GP Commitment:	0.5% (at least $1.5 million)

[1] The General Partner is a publicly owned entity (NASDAQ: GCMG)

- The Fund is a fund-of-one for State of Connecticut's Emerging and Diverse mandate covering private equity and real estate.

Recommendation

Approved

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Strategy	
Asset Class:	Private equity; real estate
Strategy:	Fund-of-funds; joint ventures; co-investments
Substrategy:	Growth equity; corporate finance/buyout; real estate
# of Investments Target:	Private equity: 10 to 12 primaries; 8 to 10 co-investments Real estate: 15 to 20 manager positions; 20 to 30 underlying investment vehicles
Inv. Size Range Target:	Private equity: $150 million Real estate: $150 million
Geography:	North America
Industries:	Diversified

- The General Partner anticipates investing in primary fund investments and co-investments across a diverse set of sectors, agnostic to asset class.
    - GCM plans to focus its primary investments in Emerging & Diverse managers.
        - The General Partner does not anticipate investing in management company stakes but rather in contractual revenue sharing and/or capital event arrangements as opportunities present themselves.
    - The General Partner may opportunistically invest in secondary deals.
- The General Partner has dedicated private equity and real estate teams that individually source deals for the Fund.
    - GCM maintains an additional dedicated Diverse Manager team that focuses solely on sourcing opportunities that meet Diverse manager qualifications across all four verticals.
- The various investment teams broadly cover Emerging Manager investments in their respective strategies.

Private Equity

- GCM expects to allocate $150 million to private equity.
- Within private equity, GCM expects the Fund to comprise 60% buyout and 20% growth with the remaining 20% invested opportunistically.

Real Estate

- The General Partner plans to allocate $150 million to real estate.
- GCM expects to also pursue joint venture co-investment opportunities within its real estate allocation.

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Track Record

Total Separate Accounts and/or Funds-Of-One Performance by Asset Class – 2015 to Present

GCM Grosvenor Prior Investment Performance As of 12/31/21						
($mm) Asset Class[1]	Commitment Size	Amount Invested	Amount Realized	Unrealized Value	TVPI[2]	Net IRR[2]
Private Equity	$8,478	$6,251.2	$2,627.1	$7,684.6	1.7x	24.4%
Real Estate	2,374	1,573.0	758.5	1,172.2	1.2x	13.6%
Total	**$10,851.9**	**$7,824.2**	**$3,385.6**	**$8,856.8**	**n/a**	**n/a**

[1] Represents SMAs from 2015 to present with Small & Emerging or Diverse manager investments

[2] Net values provided are gross of SMA fees but net of underlying investment fees

- The General Partner may leverage a line of credit subject to Connecticut's consent.

Total Realized Separate Accounts and/or Funds-Of-One Performance by Asset Class – 2015 to Present

GCM Grosvenor Realized and Substantially Realized Investment Performance As of 12/31/21					
($mm) Asset Class[1]	Amount Invested	Amount Realized	Unrealized Value	TVPI[2]	Net IRR[2]
Private Equity	$1,364.8	$1,726.0	$853.0	1.9x	24.7%
Real Estate	234.0	330.1	42.9	1.6x	26.8%
Total	**$1,598.8**	**$2,056.1**	**$895.9**	**n/a**	**n/a**

[1] Represents SMAs from 2015 to present with Small & Emerging or Diverse manager investments

[2] Net values provided are gross of SMA fees but net of underlying investment fees

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Total Private Markets Performance – 2015 to Present

GCM Grosvenor Prior Investment Performance As of 12/31/21						
($mm) Asset Class[1]	Commitment Size	Amount Invested	Amount Realized	Unrealized Value	TVPI[2]	Net IRR[2]
Private Markets Total[3]	$11,895	$8,708.5	$3,622.6	$9,687.5	1.5x	21.4%

GCM Grosvenor Realized and Substantially Realized Investment Performance As of 12/31/21					
($mm) Asset Class[1]	Amount Invested	Amount Realized	Unrealized Value	TVPI[2]	Net IRR[2]
Private Markets Total[3]	$1,683.7	$2,165.4	$896.0	1.8x	24.5%

[1] Represents SMAs from 2015 to present with Small & Emerging or Diverse manager investments

[2] Net values provided are gross of SMA fees but net of underlying investment fees

[3] Private markets total consists of the subtotals of private equity, infrastructure and real estate strategies

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Organization[1]	
Firm Inception:	1971
Locations:	Chicago (headquarters), New York, Los Angeles, London, Frankfurt, Tokyo, Hong Kong, Seoul and Toronto
Formal ESG Policy:	Yes
PRI Signatory:	Yes
Investment Team:	88 investment professionals; 22 Managing Directors, 12 Executive Directors, 16 Principals and 38 Analysts & Associates
Additional Resources:	1 Chairman & CEO, 1 Vice Chairman, 1 President, 1 Chief Financial Officer, 1 Chief Human Resources Officer, 1 Chief Operating Officer, 1 Chief Technology Officer, 1 Chief Investment Officer, 1 Chief Risk Officer, 1 Head of Investor Relations, 1 General Counsel, 10 risk management professionals, 15 operational due diligence professionals and 342 operations professionals

[1] As of February 2022

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Fund Focused Investment Professionals

Experience of Senior Professionals						
Name	Title	Location	Tot. Exp. (yrs.)	Tenure (yrs.)	Prior Experience	Educational Background
Jonathan Levin	President	Chicago	18	10	• KKR • Bear Stearns	• Harvard College (BA)
Fred Pollock	Chief Investment Officer	Chicago	17	7	• Morgan Stanley • Deutsche Bank	• Harvard Law School (JD) • University of Nevada (BS)
Bernard Yancovich	Managing Director	New York	27	22	• Donaldson, Lufkin & Jenrette • KPMG	• University of Western Ontario (MBA) • McGill University (BA)
Sean Conroy	Managing Director	Chicago	28	18	• ABN AMRO, Vice President • UBS, U.S. Government Fixed Income Trader	• Northwestern University (MBA) • Fairfield University (BA)
Derek Jones	Managing Director	New York	35	15	• Oncore Capital • Provender Capital • Cornerstone Equity Investors	• New York University (MBA) • American University (BA)
Jason Metakis	Managing Director	New York	22	12	• Donaldson, Lufkin & Jenrette	• Harvard Business School (MBA) • Harvard University (BA)
Peter Braffman	Managing Director	New York	36	11	• Zurich Alternative Asset Management • Goldman, Sachs & Co. • Kirkland & Ellis LLP	• Northwestern University (MBA) • Northwestern University (JD) • University of Rochester (BA)
Brian Sullivan	Managing Director	New York	25	8	• Paul Capital • Boston Consulting Group • U.S. Navy	• University of Pennsylvania (MBA) • United States Naval Academy (BS)
Jason Howard	Managing Director	Los Angeles	23	8	• Credit Suisse Private Equity, Principal • Goldman Sachs, Associate • The Walt Disney Company, Manager	• Emory University (BA)
Akhil Unni	Managing Director	New York	25	7	• Quantum Utility Generation LLC, Director • Credit Suisse, Principal • AIG Financial Products, Vice President	• Harvard University (MPP) • Brown University (BA)
Amy Wierenga	Chief Risk Officer	New York	20	2	• BlueMountain Capital Management • Merrill Lynch	• University of Chicago (MBA) • Butler University (BS)

- The General Partner was founded in 1971 by Richard Elden with a focus on private equity, infrastructure, real estate, credit, absolute return strategies and multi-asset class opportunistic investments.
- In November 2020, GCM completed its IPO, listing on the NASDAQ under the ticker: GCMG.
- As of 10/1/21, the General Partner had $70.5 billion of assets under management.
- GCM manages several separately managed accounts focused on Emerging & Diverse managers; the General Partner also recently raised over $700 million for its inaugural Advance Fund, which also only targets private equity investments in Emerging & Diverse managers, for investors that are too small for a separate account on a standalone basis.
- GCM actively monitors ESG related KPIs at its portfolio companies on a quarterly basis and completes full ESG due diligence prior to its investment decision.
- The General Partner is 46% female and 31% ethnically diverse across the entire firm.
    - 51% of the senior professionals are women or ethnically diverse.
    - Additionally, GCM's investment team is 28% female and 25% ethnically diverse.

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Tenure

Name	Title	Tot. Exp. (yrs.)	Tenure (yrs.)	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	YTD 2022
Jonathan Levin[1]	President	18	10											
Fred Pollock[1]	Chief Investment Officer	17	7											
Bernard Yancovich[1]	Managing Director	27	22											
Sean Conroy	Managing Director	28	18											
Derek Jones[1]	Managing Director	35	15											
Jason Metakis[1]	Managing Director	22	12											
Peter Braffman[1]	Managing Director	36	11											
Brian Sullivan[1]	Managing Director	25	8											
Jason Howard	Managing Director	23	8											
Akhil Unni	Managing Director	25	7											
Amy Wierenga[1]	Chief Risk Officer	20	2											

= Tenure with GCM Grosvenor
= Total Experience

[1] Indicates members of the investment committee

- The investment committee consists of President Jonathan Levin, Chief Investment Officer Frederick Pollock, Chief Risk Officer Amy Wierenga and Managing Directors Peter Braffman, Derek Jones, Jason Metakis, Brian Sullivan and Bernard Yancovich.
    - Additionally, the General Partner has individual investment committees for each of its strategies, including private equity and real estate.
    - The proposed investment must receive approval from GCM's respective strategy-specific investment committee prior to final investment committee approval.
- Additionally, the investment team is supported by 342 operations professionals, including fund finance, accounting, legal and compliance teams.

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Important Disclosures

All information contained within this report has been gathered from sources believed to be reliable, including but not limited to the general partner(s), other industry participants and the Hamilton Lane Investment Database, but its accuracy cannot be guaranteed.

The information contained in this report may include forward-looking statements regarding the fund presented or its portfolio companies. Forward-looking statements include a number of risks, uncertainties and other factors beyond the control of the fund or the portfolio companies, which may result in material differences in actual results, performance or other expectations. The opinions, estimates and analyses reflect our current judgment, which may change in the future.

The past performance information contained in this report is not necessarily indicative of future results and there is no assurance that the fund will achieve comparable results or that it will be able to implement its investment strategy or achieve its investment objectives. The actual realized value of currently unrealized investments will depend on a variety of factors, including future operating results, the value of the assets and market conditions at the time of disposition, any related transaction costs and the timing and manner of sale, all of which may differ from the assumptions and circumstances on which the current unrealized valuations are based.

Any tables, graphs or charts relating to past performance included in this report are intended only to illustrate the performance of the fund or the portfolio companies referred to for the historical periods shown. Such tables, graphs and charts are not intended to predict future performance and should not be used as the basis for an investment decision.

By accepting receipt of this investment report and in consideration of access to the information contained herein (together with the investment report, the "Confidential Information"), the recipient agrees to maintain the strict confidentiality of any and all Confidential Information in accordance with the terms of this paragraph. The recipient acknowledges that (i) the Confidential Information constitutes proprietary trade secrets, and (ii) disclosure of any Confidential Information may cause significant harm to Hamilton Lane Advisors, L.L.C. ("Hamilton Lane"), its affiliates or any of their respective businesses. Unless otherwise required by law, the recipient shall not disclose any Confidential Information to any third party. If required by law to disclose any Confidential Information, the recipient shall provide Hamilton Lane with prompt written notice of such requirement prior to any such disclosure so that Hamilton Lane may seek a protective order or other appropriate remedy. Prior to making any disclosure of any Confidential Information required by law, the recipient shall use its reasonable best efforts to claim any potential exemption to such requirement and otherwise shall limit disclosure only to such information that is necessary to comply with such requirement.

The calculations contained in this document are made by Hamilton Lane based on information provided by the general partner (e.g. cash flows and valuations), and have not been prepared, reviewed or approved by the general partner.

Stacked bar charts or pie charts presented in the Strategy section in this report may not equate to 100% per the data labels on the charts due to rounding; however, all stacked bar charts and pie charts equate to 100% using exact proportions.

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Definitions	
Benchmark Analysis:	An analysis which compares the net IRR of the prior funds to the top-quartile net IRR benchmarks for similar funds (based on strategy and vintage) as reported by the Hamilton Lane database. The benchmark data shown is the most recent data available at this time
DPI:	Distributed-to-Paid In = (Amount of Distributions Received)/(Total Amount of Capital Paid-In)
ESG:	Environmental, Social and Governance
Gross IRR:	Internal Rate of Return ("IRR") of investments at the 'fund level', excludes fees paid by LPs to the General Partner such as management fees and carried interest. For investments held less than one year, Hamilton Lane nominalizes the IRR to match the hold period of the investment, in order to represent a more meaningful number
Investment Pacing:	An analysis of the total capital invested during the given years. Includes all prior investments, realized or unrealized
J-Curve Benchmark:	Peer (median by age) is calculated by taking the median IRR of similar funds (based on strategy and vintage) in Hamilton Lane's database at each quarter, which are simulated as investing at the same point of time. The length of time to break the J-curve is calculated from inception to the first time each fund generated a positive net IRR
Loss Ratio Analysis:	An analysis of the capital invested in realized transactions generating different multiples of invested capital
Net IRR:	Annualized Internal Rate of Return ("IRR") of investments at the 'LP level', inclusive of fees such as management fees and carried interest paid to the General Partner
Net Returns to Limited Partners:	The performance of the General Partner's prior investment vehicles at the net LP level, inclusive of all fees, carried interest and expenses. Performance data is as reported by the General Partner, using actual capital contributions, distributions and net asset value for either all limited partners, or a sample set of limited partners, in the respective funds
Outlier Analysis:	An analysis of the gross returns of investments in prior funds, comparing overall performance against the performance when certain 'outlier' transactions are excluded. Outliers are defined as transactions which generate exceptionally positive or negative results
PME Analysis:	Calculated by taking the fund monthly cash flows and investing them in the relevant Total Return Index (where all dividends are re-invested). Contributions were scaled by a factor such that the ending portfolio balance would be equal to the private equity net asset value (equal ending exposures for both portfolios). This prevents shorting of the public market equivalent portfolio in order to match the performance of an outperforming private equity portfolio. Distributions were not scaled by this factor. The IRRs were then calculated based off of these adjusted cash flows. The selected PME represents the most relevant public market benchmark
Realized Attribution Analysis:	Analysis of the capital invested in, and performance of, the prior realized transactions according to the criteria indicated
Realized Investments:	Hamilton Lane classifies investments as 'realized' if it has i) an unrealized value of less than 20% of the total value; ii) a carrying value that has been written to zero or has been previously written-off; or iii) been fully exited and the GP has no remaining interest in the company
RVPI:	Remaining Value-to-Paid In = (Current Net Asset Value)/(Total Amount of Capital Paid-In)
TVPI:	Total Value-to-Paid In = (Amount of Distributions Received + Current Net Asset Value)/(Total Amount of Capital Paid-In)
Time-zero IRR:	Represents the gross IRR calculated as if every investment was initiated on the same date
Write-Down Ratio:	The ratio of capital invested in realized investments that have been sold for a value that is less than 1.0x their original cost basis, divided by the total capital invested in all realized investments
Write-Off Ratio:	The ratio of capital invested in realized investments that have been sold for a value that is less than 0.5x their original cost basis, divided by the total capital invested in all realized investments

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SHAWN T. WOODEN
TREASURER

State of Connecticut
Office of the Treasurer

DARRELL V. HILL
DEPUTY TREASURER

July 15, 2022

Members of the Investment Advisory Council ("IAC")

Re: **CT - RockCreek Ci3 Mandate**

Dear Fellow IAC Member:

At the July 20, 2022 meeting of the IAC, I will present for your consideration the CT - RockCreek Ci3 fund of one investment opportunity for the Private Credit Fund ("PCF") in the Connecticut Retirement Plans and Trust Funds (the "CRPTF"). This mandate will be managed by the RockCreek Group, an existing manager in the CRPTF portfolio, headquartered in Washington, D.C.

I am considering an investment of up to $100 million in the CT - RockCreek Ci3 mandate, which RockCreek will utilize to make fund commitments to private credit funds managed by diverse and emerging managers, as part of the Connecticut Inclusive Investment Initiative ("Ci3") program. This mandate would allow the CRPTF to continue building out the private credit portfolio toward the policy target. CRPTF would also benefit from RockCreek's experience in building relationships with diverse and emerging managers in private credit strategies, and its potential to generate strong risk-adjusted returns.

Attached for your review is the recommendation from Ted Wright, Chief Investment Officer, and the due diligence report prepared by Hamilton Lane. I look forward to our discussion of these materials at next week's meeting.

Sincerely,

Shawn T. Wooden
State Treasurer

65 CAPITOL AVE, HARTFORD, CT 06106-1773, TELEPHONE: (860) 702-3000
AN EQUAL OPPORTUNITY EMPLOYER

Full Due Diligence Report

Chief Investment Officer Recommendation

July 15, 2022

Connecticut – RockCreek Ci3 Mandate

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Executive Summary

Manager Overview

- Founded in 2002, by senior leaders of the World Bank, the RockCreek Group provides investment management services to institutional investors mainly through customized portfolios.
- RockCreek is headquartered in Washington, D.C., with an office in New York City.
- As of March 2022, RockCreek has approximately $16.3 billion in assets under management.
- RockCreek is 100% employee-owned and a majority diverse and woman owned firm, with over 80% of its management team from diverse backgrounds.

Fund Summary

- Connecticut - RockCreek Ci3 Mandate (the "Fund")
- Fund of One
- Private Credit
- Primarily North America
- Management Fees: 0.2% on aggregate commitments during the investment period; 0.1% on the lesser of aggregate commitments or NAV during the post-investment period.
- Preferred Return: 8%
- Carry: 5%
- GP Commitment: 0.2%

Strategic Fit

- The $100 million Fund, committed over 3 years, would focus on investments in diverse and emerging managers in private credit strategies, as part of the Connecticut Inclusive Investment Initiative ("Ci3") program.
- Private Credit Fund (PCF)
- Ci3 Mandate Target allocation (5% to 10% of plan assets)

Internal Recommendation

Recommendation

- Based on the strategic fit within the PCF portfolio, as well as due diligence done by Pension Funds Management ("PFM") investment professionals and Hamilton Lane, the Chief Investment Officer of the Connecticut Retirement Plans and Trust Funds ("CRPTF") recommends consideration of a commitment of up to $100 million to the Fund as part of the Ci3 program.

Investment Considerations

- As a majority diverse and woman owned firm, RockCreek has a longstanding history of establishing relationships with diverse and emerging managers that generate differentiated portfolios.
- RockCreek is seasoned in the private credit market space and has built 11 private credit strategy separate accounts and funds-of-one for pension funds, foundations, and endowments, with total commitments of $1.6 billion.
- Robust value add abilities across the investment process that both lend support to investment managers and enhance risk management for institutional clients.

General Partner

Firm Background

- RockCreek was founded by Afasaneh Beschloss, former Treasurer and Chief Investment Officer of the World Bank. The RockCreek leadership team has worked together for over 20 years and has an established track record across multiple asset classes.
- The firm is 100% employee owned and a majority diverse and woman owned firm. Over 80% of the RockCreek management team is from diverse backgrounds, and over 70% of RockCreek's Advisory Board is of diverse backgrounds.

Extensive Experience in Private Market Investment

- RockCreek manages and advises institutional clients on both public and private market portfolios and had approximately $16.3 billion in assets under management as of March 2022.
- RockCreek's senior team has invested in the private markets since the late 1980s at the World Bank, well before most institutional investors' entrance to the private market space.

Solid Roots in the Private Credit Sector

- RockCreek officially began developing portfolios for private credit strategies in 2015. Prior to 2015, the firm managed private credit capital through its absolute return vehicles.
- The firm has a proven track record in early identification of emerging managers in private credit strategies and has produced consistent investment returns.

Track Record and Performance

- Since 2015, RockCreek has made over $1.6 billion of commitments to private credit investment managers and has a robust investment pipeline for private credit.
- Over one third of RockCreek's commitments in private credit strategies were to diverse or emerging managers.
- RockCreek serves on 20 Limited Partner Advisory Committees (LPACs) in the private credit market.
- RockCreek's investment performances in private credit strategies are shown in the tables below. The performance has been consistently strong since inception both on an overall basis and for allocations in diverse and emerging managers.

Total Composite – Private Credit

(US$ in millions, as of Dec 31, 2021)

Fund	Vintage Year	Committed Capital	# Funds	Invested Capital	Realized Value	Unrealized Value	Total Value	Net	
								MOIC	IRR
RockCreek Group	2014 - 2021	$1,615	41	$1,459	$874	$887	$1,761	1.2x	10.5%

Source: RockCreek, CRPTF, Returns are net of the applicable underlying manager's fees and gross of RockCreek fees.

Diverse & Emerging Manager Composite – Private Credit

(US$ in millions, as of Dec 31, 2021)

	Vintage Year	Committed Capital	# Funds	Invested Capital	Realized Value	Unrealized Value	Total Value	Net	
								MOIC	IRR
RockCreek Group	2015 - 2021	$566	18	$498	$268	$304	$573	1.2x	9.6%

Source: RockCreek, CRPTF, Returns are net of the applicable underlying manager's fees and gross of RockCreek fees.

Strategic Allocation

Connecticut – RockCreek Ci3 Mandate

- The IPS sets a target allocation of 5% for the private credit asset class within the CRPTF portfolio.
- The Private Credit asset class represented approximately 2% of the CRPTF total value as of March 31, 2022.
- The target allocation for the Ci3 program is 5% to 10% of total plan assets.

The commitment would be aligned with the CRPTF's strategic objectives:

- Increase allocations to the private credit asset class toward policy targets.
- Enable the Ci3 program to grow toward its target allocation.

The Connecticut - RockCreek Ci3 Mandate for the private credit strategies will include the portfolio construction guidelines below:

- The mandate will target a net IRR return of 10% to 11%.
- The mandate is expected to allocate no more than $15 million to any single investment manager.
- The mandate is expected to allocate no less than 50% of total commitments in senior direct lending strategies.
- The mandate is expected to allocate predominantly in North America focused funds.

Strengths and Rationale

Consistent Allocation to Diverse and Emerging Managers

- Since inception, RockCreek has allocated over $1 billion with emerging managers, over $7.7 billion with diverse managers, $3 billion in woman run funds, and $5.9 billion to ESG/Impact investments.
- RockCreek strongly believes diverse and emerging managers bring in different viewpoints and unique perspectives, and actively seeks managers that produce differentiated portfolios and excess returns from niche themes and unique areas of markets.

Strong Sourcing Capabilities Relevant to the Ci3 Mandate

- RockCreek senior team has chaired or served on investment committees for several endowments and foundations and has deep industry knowledge.
- As a woman and minority owned firm, RockCreek builds strong rapport with investment managers of diverse backgrounds and relates well to the specific challenges these managers tend to face.
- The firm's institutional knowledge of investing across private market classes is maintained in the firm's proprietary database, which is available to clients.

A Value-add Partner for Investment Managers and Investors

- Robust value-add capability for diverse and emerging managers such as connecting to potential LPs, providing guidance on best investment operations practices, and collaborating on DEI initiatives. The firm sponsors and actively participates in many DEI organizations and events.
- RockCreek is frequently able to leverage its reputation as a meaningful limited partner and the ability to provide seeding capital to negotiate favorable terms with GPs.

Key Risks and Mitigants

Additional Layer of Fees from a "Fund of Fund" Structure

- Connecticut will benefit from RockCreek's efforts in deal sourcing, due diligence, portfolio construction and monitoring and in the private credit strategies of the Ci3 Mandate.
- RockCreek will bring in a strong set of experiences, abilities, and access in the diverse and emerging managers universe, as well as knowledge transfer.
- On average, the management fee for the mandate is estimated to be below $100k annually.

Lack of History Managing Commingled Vehicle for the Private Credit Strategies

- Since the inception of RockCreek, the firm has been focused on customized portfolios for institutional clients. RockCreek has built 11 private credit strategy separate accounts and funds-of-one for pension funds, foundations, and endowments, coming to a total commitment of $1.6 billion.
- Focusing on a dedicated mandate for Connecticut's Ci3 program reduces adverse selection and conflict of interest issues.

Key Terms Summary

Target Size	• $100 million
GP Commitment	• 0.2% of aggregate committed capital of the Fund
Investment Targets	• Focus on private credit primary fund investments
Markets	• Primarily North America
Fund Term	• 12 Years
Investment Period	• 3 years
Management Fee	• 0.2% on aggregate commitments during the investment period; stepping down to 0.1% on the lesser of aggregate commitments or NAV during the post-investment period.
Waterfall Type	• European waterfall
Preferred Return	• 8%
Structure	• Fund of One
Carry	• 5%
Additional Provisions	• Fees and terms are subject to further negotiation and are not final.

Legal and Regulatory Review

Conencticut - RockCreek Ci3 Mandate

Review of Notice of Legal Proceedings

The Rock Creek Group, LP

In its disclosure to the Office of the Treasurer, The Rock Creek Group, LP ("Rock Creek" or the "Company"), states that is has no material legal or administrative proceedings to report, no claims under its fidelity, fiduciary or E&O insurance policies, and no ongoing internal investigations to report. Rock Creek states it has adequate procedures in place to undertake internal investigations of its employees, officers and directors.

Compliance and Diversity Review

The Rock Creek Group, LP ("Rock Creek")

Review of Required Compliance Attachments

Rock Creek disclosed no third-party fees, campaign contributions, conflicts of interest or gifts

Corporate citizenship in the State of Connecticut

RockCreek has sponsored and facilitated discussions at the Greenwich Economic Forum over the past few years on diversity and sustainability within the investment management industry. In 2012, the firm sponsored an emerging managers forum in Hartford, featuring emerging managers including women and minority-owned firms. The Office of the Treasurer did not participate at that time. The firm supported the Connecticut Food Bank in the beginning of the COVID-19 pandemic. The firm also supports national and international organizations that bring attention to issues that align with the state's concerns.

Commitment to the diversity, education & training of the industry's next generation

The firm actively considers diversity, equity and inclusion in recruiting talent, vendor selection and investment management. The firm's internship program historically includes over 75% diverse interns, which serves as a strong pipeline for recruiting talent into the firm's permanent workforce. In the summer of 2021, over 90% of the firm's summer interns were minority or identified as women, with equal gender representation. The firm has mentored hundreds of interns over the past decade, many of whom have gone on to successful careers in finance and other industries.

Support for women-owned, minority-owned or emerging businesses

The firm has a strong emerging manager program. As of December 31, 2021, the firm has approximately $2.9 billion in committed and invested assets with emerging managers. Since inception, the firm has allocated over $7.9 billion to diverse firms since inception, including $3.0 billion in woman-owned firms and $2.2 billion in Black and Hispanic-owned firms. The firm finished 2021 with over 21% of its assets invested in minority and women--owned firms, accounting for more than 90 firm relationships and investments in more than 500 diverse entrepreneurs. In 2021 alone, the firm invested over $270 million in Black and Latino-owned founders/firms and over $430 million in women-owned founders/firms, committing to approximately 14 new relationships with diverse founders and firms last year. The firm also utilizes minority-owned brokerage firms and holds industry-wide events that allow minority broker-dealers to meet potential clients and develop business within the hedge fund industry.

Compliance and Diversity Review

The Rock Creek Group, LP ("Rock Creek")

Workforce Diversity

Rock Creek provided data as of March 31, 2022

- 84 total employees, up 6% since 2020
- The firm is women-founded and majority women-owned. The firm also has diverse owners (White, Asian and Hispanic)
- Firm conformed data available to comply with the Connecticut CHRO categories; however, it notes: "due to the definitions provided, there can be no assurance that the tables provide an accurate overall representation of the extent of diversity and inclusion at RockCreek, who has been recognized in the industry as one of the largest women owned." The firm's total includes non-binary gender, but the small size of that category did not impact the proportions.

For the three-year reporting period:

- Executive: 3 of the 4 executives are women; 50% are Asian
- Management: Proportion of minorities and women remained constant
- Professionals: Proportion of minorities remained generally constant, while females increased
- Firm-wide: Women and minority proportions remained generally constant

WOMEN

	EXEC	MGMT	PROF	FIRM
2022	75% (3 of 4)	31% (8 of 26)	38% (20 of 53)	38% (32 of 84)
2021	75% (3 of 4)	31% (8 of 26)	37% (20 of 54)	37% (31 of 84)
2020	75% (3 of 4)	31% (8 of 26)	32% (15 of 47)	35% (28 of 79)

MINORITIES[1]

	EXEC	MGMT	PROF	FIRM
2022	50% (2 of 4)	54% (14 of 26)	47% (25 of 53)	49% (41 of 84)
2021	50% (2 of 4)	54% (14 of 26)	48% (26 of 54)	50% (42 of 84)
2020	50% (2 of 4)	54% (14 of 26)	45% (21 of 47)	48% (38 of 79)

[1] 2021 Minority breakdown: 2 exec (2 Asan); 14 mgmt (1 Black, 1 Hispanic, 12 Asian); 25 prof (6 Black, 5 Hispanic and 14 Asian)

Environmental, Social and Governance Analysis

Overall Assessment : Evaluation and Implementation of Sustainable Principles

RockCreek's disclosure described a comprehensive integration of ESG factors. The firm has been a signatory of the UN PRI since 2010 and plays an integral role as a partner with organizations like the World Economic Forum, the International Finance Corporation, and the World Resources Institute. RockCreek is also a signatory to the Net Zero Asset Managers Initiative and a founding signatory to the Operating Principles for Impact Management ("OPIM"). The firm's ESG Policy emphasizes the use of data-driven investing and key performance indicators (KPIs) as part of its due diligence process. RockCreek's CEO leads all sustainability initiatives and policies. The disclosure noted that staff is provided extensive training on ESG matters. The firm also utilizes data from a myriad of sources such as Bloomberg, PRI, Trucost, MSCI, Reuters Refinitiv, and Equileap to feed into their proprietary ESG and Impact investment opportunity database. RockCreek notes that this database tracks over 3,000 investment opportunities. The firm's noted connection to the World Bank (CEO is former Treasurer) and with the World Resources Institute (CEO is Board Member) also feeds into RockCreek's independent research on ESG matters. The firm conducts enhanced screening via positive and negative screens depending on the nature of the mandate.

The firm does not invest in civilian firearms manufacturers.

Overall, RockCreek disclosed meaningful integration of ESG, and is a thought leader in this space.

SCORE

1

Criteria	Response
Firm has an ESG policy	Yes
If Yes, firm described its ESG policy	Yes
If Yes, firm provided examples of ESG factors considered in the decision-making process, explained the financial impact of these ESG factors	Yes
Designated staff responsible for sustainability policies and research	Yes
Firm provides training/resources on sustainability issues, explained sources of ESG-related data	Yes
Signatory/member of sustainability-related initiatives or groups	Yes
Policy for evaluating current or prospective relationships with manufacturers or retailers of civilian firearms	Yes

Criteria	Response
Policy that requires safe and responsible use, ownership or production of guns	Yes
Enhanced screening of manufacturers or retailers of civilian firearms	Yes
Enhance screening of any industry/sector subject to increased regulatory oversight, potential adverse social and/or environmental impact	Yes
Merchant credit relationship with retailers of civilian firearms and accessories	No
If Yes, firm confirms compliance with laws governing firearms sales	N/A

Details	
Meeting Date:	6/6/22
GP Attendees:	Sudhir Krishnamurthi, Siddarth Sudhir, Tyson Pratcher, Matthew Bullough and Natasha Glick
HL Attendees:	Katie Moore, Sean Barber, Meghan Suriano and Victoria Basso

Conclusions

- Given the General Partner's reputation and long tenure in the emerging and diverse space, the firm is strategically positioned to execute on the mandate of the fund-of-one ("Fund"). RockCreek is a majority woman and diverse-owned organization and has worked to build relationships with emerging and underrepresented asset managers, yielding strong networks and a pipeline of promising less-established and diverse-owned firms.
- RockCreek is a longstanding firm that has provided investment management services to institutional clients since 2003. As a result of the firm's tenure, the investment team has developed a reputation and relationships with both established and emerging managers, enabling a consistent source of deal flow. RockCreek benefits from a well-seasoned senior investment team that maintains expertise across the private and public markets through 19 years of working in the space. In particular, the firm maintains a dedicated private markets team who will focus on the diligence, deployment and management of the Fund. Additionally, the investment team is supported by dedicated operational and back-office groups to support the operational diligence of prospective investments. While investment professionals are well-experienced and tenured, the team remains lean, driving concerns around appropriate resources especially given the time necessary to build emerging manager relationships. RockCreek maintains a reasonable number of discretionary client accounts, allowing it to exclusively focus on sourcing and executing on investments that fit active mandates.
- The General Partner intends to build a diversified portfolio of primary investments in emerging credit managers, with an emphasis on diverse-owned firms. RockCreek anticipates investing across credit strategies that generate returns through a combination of current income and capital appreciation to build an all-weather portfolio. Additionally, the General Partner benefits from its in-house technology suite that it uses to supplement sourcing, diligence and management efforts, driving more efficient and effective processes.
- RockCreek has generated consistent returns across its prior primary credit mandates and has a demonstrated track record of identifying emerging managers in the credit space. A number of primary portfolios across the General Partner's track record remain early in their maturity, as such, performance continues to develop.

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Fund Information	
General Partner:	The RockCreek Group ("General Partner"), ("RockCreek")
Fund:	RockCreek Platform Fund/State of Connecticut Emerging & Diverse Mandate ("Fund")
Target Size/Hard Cap:	$100 million/$100 million
Investment Period:	3 years

- The Fund is a fund-of-one for State of Connecticut's Emerging and Diverse mandate focused on private credit.

Recommendation

Approved

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Strategy	
Asset Class:	Private credit
Strategy:	Fund-of-funds
Substrategy:	Opportunistic credit, distressed, senior debt, mezzanine and special situations
Geography:	Primarily United States
Industries:	Diversified

- RockCreek anticipates making primary investments in emerging private credit managers with a focus on diverse-owned firms.
  - The General Partner targets emerging managers that are raising their first to fourth institutional fund and have under $3.0 billion of assets under management.
  - RockCreek intends to focus on investment firms that are at least 30% owned by minorities, women or disabled professionals.

SMA Strategies			
RockCreek Strategies	Capital Appreciation	Income Oriented	Opportunistic
Sub-strategies	Rescue financing	Senior debt	Venture debt
	NPLs	Mezzanine/subordinated debt	Fund liquidity solutions
	Performing value	Real estate debt	Royalties
	Special situations	Specialty finance	Litigation finance
	Distressed for control	Regulatory capital relief	
Target returns	15% - 20%+	8% - 12%	12% - 14%
	1.5x - 1.8x	1.1x - 1.3x	1.3x - 1.5x

- RockCreek intends to build a diversified portfolio across vintage year, credit strategies and underlying industry that will generate returns through a combination of current income and capital appreciation.
  - The General Partner expects to allocate at least 50% of the Fund to senior direct lending strategies.
  - While RockCreek is largely industry agnostic as it relates to the underlying portfolio, it does expect the Fund to be concentrated in U.S.-based managers.

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Strategy (cont.)

- The General Partner maintains robust industry networks to support the introduction of new manager relationships within the credit space.
  - RockCreek leverages its relationships with institutional allocators, clients, the emerging manager/diversity community, advisory board and other board positions to source new opportunities for the Fund.
    - The General Partner has maintained a focus on developing contacts with emerging and underrepresented asset managers, including working with organizations that promote diversity in financial services such as New America Alliance, NASP, NAIC, SBAI, AAAIM, AGE Arica, Opal Financial Group, YWCA, Hispanic Heritage, TOIGO, Women's Alternative Investment Summit and 100WFinance.
  - The General Partner also actively monitors its existing base of credit managers and will re-underwrite each fund series after an initial investment as managers and opportunity sets evolve over time.
- RockCreek leverages its in-house technology to build and monitor portfolios for its clients.
  - The General Partner maintains a proprietary database that collects investment and portfolio level information and has developed an artificial intelligence tool to support investment decision-making.
- The General Partner intends to be an active limited partner and seeks to secure a voting LPAC seat on all primary funds that it commits capital to on behalf of its investors.

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Track Record

RockCreek-Managed Private Credit Separate Accounts and Funds-of-One Prior Performance

The RockCreek Group Prior Investment Performance[1] As of 12/31/21							
($mm) Fund	Date of Initial Commitment	Commitment Amount	Amount Called	Amount Distributed	Unrealized Value	Multiple	IRR
SMA I	2016	$167	$167.9	$93.9	$107.4	1.2x	9.2%
SMA II	2016	29	29.1	17.5	16.7	1.2x	7.8%
SMA III	2021	40	23.3	7.3	17.6	1.1x	12.4%
SMA IV	2018	7	3.6	1.2	3.1	1.2x	15.9%
SMA V	2015	285	298.6	214.7	168.2	1.3x	8.3%
SMA VI	2016	1,029	949.1	521.8	582.7	1.2x	9.4%
SMA VII	2018	8	5.7	0.6	5.2	1.0x	0.4%
SMA VIII	2020	15	6.7	1.7	5.3	1.1x	15.8%
SMA IX	2016	6	4.7	$2.2	$3.3	1.2x	5.0%
SMA X	2017	130	96.6	50.6	68.7	1.2x	12.8%
Total		**$1,716.5**	**$1,585.3**	**$911.5**	**$978.2**	**1.2x**	**9.1%**

[1] Performance is provided gross of SMA fees but net of underlying investment fees

- RockCreek has invested in the private credit space since 2015, generating consistent risk-adjusted returns across prior SMAs and fund-of-ones.
- A number of portfolios remain early and, as such, are expected to continue to develop over time.

RockCreek-Managed Emerging Manager Prior Performance

The RockCreek Group Prior Investment Performance[1] As of 12/31/21						
($mm) Fund	Commitment Amount	Amount Called	Amount Distributed	Unrealized Value	Multiple	IRR
Emerging Private Credit[2]	$682	$568.9	$385.5	$277.0	1.2x	9.5%

[1] Performance is provided gross of SMA fees but net of underlying investment fees
[2] Inclusive of funds within RockCreek's primary credit portfolio that are managed by emerging fund managers that have raised between one and four institutional funds and have an AUM of less than $3.0 billion

- The General Partner also maintains a track record of investing in emerging private credit managers, which have performed in line with its broader credit portfolio.

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Organization

Firm Inception:	2003
Locations:	Washington, D.C. (headquarters) and New York
Formal ESG Policy:	Yes
PRI Signatory:	Yes
Investment Team:	10 dedicated investment professionals; 1 President & CEO, 2 Senior Managing Directors, 3 Managing Directors, 2 Directors, 1 Senior Vice President and 1 Vice President
Additional Resources:	The broader RockCreek platform

Dedicated Investment Professionals

Experience of Investment Professionals

Name	Title	Fund Coverage	Location	Tot. Exp. (yrs.)	Tenure (yrs.)	Prior Experience	Educational Background
Afsaneh Beschloss	President & CEO	General	Washington, D.C.	35	20	• The Carlyle Group, Managing Director • World Bank, Treasurer & Chief Investment Officer • J.P. Morgan	• University of Oxford (MPhil) • University of Kent (BA)
Sudhir Krishnamurthi	Senior Managing Director	General	Washington, D.C.	35	20	• World Bank	• Harvard University (PhD) • Indian Institute of Technology (BS)
Ken Lay	Senior Managing Director	General	Washington, D.C.	34	11	• The World Bank, Treasurer	• George Washington University (JD) • Dartmouth College (BA)
Siddarth Sudhir	Managing Director	Private Markets	Washington, D.C.	19	18	• Merrill Lynch Investment Managers	• University of Pennsylvania (MBA) • Georgetown University (BA)
Tyson Pratcher	Managing Director	Private Markets	New York	22	2	• TFO USA Ltd., Head of Investments • NYSCRF, Head of the Opportunistic Investments & Emerging Manager Program • U.S. Senate, Senior Advisor	• Columbia University (JD) • Hampton University (BA)
Matthew Bullough	Managing Director	Private Credit	Washington, D.C.	11	9	• Cambridge Associates, Research Associate • Children's National Medical Center, Research Assistant	• Cornell University (BS)
Peter Cline	Director	Private Credit	Washington, D.C.	12	9	• Cambridge Associates, Research Associate	• Georgetown University (MBA) • University of Pittsburgh (BS)
John Coombe	Director	Private Credit	Washington, D.C.	14	8	• Citadel Investment Group, Trader	• Massachusetts Institute of Technology (MBA) • Cornell University (BS)
Andrew Reid	Senior Vice President	Private Credit	Washington, D.C.	5	1	• Credit Suisse, Associate	• Harvard University (BA)
John Hickman	Vice President	Private Credit	Washington, D.C.	7	6	• n/a	• Wake Forest University (BA)

- RockCreek was founded in 2003 by Afsaneh Beschloss to provide discretionary management services to mid- and large-sized institutional clients through customized public and private market investment portfolios.
    - Ms. Beschloss continues to lead the firm today alongside a senior portfolio team who support the day-to-day management of the organization and work across all asset types, including Sudhir Krishnamurthi, Ken Lay, Siddarth Sudhir, Tyson Pratcher, Alberto Fassinotti, Ronald van der Wouden and Alifia Doriwala.
    - The General Partner initially focused on the public markets but launched its private market vertical in 2015 and currently invests across various strategies.
- The General Partner is a majority-diverse and woman-owned firm.
    - RockCreek has maintained a consistent focus on supporting emerging and diverse organizations and as of March 2022, the General Partner had invested $7.9 billion in diverse firms, $5.9 billion in impact strategies and companies, $900 million in black-owned firms and $3.0 billion in women-owned firms.
- As of March 2022, RockCreek had approximately $16.3 billion in assets under management and was comprised of 37 investment-focused professionals who are organized into private and public market verticals.
    - Investment efforts for the private markets are led by Messrs. Sudhir and Pratcher, with Matthew Bullough leading private credit initiatives.

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Tenure

Name	Title	Tot. Exp. (yrs.)	Tenure (yrs.)	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022
Afsaneh Beschloss[1]	President & CEO	35	20											
Sudhir Krishnamurthi[1]	Senior Managing Director	35	20											
Ken Lay	Senior Managing Director	34	11											
Siddarth Sudhir[1]	Managing Director	19	18											
Tyson Pratcher[1]	Managing Director	22	2											
Matthew Bullough	Managing Director	11	9											
Peter Cline	Director	12	9											
John Coombe	Director	14	8											
Andrew Reid	Senior Vice President	5	1											
John Hickman	Vice President	7	6											

= Tenure with The RockCreek Group
= Total Experience

[1] Denotes members of the investment committee

- The General Partner benefits from a strong team of senior investment professionals who have developed expertise in private and public market investing through their tenure at the firm and previous industry experience.
    - The senior professionals average 19 years of experience in the investment space and 10 years of tenure at RockCreek, enabling strong relationships with asset managers.
- The investment committee for the private markets is comprised of Mses. Beschloss and Doriwala and Messrs. Krishnamurthi, Sudhir, Pratcher and Van der Wouden, with investment decisions being made on a consensus basis.
- The senior team has remained stable and the General Partner has not experienced any recent senior departures.
- Additionally, the investment team is supported by dedicated research, legal, operations, accounting and technology teams to support the diligence and monitoring of investment opportunities.

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Advisory Board

Advisory Board		
Name		Experience
Alan Greenspan	•	Federal Reserve, Former Chairman
DeAnne Julius	•	Royal Institute of International Affairs, Chairman British Airways, Former Chief Economist Shell, Former Chief Economist Bank of England Monetary Policy Committee and the Court of the Bank, Former Member
Caroline Atkinson	•	Google, Head of Global Policy Former Deputy National Security Advisor to President Obama
John Lipsky	•	International Monetary Fund, First Deputy Managing Director
Kofi Appenteng	•	Ford Foundatoin, Former Chair Africa-America Institute, CEO
Laura Tyson	•	Haas School of Business The Council of Economic Advisors, Former Chair
Jessica Einhorn	•	SAIS, Former Dean BlackRock, Former Board Member
Liaquat Ahamed	•	Lords of Finance, Pullitzer Prize Winner & Author

- RockCreek also maintains a large advisory board comprised of professionals with unique experience and global relationships to provide insight on macroeconomic trends and supplement new manager introductions.

ESG

- The General Partner has been thoughtful in terms of ESG, incorporating ESG in its diligence, investment decision and monitoring processes, leveraging its team of dedicated ESG specialists.
    - RockCreek incorporates ESG into its investment thesis and evaluates investment manager's use of ESG data, team expertise in subject matter, efforts to engage portfolio companies, participation in responsible investing and corporate sustainability initiatives and reporting on portfolio impact and engagement outcomes.
- RockCreek maintains an ESG policy, has been a signatory of the PRI since 2010 and continues to be an active member of the Standards Board for Alternative Investments and the Council of Institutional Investors.
    - The General Partner is also a signatory and early collaborator on the Operating Principles for Impact Management and is a signatory to the Net Zero Asset Managers Initiative.

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Contact

Antonio Sierra, the General Partner, clientservices@therockcreekgroup.com, (202) 331-3420

Important Disclosures

All information contained within this report has been gathered from sources believed to be reliable, including but not limited to the general partner(s), other industry participants and the Hamilton Lane Investment Database, but its accuracy cannot be guaranteed.

The information contained in this report may include forward-looking statements regarding the fund presented or its portfolio companies. Forward-looking statements include a number of risks, uncertainties and other factors beyond the control of the fund or the portfolio companies, which may result in material differences in actual results, performance or other expectations. The opinions, estimates and analyses reflect our current judgment, which may change in the future.

The past performance information contained in this report is not necessarily indicative of future results and there is no assurance that the fund will achieve comparable results or that it will be able to implement its investment strategy or achieve its investment objectives. The actual realized value of currently unrealized investments will depend on a variety of factors, including future operating results, the value of the assets and market conditions at the time of disposition, any related transaction costs and the timing and manner of sale, all of which may differ from the assumptions and circumstances on which the current unrealized valuations are based.

Any tables, graphs or charts relating to past performance included in this report are intended only to illustrate the performance of the fund or the portfolio companies referred to for the historical periods shown. Such tables, graphs and charts are not intended to predict future performance and should not be used as the basis for an investment decision.

By accepting receipt of this investment report and in consideration of access to the information contained herein (together with the investment report, the "Confidential Information"), the recipient agrees to maintain the strict confidentiality of any and all Confidential Information in accordance with the terms of this paragraph. The recipient acknowledges that (i) the Confidential Information constitutes proprietary trade secrets, and (ii) disclosure of any Confidential Information may cause significant harm to Hamilton Lane Advisors, L.L.C. ("Hamilton Lane"), its affiliates or any of their respective businesses. Unless otherwise required by law, the recipient shall not disclose any Confidential Information to any third party. If required by law to disclose any Confidential Information, the recipient shall provide Hamilton Lane with prompt written notice of such requirement prior to any such disclosure so that Hamilton Lane may seek a protective order or other appropriate remedy. Prior to making any disclosure of any Confidential Information required by law, the recipient shall use its reasonable best efforts to claim any potential exemption to such requirement and otherwise shall limit disclosure only to such information that is necessary to comply with such requirement.

The calculations contained in this document are made by Hamilton Lane based on information provided by the general partner (e.g. cash flows and valuations), and have not been prepared, reviewed or approved by the general partner.

Stacked bar charts or pie charts presented in the Strategy section in this report may not equate to 100% per the data labels on the charts due to rounding; however, all stacked bar charts and pie charts equate to 100% using exact proportions.

Definitions	
Benchmark Analysis:	An analysis which compares the net IRR of the prior funds to the top-quartile net IRR benchmarks for similar funds (based on strategy and vintage) as reported by the Hamilton Lane database. The benchmark data shown is the most recent data available at this time
DPI:	Distributed-to-Paid In = (Amount of Distributions Received)/(Total Amount of Capital Paid-In)
ESG:	Environmental, Social and Governance
Gross IRR:	Internal Rate of Return ("IRR") of investments at the 'fund level', excludes fees paid by LPs to the General Partner such as management fees and carried interest. For investments held less than one year, Hamilton Lane nominalizes the IRR to match the hold period of the investment, in order to represent a more meaningful number
Investment Pacing:	An analysis of the total capital invested during the given years. Includes all prior investments, realized or unrealized
J-Curve Benchmark:	Peer (median by age) is calculated by taking the median IRR of similar funds (based on strategy and vintage) in Hamilton Lane's database at each quarter, which are simulated as investing at the same point of time. The length of time to break the J-curve is calculated from inception to the first time each fund generated a positive net IRR
Loss Ratio Analysis:	An analysis of the capital invested in realized transactions generating different multiples of invested capital
Net IRR:	Annualized Internal Rate of Return ("IRR") of investments at the 'LP level', inclusive of fees such as management fees and carried interest paid to the General Partner
Net Returns to Limited Partners:	The performance of the General Partner's prior investment vehicles at the net LP level, inclusive of all fees, carried interest and expenses. Performance data is as reported by the General Partner, using actual capital contributions, distributions and net asset value for either all limited partners, or a sample set of limited partners, in the respective funds
Outlier Analysis:	An analysis of the gross returns of investments in prior funds, comparing overall performance against the performance when certain 'outlier' transactions are excluded. Outliers are defined as transactions which generate exceptionally positive or negative results
PME Analysis:	Calculated by taking the fund monthly cash flows and investing them in the relevant Total Return Index (where all dividends are re-invested). Contributions were scaled by a factor such that the ending portfolio balance would be equal to the private equity net asset value (equal ending exposures for both portfolios). This prevents shorting of the public market equivalent portfolio in order to match the performance of an outperforming private equity portfolio. Distributions were not scaled by this factor. The IRRs were then calculated based off of these adjusted cash flows. The selected PME represents the most relevant public market benchmark
Realized Attribution Analysis:	Analysis of the capital invested in, and performance of, the prior realized transactions according to the criteria indicated
Realized Investments:	Hamilton Lane classifies investments as 'realized' if it has i) an unrealized value of less than 20% of the total value; ii) a carrying value that has been written to zero or has been previously written-off; or iii) been fully exited and the GP has no remaining interest in the company
RVPI:	Remaining Value-to-Paid In = (Current Net Asset Value)/(Total Amount of Capital Paid-In)
TVPI:	Total Value-to-Paid In = (Amount of Distributions Received + Current Net Asset Value)/(Total Amount of Capital Paid-In)
Time-zero IRR:	Represents the gross IRR calculated as if every investment was initiated on the same date
Write-Down Ratio:	The ratio of capital invested in realized investments that have been sold for a value that is less than 1.0x their original cost basis, divided by the total capital invested in all realized investments
Write-Off Ratio:	The ratio of capital invested in realized investments that have been sold for a value that is less than 0.5x their original cost basis, divided by the total capital invested in all realized investments

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RockCreek

Private Credit Capabilities

July 2022

Confidential
For Use in One-on-One Presentation

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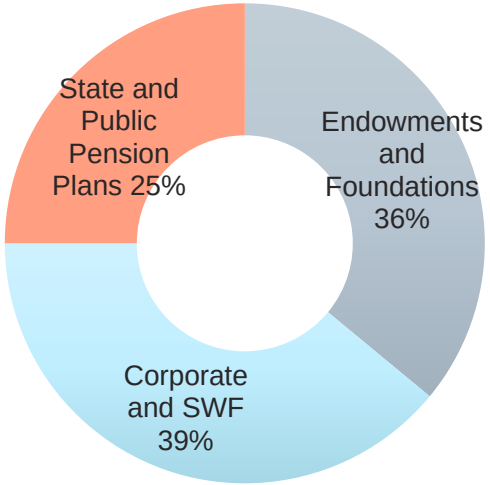
Mission Statement

RockCreek is a leading global investment management firm that applies data-driven technology and innovation to sustainable investing. We have long-term partnerships with our clients and companies. We believe sustainability and inclusion generate superior performance. Sustainable long-term investing extends throughout our investments, our inclusive, mission-focused team, our culture, our office environment and operations.

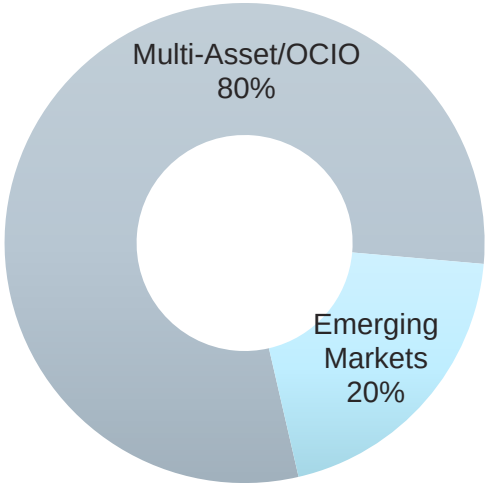
01 Firm Overview

Firm Background

CLIENT TYPE[1]



AUM BREAKDOWN[2]



18 YEARS

Established by Afsaneh Beschloss and a team from the World Bank in 2003

HISTORY

Principals managed $110 billion in private and public markets, early stage, venture, real estate and real assets at the World Bank since the 1990s

PIONEER

RockCreek is one of the largest woman and diverse owned investment firms

CAPABILITIES

Investing directly and through funds

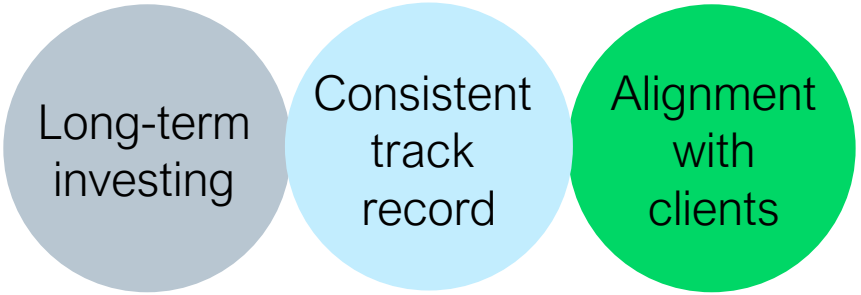
OUR VISION

Advance the mission of our partners by generating inclusive sustainable returns to help achieve their goals

SOLUTIONS FOCUSED

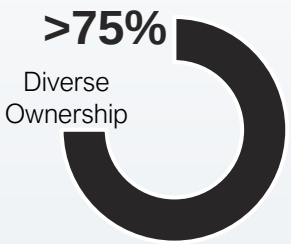
90% of firm assets in customized portfolios

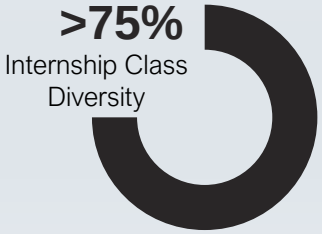
OUR CORE PRINCIPLES



[1] Percent by client count. [2] Includes advisory/transitioning assets and uncalled committed capital. As of March 2022.

RockCreek Impact & Inclusion





RockCreek Investments[1]

$7.9 billion invested in diverse firms

$5.9 billion invested in impact strategies and companies

$900+ million invested in black-owned firms

$3.0 billion invested in women-owned firms

Diverse managers for private markets are defined as firms with 30% or greater ownership by minorities, women, or disabled persons, and/or at least one diverse General Partner. Diverse managers for public markets are defined as firms with 30% or greater ownership by minorities, women, or disabled persons.

[1]Since inception. As of March 2022.

Commitment to Diversity & Impact

RockCreek has committed $7.9 billion to diverse managers and **$5.9 billion** to ESG/Impact investments

Diverse Investments

Over **$2.2 billion** invested in black and Hispanic owned firms

$3.0 billion invested in women-owned firms

21% of assets currently invested with diverse owned firms

100+ current relationships

Diverse and emerging manager investments throughout OCIO portfolios

Sustainable Investments

350+ impact-oriented portfolio companies

36% of assets currently invested in impact and ESG companies and funds

Sustainable investing mandates with OCIO partners

60+ current relationships with ESG & Impact Investors

Mission oriented investments cover climate, health, education, food sustainability, social justice, financial inclusion, job creation, affordable housing and other impactful themes

We work with leading mission-oriented institutions including*

*See Important Disclosures & Risk Considerations about the referenced clients.
Note that the clients referenced herein include a foundation to which RockCreek performs consultancy and research services.
All data since inception of RockCreek and as of March 2022.

Initiatives

Signatory*

- Principles for Responsible Investment ("PRI") sponsored by the UN
- Council of Institutional Investors
- Operating Principles for Impact Management – Founding Member
- Net Zero Asset Manager Initiative
- ILPA Diversity in Action

Advocacy

- RISE Program, NAIC, New America Alliance, TOIGO, NASP, AGE Africa…
- DC Central Kitchen, World Central Kitchen, National Urban League, Mikva Challenge…

Culture

- Diversity, Equity and Inclusion Committee
- Internship Program which has had 350 interns since inception
- Book Clubs and Mental Health Days
- Meditation Classes
- Sustainable Office Environment since 2016

*Supporting various ESG/impact/responsible investing groups and principles does not necessarily reflect an endorsement and acceptance by RockCreek of each and every specific proposal, recommendation or requirement as they evolve over time from such groups, but rather a way for RockCreek to engage with the industry to support the advancement of progress on these issues and the benefits of their research and knowledge sharing.

Experienced Investment Team

Senior Portfolio Team

Average of **15 years** with RockCreek

Afsaneh Beschloss
35 years
World Bank, Carlyle, JP Morgan

Sudhir Krishnamurthi
35 years
World Bank, MIT

Ken Lay
34 years
World Bank, SEC

Siddarth Sudhir
19 years
Merrill Lynch

Alberto Fassinotti[1]
20 years
Goldman Sachs, JPM Darby

Ronald van der Wouden
26 years
World Bank, Robeco, Ortec

Alifia Doriwala
20 years
Merrill Lynch, Wolverine Trading

Tyson Pratcher
22 years
TFO USA, NYSCRF, Davis Polk & Wardwell

Senior Research Team

Average of **10 years** with RockCreek

Yan Wang[1]
16 years
Goldman Sachs

Drew Reid
5 years
Credit Suisse

John Coombe
14 years
Citadel, Trafelet

Anda Bordean
14 years
Soros, Goldman Sachs

John O'Brien[1]
41 years
AllianceBernstein, American Express

Ken LaPlace
26 years
Cambridge Associates

Philip Ashton
24 years
Keel Point, Radcliff

Matt Bullough
11 years
Cambridge Associates

Huaizhang Deng
20 years
U. Of Pennsylvania, Yale

Chris Barber
13 years
Bureau of Labor Statistics

Employee data as of March 31, 2022.
1 Individuals are senior members of the RockCreek Emerging Markets Group.

Experienced Finance & Operations Team

Senior Team

Legal Team

Sherri Rossoff
38 years
World Bank,
Cleary Gottlieb

Krishnan Devidoss
Lead Counsel
Lazard Asset Management

Monica Villarreal
Lead Counsel
Bridgewater Associates

Operations Team

Antonio Sierra
20 years
World Bank

Jackie Bleicher
Director
Franklin Templeton

Matthew McMaster
Managing Director
Potomac River, EQA Partners

Accounting

John Reville
44 years
PWC

Nafees Clay
Director
KPMG LLP

Kevin Tong
Senior Vice President
The Blackstone Group

Technology

Tim Duggan
26 years
Fannie and Freddie

Dustin Bortner
Director
University of Illinois

Employee data as of March 31, 2022.

Advisory Board

Alan Greenspan

Former Chairman of the Board of Governors of the Federal Reserve System
Former Board Member of JP Morgan, Mobil, Alcoa, General Foods, Capital Cities/ABC, and the Council on Foreign Relations
Author of *The Map & The Territory: Risk, Human Nature, and the Future of Forecasting* and NYT Best Seller, *The Age of Turbulence*

Caroline Atkinson

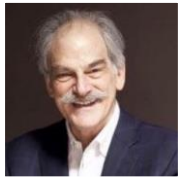
Head of Global Policy, Google
Former Deputy National Security Adviser to President Barack Obama
Former Director, IMF External Relations Department
Director of Brookfield Property Partners
Board Member of Peterson Institute for International Economics (PIIE) and the Center for Global Development

Deanne Julius

Distinguished Fellow for Global Economy and Finance at Chatham House
Vice Chair of the Advisory Board of the International Business and Diplomatic Exchange
Advisory Board Member of Temasek (Singapore) and the China Investment Corporation
Founding Member of the Bank of England Monetary Policy Committee and former Chair of the Royal Institute of International Affairs
Former Energy Division Chief, World Bank and Chief Economist at Shell and British Airways
Former corporate Board Member of BP, Roche, Deloitte UK, Serco, Lloyds Bank Group, and ICE Benchmark Administration

Jessica Einhorn

Board Member of BlackRock and NBER
Former Dean of Johns Hopkins University School of Advanced International Studies (SAIS)
Former Board Member of Time-Warner
Former Managing Director and Treasurer, World Bank
Trustee of the German Marshall Fund, Rockefeller Brothers Fund and Former Director of the Council on Foreign Relations, Center for Global Development



John Lipsky

Senior Fellow of the Foreign Policy Institute at Johns Hopkins School of Advanced International Studies (SAIS)
Co-chair of the Aspen Institute's Program on the World Economy and Advisory board of the Stanford Institute for Economic Policy Research
Chair of the National Bureau of Economic Research and Vice Chair of the Center for Global Development
Former Vice Chairman of JPMorgan Investment Bank and Former Chief Economist & Director of Research at JPMorgan Chase

Kofi Appenteng

President & CEO, The Africa-America Institute
Former Chair of the Board of Trustees, Ford Foundation
Former Chair and Current Member of the Board of Directors, International Center for Transitional Justice
Member of the Board of Directors, Conrad N. Hilton Foundation
Former Senior Counsel, Dentons

Laura Tyson

Board Member of Sustainability Accounting Standards Board (SASB)
Professor and Former Dean, Haas School of Business, UC Berkeley and the London Business School
Former member of President Obama's Recovery Advisory Board
Current and Former Board Member of Morgan Stanley, AT&T, CBRE Group Inc., and Silver Spring Networks
National Economic Adviser to President Clinton and former Chairman of the White House Council of Economic Advisers

Liaquat Ahamed

Author of Pulitzer Prize-winning *Lords of Finance*
Former CEO and CIO of Fischer Francis Trees and Watts Inc.
Former Division Chief of the World Bank Investment Department

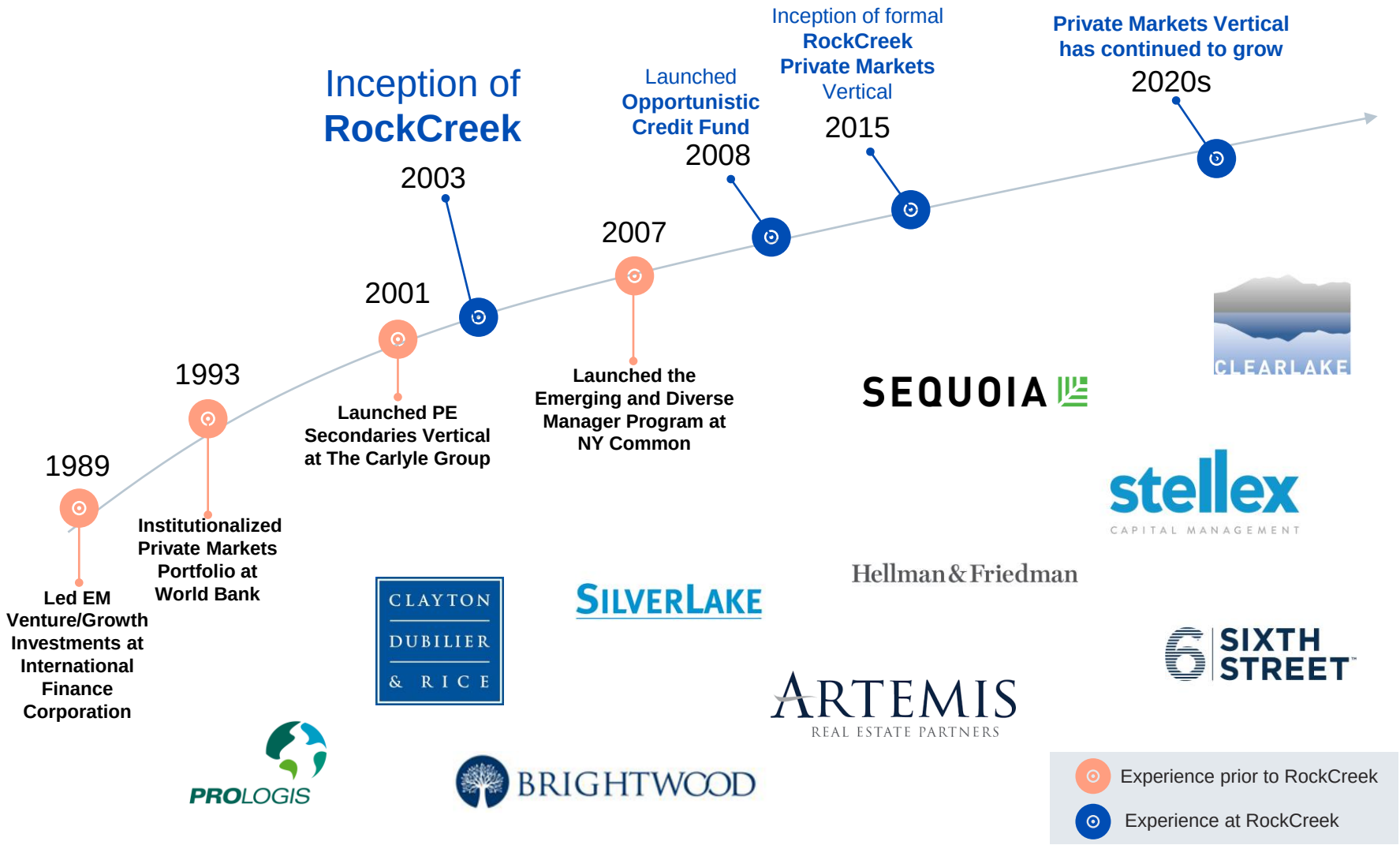
Team Current & Past Board Roles

As Members of Non-Profit Boards Our Team Shares Best Practices

- American Red Cross
- Barbara Fritchie Museum
- Center for American Progress
- Center for Development Economics (CDE) at Williams College
- Center for Global Development
- Colonial Williamsburg Foundation
- Dana Farber Cancer Institute
- Doris Duke Charitable Foundation
- Ford Foundation
- Georgetown University Global Initiative Advisory Board
- Institute of Advanced Study (IAS)
- John F. Kennedy Library Foundation
- PBS
- Pension Finance Committee of the World Bank
- Robert Kennedy Center for Justice & Human Rights
- Rockefeller Brothers Fund
- Sesame Workshop
- Shakespeare Theater Company
- Smithsonian Institute
- Teach for America
- The Langley School
- The Nature Conservancy Wyoming Chapter-Director
- United Nations
- Urban Institute
- Washington National Cathedral
- WETA
- World Health Organization
- World Resources Institute
- World Wide Web Foundation

02 Private Markets

Private Markets Timeline



For informational purposes only. Historical data provided by Senior Private Markets Team. No guarantee a customized portfolio will invest in all or any of the referenced managers.

RockCreek Advantage: Private Markets

RockCreek's Competitive Advantage is Across Four Dimensions

Experience

Access

Client Focus

Track Record

Private Markets Team

Team with significant experience investing in private markets

Senior Team

Afsaneh Beschloss
RockCreek Founder & CEO
World Bank, Carlyle, JP Morgan
35 years *of* experience

Sudhir Krishnamurthi
Senior Managing Director
World Bank, MIT
35 years *of* experience

Kenneth Lay
Senior Managing Director
World Bank, SEC
33 years of experience

Investment Team

Siddarth Sudhir
Managing Director
Merrill Lynch

Tyson Pratcher
Managing Director
TFO USA, NYSCRF, Davis Polk & Wardwell

Matt Bullough
Managing Director
Cambridge Associates

Peter Cline
Director
Cambridge Associates

Zach Ruchman
Senior Vice President
BlackRock

Drew Reid
Senior Vice President
Credit Suisse

Johnny Read
Vice President
Eastdil Secured

Operations Team

Antonio Sierra
Managing Director
World Bank

Jackie Bleicher
Director
Franklin Templeton

Matthew McMaster
Managing Director
Potomac River, EQA Partners

Marion Sierpinski
Director
Rothschild HDF Investment Solutions

Accounting Team

John Reville
Managing Director
PWC

Nafees Clay
Director
KPMG LLP

Kevin Tong
Senior Vice President
The Blackstone Group

Legal Team

Sherri Rossoff
Managing Director
World Bank, Cleary Gottlieb

Monica Villarreal
Lead Counsel
Bridgewater Associates

Krishnan Devidoss
Managing Director
Lazard Asset Management LLC

Employee data as of March 31, 2022.

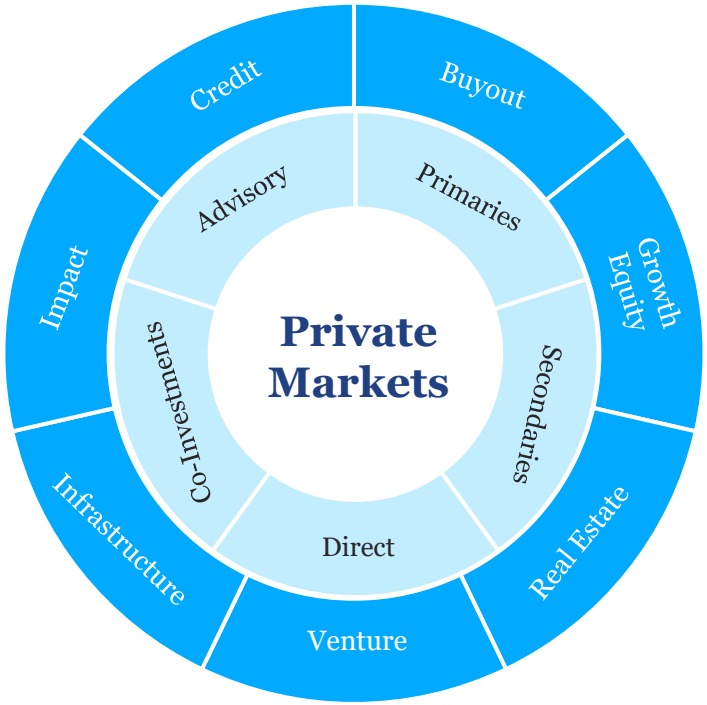
Private Market Investments

RockCreek has invested in Private Markets for 10+ years

10+ years
Investing in
Private Markets

100+
Funded GP
Relationships

~30[1]
Co-investments and
Direct Investments



$5bn+
In Capital
Commitments

28%
Invested in Non-U.S.
Markets

1. Includes underlying portfolio exposure through the co-investment vehicles.
2. Based on committed capital.

As of March 2022.

03 Private Credit Capabilities

Background

Our private credit portfolios have generated attractive returns over 7+ years

1,400+
Opportunities reviewed since 2015

$1.7bn+
Committed to Private Credit GPs

$70mn+
Committed to Private Credit Co-Investments[3]

$153mn
Committed to women and diverse firms[2]

- Team with 20+ years experience managing private credit portfolios
- Access and capacity with top-quartile private credit GPs
- Sourcing is also focused on identifying talented diverse GPs
- Rigorous selection process that has resulted in less than 3% of the 1,400+ opportunities reviewed being approved for investment
- Attractive returns with inception-to-date IRRs that are 500 bps above relevant benchmarks[1]

Private Credit Commitments Include

28
to GPs raising 1st to 4th institutional Fund

~20
LPACs in which we participate

1. Benchmark used is a custom blend of 50%/50% LSTA Leveraged Loan/50% BofA US High Yield Index. Relative performance calculations are conducted using the Long-Nickels ICM methodology.
2. Defined as firms that have 50% or greater ownership by women and other minority groups
3. Includes commitments to co-investment vehicles

As of March 2022. Employee data as of March 2022.

Past performance is not indicative of future results. The underlying exposures, specifically hedges, securities, and derivatives in the selected benchmark index or indices, may vary substantially from that of the portfolio(s) presented. See Important Disclosures & Risk Considerations about the selected indices presented.

Investment Process: Private Credit

We have a four-step investment process

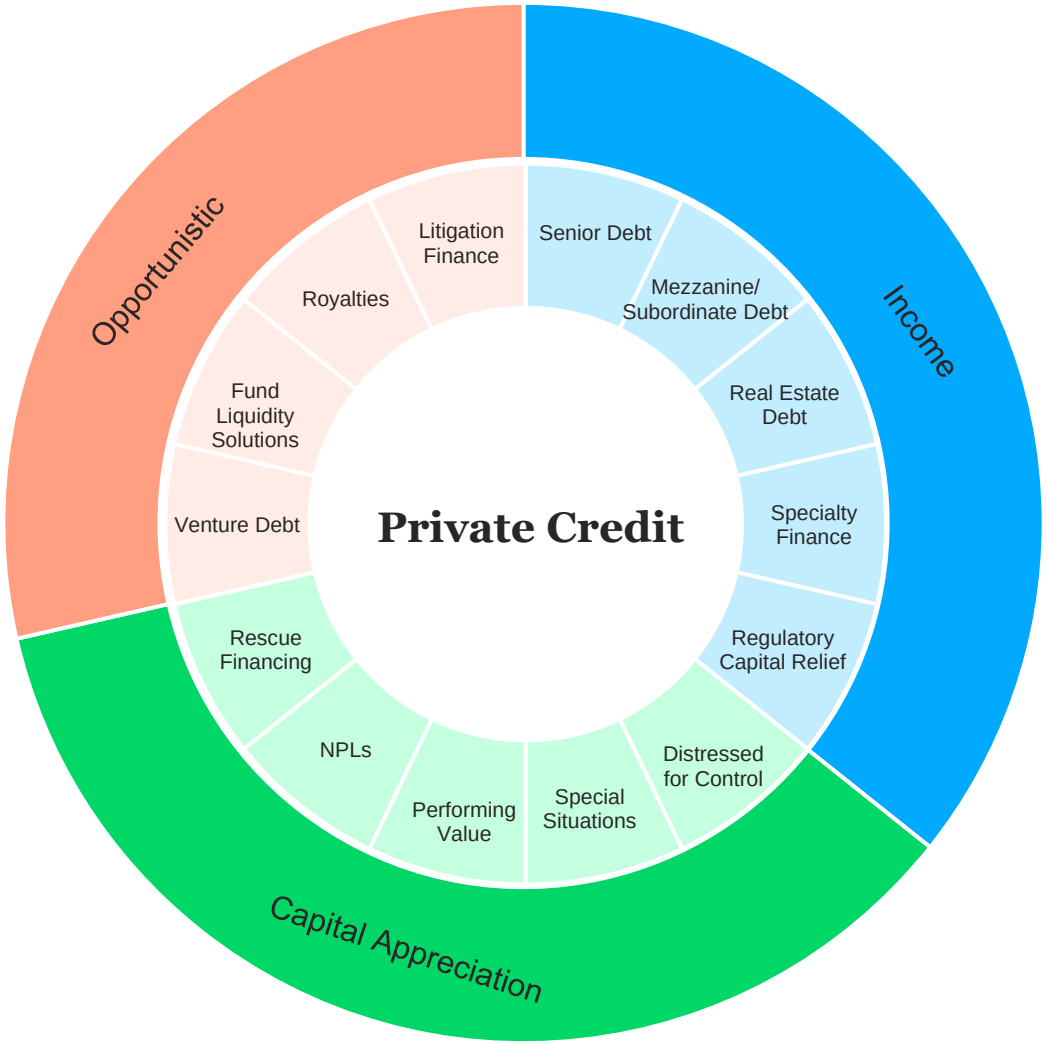
Strategy Allocation

Fund Selection

Risk Management

Performance

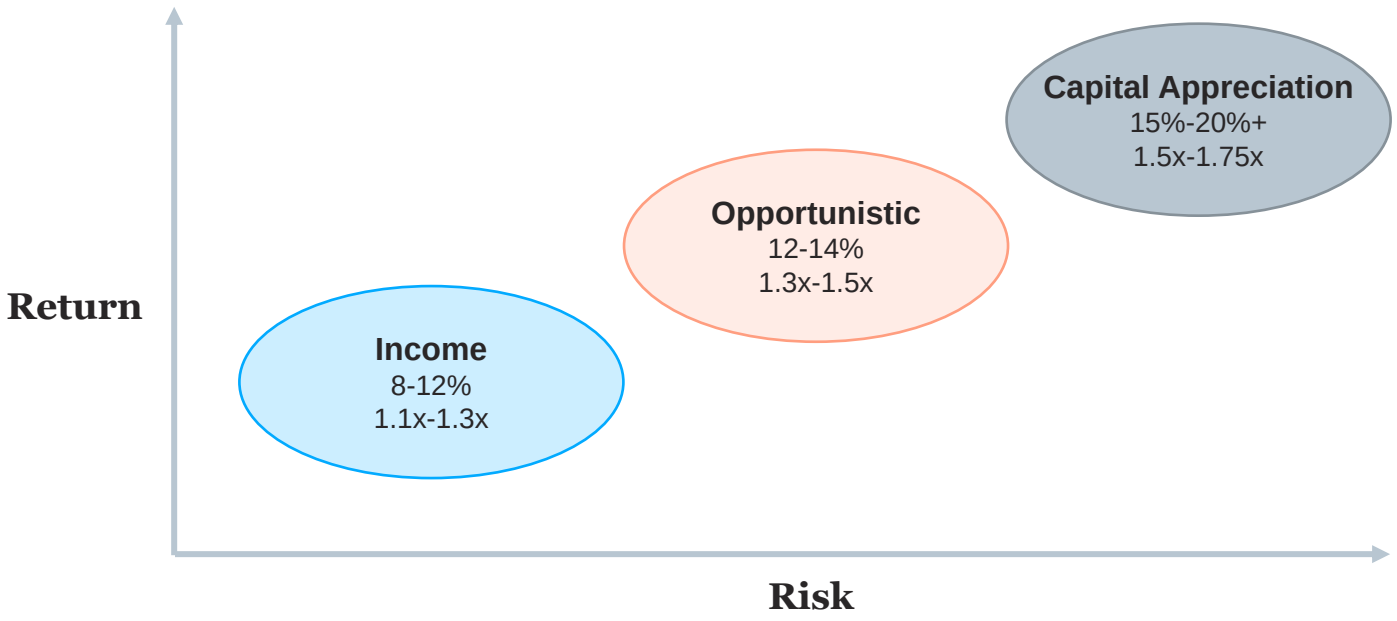
Strategy Universe



Areas of Focus

- ✓ Creditor friendly jurisdictions
- ✓ Underserved borrowers
- ✓ Underpenetrated and niche credit markets
- ✓ Regulations preclude traditional financing channels
- ✓ Sectors & geographies experiencing dislocation
- ✓ Avoiding strategies with low barriers to entry

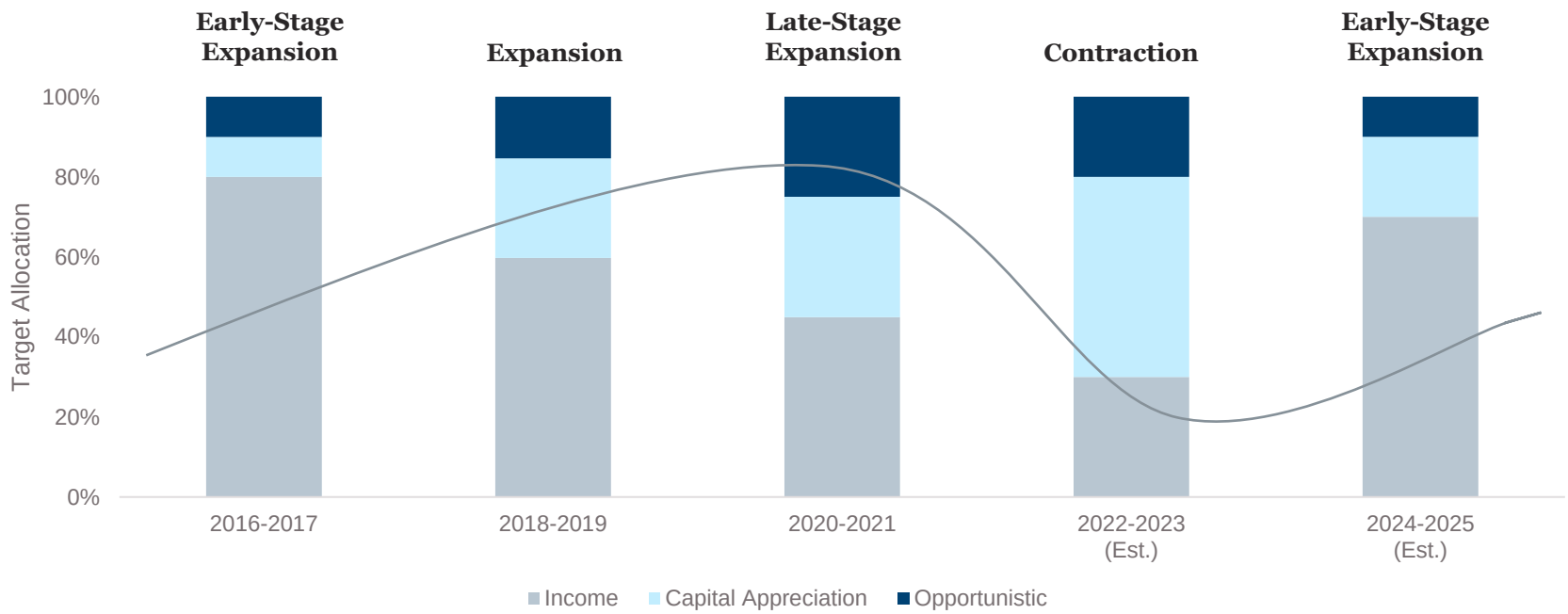
Strategy Risk-Return Trade Off



Capital Appreciation strategies target higher expected returns to investors for bearing higher illiquidity and default risk than income-oriented strategies

Strategy Allocation

- Income strategies provide a stable yield over the different phases of a market cycle
- Capital Appreciation strategies are cyclical and generate strong total returns in the early-stage expansion phase
- Opportunistic strategies provide yield and total returns by structuring investments towards income and/or capital appreciation components depending on the market opportunity

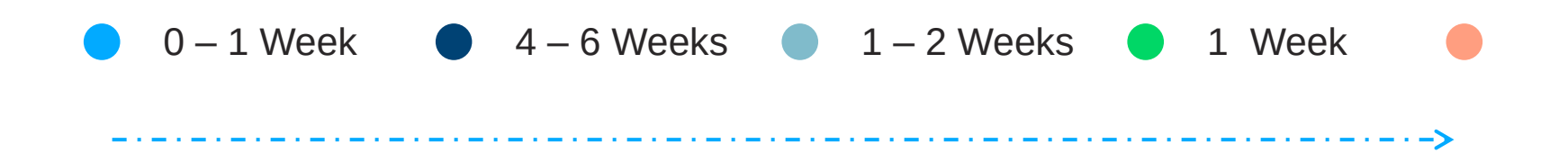


In the current environment, we are targeting a portfolio allocation titled towards capital appreciation strategies

1. For discussion purposes.
2. No guarantee that a customized portfolio will make same or similar allocations and exposures as presented. Future market conditions may impact a portfolio's ability to make allocations and exposures as presented. See Important Disclosures & Risk Considerations about potential future events.

Fund Selection Process

Fund Selection Timeline



We have a robust fund selection process that identifies talented managers over time

Fund Sourcing

We have a multi-faceted approach to sourcing funds

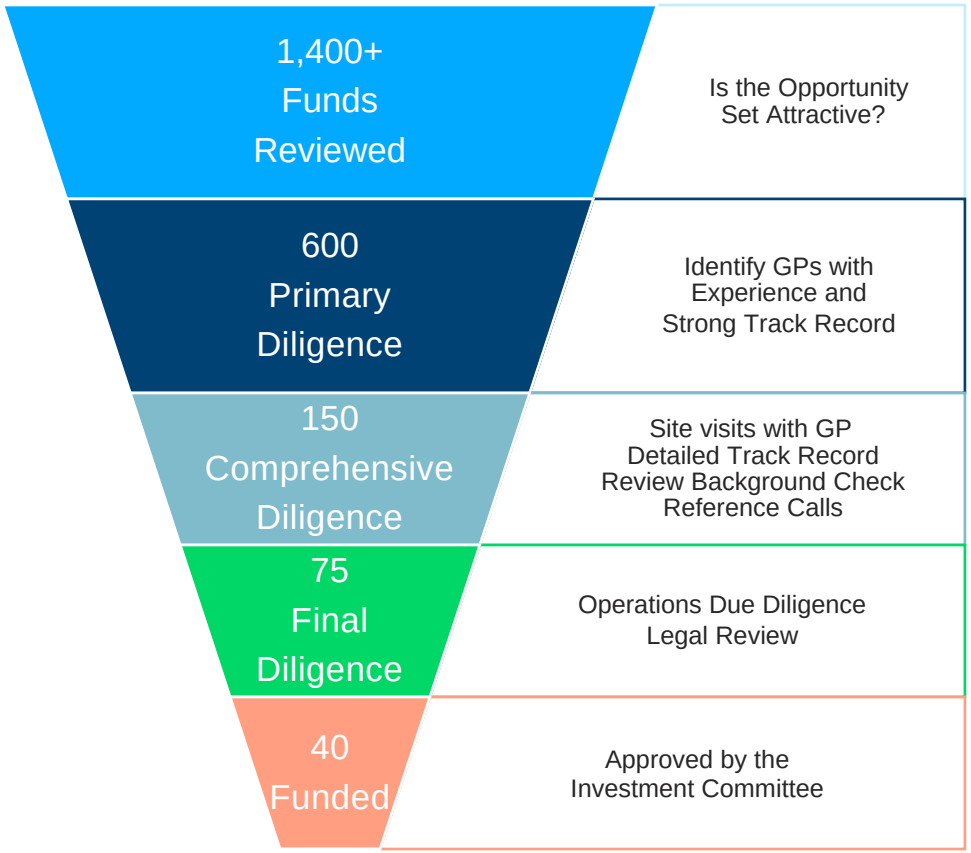
- ✓ We have a distinctive and broad-based sourcing network
- ✓ Our network is now sourcing over 375 private credit opportunities per annum

Selection Funnel

RockCreek has a rigorous approach to selecting GPs

Areas of Focus

- ✓ Track record with institutional clients
- ✓ Fund size consistent with market opportunity
- ✓ Non-competitive sourcing channels
- ✓ Limited use of leverage
- ✓ Creditor friendly jurisdictions
- ✓ Less reliant on capital markets for exits

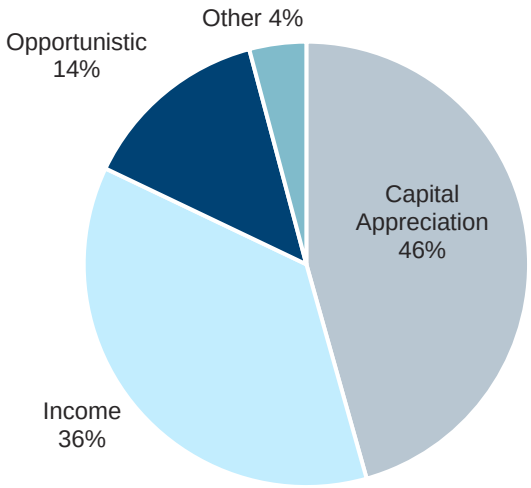


Database: Private Credit Funds

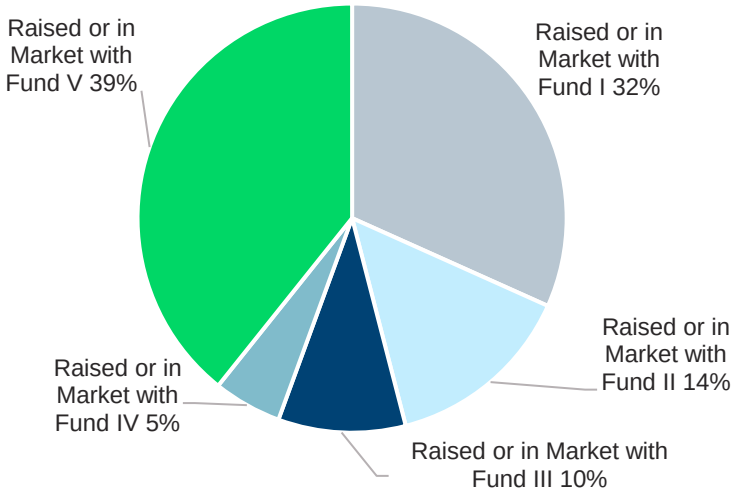
Our database has over 1,400+ private credit funds

- Our database includes income, opportunistic and capital appreciation strategies to help us construct customized portfolios for our clients
- A large portion of our database includes emerging GPs that are raising their first to fourth institutional fund
- Our database has a focus on diverse GPs, whose funds currently represents ~20% of our database

Breakdown by Strategy



Stage of Fund



As of March 2022.

Customizing Portfolios

- RockCreek has focused its business model on constructing customized private credit portfolios for large institutional investors

- Private credit portfolios are customized across a variety of attributes to meet specific client objectives:

  - ✓ Strategy
  - ✓ Number of Relationships
  - ✓ Geography
  - ✓ Diversity and Impact
  - ✓ Size
  - ✓ Leverage

See Important Disclosures & Risk Considerations about the referenced clients.

Case Study: Fund Investments

RockCreek has been an anchor investor in number of private credit funds that has enhanced returns for investors

Investment	Structured Real Estate	Venture Debt	Corporate Lending
Investment Date	December 2018	June 2018	March 2022
Description	• Partnership with a firm to invest in and select real estate assets utilizing a proprietary financing strategy that recovers cost basis in an accelerated timeline	• Partnership with a firm to provide financing to small to mid-size life science companies structured as debt and/or royalties	• Partnership with a firm to provide bespoke credit solutions for middle market borrowers in need of transitional capital
Anchor Investor Benefits and RockCreek Value-Add	• Anchor investor in vehicle, discounted economics, capacity rights for current and follow-on vehicle, advisory board seat • Played key role in drafting investment documents, policies & procedures • Introduce GP to other prospective LPs	• Anchor investor in vehicle, discounted economics, capacity rights for current and follow-on vehicle, advisory board seat • Played key role in drafting investment documents, policies & procedures • Introduce GP to other prospective LPs	• Ability to make a large commitment to a first close allowed RockCreek to negotiate discounted fees and higher preferred return relative to other LPs • Formal voting member of the LPAC

ESG Considerations

For Firms

- ESG Policies
  - Does the GP have an ESG Policy?
  - Is the GP willing to incorporate best practices on ESG policies?
- Social/Diversity
  - What are the hiring practices of the GP?
  - Do you monitor the diversity of the team over time and functions?
- Governance
  - Does the GP have an independent Board of Directors and Oversight Committee?
- Sustainability
  - Does the Firm incorporate sustainable practices?
  - Is the firm a signatory to any sustainable initiatives? (e.g., UNPRI, etc.)

For Investments

- ESG Data
  - Does the research process incorporate ESG factors?
  - How important are ESG factors in choosing investments?
  - What ESG data models are used?
- Governance
  - Is there an effort to encourage better governance in underlying portfolio companies?
  - What are the Firm's proxy voting policies?
- Sustainability
  - Does the research process incorporate sustainability initiatives?
  - How is a company's sustainability initiatives factored into investment decisions?
  - Do you integrate sustainability policies into the future financial projections?

Risk Management

A risk management focus is needed at the portfolio and the individual fund levels

Fund Level

- Sourcing of high-quality investments
- Conservative credit underwriting to minimize impairment risk
- Structuring capabilities to provide downside protection
- Ongoing monitoring and surveillance
- Asset management capabilities to maximize recoveries
- Well diversified portfolio across borrowers
- Provide full deal level transparency to LPs

Portfolio Level

- Well diversified and consistent with market environment
- Portfolio attributes are consistent with client objectives and guidelines

Areas of Focus

- ✓ Experience navigating through multiple market cycles
- ✓ Seasoned investment professionals that have successfully worked together
- ✓ Disciplined risk management is an integral part of firm culture and investment process
- ✓ Robust operational infrastructure that supports the investment strategy

Why Partner with RockCreek?

- One of the largest diverse owned asset management firms in the US
- A track record of over 10 years with private credit investments
- Experienced team that has invested through market cycles
- Focus on niche and less competitive investments
- Strong capabilities in sourcing diverse private credit GPs
- Cost-effective approach through use of preferred terms and co-investments
- Full-gamut of implementation capabilities including transitioning legacy assets

RockCreek is committed to managing **customized performing private credit portfolios** for institutional investors

For discussion purposes.
No guarantee that a customized portfolio will achieve the allocations and exposures and portfolio characteristics as described herein. See Important Disclosures & Risk Considerations.

04 Investment Pipeline

Investment Themes

Flexible Investment Capital

Managers with flexible investment mandates can better target opportunities that arise due to cyclical, secular, and structural disruption in an uncertain macroeconomic environment. A flexible approach offers the manager the ability to be a solutions provider across a variety of different situations, and therefore direct capital to the best opportunities ranging from highly structured growth capital to stressed/distressed rescue finance to other forms of "transitional" capital. Moreover, an ability to invest across public and private markets offers the ability to capture illiquidity premium when it is most pronounced.

Residential NPLs/RPLs

A multi-year stretch of strong home price appreciation ("HPA") has allowed homeowners to build substantial equity in their homes, regardless of the payment status on their outstanding mortgages. This equity buffer provides homeowner-friendly options to resolve non-performing residential mortgages with outsized outcomes for NPL buyers. Despite the recent increase in mortgage rates, the systemic lack of supply of housing in the US should persist and preserve home equity value for the foreseeable future. Meanwhile, the supply of residential NPLs is expected to increase as covid-related forbearance programs conclude. Diverse-owned firms are offered a Special Track to participate in GSE-led auctions of residentiall NPLs.

European Special Situations

European corporates are facing a multitude of macroeconomic headwinds. Not only is there a lingering impact from the global pandemic – particularly as government support has moderated – but additional acute pressures stemming from the Russia-Ukraine conflict and inflation. The macroeconomic environment is creating an outsized opportunity for European Special Situations investors, particularly those with a local presence and the ability to invest across credit sectors, collateral types, countries/markets, and public and private situations.

Venture Debt / Growth Capital

As public market volatility has begun to put pressure on private market valuations, there will naturally be increasing demand for less dilutive debt capital, particularly from borrowers facing difficulties in raising the capital they need from equity investors. Moreover, any decline in private market equity valuations creates a disincentive to use equity as form of "currency" to achieve strategic growth initiatives. The resulting increase in demand for venture debt financing increases the bargaining power of the lender, creating the ability to structure higher interest rates, tighter protective covenants, and additional equity participation rights.

Investment Pipeline

Name of Fund	MWBE	Strategy	Sub-Strategy	Geography	Target Size ($m)	Target Net IRR	Targeted Close Date
Blantyre Special Situations Fund III	Asian	Capital Appreciation	Special Situations	Pan-Europe	€850	16-18%	Q3 2022
Brasa Real Estate Credit Fund II	Hispanic	Opportunistic	CRE Debt	North America	TBD	13-15%	Q4 2022
Everberg Capital Partners II	NA	Income	Structured Lending	North America	$350	13-15%	Q3 2022
Invictus Special Situations Fund II	Multi-Diversity	Opportunistic	Multi-Strategy	North America	$250	14-16%	Q1 2023
Kah Capital Mortgage Credit Fund II	Black	Capital Appreciation	Residential NPL	North America	$300	14-16%	Q3 2022
L2 Point Opportunities Fund I	Woman	Opportunistic	Structured Equity	North America	$300	14-16%	Q2 2022
Sound Mark Horizons Fund	Woman	Income	CRE Debt	North America	$1,000	11-13%	Evergreen
Structural Capital Investments IV	Asian	Opportunistic	Venture Debt	North America	$450	13-15%	Q2 2022
Turning Rock Gender Lens Strategy	Woman	Opportunistic	Special Situations	North America	$300	11-13%	Rolling
VWH Master Fund III	Multi-Diversity	Capital Appreciation	Residential NPL/RPL	North America	$1,500	15-17%	Q4 2022

For discussion purposes.
Past performance of the referenced managers is not indicative of such managers' future results.
Inclusion of a manager in this table does not imply that any of the listed managers will actually be included in your portfolio or that other managers not listed in this table will not be included. See Important Disclosures & Risk Considerations about the information prepared by the referenced managers and about the opportunities presented.'

Kah Capital Mortgage Credit Fund II

BACKGROUND

FIRM NAME	Kah Capital Management
YEAR FOUNDED	2018
FOUNDER(S)	Adama Kah
FIRM AUM	$150 million
EMPLOYEES	7
MWDBE	Black

FUND CHARACTERISTICS

Fund	Fund II	Strategy	Capital Appreciation
Target Fund Size (M)	$300	Sub-Strategy	Residential NPL/RPL
Geography	North America		

SUMMARY

Kah Capital Management ("KCM") was founded in 2018 by Adama Kah, who previously launched and ran Freddie Mac's $130 billion distressed mortgage portfolio from 2011 to 2018 and pioneered the GSE's sales of NPLs and RPLs via outright loan sales and structured transactions. The strategy is focused on "spotty pay" RPLs, a niche segment of the agency mortgage credit market, and clean-pay RPLs. Kah will look to buy these securities at a discount, implementing servicing strategies, and securitize and retain the higher yielding subordinate tranches. The fund will also opportunistically purchase non-investment grade and non-rated subordinate securities backed by clean pay RPLs. KCM is focused on making improvement to the quality of the collateral through the utilization of proprietary analytics and customized resolutions that are economically sensible and prioritize home retention for homeowners facing hardships.

PRIOR FUNDS (THROUGH 12/31/2021)

Fund Name	Vintage	Fund Size	Net IRR	TVPI
Fund I	2019	$150mm	21.4%	1.5x

TERMS

MANAGEMENT FEE	1.75%
CARRIED INTEREST	20%
PREFERRED RETURN	7%
FUND TERM	7 Years
INVESTMENT PERIOD	3 Years
EXTENSION OPTIONS	4 Years

As of December 31, 2021. Past performance of the referenced manager is not indicative of such manager's future results.
See Important Disclosures & Risk Considerations about the information prepared by the referenced manager and about the opportunities presented.

Structural Capital Investments IV

BACKGROUND

FIRM NAME	Structural Capital
YEAR FOUNDED	2014
FOUNDER(S)	Kai Tse, Larry Gross, Todd Jaquez-Fissori
FIRM AUM	$650 million
EMPLOYEES	11
MWDBE	Asian

SUMMARY

Structural Capital focuses on investing in top quality, high growth venture-backed companies across software, consumer, cleantech, health and wellness, ag tech, fintech, and ed tech, among other verticals, which have a projected path to profitability within the first six to 18 months after investment. Specifically, the fund seeks to provide these companies with non-dilutive growth capital for sales/marketing investments, acquisitions, bridge to profitability, and to achieve other key milestones. The fund aims to generate a 20%+ unlevered gross IRR on a per-deal basis driven by strong debt returns with senior secured collateral protection and equity upside in the form of warrants.

FUND CHARACTERISTICS

Fund	Fund IV	Strategy	Opportunistic
Target Fund Size (M)	$450	Sub-Strategy	Venture Debt
Geography	North America		

PRIOR FUNDS (THROUGH 12/31/2021)

Fund Name	Vintage	Fund Size	Net IRR	TVPI
Fund III	2019	$267M	12.7%	1.1x
Fund II	2016	$90M	18.0%	1.5x
Fund I	2014	$11M	11.4%	1.4x

TERMS

MANAGEMENT FEE	1.75%
CARRIED INTEREST	20%
PREFERRED RETURN	7%
FUND TERM	7 Years
INVESTMENT PERIOD	3 Years
EXTENSION OPTIONS	2x 1 Year

As of December 31, 2021. Past performance of the referenced manager is not indicative of such manager's future results.
See Important Disclosures & Risk Considerations about the information prepared by the referenced manager and about the opportunities presented.

05 Diverse & Emerging Managers

Platform Capabilities

Investment Research

search & discovery, top-down and bottom-up analysis

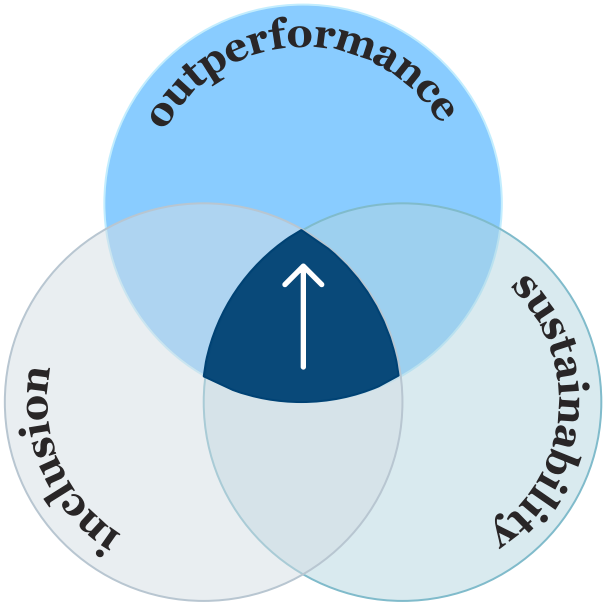
Portfolio Management

rigorous due diligence, peer benchmarking, trendline analysis

Impact Reporting

impact scenario analysis, portfolio analytics, advanced visualization & AI

comprehensive ESG, Impact, diversity database



detailed impact and diversity data from third party vendors

"common app" diligence portal for fund managers

analyst-generated data & insight

Investing in Emerging Managers

Sourcing

- Reputed investor with emerging managers
- Long term relationship with established GPs whose team members launch many emerging manager funds
- Well-connected with investors and trade associations supporting the emerging manager ecosystem

Investment Capabilities

- Identify managers with demonstrated ability to generate attractive returns
- Capture niche opportunities overlooked by other investors
- Construct diversified portfolios with attractive risk/return trade-offs

Favorable Terms

- Negotiate tiered fee structures based on asset growth
- Co-investment deal flow
- Capacity rights in subsequent funds

Assisting Gain Visibility

- Speak alongside clients about diverse investments at industry-specific events
- Assist diverse fund managers with their fundraising efforts
- Host events on diversity-related topics

What We Look For in Emerging Managers

- Access to sufficient capital to procure appropriate infrastructure
- Growing base of investors
- Access to sufficient capital for investment team build-out and a co-investment in the strategy that is meaningful for alignment
- Sufficient full-time staff with tenured industry experience
- Well capitalized firm that shows positive operating cash flows
- Key internal infrastructure in place, with redundancies in mission-critical investing and operating processes
- Increased breadth of ownership and has reduced key person risk
- Established appropriate environmental, social and governance (ESG) policies and procedures

Working With Emerging Managers

By Encouraging Best Practices:

- Team structure, compensation, incentive structure
- Business and growth plans
- Risk management policies, procedures, and systems
- Service providers and recruiting for senior talent
- Marketing strategy, materials, and reporting
- Fund legal structures
- Ongoing support as firms evolve into next phase of their business

By Providing Services:

- Invitations to our industry events
- Introductions to Institutional Investors
- Identify or interview prospective employees for infrastructure and operations related positions
- Negotiate discounts with select experienced service providers
- Recommend risk management systems and other third-party software
- Improve pitchbook and investor related communications to attract institutional investors

Investments with Emerging Managers

RockCreek has committed over $1 billion[1] to emerging managers

- Team members have invested with emerging managers since the 1990s including early investments with Sequoia, Benchmark, Accel, Clearlake, Brightwood and Stellex
- RockCreek has been investing in emerging private market GPs since 2015
- Emerging managers actively seek RockCreek's participation in their advisory committees
- RockCreek negotiates fees, co-investment and capacity rights with all GPs including emerging managers

RockCreek Investments

Luminate Capital Partners
Advance Global Capital
Base10
ZEAL Capital Partners
Moxxie Ventures
Owl Ventures
BOND
Grain Management
Turning Rock Partners
Blantyre Capital
Innovatus Capital Partners
Oak Street Real Estate Capital

1. Since Inception. Emerging Manager GPs are those with the amount of capital committed to funds which have raised Funds I – IV and have firm AUM less than $2bn. Data as of March 31, 2022. Past performance of the referenced managers is not indicative of such managers' future results. No guarantee that a customized portfolio will invest in same or similar managers. See Important Disclosures & Risk Considerations about the information prepared by the referenced managers and about the opportunities presented.

Emerging Managers: Case Studies

ADVANCE GLOBAL CAPITAL™

- Provided valuable institutional validation of the business through written testimonials and LP references
- Helped create and implement a currency hedged share class to accommodate Canadian investor demand for the strategy

BLANTYRE CAPITAL

- Supported the organization as an early Fund I investor, and anchor investor for a commingled co-investment vehicle
- Provided a formal and visible institutional endorsement by serving as a LP reference
- Advised on terms and structure of the firm's inaugural co-investment fund;

TURNING ROCK PARTNERS

- Invited manager to participate on a SBIA panel hosted by RockCreek
- Offered guidance on the timing and structure of inaugural co-investment vehicle
- Advised on selection criteria for in-house back-office staffing
- Launched a RockCreek-Turning Rock co-branded gender lens investment strategy to promote gender equality
- Serves on the Fund's LPAC
- Collaborated on internship initiatives

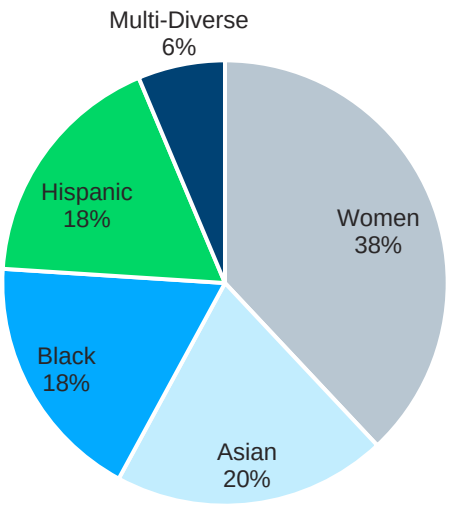
No guarantee that a customized portfolio will invest in all or some of the managers referenced herein.
See Important Disclosures & Risk Considerations about the opportunities presented.

Database: Diverse Private Credit Funds

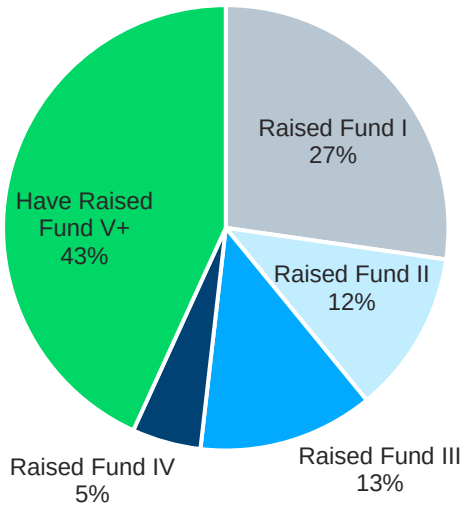
Our database has over 220 diverse private credit funds

Our database is focused on minority, women, and disabled service veteran GPs, whose funds currently represents 20% of our database

Breakdown of Diverse Funds



Stage of Fund



Data as of March 2022. Source: RockCreek. Emerging Managers are those GPs with the amount of capital committed to funds which are raising Funds I – IV and have firm AUM less than $3bn. Diverse managers are those firms with 30% or greater ownership by minorities, women, or disabled persons.

06 Back-Office Capabilities

Comprehensive Back Office Services

- Coordinates with client auditors for the preparation of annual financial statements
- Undertakes the diligence, onboarding and monitoring of portfolio investments
- Maintains financial records
- Performs analysis of fees paid on portfolio investments
- Consultation on tax structuring and analysis

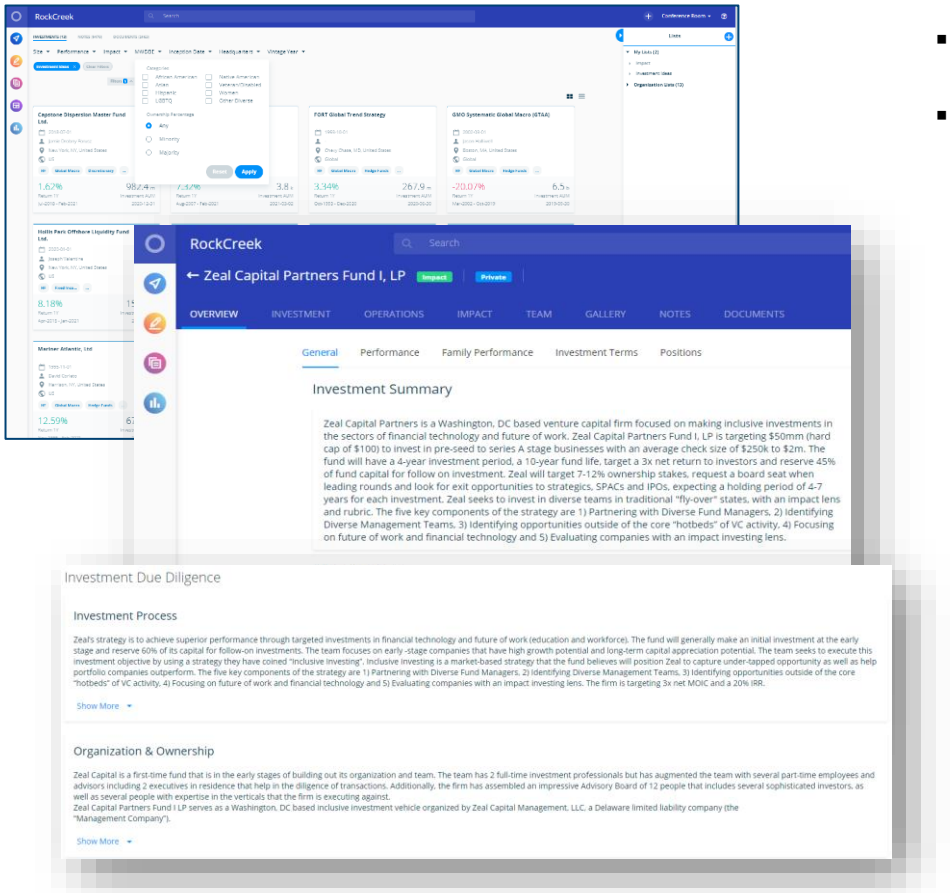
- Interfaces with service providers including administrators and custodians
- Oversee cash management including capital calls and distributions
- Negotiating brokerage, FCM, ISDA, and custody agreements

- Setting up legal entities for customized accounts
- Process subscription and other legal documents
- Monitors investment guidelines
- Extensive diligence of legal documents for underlying investments

- Manage cloud infrastructure to support a web-based platform
- Structure and manage proprietary database that collects investment and portfolio level information
- Develop start-of-the-art visualization and artificial intelligence (AI) tools to facilitate decision making

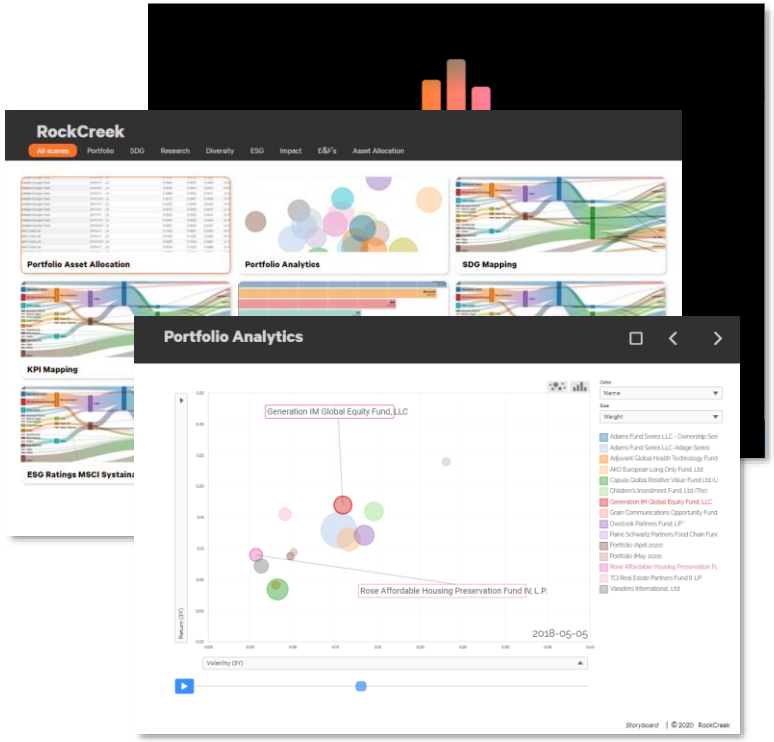
Technology

Sourcing & Due Diligence



- Highly secure, web-based technology provides clients with 24/7 access to their portfolios
- Unique system that automates the collection, storage, analysis and reporting of data to LPs
- Unparalleled flexibility that allows for the exchange of detailed data directly between GPs and LPs

Analytics & Reporting



The above are illustrative of the firm's due diligence tools and may not reflect actual due diligence analysis.

Customized Reporting

Customized Performance Reports at Portfolio and Investment Level

PORTFOLIO

- Capital flows and investment activity
- Market value and unfunded commitment exposure by fund, strategy, vintage year, sector, and geography
- Aggregate leverage utilization
- Attribution by fund, strategy, vintage year, sector and geography
- IRR, TVPI and DPI by fund, strategy, vintage year, sector, and geography
- Benchmarking using PME analysis and third-party benchmarks

INVESTMENT

- Schedule of investments
- New investments and realizations
- Exposure and attribution by strategy, vintage year, stage, sector, and geography
- Leverage utilization
- Deal level performance metrics

Portfolio Investments (as of June 30th 2018)

Name of Fund	Vintage	Capital Committed (in $mm)	Capital Calls (in $mm)	% of Capital Called	Distributions (in $mm)*	Net Asset Value (in $mm)	Total Value (in $mm)
Goldentree Distressed Fund 2014	2014	$25.0	$15.1	60%	$0.1	$21.7	$21.7
MC-Seamax Shipping Opportunities Fund	2014	$15.0	$16.5	94%	$2.2	$15.0	$17.2
TCI Real Estate Partners I	2014	$6.0	$3.4	57%	-	$2.3	$3.8
Värde Scratch and Dent Fund	2014	$12.5	$12.5	100%	-	$7.4	$14.8
Anchorage Illiquid Opportunities V	2014	$25.0	$19.8	79%	-	$22.0	$22.0
CVI Credit Value Fund III	2015	$25.0	$22.5	90%	-	$27.4	$27.4
EJF Sidecar Fund (E)	2015	$20.0	$20.1	100%	$5.7	$22.5	$28.2
European Special Opportunities Fund VI	2015	$25.0	$22.8	91%	$0.2	$24.4	$24.6
Stabilis Fund IV	2015	$25.0	$15.9	23%	$7.6	$9.5	$17.1
MGG SF Drawdown Fund I LP	2015	$25.0	$20.8	83%	$1.7	$21.1	$22.8
TCI Real Estate Partners II	2016	$9.0	$4.3	48%	-	$4.3	$4.7
Atalaya Capital Assets IV	2017	$15.0	$2.0	14%	-	$2.1	$2.1
Avenue Aviation Opportunities Fund II	2017	$5.9	$4.4	74%	-	$4.9	$4.9
Stabilis Fund V	2017	$5.4	$1.2	23%	-	$1.1	$1.1
TCI REP Co-Investment III	2017	$2.5	$1.5	60%	$0.1	$1.5	$1.7
RS Fund III							
TCI Real Estate Partners III							
Total							

*Figures represent permanent distr
inception.

Fund Performance (as of June 30, 2018)

Name of Fund	Vintage	Net IRR	TVPI	Status
GoldenTree Distressed Fund 2014	2014	15.0%	1.4x	Investing
MC-Seamax Shipping Opportunities Fund	2014	2.9%	1.1x	Harvesting
TCI Real Estate Partners I	2014	12.1%	1.1x	Harvesting
Värde Scratch and Dent Fund	2014	7.4%	1.2x	Harvesting
Anchorage Illiquid Opportunities V	2015	8.7%	1.1x	Investing
CVI Credit Value Fund III	2015	11.9%	1.2x	Harvesting
EJF Sidecar Fund (E)	2015	22.4%	1.4x	Harvesting
European Special Opportunities Fund VI	2015	4.0%	1.1x	Investing
Stabilis Fund IV	2015	3.2%	1.1x	Harvesting
MGG SF Drawdown	2016	8.8%	1.1x	Harvesting
TCI Real Estate Partners II	2016	13.7%	1.1x	Harvesting
Atalaya Capital Assets IV	2017	NM	NM	Investing
Avenue Aviation Opportunities Fund II	2017	12.0%	1.1x	Investing
Stabilis Fund V	2017	NM	0.9x	Investing
TCI REP Co-Investment III	2017	14.4%	1.1x	Harvesting
				Investing
				Investing

Canyon Laurel Fund

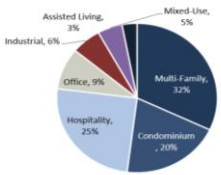
CANYON PARTNERS REAL ESTATE

INVESTMENT STATUS

The Fund held its final closing on May 31, bringing total capital commitments to approximately $457 million. To date, the Fund has committed 87% of investor capital across 22 deals (sixteen closed investments and six additional investments with executed term sheets). These investments have a projected weighted average gross IRR of 15.4% and a projected weighted average loan-to-value of 65.0%.

While the portfolio is well diversified across geographies, property types, and investment types, the Manager has deliberately chosen to concentrate their exposure in one area – repeat sponsor relationships. They believe these prior relationships and experiences provide an added layer of comfort with respect to deal execution and are an important risk mitigation strategy.

Property Type Breakdown



Regional Breakdown

For discussion purposes.
Past performance of the referenced manager is not indicative of such manager's future results.
See Important Disclosures & Risk Considerations about the information prepared by the referenced manager and about the opportunities presented.

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The above are illustrative of the firm's reporting and monitoring and may not reflect actual analysis and returns.

07 Team Biographies

Team Biographies

Afsaneh Beschloss

Ms. Beschloss is an economist and leader in the private and multilateral sectors who has focused her career on harnessing the power of finance to solve some of the world's biggest challenges. An expert in climate policy and investments, she has found new ways to implement sustainability and inclusion into global finance for three decades.

Ms. Beschloss is the founder and CEO of RockCreek. Previously, she was Managing Director and Partner at the Carlyle Group. She was Treasurer and Chief Investment Officer of the World Bank and worked at J.P. Morgan. Ms. Beschloss has advised governments, central banks, and regulatory agencies on global public policy and financial policy as well as energy. She led the World Bank's energy investments and policy work on areas including sustainable investing, renewable energy, power, and infrastructure to reduce carbon emissions and founded its Natural Gas Group as a transitional fuel.

Ms. Beschloss is Chair of PBS Foundation and a trustee of the Institute for the Advanced Study. She serves on the boards of the World Resources Institute; the Council on Foreign Relations; the Bretton Woods Committee – where she co-chairs the Future of Finance Working Group; Gavi, the Vaccine Alliance; Georgetown University; and the Center for Global Development.

She was recognized by Carnegie Corporation in their Great Immigrants, Great Americans 2020 list, received the Institutional Investor Lifetime Achievement Award and the Robert F. Kennedy Human Rights Ripple of Hope Award, and been listed among the "Most Powerful Women in Banking" by American Banker.

Ms. Beschloss holds an MPhil (Honors) in Economics from the University of Oxford, where she taught international trade and economic development. She is the co-author of The Economics of Natural Gas and author of numerous journal articles on energy, finance, renewable energy, and impact investing.

Sudhir Krishnamurthi

Sudhir Krishnamurthi is a Senior Managing Director at RockCreek, responsible for quantitative strategies, research, and product development. Sudhir has a wide range of research interests and has been responsible for pioneering work in volatility trading, factor investing, LDI, tail risk hedging, strategic asset allocation, and risk management.

Before joining RockCreek, Sudhir was Director of the World Bank's Investment Management Department, responsible for managing more than $60 billion of investment assets. He currently serves as a member of the Board overseeing the $27 billion World Bank pension plan.

Earlier in his career, Sudhir was Director of Corporate Finance with responsibility for ensuring the adequacy of the World Bank's income and capital, worked on structured products and liability hedging in the World Bank's Derivatives Division, and he was an Assistant Professor at MIT's Sloan School of Management.

Sudhir received a degree in Mechanical Engineering from the Indian Institute of Technology, a degree in Business from the Indian Institute of Management, and his doctorate in business administration from Harvard Business School.

Team Biographies

Siddarth Sudhir

Mr. Sudhir is a Managing Director at RockCreek. Prior to joining RockCreek, Mr. Sudhir worked in the Global Fixed Income Group of Merrill Lynch Investment Managers LP, where he was responsible for developing quantitative portfolio strategies and covering asset-backed securities. He also developed risk-controlled portfolio strategies for nearly $200 billion of fixed-income assets. Mr. Sudhir graduated from Georgetown University summa cum laude with a BA in Economics. He holds an MBA from the Wharton School of the University of Pennsylvania and the CFA designation.

Tyson Pratcher

Tyson Pratcher is a Managing Director at RockCreek. Before joining the firm, he was the Head of Investments at TFO USA Ltd., the asset management arm of a multi-family office based in the GCC.

Prior to that, Tyson worked at the New York State Common Retirement Fund (CRF), where he was the Head of the Opportunistic Investment team and served as Head of the Emerging Manager Program. Before CRF, Tyson worked in the U.S. Senate as a Senior Advisor to then-Senator Hillary Rodham Clinton. Tyson began his career as a corporate associate at Davis Polk & Wardwell.

Tyson earned his law degree from Columbia University and received a B.A. in Political Science, magna cum laude, from Hampton University. He is the co-founder and Chair of youth sports non-profit The Harlem Jets, and he serves on the boards of Finance of America (NYSE: FOA), FS Credit Income Fund, and FS Multi-Alterative Income Fund.

Matthew Bullough

Matthew Bullough is a Managing Director at RockCreek, where he works with the private market investment team covering private credit.

Before joining RockCreek, Matt was a Research Associate at Cambridge Associates, an investment advisory firm serving endowments, foundations, pensions, and high net worth family offices. At Cambridge Associates, he was responsible for data analysis and maintaining relationships with investment managers in the hedge fund and long-only asset classes.

Prior to transitioning into the investment industry, Matt worked for several years at Children's Research Institute within Children's National Medical Center in Washington, DC. During his tenure, he worked in basic science research within the virology department and co-authored several research publications in prestigious academic journals, including the Journal of General Virology and Molecular and Cellular Proteomics. He received a B.S. in Human Development from Cornell University.

Team Biographies

Kenneth Lay

Kenneth Lay is a Senior Managing Director at RockCreek. Before joining the firm, he served as Treasurer of The World Bank, where he and his colleagues managed more than $100 billion in investments for the World Bank, other international financial institutions, and more than 40 of the World Bank's member countries' central banks, sovereign wealth and pension funds. Ken also led the World Bank Treasury's banking and capital markets programs as they delivered financing and risk management for the World Bank itself. He extended their reach to provide these services directly to the Bank's member countries and their instrumentalities and introduced green bonds and catastrophe bonds to deepen the institution's engagement in climate-change mitigation and adaptation.

At other stages in his World Bank career, Ken served as a country director in Latin America and Southeastern Europe and headed the World Bank's financial sector practice, where he developed—with colleagues at the IMF—the Financial Sector Assessment Program that remains a cornerstone of international efforts to monitor and improve the health of countries' banking and capital markets. In an earlier stint in the World Bank Treasury, he conceived and led the issuance of the first "global bond," which has become a principal vehicle for sovereign and supranational financing in international markets.

Before joining the World Bank, Ken was an enforcement lawyer with the U.S. Securities and Exchange Commission, where he headed the branch of corporation finance enforcement.

Ken currently serves as chair of the International Finance Facility for Immunisation (IFFIm), and he is a member of the Advisory Group of Financial Experts of the Global Environment Facility, the Investment Funds Committee of the State of Wyoming (overseeing the State's $20+ billion sovereign wealth fund), and the Pension Finance Committee of the World Bank Group. He continues to work with international institutions, private foundations, and NGOs in efforts to develop new approaches to increasing the scale and reducing the cost of financing for global public goods.

Ken holds a B.A. from Dartmouth College, a J.D. from the George Washington University, the CFA designation, and active membership in the State Bar of California.

Natasha Glick

Natasha Glick is a Vice President at RockCreek where she is a member of the Client Services team, focusing on portfolio analytics.

Before joining RockCreek, Natasha was a Client Marketing Associate at GCM Grosvenor, a global alternative asset management firm. Natasha has her B.A. and M.S. from the University of Kentucky.

Team Biographies

Sherri Rossoff

Ms. Rossoff is a Managing Director and Chief Compliance Officer at RockCreek. Prior to this, she was senior counsel at the World Bank in the legal finance group. There, she concentrated in the areas of pension investments and asset management, focusing on alternative investments. She has acted as counsel to the World Bank's Pension Finance Committee. She provided technical assistance to various central banks globally on governance and investment management best practices. She has served as Chair of the Markets Advisory Council of the Council of Institutional Investors and was a founder of the DC Chapter of 100 Women in Finance. She began her career as an associate at Cleary Gottlieb Steen and Hamilton in New York. Ms. Rossoff earned her law degree from New York University School of Law. She received her B.A. in Economics and Political Science summa cum laude from Queens College where she was elected to Phi Beta Kappa.

Antonio Sierra

Mr. Sierra is a Managing Director and the head of operations at RockCreek. He is a member of the firm's management committee and serves on the Board of Directors of RockCreek's funds. He is responsible for overseeing activities related to trading operations, treasury and cash management, corporate and fund accounting, reporting, and IT operations and support. His responsibilities include engaging the firm's institutional clients on operational matters and playing a key role in the firm's strategic initiatives.

Prior to joining RockCreek, Mr. Sierra worked at the World Bank where he was responsible for overseeing the investment operations of the Pension Plan's alternative investment portfolio. Mr. Sierra has an M.B.A. from Georgetown University and holds B.S. and M.S. degrees in Civil and Environmental Engineering. He currently serves on the Investment Sub-Committee of the National Cathedral School in Washington DC.

John Reville

John Reville is a Managing Director at RockCreek, where he oversees the firm's accounting operations.

Before joining RockCreek, John was a Senior Partner of PricewaterhouseCoopers, LLP and retired from PWC after a 36-year career (25 as a partner), auditing and advising a wide variety of alternative asset funds, programs, and their managers. He was instrumental in building and managing the PWC alternative asset practice and has served as lead partner on many of the world's most complex hedge and private equity funds across all types of underlying strategies.

John holds a B.S. in Accounting from the City University of New York and an MBA in Corporate Finance from the Pace University's Lubin School of Business in New York.

Important Disclosures & Risk Considerations (1 of 3)

The information contained herein is confidential information regarding The Rock Creek Group, L.P. ("RockCreek") for use in one-on-one presentations only and not for public use or distribution. The information contained herein may contain information that is proprietary, constitutes a trade secret and/or is subject to copyright. The confidential information contained herein cannot be disclosed to any third party or used for any purpose unrelated to the investor's investment portfolio. By accepting such information, the recipient agrees that it will, and it will cause its directors, partners, officers, employees and representatives, to use such information only to evaluate its potential interest in the securities or services described herein and for no other purposes. By accepting such information, recipient agrees not to divulge any such information to any other party. It may not be reproduced, distributed, copied or used for any other purpose unless specifically authorized in advance by The Rock Creek Group, LP.

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The quantitative methods, strategies, and tools used by RockCreek in selecting investments and managing risk as reflected by any past performance portrayed herein did not alone determine investment performance. Such past performance may have also been affected by market or economic conditions. No past performance is any guarantee of future performance and all investments are subject to a substantial risk of loss. These performance results only reflect the performance results of a select group and this may have resulted in a showing of higher relative returns, lower risks, or lower correlation. The selection of indices or comparative quantitative data for comparative performance purposes may also have the result of making any performance appear better than if it had been compared to other indices or other comparative quantitative measures. It should not be assumed that recommendations made in the future will be profitable or will equal the performance of the Funds or Accounts described herein.

This material represents the views of RockCreek. This information should not be construed as investment advice, and investors are urged to consult with their appropriate advisors before buying or selling any securities. Some of the information may be provided to discuss general market activity; industry or sector trends; or other broad-based economic, market, or political conditions. This information may not be current and RockCreek has no obligation to provide any updates or changes to such information.

This material is intended only to facilitate your discussions with RockCreek as to the opportunities available to our investors, is not intended to be used as a general guide to investing, or as a source of any specific investment recommendations, and makes no implied or express recommendations or warranties concerning the manner in which any account should or would be handled, as appropriate investment strategies depend upon the investor's unique investment objectives. This does not constitute an offer or solicitation with respect to the purchase or sale of any security in any jurisdiction in which such an offer or solicitation is not authorized or to any person to whom it would be unlawful to make such offer or solicitation. This material is based upon information that we consider reliable, but we do not represent that such information is accurate or complete, and it should not be relied upon as such. Information and opinions are as of the date of this material only and are subject to change without notice.

Alternative investments such as hedge funds, multi manager fund investments, or separate accounts are subject to less regulation than other types of pooled investment vehicles such as mutual funds. Such investments may be illiquid, may be subject to speculative investment decisions, and can involve a significant use of leverage or derivatives, making them substantially riskier than other investments. Such investments may incur higher fees and expenses that would offset profits.

Alternative investments by their nature, involve a substantial degree of risk, including the risk of total loss of an investor's capital. Fund and separate account performance can be volatile. Correlation with traditional investments such as equities and fixed income securities may be higher than expected. There may be conflicts of interest between the alternative investment fund or account and other service providers, including the investment manager and issuer of the alternative investment vehicle. Similarly, interests in an alternative investment may be highly illiquid. Generally, such interests are not transferable without the consent of the issuer of the alternative investment fund, and applicable securities and tax laws may limit transfers.

The discussions, analysis, and commentary herein may be based on information that has been prepared by independent third parties and made publicly available. RockCreek has not verified and is not liable or responsible for the completeness or accuracy of such information.

*With regard to RockCreek clients referenced in this Presentation, it is not known whether those listed approve or disapprove of the RockCreek Group or its advisory services. The clients included herein are corporate retirement funds, public pension plans, foundations, and universities to which RockCreek manages customized portfolios that include mission-oriented considerations. Note that the clients referenced herein include a foundation to which RockCreek performs consultancy and research services.

**With regard to RockCreek clients referenced in this Presentation, it is not known whether those listed approve or disapprove of the RockCreek Group or its advisory services. The clients included herein are corporate retirement funds, public pension plans, foundations, and universities to which RockCreek manages customized private credit portfolios.

With regard to any opportunities discussed or described in this Presentation, note no guarantee that a customized portfolio will make allocations to managers and companies as described. A customized portfolio may or may not invest in a manager or company, depending on, among other things, whether such manager or company satisfies the portfolio's investment guidelines and is appropriate in light of current economic conditions as determined by RockCreek. Furthermore, a customized portfolio may or may not invest in some or all referenced private funds described, depending on, among other things, whether RockCreek is able to negotiate terms with the private fund's general partner/manager that are satisfactory to RockCreek.

Important Disclosures & Risk Considerations (2 of 3)

Any information contained herein about an investment fund is based upon available information prepared and disclosed by the particular referenced fund. RockCreek has not verified and is not liable or responsible for the completeness or accuracy of such information and information about the manager. As such, there can be no assurances that the information provided is a complete and accurate depiction of, among other things, the applicable manager's investment strategy, current exposure, performance, assets, deals, unrealized investments, realized investments, returns, key principal(s), employees, and MWDBE status. Past performance of the referenced manager is not indicative of such manager's future results.

Any information contained herein that relates to an investment in a company is based upon available information prepared by such company. RockCreek has not verified and is not liable or responsible for the completeness or accuracy of such information concerning the company prepared by such company. As such, there can be no assurances that the information provided is a complete and accurate depiction of a portfolio's current performance and exposure. Prior transactions and their returns are not indicative of future results.

Performance statistics presented are not financial statements prepared in accordance with accounting principles generally accepted in the United States of America. Performance is expressed in U.S. dollars.

RockCreek's investments in Underlying Funds are presented at fair value, as determined by management. These values generally represent the proportionate share of the net assets of the Underlying Funds as reported by their managers. The Underlying Funds are valued by the managers of the Underlying Funds in accordance with their respective operating agreements, which generally, but may not always, require fair valuation in accordance with U.S. GAAP. The performance statistics returns were calculated on a total return basis, including the reinvestment of dividends and other income. The data are based upon monthly income of the Underlying Funds and invested capital readjusted for monthly inflows and outflows at the beginning of the month. Annual returns are calculated by linking the monthly returns through compounded multiplication. All cumulative returns were geometrically linked.

Performance data (including, but not limited to, data about the portfolio's characteristics and performance and estimated percentages of strategy allocation, geographic exposure, asset class exposure, sector exposure, portfolio concentration and market sensitivities, and portfolio allocations to underlying managers) are as of the date indicated on the first page of this Presentation unless otherwise specified.

Performance Statistics for 2021 and 2022 have not been subject to audit by either the applicable Fund's, Account's or the Underlying Funds' independent auditors. Performance information of will be subject to audit on an annual basis. Performance figures for periods of less than one year have not been annualized. The net returns were calculated net of actual incentive, management, and administrative fees charged to the applicable Funds and Accounts and net of the Underlying Funds' fees. When gross returns are included, such gross returns reflect the fees of the Underlying Funds and are net of administration expenses, but before management and incentive fees.

With regard to the referenced private credit performance, note the following:
Inception: February 2015.
As of December 2021. The performance statistics reflect the returns of RockCreek portfolios investing in private credit in the referenced asset classes (i.e., income, capital appreciation, opportunistic, and private credit). The returns of the included portfolios (Funds and Accounts) are historical and since the included portfolios' inception. Furthermore, the included portfolios in each referenced asset class have been asset weighted to create the returns. Performance statistics that are presented herein are not financial statements = prepared in accordance with accounting principles generally accepted in the United States of America. The performance statistics herein represent past performance, which is not indicative of future results. Such performance statistics have not been audited. Performance is expressed in U.S. dollars. 1. The returns presented herein are an aggregate across RockCreek portfolios that invest in emerging managers and diverse managers in the referenced asset classes. Note that certain included portfolios are funds of one and separate accounts that are customized in accordance with a client's specific investment mandate and are not available to new investors. Additionally, such portfolios may invest in underlying managers that are dissimilar and as such, each portfolio has specific portfolio characteristics and different return profiles. 2. Returns are net of the applicable underlying manager's fees; the IRR does not include RockCreek fees, and therefore, returns are gross of RockCreek fees. As such, returns do not reflect the deduction of investment advisory fees and such returns would be reduced by the investment advisory fees and any other expenses the client may incur in the management of this portfolio. A general description of the fees that RockCreek charges with respect to accounts and customized portfolios is described in RockCreek's Part 2A of Form ADV (i.e., the Brochure). Net returns are available upon request. See Important Disclosures & Risk Considerations about the performance statistics presented. 3. Although the composite returns presented herein are historical such composite returns are deemed illustrative; the composite is hypothetical (as it does not reflect trading of an actual account) and is provided for informational purposes only to indicate historical performance of a portfolio constructed with the benefit of hindsight had such composite portfolio been in existence during the referenced time period. Material economic and market factors during the referenced time period may impact the adviser's investment decision making with respect to the portfolio, and as such, the returns of the composite portfolio as presented herein may have differed if the adviser was actually managing the referenced composite portfolio. It should not be assumed that the exposures and allocations of a customized portfolio will be the same or similar to the referenced composite portfolio or that a customized portfolio and its underlying managers will achieve the same or similar performance with respect to the benchmarks of the referenced composite portfolio and its selected underlying managers. 4. RockCreek manages other portfolios not included in the referenced composite. The portfolios in the composite herein may or may not achieve similar performance or be more or less profitable compared to the portfolios not included in the referenced composite. It should not be assumed that the exposures and allocations of the included portfolios will be profitable or equal the performance of these other RockCreek portfolios. 5. No guarantee that a customized portfolio following a particular investment strategy will achieve same or similar returns as the referenced composite. See discussions below about calculations regarding potential future events and hypothetical performance.

Strategy allocation information reflects a look-through analysis of underlying managers, intended to capture portfolio allocations pursuant to varying investment strategies within such underlying managers' investment portfolios.

Style allocation information reflects a categorization of each underlying manager based on its predominant investment theme, and does not reflect allocations by such underlying manager in strategies outside such predominant investment theme. Both strategy and style allocation information reflect classifications determined by RockCreek and certain assumptions regarding performance allocation by strategy, based on estimated portfolio characteristics information provided by underlying fund managers.

Important Disclosures & Risk Considerations (3 of 3)

Information regarding the liquidity of Underlying Funds is based on information provided by such Underlying Funds, but may also reflect certain estimates or simplifications. Specifically, such liquidity information may not take into account the impact of “lock-up” restrictions, “side pocket” allocations, gates, hold-backs and certain other liquidity restrictions. Additionally, such information is subject to the ability of an Underlying Fund to impose additional liquidity restrictions and/or to suspend redemptions on an exceptional basis. Certain risk analytics in this report are based on analyses that required utilization of estimated, hypothetical, and historical information, as well as the use of proxies for certain historical data underlying such analyses. There can be no guarantee as to the accuracy of such analyses or on the assumptions made, or proxies utilized, in generating such analytics.

Discussions and calculations regarding potential future events and their impact on the portfolio are based solely on historic information and estimates and/or opinions, are provided for illustrative purposes only, and are subject to further limitations as specified elsewhere in this document. No guarantee can be made of the occurrence of such events or the actual impact such events would have on the portfolio’s future performance. In addition, the opinions, forecasts, assumptions, estimates, and commentary contained in this report are based on information provided to RockCreek on both a formal and informal basis. Further, any such opinions, forecasts, assumptions, estimates, and commentary are made only as of the dates indicated, are subject to change at any time without prior notice and cannot be guaranteed as accurate.

The volatility of any indices represented in this presentation may be materially different from that of an investor’s account’s portfolio. In addition, the portfolio’s holdings may differ significantly from the securities that comprise the indices. The indices have not been selected to represent appropriate benchmarks to compare the portfolio’s performance, but rather are disclosed to allow for comparison of the portfolio’s performance to that of well-known and widely recognized indices. Information contained herein regarding performance of any index or security is based on information obtained from the indicated sources as of the specified dates, but there is no guarantee as to the accuracy of such information. The underlying exposures, specifically securities, derivatives, or hedges in the selected benchmark index or indices, may vary substantially from that of the portfolio(s) presented.

Performance attribution is a process used to examine the strategies contributing to a portfolio's gross performance. Attribution is calculated using net returns of underlying managers in the portfolio, but is gross of RockCreek management fees. Underlying manager fees are directly tied to the management of those specific investments and, therefore, included in this attribution. Using the portfolio’s overall gross returns makes it possible to achieve an analysis that indicates the actual attribution among the various underlying managers and strategies in the portfolio and is not skewed by RockCreek’s fees and expenses. The Underlying Funds are weighted using beginning of month allocations. The monthly sum of the underlying managers’ contribution by strategy and the total portfolio’s gross return is geometrically linked over further time periods (i.e., quarterly). The portfolio’s monthly gross return is equal to the sum of each the strategy’s attribution in that time period. The net performance would be lower than the portfolio’s gross performance by the management fee paid to RockCreek.

Where hypothetical information is included, the hypothetical performance or scenario was created with the benefit of hindsight. The allocation of assets may be different than the allocation used to create the hypothetical and any changes will have an impact on the combined performance results, which could be material. Where hypothetical information is included, the managers have not traded together in the manner shown in the results. Hypothetical performance results have many inherent limitations and no representation is being made that any investor will, or is likely to achieve, performance similar to that shown. Moreover, because hypothetical performance reflects the selection of hedge funds and asset allocations made after the performance of such hedge funds was already known, the hypothetical performance invariably shows rates of return that should not be relied on. In fact, there are frequently sharp differences between hypothetical combined performance results and the actual results subsequently achieved. One of the limitations of hypothetical combined historical performance is that decisions relating to the selection of managers and the allocation of assets among those managers were made with the benefit of hindsight based upon the historical rates of return of the selected managers. Another inherent limitation on these results is that the allocation decisions reflected in the performance record were not made under actual market conditions and, therefore, cannot completely account for the impact of financial risk in actual trading. Furthermore, the hypothetical combined historical performance record may be distorted because the allocation of assets changes from time to time and these adjustments are not reflected in the hypothetical results. As a result, none of the hypothetical performance information contained herein should be considered to be an indication of future performance.

This information may contain preliminary estimated returns. These figures are for informational purposes only and should not be relied upon because there can be no assurance that they accurately reflect results for your account at this time. Except where indicated, the performance statistics have not been subject to audit by the Underlying Funds' independent accountants. Such performance information will be subject to audit on an annual basis.

Any information contained herein regarding a Fund’s or Account’s exposure is based upon available information prepared by the underlying managers. RockCreek has not verified and is not liable or responsible for the completeness or accuracy of such information (including but not limited to sector classification and leverage). As such, there can be no assurances that the information provided is a complete and accurate depiction of the applicable Fund’s or Account’s current exposure.

Please note that where investment outlook and opportunities are discussed, they are prospective and based upon the opinion of RockCreek and there is no guarantee of success in our efforts to implement strategies that take advantage of such perceived opportunities. Where quantitative methods are used, they are tools used in selecting investments and controlling risk, but such methods cannot alone determine investment success.

In order to structure or facilitate investments in certain Underlying Funds or underlying managers, RockCreek may form or utilize a separate vehicle or account through which such investments into an Underlying Fund or account managed by an underlying manager may be made; the investors of such a vehicle or account may only be RockCreek investors and portfolios enabling RockCreek to better manage liquidity and exposure to such Underlying Funds or underlying managers on behalf of RockCreek investors.

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Connecticut Retirement Plans and Trust Funds
2022 Strategic Asset Allocation Update
FINAL

Pension Funds Management

Strategic Asset Allocation (SAA) Update

- **Background**
  - Asset Allocation is the largest driver of risk-adjusted performance for the Connecticut Retirement Plans and Trust Funds
  - Meketa, our fund general consultant, has historically conducted the asset allocation study for the Pension Funds Management (PFM) Division
  - The last full Strategic Asset Allocation (SAA) and Asset-Liability study was performed in 2018

- **New Approach - 2022 Strategic Asset Allocation Update Process**
  - PFM leveraged Meketa's tools and resources to bring the process in-house and perform a staff-driven analysis to update the SAA
  - PFM utilized Meketa's 2022 Capital Market Assumptions (CMAs) to update our new long-term target allocations
  - PFM sought input from the Asset Allocation Sub-Committee of the Investment Advisory Council prior to finalizing recommendations to the broader body
  - The approved SAA will be updated in the revised 2022 Investment Policy Statement (IPS)

Refinements to the Strategic Asset Allocation Update

- **Updates based on feedback from the IAC Sub-Committee meeting on June 8, 2022, PFM:**
  - Utilized Meketa's 20-Year expectations instead of the 10-Year expectations to better align with the long-term horizon
  - Tweaked the asset class policy target:
    - Reduced Real Estate by 2% and increased Global Equities by 2%
  - Created a composite "Credit" asset class for flexibility in managing our exposure with the following sub-asset classes:
    - Public Credit
    - Private Credit
  - Incorporated alpha estimates into our assumed rate of return assumptions to account for manager selection not explicitly modeled in the SAA process

Goals of the Strategic Asset Allocation Update

- **Review the Current Strategic Asset Allocation and recommend necessary updates**
  - An annual review of SAA relative to objectives is part of best practices for prudent governance
  - Market turbulence relative to the pandemic and geopolitical events, with continued uncertainty of outlook validates appropriateness of strategic review of the asset allocation

<u>Final list of Strategic Asset Allocation topics reviewed by PFM & Meketa:</u>

1. **Revisit Global Equity** – consider one "Global Equities" composite utilizing the three discrete equity asset classes
2. **Disaggregate Real Assets** – examine breaking out Real Assets into its component asset classes (Real Estate, Infrastructure & Natural Resources excluding TIPS)
3. **Review our Fixed Income Asset Classes** – discuss the role of Fixed Income in the portfolio (for capital preservation and return generation relative to Alternatives)
4. **Expand Risk Mitigating Strategies** – evaluate the role and target weight of risk mitigation strategy in the Alternative Investment Fund and the overall portfolio
5. **Innovate our SAA Implementation** – consider how PFM can achieve the asset allocation in a disciplined and thoughtful manner through interim policy targets
6. **Update Policy Benchmarks** – review benchmarks for all asset classes and determine necessary revisions (e.g., Global Equity)

PFM Staff-Driven Process for Strategic Asset Allocation Update

Review Prior SAA
Evaluate CMAs from market participants
Review 2018 CRPTF AA Study
Review current asset classes with Team

Review 2022 CMAs
Meketa Review of 2022 CMAs

Model Portfolios
Construct model portfolios
Begin review of IPS

Initial MV Optimizations
Analyze portfolio optimizations
Establish model portfolios & targets
Initial Draft of Updated IPS

Refine MVOs / Stress Tests
Debate policy portfolios in PFM
Finalize updates to IPS
Run portfolio stress tests & scenarios

Sub-Committee Review
Review with IAC AA Sub-committee
Incorporate Sub-committee Feedback

Final Approval of SAA
Review of SAA by IAC

Approve IPS
Final approval of IPS by IAC

JAN | FEB | MAR | APR | MAY | JUN* | JUL | AUG | SEP

Source: PFM
*Separate IAC Meeting

Setting Capital Market Expectations

- Capital Markets Assumptions (CMAs) are the inputs needed to conduct the mean-variance optimization (MVO) relying on both quantitative and qualitative methodologies
- Consultants (including Meketa) generally set CMAs once a year and will periodically update mid-year
- Meketa published the 2022 Capital Market Expectations in January, based on December 31st data
- Meketa publishes both 10-Yr and 20-Yr expected return assumptions

- **PFM is using <u>20-Yr CMAs</u> in this Strategic Asset Allocation Update** following feedback from the sub-committee of the IAC

- MVO is the traditional starting point for determining asset allocation
- This involves using the following inputs for the asset classes:
  - Returns
  - Standard Deviation
  - Pair-wise Correlations of each asset class

Revisions to the Asset Class Lineup

- PFM took the opportunity to revise our asset classes
  - **Global Equities**
    - In addition to distinct equity asset classes for domestic, international, and emerging markets, PFM will aggregate equities into a single Global Equity Composite tracking the MSCI All Country World Index IMI
    - Rationale: robust management of the largest driver of returns reflecting a global asset mix
  - **Fixed Income**
    - Simplify our approach by utilizing a single asset class for duration and credit
    - Established a new Credit composite consisting of Public Credit (instead of High Yield & Emerging Markets Debt) and Private Credit
    - Public Credit will include both return and risk factors (e.g., Treasury exposure)
  - **Real Assets**
    - Breaking apart Real Estate from Infrastructure & Natural Resources asset classes
    - Rationale: PFM team manages these asset classes separately and each has its own distinct characteristics
    - Eliminating TIPS as a distinct asset class category

2022 Capital Market Assumptions for Major Asset Classes

- Composite asset class using 20-Year CMA expected returns & volatility assumptions

Composite Asset Classes	Weight (%)	Expected Return (%)	Standard Deviation (%)
US Equity	58	6.8	18.0
Developed Market Equity (Non-US)	30	7.5	19.0
Emerging Market Equity	12	8.4	24.0
Global Equity Composite	**100**	**7.4**	**18.2**
Core Fixed Income	**100**	**2.4**	**4.0**
High Yield Bonds	80	4.4	11.0
Bank Loans	10	4.0	10.0
Convertible Bonds	10	3.9	19.0
Public Credit Composite	**100**	**4.5**	**10.3**
Liquidity (Cash)	**100**	**1.7**	**1.0**

Source: PFM, Meketa

Note: Returns are geometric, volatility assumptions are 15-yr estimates

2022 Capital Market Assumptions for Major Asset Classes

- Composite asset class using 20-Year CMA expected returns & volatility assumptions

Composite Asset Classes	Weight (%)	Expected Return (%)	Standard Deviation (%)
Long-term Government Bonds	8	2.8	12.0
Global Macro	21	5.0	5.0
CTA (Trend Following)	19	4.8	15.0
Long Volatility	42	-1.8	6.0
Alternative Risk Premia (ARP)	10	4.6	10.0
Risk Mitigating Strategies Composite	**100**	**2.1**	**5.3**
Buyouts	80	9.8	25.0
Venture Capital	20	10.3	36.0
Private Equity Composite	**100**	**10.2**	**25.8**
Direct Lending	60	7.1	14.0
Mezzanine Debt	30	7.2	16.0
Distressed Debt	10	7.7	21.0
Private Credit Composite	**100**	**7.3**	**14.5**

Source: PFM, Meketa
Note: Returns are geometric, volatility assumptions are 15-yr estimates

2022 Capital Market Assumptions for Major Asset Classes

- Composite asset class using 20-Year CMA expected returns & volatility assumptions

Composite Asset Classes	Weight (%)	Expected Return (%)	Standard Deviation (%)
REITs	10	7.1	26.0
Core Real Estate	50	6.1	12.0
Non-Core Real Estate	40	8.1	20.0
Real Estate Composite	**100**	**7.2**	**15.8**
Farmland/Harvested Natural Resources	24	7.2	12.0
Sustainable Natural Resources	6	9.3	26.0
Core Infrastructure	28	7.3	14.0
Non-Core Infrastructure	42	9.3	22.0
Infrastructure & Nat. Resources Composite	**100**	**8.6**	**15.9**

Source: PFM, Meketa

Note: Returns are geometric, volatility assumptions are 15-yr estimates

2022 Correlation Expectations for Major Asset Classes

- Composite correlations for the asset classes are shown below
- Risk Mitigating Strategy serves as an overall diversifier in the asset class modeling

	Global Equity	Public Credit	Core Fixed Income	Liquidity	Risk Mitigating	Private Equity	Private Credit	Real Estate	Infra & Nat. Resources
Global Equity	1.00	0.78	0.06	-0.20	-0.17	0.91	0.71	0.52	0.69
Public Credit	0.78	1.00	0.20	-0.21	-0.37	0.76	0.96	0.60	0.73
Core Fixed Income	0.06	0.20	1.00	0.13	0.29	0.00	0.10	0.24	0.28
Liquidity	-0.20	-0.21	0.13	1.00	0.26	0.11	0.10	0.13	0.17
Risk Mitigating	-0.17	-0.37	0.29	0.26	1.00	-0.18	-0.20	-0.06	0.02
Private Equity	0.91	0.76	0.00	0.11	-0.18	1.00	0.77	0.46	0.58
Private Credit	0.71	0.96	0.10	0.10	-0.20	0.77	1.00	0.48	0.53
Real Estate	0.52	0.60	0.24	0.13	-0.06	0.46	0.48	1.00	0.65
Infra & Nat. Resources	0.69	0.73	0.28	0.17	0.02	0.58	0.53	0.65	1.00

Source: Meketa

Benchmarks for Proposed Policy Allocations

- The table below outlines the proposed benchmarks for each asset class and composite

Composite Asset Class	Performance Benchmarks
Global Equity	**MSCI ACWI IMI**
Domestic Equity	Russell 3000
Non-US Developed Markets	MSCI World (ex. US) IMI
Emerging Markets	MSCI Emerging Markets IMI
Core Fixed Income	**Custom Blend (Bloomberg US Aggregate/US Treasuries)**
Credit	
Public Credit	Bloomberg High Yield
Private Credit	S&P/LSTA Leverage Loan Index + 150 basis points
Liquidity Fund	**3 Month Treasury Bills**
Risk Mitigating	**Custom Benchmark (Dynamic Blended)**
Private Equity	**Russell 3000 + 250 basis points**
Real Estate	**NCREIF ODCE (Net)**
Infrastructure & Nat. Resources	**CPI + 400 basis points**

Source: PFM, Meketa

Key Modeling Observations

- Overall expected returns continue to be revised lower in 2022 versus 2021 CMAs highlighting the challenging return environment

- The mean-variance optimizations (MVO) continue to favor strong diversifiers and private assets as the primary means of returns
  - MVO favored Risk Mitigating for its diversification benefits versus the other asset classes
  - MVO favored Private Equity, Infrastructure & Natural Resources

- PFM utilized an iterative approach to perform the optimizations, incorporating constraints on each asset class to arrive at a team consensus for the proposed Long-Term Policy allocation

- Key takeaways for the proposed policy portfolio:
  - Overall increase in our private markets' allocations across the board
  - Increase to our Risk Mitigating Strategy allocation
  - Revise our Core Fixed Income toward Investment Grade bonds for capital preservation

Mean Variance Optimizations

- PFM & Meketa ran a series of mean-variance optimizations (MVOs) to model three different policy portfolios
- PFM determined a proposed Long-Term Policy allocation (Proposed Long-Term Policy)

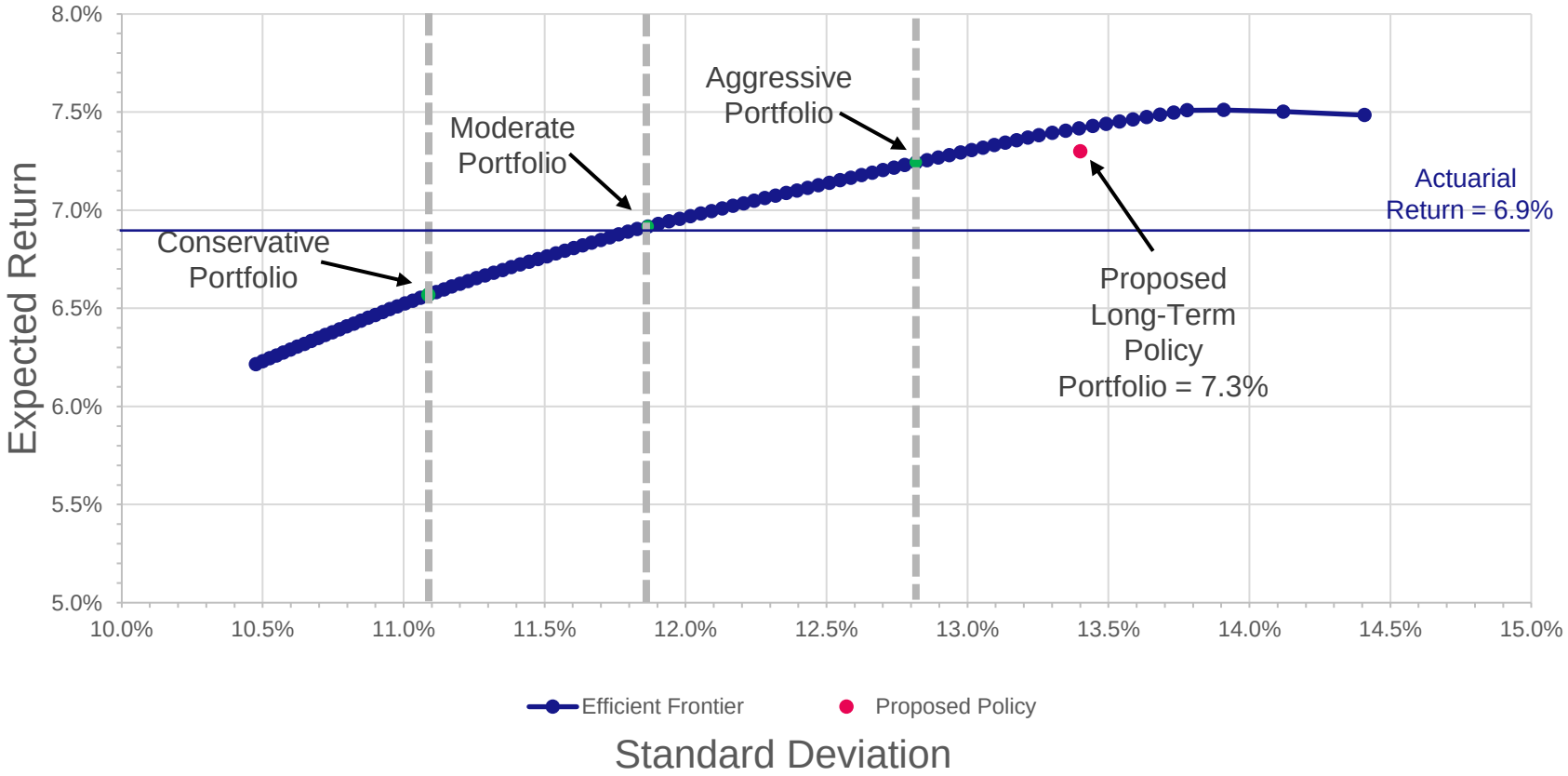
	Actual Weight as of 06/30 (%)	Conservative (%)	Moderate (%)	Aggressive (%)	Proposed Long-Term Policy (%)
Global Equity	43	30	30	30	37
Core Fixed Income	12	20	14	10	13
Public Credit	9	2	2	2	2
TIPS	5	0	0	0	0
Liquidity	1	2	1	1	1
Risk Mitigating	4	10	10	10	5
Private Equity	12	12	12	16	15
Private Credit	3	5	10	10	10
Real Estate	9	12	14	14	10
Infrastructure & Natural Resources	2	7	7	7	7
Expected Return (20 year)	**6.8%**	**6.6%**	**6.9%**	**7.2%**	**7.3%**
Standard Deviation	**13.0%**	**11.1%**	**11.8%**	**12.7%**	**13.4%**
Sharpe Ratio (Return / Unit Risk)	**0.39**	**0.44**	**0.44**	**0.43**	**0.42**

Source: PFM, Meketa

Note: Expected returns are geometric, volatility assumptions are 15-yr estimates

Efficient Frontier for MVO Portfolios

- Meketa ran several optimizations based on PFM's input and selected portfolios at the 25th, 50th and 75th percentiles that represent the Conservate, Moderate and Aggressive portfolios respectively
- PFM took these into account and modeled a Long-Term Policy allocation, incorporating other factors that cannot be modeled into the optimization (e.g., liquidity needs)



Source: PFM, Meketa

Projected Total Return Incorporating Alpha Estimates

- PFM staff worked with Meketa to incorporate a measure of excess returns not explicitly modeled into our optimizations
- Methodology for Long-Term Total Expected Return:
  - Gross alpha estimates for top quartile manager selection in the private markets
  - Estimated a range of net alpha is discounted to account for incremental management fees
- Expected long-term total return estimated to between 7.3% - 8.7%

7.3%	+	0% - 1.4%	=	**7.3% – 8.7%**
Long-Term Net Expected Return β		Net Expected Alpha Estimate ά*		Long-Term Expected Total Return Range

Source: Meketa, PFM
*Alpha Estimates provided by Meketa

Probability of Returns Analysis for MVO Portfolios

- Probabilities of hitting the actuarial rate of return of 6.9% is improved with the proposed policy portfolio

	Current Policy (%)	Conservative (%)	Moderate (%)	Aggressive (%)	Proposed Long-Term Policy (%)
Probability of Achieving at least a 5% Return					
One Year	55.7	55.6	56.4	56.9	56.7
Three Years	59.8	59.6	60.9	61.9	61.6
Five Years	62.5	62.3	64.0	65.2	64.8
Ten Years	67.4	67.1	69.4	71.0	70.4
Twenty Years	73.8	73.4	76.3	78.3	77.6
Probability of Achieving at least a 6% Return					
One Year	52.5	51.9	52.9	53.7	53.7
Three Years	54.3	53.3	55.1	56.5	56.4
Five Years	55.5	54.3	56.5	58.3	58.2
Ten Years	57.8	56.0	59.2	61.7	61.3
Twenty Years	60.9	58.5	62.9	66.3	66.1
Probability of Achieving at least a 6.5% Return					
One Year	50.9	50.1	51.2	52.1	52.2
Three Years	51.5	50.2	52.1	53.7	53.8
Five Years	51.9	50.2	52.7	54.8	54.9
Ten Years	52.7	50.3	53.9	56.8	56.9
Twenty Years	53.9	50.4	55.5	59.5	59.7
Probability of Achieving at least a 6.9% Return					
One Year	49.3	48.3	49.5	50.6	50.7
Three Years	48.7	47.0	49.2	51.0	51.2
Five Years	48.4	46.2	48.9	51.3	51.5
Ten Years	47.7	44.6	48.5	51.8	52.1
Twenty Years	46.7	42.4	47.8	52.5	53.0

Source: PFM, Meketa

Proposed Long-Term & Interim Policy Allocations

- PFM acknowledges the difficulty of execution for the proposed policy asset allocation for a large plan with significant constraints (e.g., staffing, RFP process, sizing)
- PFM recommends the creation of two Interim Policy allocation that will provide a meaningful glidepath for implementation of the asset allocation over the next five years (20-month duration to Long-Term Policy)
- The proposed Long-Term Policy experiences a 50-basis point improvement in expected return over the current allocations (7.3% versus 6.8%) with a slightly better Sharpe ratio (0.42 versus 0.39)

Asset Classes	Actual Weight as of 06/30 (%)	Proposed Interim A Policy (%)	Proposed Interim B Policy (%)	Proposed Long-Term Policy (%)
Global Equity	43	44	40	37
Core Fixed Income	12	13	13	13
Public Credit	9	5	3	2
TIPS	5	0	0	0
Liquidity	1	1	1	1
Risk Mitigating	4	5	5	5
Private Equity	12	13	14	15
Private Credit	3	5	8	10
Real Estate	9	10	10	10
Infrastructure & Natural Resources	2	4	6	7
Expected Return (20 year)	**6.8%**	**7.1%**	**7.2%**	**7.3%**
Standard Deviation	**13.0%**	**13.5%**	**13.4%**	**13.4%**
Sharpe Ratio	**0.39**	**0.40**	**0.41**	**0.42**

Source: PFM, Meketa

Policy Portfolio Characteristics

- Overall characteristics for the Proposed Policy Allocation shifts meaningfully to allocate more toward Private Markets over Public Markets
- Thematic buckets concentrate more toward private market asset classes while maintaining similar exposure to Growth and Credit (capital appreciation), pushing up Inflation exposure through Infrastructure & Natural Resources

Public versus Private	Current Policy (%)	Proposed Interim A Policy (%)	Proposed Interim B Policy (%)	Proposed Long-Term Policy (%)
Public Markets	71	68	62	58
Private Markets	29	32	38	42

Thematic Buckets	Current Policy (%)	Proposed Interim A Policy (%)	Proposed Interim B Policy (%)	Proposed Long-Term Policy (%)
Growth	50	57	54	52
Credit	13	10	11	12
Inflation Hedges	14	14	16	17
Risk Mitigating	23	19	19	19

Source: PFM, Meketa

Probability of Returns Analysis for Proposed Allocations

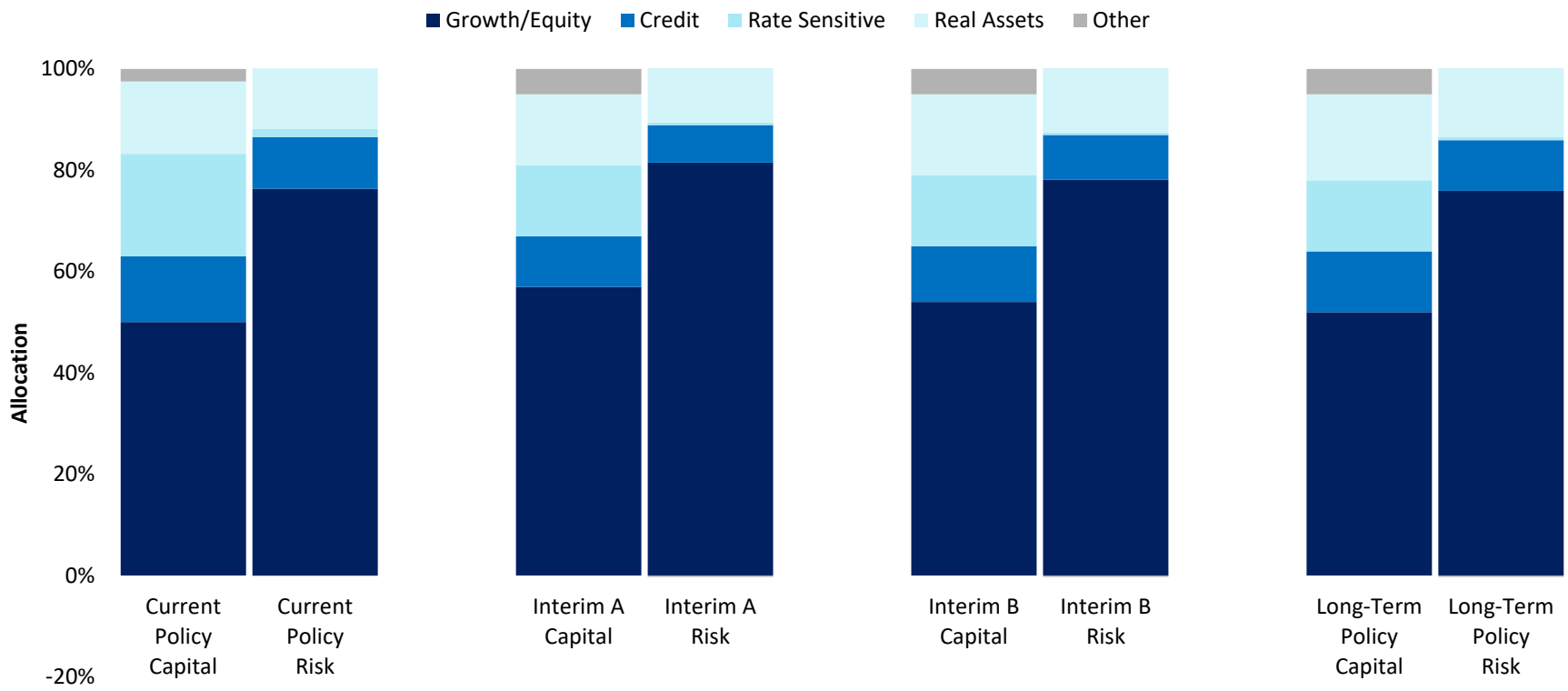
- Probabilities are biased downward due to 10-Yr CMAs

	Current Policy (%)	Proposed Interim A Policy (%)	Proposed Interim B Policy (%)	Proposed Long-Term Policy (%)
Probability of Achieving at least a 5% Return				
One Year	55.7	56.1	56.5	56.7
Three Years	59.8	60.5	61.2	61.6
Five Years	62.5	63.4	64.3	64.8
Ten Years	67.4	68.6	69.8	70.4
Twenty Years	73.8	75.3	76.8	77.6
Probability of Achieving at least a 6% Return				
One Year	52.5	53.1	53.5	53.7
Three Years	54.3	55.3	56.0	56.4
Five Years	55.5	56.8	57.7	58.2
Ten Years	57.8	59.6	60.9	61.3
Twenty Years	60.9	63.5	65.2	66.1
Probability of Achieving at least a 6.5% Return				
One Year	50.9	51.6	52.0	52.2
Three Years	51.5	52.7	53.4	53.8
Five Years	51.9	53.5	54.4	54.9
Ten Years	52.7	55.0	56.2	56.9
Twenty Years	53.9	57.0	58.7	59.7
Probability of Achieving at least a 6.9% Return				
One Year	49.3	50.1	50.5	50.7
Three Years	48.7	50.1	50.8	51.2
Five Years	48.4	50.2	51.0	51.5
Ten Years	47.7	50.2	51.4	52.1
Twenty Years	46.7	50.3	52.0	53.0

Source: PFM, Meketa

Capital Allocation versus Risk Allocation* Analysis

- Assets with low relative volatility, such as rate sensitive fixed income, contribute less to risk than their asset weighting implies



Source: PFM, Meketa

*Risk allocation is calculated by multiplying the weight of the asset class by its standard deviation and its correlation with the total portfolio and then dividing this by the standard deviation of the total portfolio.

Historical Stress Tests & Scenario Risk Analysis

- Meketa calculated several historical stress tests on various portfolios
- Takeaways indicate better downside protection while marginal upside due to reduced equity exposure

Source: PFM, Meketa

Historical Stress Tests	Current Policy (%)	Proposed Interim A (%)	Proposed Interim B (%)	Long-Term Policy (%)
COVID-19 Market Shock (Feb 2020-Mar 2020)	-16.6	-17.7	-16.3	-15.4
Taper Tantrum (May - Aug 2013)	-1.0	0.6	0.9	1.1
Global Financial Crisis (Oct 2007 - Mar 2009)	-24.3	-27.0	-25.3	-24.1
Popping of the TMT Bubble (Apr 2000 - Sep 2002)	-10.9	-15.5	-13.6	-12.3
Long Term Capital Management Collapse (Jul - Aug 1998)	-8.7	-7.6	-6.9	-6.3
Asian Financial Crisis (Aug 97 - Jan 98)	1.4	3.2	3.9	4.5
Rate spike (1994 Calendar Year)	0.8	3.0	3.3	3.5
Early 1990s Recession (Jun - Oct 1990)	-5.4	-5.6	-4.8	-4.2
Crash of 1987 (Sep - Nov 1987)	-9.9	-10.8	-9.7	-8.8
Strong dollar (Jan 1981 - Sep 1982)	5.3	5.1	5.3	5.5
Volcker Recession (Jan - Mar 1980)	-3.5	-3.0	-2.9	-2.8
Stagflation (Jan 1973 - Sep 1974)	-19.2	-20.7	-19.0	-17.9

Historical Stress Tests	Current Policy (%)	Interim A (%)	Interim B (%)	Long-Term Policy (%)
Global Financial Crisis Recovery (Mar 2009 - Nov 2009)	32.6	32.3	29.7	27.9
Best of Great Moderation (Apr 2003 - Feb 2004)	29.0	28.8	27.6	26.7
Peak of the TMT Bubble (Oct 1998 - Mar 2000)	47.3	49.3	49.4	49.6
Plummeting Dollar (Jan 1986 - Aug 1987)	50.8	50.3	47.1	44.5
Volcker Recovery (Aug 1982 - Apr 1983)	29.5	31.5	29.1	27.6
Bretton Wood Recovery (Oct 1974 - Jun 1975)	26.6	28.6	26.5	25.1

Historical Stress Tests & Scenario Risk Analysis

- With negative single shocks to the portfolio, the Long-Term Policy is modeled to perform better than the current policy given our asset allocation

Single Factor (Negative) Shocks	Current Policy (%)	Interim A (%)	Interim B (%)	Long-Term Policy (%)
10-year Treasury Bond rates rise 100 bps	3.8	4.4	4.2	4.0
10-year Treasury Bond rates rise 200 bps	-1.0	-0.4	-0.7	-0.9
10-year Treasury Bond rates rise 300 bps	-3.0	-2.2	-2.6	-2.9
Baa Spreads widen by 50 bps, High Yield by 200 bps	0.7	0.4	0.5	0.5
Baa Spreads widen by 300 bps, High Yield by 1000 bps	-20.0	-21.0	-19.8	-19.1
Trade Weighted Dollar gains 10%	-3.5	-3.2	-3.2	-3.1
Trade Weighted Dollar gains 20%	-2.0	-1.1	-1.2	-1.3
U.S. Equities decline 10%	-5.3	-6.1	-5.9	-5.7
U.S. Equities decline 25%	-16.1	-17.2	-16.5	-16.0
U.S. Equities decline 40%	-25.0	-26.2	-24.8	-23.9
Inflation slightly higher than expected	-0.5	-0.5	-0.5	-0.4
Inflation meaningfully higher than expected	-5.1	-5.4	-4.9	-4.6
Low Growth and Low Inflation	-6.4	-6.0	-5.4	-5.0
Low Growth and High Inflation	-10.1	-9.4	-8.4	-7.7
Brief, moderate inflation spike	-2.9	-2.6	-2.4	-2.2
Extended, moderate inflation spike	-5.3	-5.2	-4.8	-4.6
Brief, extreme inflation spike	-6.7	-6.7	-6.3	-6.0
Extended, extreme inflation spike	-8.9	-9.2	-8.7	-8.3

Source: PFM, Meketa

Historical Stress Tests & Scenario Risk Analysis

- With positive single shocks to the portfolio, the Long-Term Policy experiences lower upside than Current Policy primarily due to the reduced allocation to equities

Single Factor (Positive) Shocks	Current Policy (%)	Interim A (%)	Interim B (%)	Proposed LT Policy (%)
10-year Treasury Bond rates drop 100 bps	2.1	2.0	1.9	1.9
10-year Treasury Bond rates drop 200 bps	10.0	9.9	9.2	8.7
Baa Spreads narrow by 30bps, High Yield by 100 bps	7.0	7.6	7.5	7.4
Baa Spreads narrow by 100bps, High Yield by 300 bps	12.5	12.3	11.4	10.8
Trade Weighted Dollar drops 10%	7.4	7.1	6.7	6.5
Trade Weighted Dollar drops 20%	20.9	20.7	19.8	19.1
U.S. Equities rise 10%	6.4	6.9	6.7	6.5
U.S. Equities rise 30%	15.2	16.5	15.4	14.7
High Growth and Low Inflation	9.4	9.5	8.8	8.4
High Growth and Moderate Inflation	7.0	7.4	7.0	6.7
High Growth and High Inflation	4.4	5.0	4.8	4.7

Source: PFM, Meketa

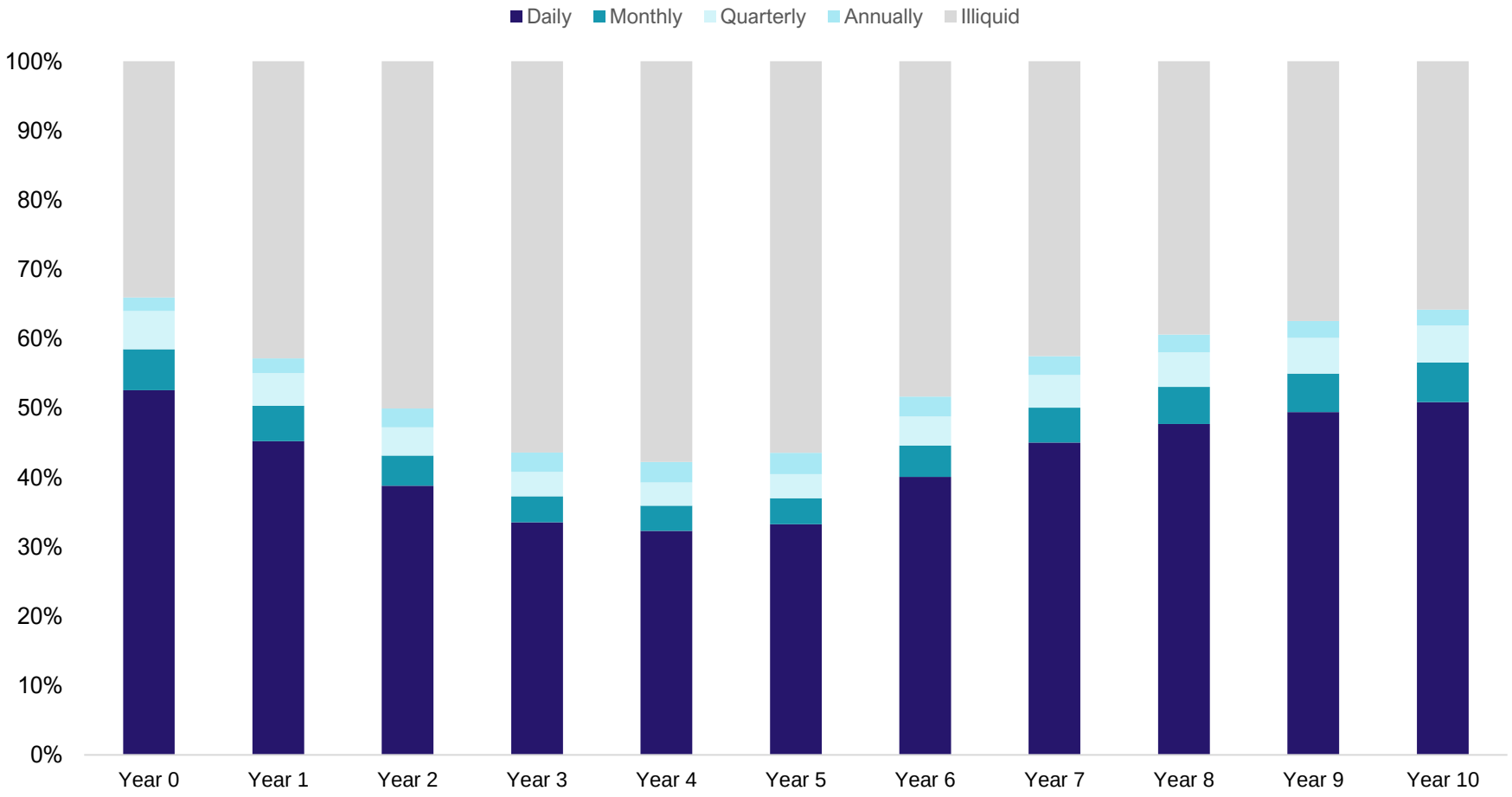
Meketa Liquidity Stress Test

- Meketa conducted an extreme liquidity stress test using Teachers Employee Retirement Fund (TERF) to analyze the Plan's liquidity using the Proposed Long-Term Policy Allocation
- Specifically, Meketa evaluated whether TERF could:
  - Continue to meet its benefit obligations and expenses (i.e., net outflows),
  - Continue to meet its obligations to fund commitments to private market managers, while staying within its target allocation ranges,
- And at what cost (i.e., to what extent would it be forced to sell stressed or distressed assets)?

Liquidity Stress Test Design

- The scenario is designed to be extreme
- In Years 1 through 3, we use the returns produced by each asset class in the 4th quarter of 2007, 2008, and 1st quarter of 2009, respectively. In years 4 – 10, we assume the returns for our 2022 CMAs for each asset class
- We assume net outflows (projected by the actuary) of $566.2M in Year 1, growing to $949.1M in Year 10.
- We assume that contribution and distribution rates for private markets will be consistent with those experienced during and after the GFC (i.e., Year 1 rates match those experienced in 2007, Year 2 rates match 2008, etc.)
- We assume no rebalancing of private markets (or hedge funds) in Years 1 through 5, and up to 10% of private markets value can be bought/sold per year in Years 6 through 10
- We assume the TERF plan would rebalance toward its policy targets each year

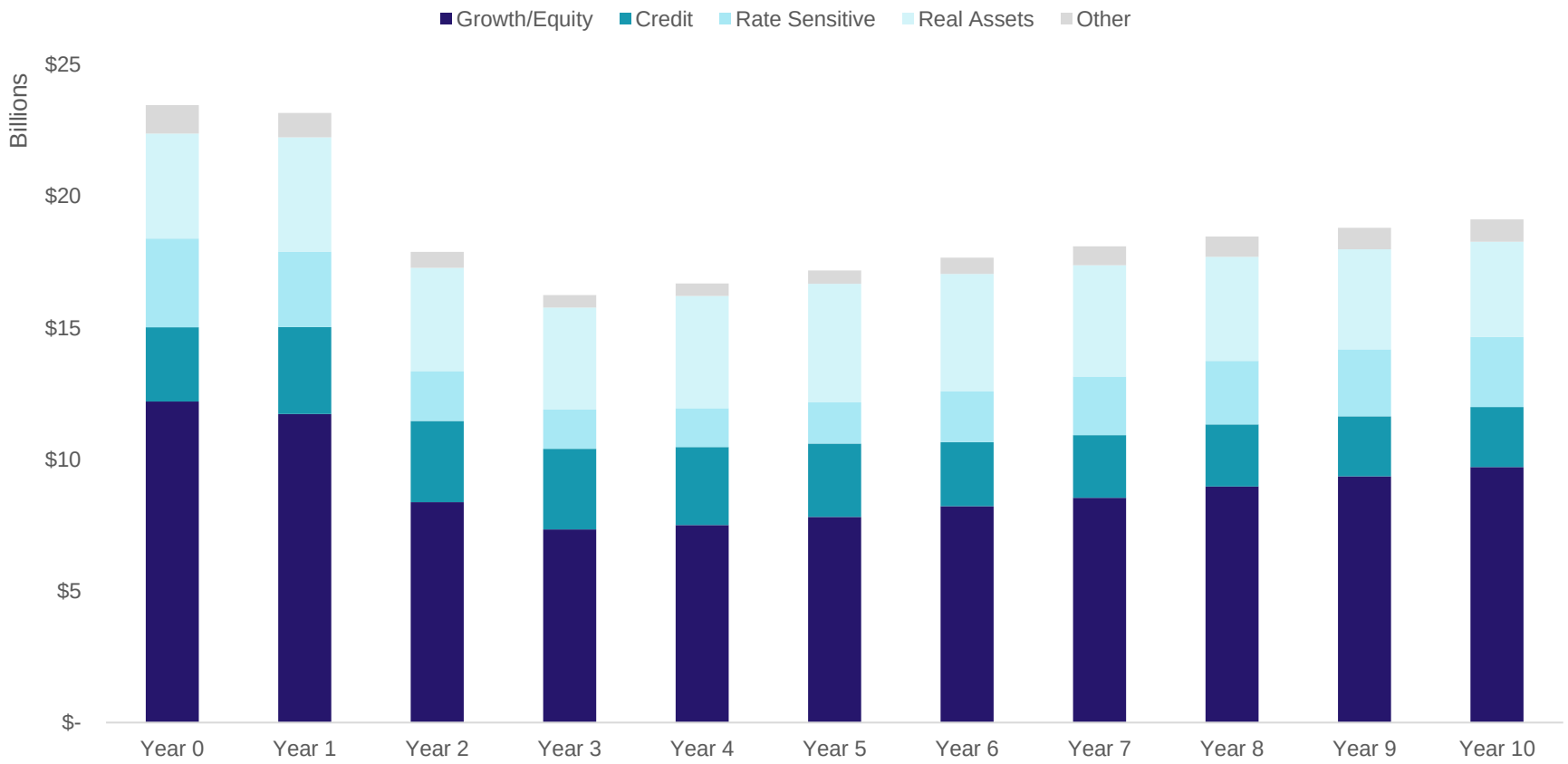
Meketa Liquidity Stress Test: Liquidity Profile



Source: Meketa

- At the trough, the portfolio would have 32% in daily liquid vehicles

Meketa Liquidity Stress Test: Market Value and Asset Allocation



Source: Meketa

- The size of the plan's investment portfolio would shrink and only modestly recover, given the return projections and current cash flow projections.
- Still, there would be ample liquid assets to meet obligations.

Meketa Liquidity Stress Test: Summary

	Year 0	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6	Year 7	Year 8	Year 9	Year 10
Ending Market Value ($mm)	23,471.0	23,165.8	17,891.4	16,250.1	16,683.9	17,180.6	17,665.7	18,094.8	18,471.0	18,806.4	19,125.1
Net flows ($mm)		-566.2	-496.5	-693.7	-750.7	-729.7	-775.0	-821.1	-868.6	-918.2	-949.1
Net Flows as % of Market Value		-2.4%	-2.1%	-3.9%	-4.6%	-4.4%	-4.5%	-4.6%	-4.8%	-5.0%	-5.0%
Net Flows from Private Mkts ($mm)		1,939.3	1,015.2	627.1	-288.1	-783.4	-1,076.7	-928.9	-923.2	-651.3	-993.1
Net Liquidity Needs ($mm)		-2,505.5	-1,511.7	-1,320.8	-462.6	53.7	301.7	107.8	54.6	-266.9	44.0
Assets Sold in duress ($mm)		0.0	-738.2	-900.7	-640.7	-816.6	-494.0	-506.3	-533.7	-559.5	-584.6
% of Outflows sold in duress	0%	0%	48.8%	68.2%	61.7%	54.0%	26.7%	28.9%	29.8%	35.6%	30.1%
% of Assets sold in duress	0%	0%	3.2%	5.0%	3.9%	4.9%	2.9%	2.9%	2.9%	3.0%	3.1%
Remaining liquid MV ($mm)	15,481.5	12,756.3	8,448.6	6,628.4	6,558.2	6,955.7	8,618.5	9,913.8	10,724.1	11,311.7	11,839.6
Total Illiquid Assets ($mm)	7,989.5	10,409.5	9,442.9	9,621.7	10,125.7	10,224.8	9,047.2	8,181.1	7,746.9	7,494.7	7,285.5
% of Illiquid Assets	34.0%	44.9%	52.8%	59.2%	60.7%	59.5%	51.2%	45.2%	41.9%	39.9%	38.1%
Portfolio Return	0%	1.1%	-20.6%	-5.3%	7.3%	7.4%	7.3%	7.1%	6.9%	6.8%	6.7%

Source: Meketa

- **Even under this extreme scenario, the Plan would maintain sufficient liquidity to meet its obligations**
- The Plan would have to sell some assets that have decreased in value by more than 10% in order to meet its obligations (assuming it is rebalancing to target allocations)

Conclusions to the IAC on the Strategic Asset Allocation

- **This 2022 SAA Update recommends the IAC approve the adoption of the Proposed Long-Term Policy Allocation designed to achieve a projected beta return of 7.3% net of fees**

- PFM staff expects that the CRPTF will be able to exceed the 6.9% actuarial return assumption in the long-term with the current allocation inclusive of alpha estimates

- Implementation of interim policy allocations (A & B) will minimize the delta in performance and better manage the pacing to private market assets toward the Long-Term Policy Allocation

- Proposed changes to the asset class composition, refinement of our asset class benchmarks will increase the likelihood that PFM to be able to implement the proposed policy asset allocation

- Staffing remains a significant challenge in meeting the Long-Term Asset Allocation

Appendix

Capital Markets Expectations – Peer Survey

- Annually, Horizon Actuarial Services, LLC publishes a survey of capital market assumptions that they collect from various investment advisors.[1]
- The Horizon survey is a useful tool to determine whether a consultant's expectations for returns (and risk) are reasonable.

Asset Class	10-Year Average (%)	Meketa 10-Year (%)	20-Year Average (%)	Meketa 20-Year (%)
Cash Equivalents	1.2	0.7	1.9	1.1
TIPS	1.6	1.2	2.4	1.8
US Core Bonds	2.1	1.2	3.2	1.8
US High Yield Bonds	3.8	3.3	5.0	4.2
Emerging Market Debt	4.2	3.9	5.3	3.8
Private Debt	6.5	6.6	6.9	6.8
US Equity (large cap)	5.8	5.2	6.7	6.8
Developed Non-US Equity	6.4	6.7	7.1	7.1
Emerging Non-US Equity	7.2	7.5	7.8	8.1
Private Equity	8.8	8.0	9.6	9.1
Real Estate	5.5	6.5	6.2	6.9
Infrastructure	6.2	7.1	6.8	7.0
Commodities	3.1	3.4	4.0	3.7
Hedge Funds	4.5	3.4	5.3	4.3
Inflation	2.1	2.3	2.2	2.1

[1] The 10-year horizon included all 39 respondents, and the 20-year horizon included 24 respondents. Figures based on Meketa's 2021 CMEs.

Meketa Risk Analysis Methodology

- The historical scenario analysis and stress tests are designed to show how the various portfolios would perform in different market environments
- The historical scenario analysis uses actual benchmark performance during these periods and weights it by the different policy weights. In periods where the ideal benchmark was not yet available, we used the next closest benchmark as a proxy
- The stress test models each portfolio's performance under hypothetical scenarios based on various factors. It assumes that assets not directly exposed to the factor are affected, nonetheless

- The scenarios for each asset class are arrived at in two parts:
  - First, looking at each asset class returns during which that scenario has been experienced
  - Secondly, identify the relationship through the time each asset has with the underlying scenario returns

- We then take a weighted average of these two components to estimate each asset's outcome in the various scenarios

Risk Mitigating Strategies - Overview

1. **Designed to mitigate large total portfolio risks**
   - Most often Growth Risk (most portfolios' largest risk)
   - Provide significant positive returns during a Growth Risk crisis
   - Maintain a very low correlation to Growth Risk on average
2. **Practical implementation**
   - Desire positive returns when equities decline substantially
   - Positive expected standalone return to risk
   - Provide meaningful diversification / impact
3. **Potential Components**

Risk Mitigating Strategies Composite	Weight (%)
Long-term Government Bonds	8
Global Macro	21
CTA (Trend Following)	19
Long Volatility	42
Alternative Risk Premia (ARP)	10
Total	**100**

Source: PFM, Meketa

Risk Mitigating Strategies – Market Analysis

Source: Meketa

Investment Policy Statement

for the

Connecticut Retirement Plans and Trust Funds

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Rev. 7/15/22 @ 12:00 PM

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Introduction

This Investment Policy Statement ("IPS") sets forth the general standards that govern the investment of the State of Connecticut Retirement Plans and Trust Funds ("CRPTF"), as established by the Treasurer of the State of Connecticut ("the Treasurer"), and as approved by the Investment Advisory Council ("IAC") in accordance with the provisions of Section 3-13b(c) of the Connecticut General Statutes.

The CRPTF includes the following plans and trusts ("Trust Funds"):

1. Teachers' Retirement Fund
2. State Employees' Retirement Fund
3. Connecticut Municipal Employees' Retirement Fund
4. Probate Judges' and Employees' Retirement Fund
5. State Judges' Retirement Fund
6. State's Attorneys' Retirement Fund
7. Policemen and Firemen Survivors' Benefit Fund
8. Agricultural College Fund
9. Andrew C. Clark Fund
10. Arts Endowment Fund
11. Hopemead State Park Fund
12. Ida Eaton Cotton Fund
13. School Fund
14. Soldiers' Sailors' and Marines' Fund
15. State of Connecticut Other Post-Employment Benefits Trust Fund
16. Teachers' Retirement Health Insurance Fund
17. Participants' Retirement Investment Fund
18. Participants' Investment Fund

Collectively, these Trust Funds may be collectively referred to as "the CRPTF."

The Treasurer constructs investment portfolios for each of the Trust Funds within the CRPTF using open-end investment portfolios known as Combined Investment Funds ("CIFs").

This IPS generally describes the long-term strategic plans for each of the Trust Funds within the CRPTF, based on analysis of capital markets and the financial condition of each plan and trust. In formulating this IPS, the Treasurer seeks to allow for sufficient flexibility to capture investment opportunities as they occur, while maintaining reasonable parameters to ensure that prudence and care are exercised in the execution of the CRPTF's investment program. Accordingly, the specific categories of permissible investments set forth in this IPS establish parameters but not exclusive types of investments that may be made by the Treasurer or considered by CRPTF staff. In the final analysis, the Treasurer, with the advice of the Chief Investment Officer, staff, consultants, external advisors and the IAC, will exercise authority consistent with the principles of fiduciary law.

The Treasurer shall annually review this IPS and shall consult with the IAC regarding revisions thereto in accordance with the provisions of Section 3-13b(c) of the Connecticut General Statutes.

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Governance (Authority, Duties, Responsibilities, and Amendments)

Consistent with Connecticut General Statutes, the Treasurer is sole trustee of the CRPTF and is responsible for the investment of the CRPTF's assets in accordance with fiduciary law and standards, the State Constitution and laws of the State of Connecticut. In his/her fiduciary role, the Treasurer:

- Shall act in the interest of participants and beneficiaries
- Shall work for the purposes of providing benefits to participants and beneficiaries and paying reasonable expenses of administering the CRPTF
- Shall act with the care, skill and caution under the circumstances then prevailing which a prudent person acting in a like capacity and familiar with those matters would use in the conduct of like character and purpose
- Shall act impartially, taking into account the differing interests of participants and beneficiaries
- Shall incur only costs that are appropriate and reasonable
- Shall act in accordance with a good-faith interpretation of applicable laws governing the retirement program and the CRPTF
- Shall consider the implications of any particular investment in relation to the foreign policy and national interests of the United States[1]
- May consider the social, economic and environmental implications of investments of trust funds in particular securities or types of securities[2]
- Consult with legal counsel regarding securities monitoring and litigation and other legal matters on behalf of the CRPTF.

In carrying out these responsibilities, and as an elected Constitutional Officer of the State of Connecticut, the Treasurer is responsible for the investment and custody of all CRPTF assets and the selection of and contracting with all investment managers and other service providers. The Treasurer will report to the IAC regarding investment policy, strategies and opportunities. The Treasurer will review with the IAC, on an annual basis, the status of the asset allocation plan for the CRPTF and will report at each regularly scheduled meeting of the IAC as to the status of the CRPTF's investments.

The Treasurer may retain investment managers and other service providers to assist in the management of the assets of the CRPTF and will exercise prudence and care in selecting, instructing and supervising such providers of investment and investment-related services. The Treasurer may invest CRPTF assets directly into companies and vehicles, including, but not limited to, investment funds, limited partnerships, limited liability companies and REITs. In addition, the Treasurer and investment staff will conduct due diligence, select and monitor the management of such investment vehicles. Consistent with Section 3-13i of the Connecticut General Statutes, before the retention of any such investment manager or professional consultant, the Treasurer will present his/her recommendation to the IAC for its consideration. After such presentation, unless waived by a vote of the IAC, the IAC will have up to 45 days to review and

[1] *See* Sections 3-13d, 3-13g and 3-21e of the Connecticut General Statutes.

[2] *See* Section 3-13d of the Connecticut General Statutes.

comment upon any proposed contract for investment services prior to the execution of such a contract by the Treasurer. The Treasurer or his/her designee is responsible for negotiating the terms of the contract and subsequent amendments to said contract.

In the event the conditions described in Section 3-13d(e) of the Connecticut General Statutes are met, any private equity investments and real estate investments must be approved by the IAC for the balance of the Treasurer's term of office.

The IPS and any specific asset allocation policy set forth in the appendices shall be amended in accordance with the provisions of Section 3-13b(c)(1) of the Connecticut General Statutes.

Except as set forth above, appendices of the IPS shall be added, amended or removed in accordance with the following process:

1. The Treasurer's recommendations to add, amend or remove an IPS appendix will be presented to the IAC at a regularly scheduled IAC meeting.
2. The IAC will review the Treasurer's recommendation and provide feedback for his/her consideration.
3. The Treasurer will adopt the IPS appendix, including any recommendations that he/she deems appropriate.
4. The Treasurer's adopted IPS appendix shall be presented to the IAC for a vote. If a majority fails to approve the adopted IPS appendix, said majority shall provide the reasons for its failure to approve to the Treasurer who may submit an amended adopted IPS appendix at the next regularly scheduled meeting of the IAC.
5. If a majority of the IAC approves the adopted IPS appendix, it shall be posted on the Treasurer's website and a revised appendix shall be made part of this IPS.
6. In the event the Treasurer's adopted IPS appendix is not approved, there will be no changes to the existing IPS appendix.

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Scope and Purpose

The IPS describes the framework and standards governing investments of the CRPTF. This document provides the primary guidance for the CRPTF's investment activities by outlining the philosophy and structure of the CRPTF investment program, describing the general process by which assets are managed, and defining the key roles and responsibilities for the CRPTF investment program.

With respect to each trust fund that comprises the CRPTF, this IPS describes the following:

- Investment and return objectives
- Asset allocation policy and risk tolerance
- Asset class definitions, including specific types of permissible investments within each asset class and any specific limitations or other considerations governing the investment of funds
- Investment performance monitoring
- Guidelines for the selection and termination of providers of investment-related services
- Guidelines for proxy voting

Investment Philosophy

The CRPTF seeks to generate strong risk-adjusted returns and invest with a long-term horizon that is consistent with the perpetual nature of the assets through a disciplined and carefully planned strategic investment process. The primary objective of a defined benefit plan is to generate investment income to assist the plan sponsor in meeting its obligations to fund the pensions of its workers/plan beneficiaries. For certain Trust Funds, the objective is to provide a secure source of income from a principal amount that will last in perpetuity.

Prudent investment strategies seek the broadest access to business opportunities that will provide solid investment returns. Therefore, the CRPTF affords opportunities for emerging, minority, women-owned, veteran-owned and Connecticut-based firms to compete for investment contracts and brokerage business. The Treasurer, in consultation with the IAC, may develop specific programs within one or more CIFs, consistent with the overall strategic direction of the CIFs.

Investment Objectives

The investment objectives for each of the Trust Funds of the CRPTF, along with related asset allocation guidelines, are set forth in Appendix B of this IPS. These investment objectives are long-term in nature and based on a comprehensive review of capital markets assumptions, as well as the current and projected financial requirements of each Trust Fund.

The Treasurer adheres to the principle which maintains that over the long term, prudent investment risk-taking may be rewarded with higher incremental returns. Consequently, while capital preservation is of paramount importance, prudent risk-taking is justifiable.

Pursuant to an asset-liability study conducted in accordance with the provisions of this IPS, and taking into account capital market assumptions and projected financial requirements for each of the Trust Funds within the CRPTF, the Treasurer shall establish an assumed investment rate of

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return for each of the Trust Funds within the CRPTF, as appropriate. The assumed investment rate of return is set forth in Appendix B.

Return Objective and Risk Tolerance

- Earn a minimum assumed investment rate of return over market cycles by investing in a global, diversified portfolio of assets with different risk and return characteristics

- Generate strong risk-adjusted returns within each asset class

- Meet or exceed the policy benchmarks for the respective Trust Funds, and the benchmark for individual asset classes, over market cycles

The CRPTF has a long horizon and has the ability to take risk in the portfolio commensurate with the targeted return objective. The CRPTF has the ability to allocate prudently to private market investment strategies in order to diversify the overall risk of the strategic asset allocation. The level of risk will be measured in multiple dimensions to ensure the risks assumed by the CRPTF are intentional and are adequately compensated.

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Strategic Asset Allocation

The asset mix for the CRPTF is established by the Treasurer and approved by the IAC, with input from the Chief Investment Officer, investment staff and consultants, and based on capital market theory, financial and fiduciary requirements, and liquidity needs. The specific asset allocations for each Trust Fund are set forth in Appendix B. Any material changes to these allocations shall be pursuant to the findings of periodic asset allocation studies and/or asset/liability studies, as determined by the Treasurer in consultation with the IAC.

A broad array of asset classes is considered for inclusion in a potential asset allocation structure. The objective is to determine an asset mix that offers a balanced risk/return tradeoff as measured by the impact on the liabilities or spending policy over multiple time horizons.

Investments will be diversified in order to reduce volatility associated with concentrated portfolios and to limit the probability of large losses on individual investment managers within the portfolio.

Investments will comply with the provisions of Connecticut General Statutes, including without limitation Sections 3-13d, 3-13g and Section 3-21e, and any subsequent modifications or revisions to Connecticut law that affect the management of the CRPTF. This IPS, which describes each of the CIFs, delineates specific investment guidelines and restrictions for each of the CIFs.

Deviations from approved asset allocation targets may occur from time to time as a result of market movements or other unanticipated events. Remedies to resolve such deviations will be implemented in a manner that minimizes negative impact to the performance or risk profile of the CRPTF.

Pooled Investment Funds

The Combined Investment Funds ("CIFs") are separate pooled investment funds that have been created by the Treasurer pursuant to Section 3-31b of the Connecticut General Statutes. The CIFs were established to provide a means for investing Trust Fund assets entrusted to the Treasurer in a variety of investment asset classes. The CIFs are open-end portfolios that represent individual asset classes or sub-asset classes in the plan.

To realize the asset allocations set forth in the IPS for each Trust Fund, the Treasurer administers the CIFs as a series of combined investment funds in which the various Trust Funds may invest through the purchase of ownership interests. The asset mix for each of the Trust Funds is established by the Treasurer, with approval of the IAC, based upon capital market theory, financial and fiduciary requirements and liquidity needs. There are instances in which the asset mix for a Trust Fund is set by its governing document.

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Asset Classes

The following are the permissible asset classes in which the CRPTF portfolio will be invested:

Composite / Asset Class	Sub-Asset Class
Global Equity	Domestic Equity
	Developed Markets (ex U.S.)
	Emerging Markets
Core Fixed Income	
Credit	Private Credit
	Public Credit
Absolute Return	
Private Equity	
Real Estate	
Infrastructure and Natural Resources	
Liquidity (Cash Equivalents)	

Policy targets, ranges and benchmarks are found in Appendix A.
Asset class structure and guidelines are in Appendix C.

Global Equity

The Global Equity CIF ("GE") will invest primarily in equity instruments to meet the CRPTF asset allocation guidelines for asset classes having the characteristics and categories of equities. In the overall asset allocation, GE's goal is to primarily achieve capital appreciation and, secondarily, achieve a long-term, real rate of return significantly above the inflation rate. The inclusion of global equities will provide a source of diversification to other asset classes within the CRPTF, given the different economic environments.

The Domestic Equity CIF ("DE") will invest primarily in the common stocks of U.S. corporations in order to meet the CRPTF asset allocation guidelines for domestic equities. These investments will be primarily made using money managers. DE's assets will be allocated across the U.S. stock market so that there is diversification by both market capitalization and investment style, such as value and growth.

The Developed Markets CIF ("DM") will invest primarily in the common stocks of non-U.S. corporations in order to meet the CRPTF asset allocation guidelines for International Equities. These investments will be primarily made using money managers. DM assets will be allocated across foreign markets such that there is diversification by market, capitalization and style which, in aggregate, are structured to replicate the characteristics of the comparable developed non-U.S. equity markets index. Non-U.S. equities are defined as common stocks issued by companies domiciled outside the U.S. Developed Markets are defined as the countries with well-developed economies and capital markets. They tend to be high income with efficient market institutions.

The Emerging Markets CIF ("EM") will invest primarily in the common stocks of non-U.S. corporations in order to meet the CRPTF asset allocation guidelines for Emerging Markets Equities. These investments will primarily be made using money managers. EM assets will be

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allocated across emerging markets such that there is diversification by market, capitalization and style which, in aggregate, are structured to replicate the characteristics of the comparable emerging markets equity index. Non-U.S. equities are defined as common stocks issued by companies domiciled outside the U.S. Emerging Markets are defined as the countries with developing economies and capital markets. They tend to be lower income with less efficient market institutions.

Core Fixed Income

The Core Fixed Income CIF (CFI") will invest in fixed income instruments in order to meet the CRPTF asset allocation guidelines for asset classes having the characteristics and categories of fixed income. In the overall asset allocation, CFI's goal is primarily to preserve capital and secondarily to provide current income to the CRPTF. The inclusion of fixed income will provide a source of diversification to other asset classes within the CRPTF given the different economic environments.

The Core Fixed Income asset class will invest primarily in fixed-income securities in the domestic U.S. markets in order to meet the CRPTF asset allocation guidelines for Core Fixed Income. The CFI portfolio consists of active and passive managed fixed income mandates. The CFI may invest in debt instruments issued by the U.S. Government and its agencies, inflation protected securities, "quasi-Government" agencies, municipalities and U.S. corporations. In addition, mortgage and asset-back securities, Euro bonds, high quality quasi or sovereign debt and any other public or private U.S. regulated debt securities are permitted.

Absolute Return

The Absolute Return CIF ("AR") will invest CRPTF assets in investment strategies that offer the potential to reduce risk, enhance overall portfolio expected returns, or a combination of both in a variety of market conditions. The AR serves as a vehicle for strategies that provide diversification benefits and are not easily classified, categorized, or described in the other CIFs. Hybrid strategies that cut across multiple asset classes will also be considered part of the opportunity set.

AR strategies represent a broad set of investment styles, mandates and products that focus primarily on the liquid equity, fixed income and derivatives markets, and illiquid securities and investments. AR strategies may target absolute returns without reference to a traditional benchmark since managers may use a wide range of investment tools such as short-selling, leverage, derivatives and complex securities to achieve their investment objectives. The AR may also consider co-investments in operating or holding companies.

The AR may invest in strategies that do not fit the constraints of existing CIFs and other strategies including absolute return strategies and other alternative asset strategies. The AR mandate may be executed through investment managers who actively manage a fund of funds ("FoF") portfolio or through direct investments in separately managed accounts ("SMA").

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Credit

The Public Credit CIF ("PBC") is comprised of those assets and asset classes outside the scope of the CFI which may include, but are not limited to, high yield securities, convertible securities, and emerging market securities. PBC assets are expected to generate higher returns and greater income than CFIF assets with a secondary objective of capital preservation. Private Credit ("PVC") will predominately invest in direct and indirect debt investments in order to meet the CRPTF asset allocation guidelines. The purpose of the PVC is to generate attractive, risk-adjusted returns in excess of public debt strategies, with the expected benefit of decreased volatility of the CRPTF's overall portfolio through lower correlations with other asset classes. The PVC will invest in credit-related strategies not available through other pooled investment funds and may include direct lending, mezzanine, distressed debt, and special situations funds and co-investments with these funds. The PVC investments will generally be made in externally managed limited partnerships or through separate accounts that focus on private debt investments. The PVC may also make co-investments.

Private Equity

The Private Equity CIF ("PE") will invest in various private equity strategies and vehicles in order to meet the CRPTF asset allocation guidelines for Private Equity. The purpose of the PE is to earn returns in excess of the public equity markets and generate attractive risk-adjusted rates of return. The PE is also expected to reduce the impact of market volatility by diversifying the total asset base. The PE investments will generally be made in externally managed limited partnerships or through separate accounts that focus on private equity investments. The PE may also make co-investments. In addition, the PE may acquire and divest fund interests through secondary or other transactions.

Private equity includes both Venture Capital and Corporate Finance investment strategies. Venture Capital typically involves equity capital invested in young or development stage companies, whether start-up, early, mid or late-stage companies. Corporate Finance typically involves equity and debt capital invested in growth, mature or distressed stage companies, often through the financing of acquisitions, spin-offs, mergers or changes in capitalization.

Real Estate

The Real Estate ("RE") asset class strategic objectives are to provide diversification to the overall CRPTF investment program, preserve investment capital and generate attractive risk-adjusted rates of return. In addition to providing current income and the potential for capital appreciation, real assets provide at least two primary benefits to a diversified plan. First, real estate assets have low correlation to equities and fixed income markets and should thereby provide diversification benefits to the CRPTF.

Real estate is also designed to yield an inflation-adjusted or positive "real" return. The investments may consist of a number of different investment strategies and investment vehicles, including externally managed commingled funds, separate accounts, publicly traded real estate investment trusts ("REIT"), limited liability companies, limited partnerships, direct investments, co-investments and master limited partnerships ("MLPs").

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Infrastructure and Natural Resources

The Infrastructure and Natural Resources CIF's ("INR") strategic objectives are to provide diversification to the overall CRPTF investment program, preserve investment capital and generate attractive risk-adjusted rates of return. In addition to providing current income and the potential for capital appreciation, INR provides at least two primary benefits to a diversified plan. First, INR assets have low correlation to equities and fixed income markets and should thereby provide diversification benefits to the CRPTF. INR is also designed to yield an inflation-adjusted or positive "real" return.

Liquidity (Cash Equivalents)

The Liquidity Fund consists of short-term U.S. assets that include cash and cash equivalents that are routinely used to make benefits payments and meet other cash needs. The Liquidity Fund assets will be managed consistent with U.S. money market guidelines.

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Investment Process

Asset Class Framework

Following an asset allocation study, the Treasurer and investment staff review the implementation of each asset class. As noted in the *Strategic Asset Allocation* section, each asset class has defined goals and role within the overall portfolio along with performance benchmarks and objectives.

Approval of Investment Mandates

A. Investment Manager Guidelines

Investment manager guidelines specific to each mandate are set forth in each contract or agreement. These guidelines will be consistent with the requirements of this Policy and will describe the investment objective and strategy, permissible and prohibited investments, diversification guidelines and reporting requirements.

B. Guidelines for the Selection of Investment Managers

The Treasurer will select investment managers based on their respective expertise relative to the investment mandate they seek to fulfill or the investment service they seek to provide. In general, the selection process will entail the following processes:

- Conduct a competitive bidding process (Request For Proposals or "RFP") or review of a private placement memorandum ("PPM"), as defined by the State's procurement and purchasing laws and standards or, where appropriate and practicable, the use of a pre-determined uniform system for evaluating proposals and for otherwise determining the merits of preferred vendors within the industry.

- Undertake a due diligence process that evaluates a firm's capabilities, organization, track record, institutional expertise and investment philosophy.

- Consider the firm's policies and practices, including those that support diversity in the firm's industry.

- Integrate the potential risk and value impact that environmental, social, and governance ("ESG") factors may have on the CRPTF's investments.

Investment service providers must disclose any third-party fees paid, as defined in Section 3-13j of the Connecticut General Statutes, gifts, conflicts of interests, campaign contributions and other required disclosures in effect at the time of the selection process.

In the selection of investment managers, due consideration shall be given to a firm's demonstrated commitment to supporting diversity of its workforce, its vendors and to the diversity of its industry's future workforce and to affording opportunities for emerging, minority and women-owned and Connecticut-based investment managers, who can provide services consistent with the CRPTF's investment strategy and fiduciary standards, to compete for investment contracts.

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Before the retention of any investment manager, or making a direct investment with an investment manager, the Treasurer will present a recommendation(s) to the IAC for consideration. After such presentation, unless waived by a vote of the IAC, the IAC will have up to 45 days to review and comment upon any proposed contract prior to the execution of a contract by the Treasurer.

Any decision to terminate an investment manager will be consistent with the terms and conditions set forth in contract. The Treasurer will report on the decision to the IAC.

The number of investment managers retained will be subject to considerations regarding reasonable and prudent levels of risk and diversification.

The criteria for the selection of investment managers and direct investments in each CIF will vary according to mandate and asset type. Those criteria are described more fully within Appendix C of this IPS.

C. Investment Performance Evaluation Guidelines

The Treasurer will regularly monitor investment performance of the Trust Funds, CIFs, direct investments and individual investment managers. The CRPTF's custodian will confirm or reconcile its performance data with the investment managers.

For the CIFs and individual investment managers, the Treasurer will use designated benchmarks and the investment guidelines as essential parts of the criteria to monitor investment performance. The investment guidelines, unique to each investment manager, will be incorporated into the investment management contract executed between the Treasurer and such investment manager and may subsequently be amended as mutually agreed upon by both parties.

Investment manager guideline deviations may occur from time to time as a result of market movements or other unanticipated events. Actions will be taken to assess the situation and develop a remedy to resolve the deviation, recognizing that resolution may take time and should be implemented in a manner that limits negative impact on the performance or risk profile of the CRPTF.

Execution of Investment Policy

It is the Treasurer's obligation and responsibility to direct the day-to-day administration of the CRPTF's investment program. Consequently, the Treasurer may establish written procedures for the CRPTF's operations consistent with this IPS. Such procedures shall include a system of internal controls, which will be documented in writing.

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Public Markets Investment Managers

For public markets, investments will be made and monitored within the following framework.

- Development of strategic asset allocation targets for public market asset classes
- Development of a strategic plan, which will establish goals and objectives to achieve the CRPTF asset allocation guidelines and strategic objectives for the asset class
- Development of criteria and procedures for the selection of new public market allocations
- Use of the RFP process to identify managers for selection incorporating due diligence
- Review of terms and conditions with negotiated agreements satisfactory to the Treasurer, including a demonstrated alignment of interest between the manager and the CRPTF
- Monitoring and evaluation of fund managers' performance on an on-going basis, including the application of performance measurement standards for public markets
- Monitoring of manager's compliance with applicable policies as set forth in the appendices to this IPS and/or other requirements under contract

Asset-class structures for public markets are in Appendix C of this IPS.

Private Markets Investment Managers

For private markets, investments will be made and monitored within the following framework.

- Development of strategic asset allocation targets for private market asset classes
- Development of a strategic plan, which will establish goals and objectives to achieve the CRPTF asset allocation guidelines and strategic objectives for the asset class
- Development of criteria and procedures for the selection of new private market commitments
- Screening and tracking of potential private market investments, with status reporting to the Treasurer
- Conducting due diligence as directed by the Treasurer
- Review by the IAC of any proposal to enter into a limited partnership agreement or separately managed account
- Review of terms and conditions with negotiated agreements satisfactory to the Treasurer, including a demonstrated alignment of interest between the manager and the CRPTF
- Monitoring and evaluation of fund managers' performance on an on-going basis, including the application of performance measurement standards for private markets
- Management of any securities distributions to optimize realized proceeds in a timely manner, while considering prevailing market conditions
- Monitoring of manager's compliance with applicable policies as set forth in the appendices to this IPS and/or other requirements under contract

Asset-class structures for private markets are in Appendix C of this IPS.

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Performance Reporting and Monitoring Oversight

The CRPTF's staff may utilize the custodian bank and asset class consultants in the preparation of monthly and quarterly reports of the asset class performance, investment manager performance, and total CRPTF performance for the Treasurer and IAC.

The Chief Investment Officer shall review and approve, on a monthly and quarterly basis, the investment reports for submission to the Treasurer and the IAC.

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Risk Management

The Chief Investment Officer, with input from the Chief Risk Officer and other investment staff, is responsible for devising and implementing the CRPTF's risk frameworks, measuring and monitoring investment risks, providing investment risk control, monitoring compliance with the CRPTF's risk appetite, and otherwise mitigating investment and investment-related risks.

There are many risks the Treasurer must measure and monitor. These include, but are not limited to, capital market risk, investment style risk, concentration risk, volatility risk, liquidity risk, correlation risk, and funding risk. The primary risk to the CRPTF is failing to meet investment objectives over time. This can result either from taking on too much risk and suffering large, unexpected losses or from taking on too little risk and failing to meet the target rate of return objectives.

Risk management does not require the elimination of risk but instead strives to achieve a balance between risk and return. The Treasurer recognizes that the CRPTF must assume some level of risk to achieve desired rates of return. The objective of the CRPTF's risk management program is to ensure that risks taken are evaluated and determined to be appropriate in light of CRPTF's investment objectives and are properly managed.

Goals

The risk management program has the following goals:

- Seek to achieve the desired rate of total return within appropriate levels of risk and liquidity
- Seek to maintain sufficient diversification to reduce the potential for large losses, minimize exposure to unintended risk, and preserve capital
- Provide an integrated process for overall investment risk management on both a consolidated and disaggregated basis
- Select, implement, and maintain risk management tools to provide analyses that inform and support the investment process across portfolios and strategies
- Confirm that external managers have established and will maintain appropriate risk management programs to reduce risks potentially affecting their portfolios.

Risk Framework

To achieve these goals, this policy includes a risk framework, as described in Appendix D, that articulates the risk management approach for the CRPTF. The risk framework outlines the dynamic process by which the Treasurer and CRPTF staff manage risk. The framework may be modified as deemed appropriate to reflect the changing nature of economic conditions and capital markets.

Watch List Monitoring

The Treasurer or a designee will periodically meet with individual investment managers to review performance. Investment managers may make presentations before the IAC.

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Periodically, it may be necessary and in the best interests of the CRPTF to place an investment manager on the Treasurer's "Watch List." The events triggering such placement are generally defined within the relevant contract or agreement, and may include, but not be limited to, significant underperformance relative to its benchmark, turnover of key members of the investment professional staff, and a significant event affecting the investment manager.

Ultimately, the Treasurer will determine whether to (a) continue to monitor performance; (b) remove the manager or partner from the Watch List; (c) invoke various remedies under the applicable contract, which may include, but not be limited to, terminating the manager consistent with their contract, removal of a general partner, and/or sell the CRPTF's interest in the investment.

Other Considerations

This IPS is intended to provide a framework for the investment of the CRPTF, which may be supplemented by additional policies and procedures for each asset class and other investment-related initiatives including, but not limited to: securities lending; emerging managers program; and securities litigation.

- Use of Investment Vehicles**:** Investment is permitted in individual securities, and through other investment vehicles such as, but not limited to, commingled trusts, separate accounts, mutual funds and other pooled asset portfolios, provided they conform to the applicable guidelines and restrictions set forth in the individual investment manager contracts.

- Deviations from investment policy become advisable in consideration of new or unique investment opportunities, which are not specifically addressed in this IPS, as may become available from time to time. The Treasurer may deviate from this policy from time to time, after approval by the IAC, provided that any and all such deviations will enhance the CRPTF's long-term performance and not jeopardize the standards of prudence for the CRPTF as a whole.

- Third party vendors are utilized for the safekeeping of the CRPTF assets, holding the CRPTF assets in custody, valuing plan investments, engaging in securities lending activities and maintaining accurate records of all investments and transactions. All such third party vendors will take direction from the Treasurer or a designee.

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Liquidity & Cash Management

Based on such factors as investment strategy, cash flow and benefit payments, the Treasurer will determine the appropriate allocation to cash equivalents in order to meet the Trust Funds' liquidity needs in the near term. Liquidity requirements will be reviewed regularly to ensure that each of the CRPTF's policies and practices are structured so as to accommodate changing liquidity needs.

Rebalancing Policy

The CRPTF may deviate from the asset allocation targets from time to time, by virtue of capital markets activity, other unanticipated events, as well as cash flow requirements of individual Trust Funds. Consequently, the Treasurer will monitor asset allocation on at least a quarterly basis to determine and ensure rebalancing is appropriately implemented.

The Chief Investment Officer may initiate a discretionary rebalancing at any time. Remedies to resolve such deviations will be implemented in a manner that minimizes negative impact to the performance or risk profile of the CRPTF. At least annually, the IAC will review the CRPTF's current asset allocation. If rebalancing is initiated, a plan is developed whereby specific dollar amounts will be considered for movement based on the degree of the over/underweight in the various asset classes, liquidity characteristics and current market conditions.

The CRPTF's rebalancing procedures reflect the following considerations:

1. Trading costs directly impact overall performance. The CRPTF therefore controls the frequency of rebalancing and employs methods that keep trading costs to a minimum.

2. Rebalancing on a periodic basis, with volatility-based trigger points, is the best choice for limiting tracking error caused by the variance between the CRPTF's actual and target asset allocation while minimizing trading-related transaction costs and disruption to the management of the CRPTF.

Environmental, Social and Governance Factors

The Treasurer and the CRPTF's investment team consider environmental, social and governance ("ESG") factors in its investment processes because they can materially influence both risk and return, and can impact the sustainability, value and performance of the CRPTF's investments over the long term. The relevance of ESG may differ and vary in degree across companies, sectors, regions, asset classes and over time.

Accordingly, consistent with the Treasurer's fiduciary responsibilities to act in the best interests of the members, retirees and beneficiaries of the CRPTF, the Treasurer will: (1) maintain an active corporate governance program for the CRPTF's publicly traded equity investments, with due consideration to ESG issues; and (2) incorporate relevant ESG issues into the investment analyses and decision-making processes in investment programs.

Investment recommendations in all asset classes will include information on and consideration of a manager's ESG policies and practices, focusing on the risks and standards relevant to the investment under consideration.

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CRPTF's Guidelines for Restricted Investments and Proxy Voting Policies

Restricted Investments:

The Treasurer may prohibit investment of CRPTF assets in particular securities, types of securities, or companies pursuant to statutory investment restriction authority (see below) and/or based on the following determination:

- One or more risk factors that may impact profitability and long-term shareholder value
- Risks run counter to the goals and objectives of the CRPTF to provide investment income and appreciation in line with the long-term liabilities that the CRPTF is designed to support; and
- Prohibition will not adversely or materially impact the CRPTF's risk/return profile.

Foreign Policy and National Interests of the United States:

Statutory Investment Restriction Authority. Certain Connecticut statutes provide guidance to the Treasurer when making investment decisions, have been incorporated into the investment process and are reflected in all contracts under which CRPTF funds are invested. Appendix F, *Policy for Implementation of Investment Restrictions*, sets forth the process by which the Treasurer implements investment restrictions.

CRPTF's Policy on Proxy Voting

Shareholder activity is among the fiduciary duties of the Treasurer as trustee of the CRPTF. Consequently, fiduciaries have a responsibility to vote proxies on issues that may affect the value of the shares held in a portfolio since proxies are considered plan assets and have economic value.

The Treasurer may determine, where appropriate, that certain shareholder activities, such as the active monitoring and communication with corporate management, should be undertaken to enhance the economic value of plan assets. Such circumstances for shareholder activity should be considered appropriate when investments are expected to be held on a long-term basis.

Proxy voting policies are set forth in Appendix G of this IPS. Any delegation of proxy voting by the Treasurer, either to external money managers or a proxy voting service, shall be consistent with said policies.

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Appendix A – Policy Target and Benchmarks for the CRPTF

Asset allocations reflected below represent long term policy targets for the retirement plans. Trust Funds may contain specific allocations based on individual profiles, risk tolerance and return expectations. Trust Funds' specific policy targets, ranges and benchmarks are found in Appendix B of this IPS.

Composite / Asset Class	Long-Term Policy Target
Global Equity	37%
Core Fixed Income	13%
Public Credit	2%
Private Credit	10%
Absolute Return	5%
Private Equity	15%
Real Estate	10%
Infrastructure and Natural Resources	7%
Liquidity (Cash Equivalents)	1%
Total	**100%**

Composite / Asset Class	Benchmark
Global Equity	MSCI All Country World IMI Net Index
Core Fixed Income	Blend: Bloomberg Barclays U.S. Aggregate Bond and Bloomberg Barclays U.S. Treasuries Index
Public Credit	Bloomberg Barclays U.S. High Yield 2% Issuer Cap Index
Private Credit	S&P / LSTA Leveraged Loan Index + 150 basis points*
Absolute Return	Blend: Dynamic weighted strategy (HFRX)
Private Equity	Russell 3000 + 250 basis points*
Real Estate	Open End Diversified Core Equity (NFI-ODCE Index)*
Infrastructure and Natural Resources	CPI + 400 basis points*
Liquidity (Cash Equivalents)	U.S. 3-Month T-Bill Index

** Performance comparisons are typically evaluated one quarter in arrears*

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Appendix B -- Detailed Asset Allocations for Various Trust Funds

As stated in *Investment Objectives*, the Treasurer shall establish an assumed investment rate of return for the CRPTF.

The current assumed investment rate of return is 6.9 percent per annum.

The asset allocation composition for each Trust Fund of the CRPTF, as approved by the IAC, is set forth in Appendix B of this IPS and posted on the website of the Office of the State Treasurer. Currently, the CRPTF includes the following plans and trusts:

- State Employees' Retirement Fund
- Teachers' Retirement Fund
- Connecticut Municipal Employees' Retirement Fund
- Probate Judges' and Employees' Retirement Fund
- State Judges' Retirement Fund
- State's Attorneys' Retirement Fund
- Soldiers' Sailors' and Marines' Fund
- Arts Endowment Fund
- Agricultural College Fund
- Ida Eaton Cotton Fund
- Andrew C. Clark Fund
- School Fund
- Hopemead Fund
- Police and Firemen Survivors' Benefit Fund
- Other Post-Employment Benefits Trust Fund
- Teachers' Retirement Health Insurance Fund
- Participants' Retirement Investment Fund
- Participants' Investment Fund

Investment Objectives

The primary objective of CRPTF investment portfolio is to provide a secure source of retirement income for its beneficiaries. The CRPTF's investment objectives are long-term in nature and have been established based on comprehensive reviews of the capital markets and its underlying current and projected financial requirements, as determined through periodic asset/liability studies.

For certain Trust Funds, the primary objective of the investment portfolio is to provide a secure source of income from a principal amount that will last in perpetuity,

The Treasurer adheres to the principles of capital market theory, which maintains that over the long term, prudent investment risk-taking is rewarded with incremental returns. Consequently, while capital preservation is regarded to be of paramount importance for certain Trust Funds, the Treasurer regards prudent risk-taking as justifiable.

In those instances, the investment objectives are as follows:

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1. To provide a satisfactory current stream of income given current dollars invested
2. To maintain the CRPTF corpus by minimizing erosion of principal due to inflation
3. To maximize returns within reasonable and prudent levels of risk
4. To maintain adequate cash levels to meet the Trust Funds' distribution requirements.

Asset Allocation

The CRPTF's asset mix is established by the Treasurer and the IAC based on capital market theory, the CRPTF's financial requirements and the CRPTF's liquidity needs.

The CRPTF's investment portfolio is overseen by the Treasurer (as sole trustee of the CRPTF) and is invested in accordance with applicable statutory requirements and fiduciary standards.[3]

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[3] See Sections 3-13c and 3-13d of the Connecticut General Statutes.

Teachers' Retirement Fund

Investment Authority

The Teachers' Retirement Fund ("TERF") was established by Public Act 78-208. Fund administration is overseen by The Teachers' Retirement Board, which is within the Office of the State Comptroller for administrative purposes only.

Statement of Purpose

Public Act 78-208 established the TERF for the purpose of providing retirement and other benefits to teachers, their survivors and beneficiaries that have fulfilled the requirements as set forth in the TERF guidelines and Sections 10-183b to 10-183h of the Connecticut General Statutes.

Asset Allocation Target Policy and Relative Ranges

COMBINED INVESTMENT FUND:	TARGET POLICY	LOWER BOUND	UPPER BOUND
CORE FIXED INCOME FUND	**13%**	8%	18%
PUBLIC CREDIT FUND	**2%**	0%	7%
PRIVATE CREDIT FUND	**10%**	5%	15%
PRIVATE INVESTMENT FUND	**15%**	10%	20%
REAL ESTATE FUND	**10%**	5%	15%
INFRASTRUCTURE AND NATURAL RESOURCES FUND	**7%**	2%	12%
ABSOLUTE RETURN FUND	**5%**	0%	10%
LIQUIDITY FUND	**1%**	0%	3%
DEVELOPED MARKET STOCK FUND	**11%**	6%	16%
EMERGING MARKET STOCK FUND	**4%**	0%	9%
DOMESTIC EQUITY FUND	**22%**	17%	27%

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State Employees' Retirement Fund

Investment Authority

The State Employees' Retirement Fund ("SERF") was authorized by Public Act 234 of the 1961 General Assembly and is codified in Section 5-156 et seq. of the Connecticut General Statutes. Beginning in 1981, the SERF's terms and conditions have been the subject of collective bargaining between the State and a coalition of bargaining units representing state employees, commonly known as the State Employees' Bargaining Coalition (SEBAC). Fund administration is overseen by the Office of the State Comptroller and the State Employees Retirement Commission.

Statement of Purpose

Public Act 61-234 re-stated the State Employees Retirement Act and reaffirmed the SERF as the entity that would provide retirement and other benefits to State employees, their survivors and beneficiaries who have fulfilled the requirements as set forth in the SERF guidelines, and as negotiated with SEBAC.

Asset Allocation Target Policy and Relative Ranges

COMBINED INVESTMENT FUND:	TARGET POLICY	LOWER BOUND	UPPER BOUND
CORE FIXED INCOME FUND	**13%**	8%	18%
PUBLIC CREDIT FUND	**2%**	0%	7%
PRIVATE CREDIT FUND	10%	5%	15%
PRIVATE INVESTMENT FUND	**15%**	10%	20%
REAL ESTATE FUND	**10%**	5%	15%
INFRASTRUCTURE AND NATURAL RESOURCES FUND	**7%**	2%	12%
ABSOLUTE RETURN FUND	**5%**	0%	10%
LIQUIDITY FUND	**1%**	0%	3%
DEVELOPED MARKET STOCK FUND	**11%**	6%	16%
EMERGING MARKET STOCK FUND	**4%**	0%	9%
DOMESTIC EQUITY FUND	**22%**	17%	27%

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Connecticut Municipal Employees' Retirement Fund

Investment Authority

The Connecticut Municipal Employees' Retirement Fund ("CMERF") was established by Public Act 191(s. 2) of the 1969 General Assembly. Fund administration is overseen by the Office of the State Comptroller.

Statement of Purpose

Public Act 69-191(s. 2) established the CMERF for the purpose of providing retirement and other benefits to employees and their beneficiaries of participating municipal and local governmental units. The retirement plan permits municipalities with a small number of employees to get the benefit of the so-called "law of averages" by pooling their contributions with those of other municipalities. This pooling of retirement assets by participating municipalities reduces the risk of excessive cost to an individual municipality because of actuarial vagaries in that municipality. CMERF also takes advantage of economies of scale in its investment strategies and assures that the benefits will be uniform among the participating municipalities.

Asset Allocation Target Policy and Relative Ranges

COMBINED INVESTMENT FUND:	TARGET POLICY	LOWER BOUND	UPPER BOUND
CORE FIXED INCOME FUND	**13%**	8%	18%
PUBLIC CREDIT FUND	**2%**	0%	7%
PRIVATE CREDIT FUND	10%	5%	15%
PRIVATE INVESTMENT FUND	**15%**	10%	20%
REAL ESTATE FUND	**10%**	5%	15%
INFRASTRUCTURE AND NATURAL RESOURCES FUND	**7%**	2%	12%
ABSOLUTE RETURN FUND	**5%**	0%	10%
LIQUIDITY FUND	**1%**	0%	3%
DEVELOPED MARKET STOCK FUND	**11%**	6%	16%
EMERGING MARKET STOCK FUND	**4%**	0%	9%
DOMESTIC EQUITY FUND	**22%**	17%	27%

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Probate Judges' and Employees' Retirement Fund

Investment Authority

The Probate Court Retirement Fund ("PROB") was established by Public Act 558(s. 40) of the 1967 General Assembly. Fund administration is through the State Employees' Retirement Commission and the Office of the State Comptroller.

Statement of Purpose

Public Act 67-558(s. 40) established the PROB for the purpose of providing retirement and other benefits to Judges of Probate and Probate Court employees and their beneficiaries.

Asset Allocation Target Policy and Relative Ranges

COMBINED INVESTMENT FUND:	TARGET POLICY	LOWER BOUND	UPPER BOUND
CORE FIXED INCOME FUND	**13%**	8%	18%
PUBLIC CREDIT FUND	**2%**	0%	7%
PRIVATE CREDIT FUND	10%	5%	15%
PRIVATE INVESTMENT FUND	**15%**	10%	20%
REAL ESTATE FUND	**10%**	5%	15%
INFRASTRUCTURE AND NATURAL RESOURCES FUND	**7%**	2%	12%
ABSOLUTE RETURN FUND	**5%**	0%	10%
LIQUIDITY FUND	**1%**	0%	3%
DEVELOPED MARKET STOCK FUND	**11%**	6%	16%
EMERGING MARKET STOCK FUND	**4%**	0%	9%
DOMESTIC EQUITY FUND	**22%**	17%	27%

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State Judges' Retirement Fund

Investment Authority

The State Judges' Retirement Fund ("JURF") was established by Public Act 81-456(S, 5). Fund administration is through the State Employees' Retirement Commission and the Office of the State Comptroller.

Statement of Purpose

The JURF was established for the purpose of providing retirement and other benefits to state judges, family support magistrates, and workers compensation commissioners and their beneficiaries who have fulfilled the requirements set forth in the JURF guidelines.

Asset Allocation Target Policy and Relative Ranges

COMBINED INVESTMENT FUND:	TARGET POLICY	LOWER BOUND	UPPER BOUND
CORE FIXED INCOME FUND	**13%**	8%	18%
PUBLIC CREDIT FUND	**2%**	0%	7%
PRIVATE CREDIT FUND	10%	5%	15%
PRIVATE INVESTMENT FUND	**15%**	10%	20%
REAL ESTATE FUND	**10%**	5%	15%
INFRASTRUCTURE AND NATURAL RESOURCES FUND	**7%**	2%	12%
ABSOLUTE RETURN FUND	**5%**	0%	10%
LIQUIDITY FUND	**1%**	0%	3%
DEVELOPED MARKET STOCK FUND	**11%**	6%	16%
EMERGING MARKET STOCK FUND	**4%**	0%	9%
DOMESTIC EQUITY FUND	**22%**	17%	27%

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State's Attorneys' Retirement Fund

Investment Authority

The State's Attorneys' Retirement Fund ("SARF") was established by Public Act 84-399(S.9.17) Fund administration is through the State Employees Retirement Commission and the Office of the State Comptroller.

Statement of Purpose

The SARF was established for the purpose of providing retirement and other benefits to certain states attorneys and certain public defenders and their beneficiaries who have fulfilled the requirements set forth in the SARF guidelines.

Asset Allocation Target Policy and Relative Ranges

COMBINED INVESTMENT FUND:	TARGET POLICY	LOWER BOUND	UPPER BOUND
CORE FIXED INCOME FUND	**13%**	8%	18%
PUBLIC CREDIT FUND	**2%**	0%	7%
PRIVATE CREDIT FUND	10%	5%	15%
PRIVATE INVESTMENT FUND	**15%**	10%	20%
REAL ESTATE FUND	**10%**	5%	15%
INFRASTRUCTURE AND NATURAL RESOURCES FUND	**7%**	2%	12%
ABSOLUTE RETURN FUND	**5%**	0%	10%
LIQUIDITY FUND	**1%**	0%	3%
DEVELOPED MARKET STOCK FUND	**11%**	6%	16%
EMERGING MARKET STOCK FUND	**4%**	0%	9%
DOMESTIC EQUITY FUND	**22%**	17%	27%

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Policemen and Firemen Survivors' Benefit Fund

Investment Authority

The Policemen and Firemen Survivors' Benefit Fund ("POFI") was established by Public Act 390 of the 1963 General Assembly. Fund administration is through the State Employees Retirement Commission and the Office of the State Comptroller.

Statement of Purpose

The POFI was established for the purpose of providing retirement and other benefits to participants and their beneficiaries who have fulfilled the requirements set forth in the POFI guidelines.

Asset Allocation Target Policy and Relative Ranges

COMBINED INVESTMENT FUND:	TARGET POLICY	LOWER BOUND	UPPER BOUND
CORE FIXED INCOME FUND	**13%**	8%	18%
PUBLIC CREDIT FUND	**2%**	0%	7%
PRIVATE CREDIT FUND	10%	5%	15%
PRIVATE INVESTMENT FUND	**15%**	10%	20%
REAL ESTATE FUND	**10%**	5%	15%
INFRASTRUCTURE AND NATURAL RESOURCES FUND	**7%**	2%	12%
ABSOLUTE RETURN FUND	**5%**	0%	10%
LIQUIDITY FUND	**1%**	0%	3%
DEVELOPED MARKET STOCK FUND	**11%**	6%	16%
EMERGING MARKET STOCK FUND	**4%**	0%	9%
DOMESTIC EQUITY FUND	**22%**	17%	27%

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Agricultural College Fund

Investment Authority

The Agricultural College Fund ("AGRI") is described in Section 10a-115 and 3-40 of the Connecticut General Statutes.

Statement of Purpose

The AGRI dates back to 1862 when funds were received as proceeds from the sale of federal land granted to the States from the federal government. The beneficiary of the congressional grant became the University Of Connecticut School Of Agriculture, with the income from the assets "inviolably appropriated for teaching; principally, the science of agriculture and the mechanical arts." The Treasurer annually transfers a distribution to the University of Connecticut.

Asset Allocation Target Policy and Relative Ranges

COMBINED INVESTMENT FUND:	TARGET POLICY	LOWER BOUND	UPPER BOUND
CORE FIXED INCOME FUND	100%	0%	0%

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Andrew C. Clark Fund

Investment Authority

The Andrew C. Clark Fund ("ACCF") was established by Public Act 261 of the Connecticut General Assembly, May 3, 1917.

Statement of Purpose

The Treasurer was authorized by an act of the Connecticut General Assembly in 1917 to enter into an agreement with the executors of the will of Andrew C. Clark of New Milford, wherein certain proceeds of his estate would be shared equally by the State and the Congregational Home Missionary Society of New York. In his will, Andrew C. Clark bequeathed that one half of his entire estate be held and invested for the same objects and purposes for which the School Fund was established (as described in Article XIII of this Part.)

Asset Allocation Target Policy and Relative Ranges

COMBINED INVESTMENT FUND:	TARGET POLICY	LOWER BOUND	UPPER BOUND
CORE FIXED INCOME FUND	**62%**	57%	67%
LIQUIDITY FUND	**1%**	0%	3%
DEVELOPED MARKET STOCK FUND	**11%**	6%	16%
EMERGING MARKET STOCK FUND	**4%**	0%	9%
DOMESTIC EQUITY FUND	**22%**	17%	27%

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Arts Endowment Fund

Investment Authority

The Connecticut Arts Endowment Fund ("AEF") is established in Section 10-406 of the Connecticut General Statutes.

Statement of Purpose

The AEF was established under the provisions of Public Act 88-355 with the purpose of providing income to support nonprofit arts organizations in Connecticut. In 2017, the General Assembly enacted a spending policy which requires an annual distribution equivalent to four (4) percent of the average market value of the AEF over the preceding three years.

The Treasurer annually advises the Department of Economic and Community Development and the Connecticut Arts Council of the amounts available for distribution to organizations for participation in, promotion, development, acceptance and appreciation of artistic and cultural activities.

Asset Allocation Target Policy and Relative Ranges

COMBINED INVESTMENT FUND:	TARGET POLICY	LOWER BOUND	UPPER BOUND
CORE FIXED INCOME FUND	**33%**	28%	38%
PUBLIC CREDIT FUND	**2%**	0%	7%
PRIVATE CREDIT FUND	**10%**	5%	15%
LIQUIDITY FUND	**1%**	0%	3%
DEVELOPED MARKET STOCK FUND	**16%**	11%	21%
EMERGING MARKET STOCK FUND	**6%**	1%	11%
DOMESTIC EQUITY FUND	**32%**	27%	37%

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Hopemead State Park Fund

Investment Authority

The Hopemead State Park Fund ("HOPE") is established in Section 3-13c of the Connecticut General Statutes.

Statement of Purpose

The HOPE was created pursuant to the August 14, 1964 Last Will and Testament of Charlotte Fuller Eastman of Norwich, Connecticut. Upon the death of H. Louise Fuller in 1975, Mrs. Eastman's last surviving heir, the bequeathed Hopemead Fund ($143,288.18) was paid to the Department of Environmental Protection, as the successor of the Connecticut State Park and Forest Commission. As mandated, these assets were designated for the development of the Hopemead State Park. On March 22, 1976, by mutual agreement of the parties these assets were transferred to the Office of the State Treasurer in order to invest the principal.

Asset Allocation Target Policy and Relative Ranges

COMBINED INVESTMENT FUND:	TARGET POLICY	LOWER BOUND	UPPER BOUND
CORE FIXED INCOME FUND	**62%**	57%	67%
LIQUIDITY FUND	**1%**	0%	3%
DEVELOPED MARKET STOCK FUND	**11%**	6%	16%
EMERGING MARKET STOCK FUND	**4%**	0%	9%
DOMESTIC EQUITY FUND	**22%**	17%	27%

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Ida Eaton Cotton Fund

Investment Authority

The Ida Eaton Cotton Fund ("IECF") is established under the provisions of Section 3-31a of the Connecticut General Statutes.

Statement of Purpose

The New Haven County Cotton Fund as originally established in 1963, mandated that interest income from the principal of the IECF bequest be used to sponsor and encourage industry among the adult blind community. Thus, on behalf of IECF, a distribution is transferred annually to the General Fund for use by the Board of Education Services for the Blind.

Asset Allocation Target Policy and Relative Ranges

COMBINED INVESTMENT FUND:	TARGET POLICY	LOWER BOUND	UPPER BOUND
CORE FIXED INCOME FUND	**62%**	57%	67%
LIQUIDITY FUND	**1%**	0%	3%
DEVELOPED MARKET STOCK FUND	**11%**	6%	16%
EMERGING MARKET STOCK FUND	**4%**	0%	9%
DOMESTIC EQUITY FUND	**22%**	17%	27%

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School Fund

Investment Authority

The School Fund ("SCOL") is established under the provisions of Section 3-40 of the Connecticut General Statutes.

Statement of Purpose

The SCOL was established through an Act of Congress on July 2, 1862 (as was the Agricultural College Fund) from the proceeds of the sale of federal land and was approved by a Special Session of the Connecticut General Assembly in December 1862. The SCOL was originally under the jurisdiction of the Agricultural College of the University of Connecticut but is now within the Department of Education. A distribution is transferred to the Department of Education for general use through the Office of Policy and Management's budget allocation process.

Asset Allocation Target Policy and Relative Ranges

COMBINED INVESTMENT FUND:	TARGET POLICY	LOWER BOUND	UPPER BOUND
CORE FIXED INCOME FUND	**62%**	57%	67%
LIQUIDITY FUND	**1%**	0%	3%
DEVELOPED MARKET STOCK FUND	**11%**	6%	16%
EMERGING MARKET STOCK FUND	**4%**	0%	9%
DOMESTIC EQUITY FUND	**22%**	17%	27%

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Soldiers' Sailors' and Marines' Fund

Description

The Soldiers' Sailors' and Marines' Fund ("SSMF") is established under the provisions of Section 27-140 of the Connecticut General Statutes.

Statement of Purpose

The SSMF was established by an Act of the General Assembly in 1917 and, through numerous revisions, remains obligated to serve the interest of military personnel who were engaged in any of the wars waged by the United States, as specified by statute, who were honorably discharged, or to their spouses, survivors and dependents. The distribution is controlled and accounted for by the American Legion for the purposes of providing food, shelter, clothing and other subsistence payments to applicants under the provisions of Sections 27-138 and 27-140 of the Connecticut General Statutes.

Asset Allocation Target Policy and Relative Ranges

COMBINED INVESTMENT FUND:	TARGET POLICY	LOWER BOUND	UPPER BOUND
CORE FIXED INCOME FUND	**62%**	57%	67%
LIQUIDITY FUND	**1%**	0%	3%
DEVELOPED MARKET STOCK FUND	**11%**	6%	16%
EMERGING MARKET STOCK FUND	**4%**	0%	9%
DOMESTIC EQUITY FUND	**22%**	17%	27%

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State of Connecticut Other Post-Employment Benefits Plan

Investment Authority

A Retiree Health Care Trust Fund (also known as Other Post-Employment Benefits Trust Fund or "OPEB Trust Fund") was established by Public Act 07-1 and was later defined in 2008 by gubernatorial authority as an irrevocable trust. Subsequent agreements in 2009 and 2011 between the State of Connecticut and the State Employees Bargaining Agent Coalition (SEBAC) further addressed the funding for and contractual obligations concerning the OPEB Trust Fund. Administration of other post-employment benefits is through the Office of the State Comptroller.

Statement of Purpose

The OPEB Trust was established for the purpose of supplementing the payment of the costs of health care and other post-employment benefits for retirees of the State of Connecticut retiring after the effective date of SEBAC 2011 and its subsequent revisions.

Asset Allocation Target Policy and Relative Ranges

COMBINED INVESTMENT FUND:	TARGET POLICY	LOWER BOUND	UPPER BOUND
CORE FIXED INCOME FUND	**13%**	8%	18%
PUBLIC CREDIT FUND	**2%**	0%	7%
PRIVATE CREDIT FUND	10%	5%	15%
PRIVATE INVESTMENT FUND	**15%**	10%	20%
REAL ESTATE FUND	**10%**	5%	15%
INFRASTRUCTURE AND NATURAL RESOURCES FUND	**7%**	2%	12%
ABSOLUTE RETURN FUND	**5%**	0%	10%
LIQUIDITY FUND	**1%**	0%	3%
DEVELOPED MARKET STOCK FUND	**11%**	6%	16%
EMERGING MARKET STOCK FUND	**4%**	0%	9%
DOMESTIC EQUITY FUND	**22%**	17%	27%

The investment objectives of the OPEB Trust Fund remain under consideration and will be formalized through the Asset Allocation and Liability Study, actuarial reporting, and other relevant policy considerations that may impact the investment horizon of this Trust Fund.

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Teachers' Retirement Health Insurance Fund

Investment Authority

Teachers' Retirement Health Insurance Fund (also known as "TRHIF" Trust Fund) was established through a series of legislative actions starting with 1978 Public Act 78-208. Fund administration is overseen by The Teachers' Retirement Board, which is within the Office of the State Comptroller for administrative purposes only.

Statement of Purpose

Public Act 78-208 established the TRHIF for the purpose of providing retirement and other benefits to teachers, their survivors and beneficiaries. Series of legislative actions were undertaken in response to the dramatically rising cost of health insurance during the 1970's and retired members sought assistance from the state to meet the cost of their health insurance premiums.

Asset Allocation Target Policy and Relative Ranges

COMBINED INVESTMENT FUND:	TARGET POLICY	LOWER BOUND	UPPER BOUND
CORE FIXED INCOME FUND	**13%**	8%	18%
PUBLIC CREDIT FUND	**2%**	0%	7%
PRIVATE CREDIT FUND	10%	5%	15%
PRIVATE INVESTMENT FUND	**15%**	10%	20%
REAL ESTATE FUND	**10%**	5%	15%
INFRASTRUCTURE AND NATURAL RESOURCES FUND	**7%**	2%	12%
ABSOLUTE RETURN FUND	**5%**	0%	10%
LIQUIDITY FUND	**1%**	0%	3%
DEVELOPED MARKET STOCK FUND	**11%**	6%	16%
EMERGING MARKET STOCK FUND	**4%**	0%	9%
DOMESTIC EQUITY FUND	**22%**	17%	27%

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Participants' Retirement Investment Fund

Investment Authority

The Participants' Retirement Investment Fund was established under authority of the Office of the Treasurer pursuant to Article Four, Section 22 of the Connecticut State Constitution and Title 3 of the Connecticut General Statutes. In general, the Treasurer is responsible for the safe custody of the property and money belonging to the State.

Statement of Purpose

Special Session Public Act 21-2 allowed municipalities to invest the assets of their pension, retirement or other postemployment health and life benefit systems in any trust fund administered, held or invested by the Treasurer. Pursuant to such authorization, the Participants' Retirement Investment Trust Fund was established.

Asset Allocation Target Policy and Relative Ranges

COMBINED INVESTMENT FUND:	TARGET POLICY	LOWER BOUND	UPPER BOUND
CORE FIXED INCOME FUND	**13%**	8%	18%
PUBLIC CREDIT FUND	**2%**	0%	7%
PRIVATE CREDIT FUND	10%	5%	15%
PRIVATE INVESTMENT FUND	**15%**	10%	20%
REAL ESTATE FUND	**10%**	5%	15%
INFRASTRUCTURE AND NATURAL RESOURCES FUND	**7%**	2%	12%
ABSOLUTE RETURN FUND	**5%**	0%	10%
LIQUIDITY FUND	**1%**	0%	3%
DEVELOPED MARKET STOCK FUND	**11%**	6%	16%
EMERGING MARKET STOCK FUND	**4%**	0%	9%
DOMESTIC EQUITY FUND	**22%**	17%	27%

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Participants' Investment Fund

Investment Authority

The Participants' Investment Fund was established under authority of the Office of the Treasurer pursuant to Article Four, Section 22 of the Connecticut State Constitution and Title 3 of the Connecticut General Statutes. In general, the Treasurer is responsible for the safe custody of the property and money belonging to the State.

Statement of Purpose

Public Act 21-111 established the Connecticut Baby Bond Trust, and Public Act 22-118 delayed its effective date to July 1, 2023. The Trust is authorized to receive and invest funds, the corpus and earnings of which may be distributed on behalf of eligible classes of individuals born on or after July 1, 2023, for statutorily prescribed expenditures that are proven to build wealth and reduce inequality. The Trust has been created to accommodate other non-retirement investment needs of the state and other organizations as designated by the Treasurer.

Asset Allocation Target Policy and Relative Ranges

COMBINED INVESTMENT FUND:	TARGET POLICY	LOWER BOUND	UPPER BOUND
CORE FIXED INCOME FUND	**13%**	8%	18%
PUBLIC CREDIT FUND	**2%**	0%	7%
PRIVATE CREDIT FUND	10%	5%	15%
PRIVATE INVESTMENT FUND	**15%**	10%	20%
REAL ESTATE FUND	**10%**	5%	15%
INFRASTRUCTURE AND NATURAL RESOURCES FUND	**7%**	2%	12%
ABSOLUTE RETURN FUND	**5%**	0%	10%
LIQUIDITY FUND	**1%**	0%	3%
DEVELOPED MARKET STOCK FUND	**11%**	6%	16%
EMERGING MARKET STOCK FUND	**4%**	0%	9%
DOMESTIC EQUITY FUND	**22%**	17%	27%

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Appendix C – Detailed Asset Class Structure

Global Equity

Global Equity's goal is to primarily achieve capital appreciation and, secondarily, achieve a long-term, real rate of return significantly above the inflation rate. The inclusion of global equities will provide a source of diversification to other asset classes within the CRPTF, given the different economic environments.

Asset Class Strategy

To meet the benchmark and fund objectives of each Global Equity sub-asset classes, the Treasurer will utilize a combination of investment styles and strategies. The size, number and styles retained will be determined by the creation of an optimal portfolio that achieves its desired return target, while maintaining acceptable levels of risk and diversification. Asset classes included in Global Equity are Domestic Equity, Developed Markets (ex U.S.) and Emerging Markets. Strategies include, but are not limited to:

- **Passive** – investment strategy that attempts to match the index in terms of performance and risk characteristics.
- **Enhanced Index** – a proprietary investment strategy designed to add incremental return with minimal increase in risk and modest tracking error.
- **Active Core** – investment strategy acutely aware of benchmark-relative exposures (capitalization, style, industries, etc.) and actively seeks performance above that of its benchmark with a normalized tracking error.
- **Active Specialist** – investment strategy acutely aware of benchmark-relative exposures within a Sub-Asset Class (ex: within a particular capitalization, style, or industry) and actively seeks performance above that of its benchmark.
- **Opportunistic** – new, innovative, or proprietary strategies which may not be easily classifiable within traditional categories (e.g. cross-over, activist, hybrid) and could not be currently widely available in the institutional marketplace.

The benchmark for Global Equity is the MSCI All-Country World Investable Market Index (IMI) which captures large-cap, mid-cap and small-cap representation across 23 Developed Markets (DM) and 24 Emerging Markets (EM) countries. This index covers approximately 99% of the global equity investment opportunity set.[4]

Asset Class Characteristics

The following are some of the most-commonly referenced characteristics of Global Equity: market capitalization, geographic regions, sectors, active/passive strategies and liquidity.

- Market capitalization: Dissection could occur across any of the market capitalization segments, for example, large-cap, mid-cap, small-cap and micro-cap.

[4] MSCI.

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- Geographic regions: Dissection could occur via investing in regions in the US markets, Developed Markets (ex. US), and Emerging Markets. More detailed information at the country level is also utilized. Asset class-level regional and country allocations are the result of the bottom-up allocations of managers in the portfolio.

- Sectors: GICS sectors are used in the US, developed and emerging markets. Asset-class sector and industry allocations are the result of the bottom-up allocations of managers in the portfolio.

- Active/passive strategies: Passive strategies are utilized in investments considered to be more "efficient", where the "information edge" is noticeably smaller than it is in other investment areas. Active strategies are used for less efficient investments.

- Liquidity: Public equity asset classes tend to consist of publicly-traded securities that have higher liquidity than other asset classes. As such, there are liquidity variations within public equities depending on, for example, region/country and market capitalization.

Portfolio Construction Considerations

The number of investment managers retained will be minimized subject to considerations regarding reasonable and prudent levels of risk and diversification.

As noted in the Risk Framework section in this IPS, general diversification and concentration limits for "liquid" asset classes include the size of each sub-manager portfolio and the number of sub-manager portfolios utilized within the CRPTF.

Investment vehicles tend to be separately managed accounts ("SMAs") within a fund-of-funds structure, which provides the desired level of control for CRPTF.

Risk Considerations

Measures such as liquidity, tracking error, active shares and correlations are considered. Passive manager allocations are considered a source for reducing active risk. Diversification restrictions are implemented where security size could be limited based on security type (e.g. short-term, depository receipts), percentage of the total fund, or total outstanding equity capital.

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Core Fixed Income

Core Fixed Income's goal is primarily to preserve capital and secondarily to provide current income to the CRPTF. The inclusion of fixed income will provide a source of diversification to other asset classes within the CRPTF given the different economic environments.

Asset Class Strategy

To meet the benchmark and fund objectives, the Core Fixed Income asset class will utilize a combination of investment styles and strategies. The size, number and styles retained will be determined by the creation of an optimal portfolio that achieves its desired return target, while maintaining acceptable levels of risk and diversification.

- **Passive** – investment strategy that attempts to match the index in terms of performance and risk characteristics. Passive strategies may be used across all styles of fixed income portfolios.
- **Active Core** – investment strategy aware of benchmark-relative exposures (*sector, sub-sector, duration, convexity and yield curve positioning, etc*.) and actively seeks performance above that of its benchmark with an acceptable tracking error.
- **Active Sector** – investment strategy acutely aware of benchmark-relative exposures within a Sub-Asset Class (*sector, sub-sector, duration, convexity and yield curve positioning, etc*.) and actively seeks performance above that of its benchmark.

The benchmark for Core Fixed Income is a blend of the Bloomberg Barclays U.S. Aggregate Bond and the Bloomberg Barclays U.S. Treasuries Indices.

Core Fixed Income has many characteristics with the following being those characteristics that are given the most attention:

- Sector – fixed income sectors include, but are not limited to, the following types of securities: US Government, corporate, securitized, municipal, and foreign government.
- Subsector – fixed income subsectors further define the industry, collateral, structure, and degree of government guarantee.
- Duration – the interest rate sensitivity of the portfolio. This is often represented by a singular sensitivity number and may include where the portfolio is invested across maturity ranges.
- Rating – credit ratings within core fixed income are those considered investment grade, or higher quality and having default and loss characteristics of higher quality investments.
- Liquidity – liquidity is determined by the ability to buy and sell securities within a sector or subsector. Liquidity ranges from illiquid to extremely liquid and varies from sector to sector.

Portfolio Construction Considerations

The following factors will be considered when creating or rebalancing the Core Fixed Income Fund:

- Number of Managers -The number of investment managers partners retained will be minimized subject to considerations regarding reasonable and prudent levels of risk and

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diversification. However, to avoid manager concentration, core fixed income will utilize a minimum of three (3) managers.

- Manager Allocation – to minimize investment fees, investment mandates (regardless of focus) will generally be a minimum of $100 million and should not generally constitute more than thirty-three percent (33%) of the investment manager's particular strategy for which it is being engaged at the time of investment.
- The benchmark(s) of the portfolio(s) will be selected in such a manner as to represent the broader fixed income market or the appropriate sector of the market (ex. Securitized sector). The portfolio in aggregate will have similar characteristics to the broader fixed income market.
- The portfolio(s) shall consider the interest rate risk (duration) relative to the broader fixed income market and the duration appropriate for the asset class objectives

Investment vehicles tend to be separately managed accounts ("SMAs") within a fund-of-funds structure.

Risk Considerations

- Portfolios will control for duration risk by creating acceptable duration ranges around the benchmark.
- Portfolios will control for quality by creating acceptable deviations from the credit rating(s) of the broader market and/or sector.
- Portfolios will control for liquidity with sector/subsector constraints.
- Additional measures considered include tracking error, asset class, sector, and subsector correlations, convexity, and default status.

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Public Credit

Public Credit's goal is providing high levels of current income as well as capital appreciation. The inclusion of fixed income will provide a source of diversification to other asset classes within the CRPTF given the different economic environments.

Asset Class Strategy

To meet the fund objectives, Public Credit will utilize a combination of investment styles and strategies. The size, number and styles retained will be determined by the creation of an optimal portfolio that achieves its desired return target, while maintaining acceptable levels of risk and diversification.

- **Passive** – investment strategy that attempts to match the index in terms of performance and risk characteristics. Passive strategies may be used across all styles of fixed income portfolios.
- **Active Sector** – investment strategy acutely aware of benchmark-relative exposures within a Sub-Asset Class (*sector, sub-sector, duration, convexity and yield curve positioning, etc*.) and actively seeks performance above that of its benchmark.
- **Active High Yield** – investment strategy is benchmark aware but flexible in pursuit of return and opportunistic investments. Strategy actively seeks performance above that of its benchmark with an acceptable tracking error.
- **Active Emerging Markets** – investment strategy is benchmark aware but flexible in pursuit of return and opportunistic investments.
- **Active Convertibles** - investment strategy is benchmark aware but flexible in pursuit of return and opportunistic investments. Strategy actively seeks performance above that of its benchmark with an acceptable tracking error.

The benchmark for Public Credit is the Bloomberg Barclays U.S. High Yield 2% Issuer Cap Index.

Asset Class Characteristics

Public Credit has many characteristics with the following being those characteristics that are given the most attention:

- Sector – fixed income sectors include, but are not limited to, the following types of securities: US Government, corporate, securitized, municipal, and foreign government.
- Subsector – fixed income subsectors further define the industry, collateral, structure, and degree of government guarantee.
- Duration – the interest rate sensitivity of the portfolio. This is often represented by a singular sensitivity number and may include where the portfolio is invested across maturity ranges.
- Rating – credit ratings within public credit are those generally considered below investment grade which have default and loss characteristics of higher risk investments.
- Liquidity – liquidity is determined by the ability to buy and sell securities within a sector or subsector. Liquidity ranges from illiquid to extremely liquid and varies from sector to sector.
- Equity Sensitivity – the sensitivity to changes in the equity of issuing entities and the valuation of the underlying fixed income securities.

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Portfolio Construction Considerations

The following factors will be considered when creating or rebalancing the Core Fixed Income Fund:

- Number of Managers -The number of investment managers retained will be minimized subject to considerations regarding reasonable and prudent levels of risk and diversification. However, to avoid manager concentration, public credit will seek to utilize a minimum of two (2) managers in each active strategy.
- Manager Allocation – to minimize investment fees, investment mandates (regardless of focus) will generally be a minimum of $100 million and should not generally constitute more than thirty-three percent (33%) of the investment manager's particular strategy for which it is being engaged at the time of investment.
- The benchmark(s) of the portfolio(s) will be selected in such a manner as to represent the strategy being employed. The portfolio in aggregate will have similar characteristics to the broader fixed income market.
- The portfolio(s) shall consider the characteristics of each style employed, the correlation among and between styles, and the aggregated characteristics in order to achieve the expected risk and return profile.

Risk Considerations

- Portfolios will control for duration risk by creating acceptable duration ranges around the benchmark.
- Portfolios will control for quality by creating acceptable deviations from the credit rating(s) of the focus market and/or sector.
- Portfolios will control for liquidity with sector/subsector constraints.
- Additional measures considered include tracking error, asset class, sector, and subsector correlations, equity sensitivity, convexity, leverage, capital seniority and default status.

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Absolute Return

The Absolute Return (AR) asset class serves as a vehicle for strategies that provide diversification benefits and are not easily classified, categorized, or described in the other asset classes of the CRPTF.

Historically, the AR asset class has been focused on a broad set of investments that target absolute return mandates utilizing hedge fund vehicles. The current implementation of the AR asset class operates as a diversifier to the overall CRPTF.

Asset Class Strategy

The asset class strategy for AR will focus on absolute returns premia. The term “absolute return” is used to denote strategies that focus on the generation of positive returns over market cycles. The expectation is that an AR strategy will generate a positive return when the market within which it is investing experiences periodic negative returns. As such, AR is expected to have low correlation to traditional markets (i.e., equity, fixed income and/or subclasses thereof).

These are the various types of strategies in the AR asset class

Strategy	Description
Equity-Linked	Investment managers maintain positions both long and short in primarily equity and equity derivative securities.
Credit-Linked	Investment managers seek to profit from the realization of a valuation discrepancy in the relationship between multiple credit-linked securities.
Event Driven	Investment managers that hold positions in companies currently or prospectively involved in corporate transactions of a wide variety including, but not limited to, mergers, restructurings, financial distress, tender offers, shareholder buybacks, debt exchanges, security issuance or other capital structure adjustments.
Derivatives	Investment managers trade a broad range of strategies predicated on movements in underlying economic variables and the impact these have on equity, fixed income, currencies and other derivative instruments.
Multi-Strategy	Investment managers in this strategy use any combination of the strategies noted above in an attempt to produce returns in any market condition.

The AR strategy will focus on, but not be limited to, Risk Mitigating Strategies or "RMS" designed to provide the CRPTF with robust diversification benefits and defensive characteristics relative to the growth exposures in the portfolio (equities or credit allocations).

The RMS strategy will be the main strategy for the AR asset class and will incorporate, but not be limited to, the following:

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Strategy for RMS	Description
Long Term Treasuries	Fixed-rate US dollar denominated debt that serves as a defensive exposure
Trend Following	Systematic processes based to invest on the direction of various market asset classes like equities, rates, bonds, currency, commodities using futures contracts
Global Macro	Exposures that target macroeconomic conditions utilizing top-down views and economic analyses leveraging both long and short strategies with various degrees of leverage and instruments
Long Volatility & Tail Risk Hedging	Derivatives on asset classes that benefit from increased volatility in the underlying assets
Alternative Risk Premia	Strategies that benefit from non-traditional risk premia factors such as carry, value, momentum, low-volatility and quality factors.

The benchmark for Absolute Return is Dynamic weighted strategy (HFRX).

Asset Class Characteristics

The AR asset class will have a defensive characteristic in the CRPTF providing downside protection during equity market downturns while potentially yielding a lower expected return during up equity markets.

Liquidity - AR investment vehicles have initial lock-up provisions that are demanded by an investment manager to ensure that a sufficient level of capital is available to support the manager's investment strategy. The AR will strive to minimize its exposures to such requirements. For the AR's investments in funds with lock-up provisions, exposure to investments with lock-up provisions greater than one year but less than five years will be limited to 10% of the target allocation to AIF. The balance of the ARs exposure to funds with lock-up provisions will have minimum lock-up of one year or less with redemption periods of no less than once per year.

Under no circumstances will liquid investment strategies be permitted in vehicles or structures that require a commitment of capital of more than 10 years.

Investment in limited partnership vehicles with standard expiration and extension provision are permissible and are not included as part of the liquidity parameters noted above.

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Portfolio Construction Considerations

Investment Vehicles: AR investments will generally be made in both private and public investment manager mandates including the following:

- Commingled funds
- Limited partnerships
- Limited Liability Companies
- Offshore corporations
- Managed accounts
- Fund-of-One mandates
- Fund of Funds mandate

Risk Considerations

- Investment managers will adhere to the investment strategy, diversification limits and administrative guidelines described in their investment management agreements, private placement memorandum and related contracts
- Investment managers will be required to ensure that all AR investments adhere to all limitations imposed by Connecticut General Statutes and/or federal law
- The correlation of the AR portfolio to CRPTF's target asset allocation is expected to be less than 0.40 over a cycle
- No more than 20% of the AR's policy target allocation should be invested in any one investment vehicle

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Private Markets Asset Classes

Private Markets consists of Private Equity, Private Credit, Real Estate, Infrastructure and Natural Resources. A broad set of asset class strategies and characteristics apply across these investments and are described in this section. These are further refined within each asset class description that follows.

Private Markets Asset Classes will invest in various private strategies and vehicles in order to meet the CRPTF's asset allocation guidelines. The investments will generally be made in externally managed limited partnerships or through separate accounts that focus on private investments as well as through co-investments. In addition, Fund interests may be acquired and divested through secondary or other transactions.

Portfolio Construction Considerations for Private Markets Asset Classes

Private Markets investments will generally be made in partnerships with the CRPTF as a limited partner and the investment manager serving as the general partner. The investment managers' discretion regarding the selection of underlying investments in the partnership will be limited by the Treasurer's exercise of his/her duty to consider the consequences of such discretion in accordance with state laws and as may be addressed in the IPS.

The following investment vehicle structures will be considered eligible for CRPTF's portfolio:

- **Primary Funds:** Investment vehicles that generally invest in directly negotiated equity, debt or other securities issued by privately held entities. The fund manager has discretion, subject to investment guidelines, to invest the capital committed to the vehicle by its investors, or limited partners.

- **Secondary Funds:** Investment vehicles that purchase interests in (i) primary investment funds from other limited partners, or (ii) assets in existing investment funds.

- **Fund-of-Funds:** Investment vehicles that make capital commitments to primary funds managed by independent fund managers.

- **Separate Accounts:** The CRPTF may seek to establish customized investment vehicles where it is the only investor in the vehicle and an investment manager is retained to invest capital on behalf of the CRPTF.

- **Direct and Co-Investments:** The CRPTF, or a designated partner investing on its behalf, may invest in a company directly or through a co-investment made alongside an investment manager.

Risk Considerations for Private Markets Asset Classes

Each Private Asset Class will be diversified with respect to strategy, manager and fund, vintage year, geography, industry, and stage. Given the illiquid nature of private equity investments, attempting to "time the market" is not a realistic alternative. The CRPTF will seek to make Private Markets commitments on a steady, annual basis.

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As described below, diversification factors will help provide maximum return and safety of principal for the Private Markets portfolios. Each Private Markets portfolio will be diversified by the relevant strategies identified in the specific asset class section.

Manager and Fund Diversification for Private Markets Asset Classes

To avoid undue exposure to individual managers or funds, the Private Markets investments will also adhere to the following diversification guidelines:

- The CRPTF's capital commitment to an investment vehicle shall not exceed thirty-three percent (33%) of the total capital commitments to the investment vehicle, unless the vehicle is specifically structured such that the CPRTF is intended to be the only investor, or one of a small number of investors, in the vehicle.
- The CRPTF's investment(s) with any one manager may not exceed twenty percent (20%) of that manager's total assets under management as measured by unfunded commitments and market value.
- No more than 25% of the CRPTF's exposure in each Asset Class should be managed by one investment management firm, with exposure defined as the sum of market value and unfunded capital commitments.

Vintage Year Diversification

Private Markets commitments will be made at a steady, annual pace to avoid excessive under or overexposure to any one vintage year. This policy will have the effect of dollar cost averaging the investments over business cycles and will help insulate the portfolio from event risk.

Geographical Diversification

One measure of diversification is by geographical location of the underlying portfolio companies and/or assets. Over the long term, each Private Markets portfolio should seek portfolio diversification to both developed and developing geographic regions. However, in certain situations, geographically targeted strategies may be appropriate for the portfolio.

Industry & Sector Diversification

The Private Markets portfolios will also seek to diversify by industry sector at the overall portfolio level, through a combination of investments with sector-focused managers as well as those that invest more opportunistically across a number of industry sectors.

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Private Credit

The Private Credit Fund ("PCF") will invest in direct and indirect debt investments in order to meet the CRPTF asset allocation guidelines for Private Credit. The purpose of the PCF is to generate attractive, risk-adjusted returns in excess of public debt investments by capturing an illiquidity premium and certain market inefficiencies relative to public debt markets. The PCF is expected to contribute to the diversification of the CRPTF's overall portfolio through investments having lower correlations to other asset classes.

The benchmark for the PCF portfolio is the S&P/LSTA Leveraged Loan Index plus a 150 basis points premium. Due to vintage year impacts, valuation methodologies and illiquid nature of private investments, comparisons relative to the benchmark are best measured over a period of five-years or more.

Asset Class Strategy

The PCF will invest in a diversified portfolio of yield-oriented credit strategies, where returns are expected to be generated through current income and capital preservation, as well as total return strategies, which may also generate capital appreciation opportunities. The PCF investments will generally be made in externally managed limited partnerships or through separate accounts that focus on private debt strategies, which may include senior credit, mezzanine debt, credit opportunities, special situations, and specialty finance investments.

Asset Class Characteristics

The PCF will invest in credit-related strategies not available through other asset classes and may include senior, mezzanine, special situations, and distressed credit strategies as outlined below.

- **Senior Credit** strategies involve providing senior debt directly to borrowers, most often through directly originated and negotiated transactions. Senior debt instruments generally include a senior secured interest in the borrower's assets or cash flow. Variations may include second-lien and uni-tranche investment strategies, which generally may be higher risk than first lien, secured lending strategies.

- **Mezzanine or Subordinated Debt** managers generally focus on loans that are subordinated to a borrower's senior debt but have a priority interest over equity interests. Mezzanine debt is often used in conjunction with senior debt to finance growth initiatives, leveraged buyouts, recapitalizations, or acquisitions.

- **Special Situations** may include strategies such as opportunistic or specialty credit. Opportunistic credit managers generally seek to generate attractive risk-adjusted returns by providing debt capital needed as a result of specific conditions such a borrower's impaired liquidity or short-term market dislocations. Specialty finance investors generally focus on specific market niches requiring industry expertise, including aviation finance, pharmaceutical and music royalties, non-performing loans, etc.

- **Distressed Debt** managers typically target the purchase of discounted debt securities, which may result from borrower specific challenges or broader market conditions. Distressed debt

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strategies may vary from those focused on returns through the expected improvement in a borrower's financial condition to those focused on acquiring distressed debt as a means to negotiate a favorable refinancing or restructuring to generate targeted returns.

The PCF may also invest in any opportunistic investment strategy approved by the Treasurer as an eligible investment.

As outlined in the Private Markets section, Private Credit investments may be accessed through primary, secondary, and co-investment opportunities.

Portfolio Construction Considerations

In addition to the parameters outlined in the *Private Markets* section, the PCF portfolio will seek to be diversified by investment strategy, risk and liquidity profile, manager, and underlying asset or sector-level exposures. In accordance with the CRPTF's investment strategy of achieving risk mitigation through the construction of well-diversified portfolios, the PCF will target the following exposures to private credit strategies. The strategy targets shown below are based on the PCF's percentage of total exposure, defined as market value plus unfunded commitments.

Strategy	Lower Range %	Upper Range %
Senior	30%	70%
Mezzanine	0%	30%
Special Situations	0%	40%
Distressed	0%	20%

The PCF's investments will be primarily focused on credit-related strategies; however, certain strategies may provide the PCF with equity or equity-like exposure through equity participation, conversion rights, or the restructuring of debt instruments into equity interests. To avoid excessive equity risk, the PCF will avoid investment strategies where significant standalone equity investments would be expected. In addition, the PCF will be managed to limit overall equity exposure to 30% or less of the PCF's total portfolio.

Risk Considerations

In addition to the Risk Considerations outlined in the *Private Markets* section above, additional Private Credit risk factors that will be managed and monitored include, but are not limited to, sector and geographic exposures. To address these risks, the PCF's portfolio will seek to be diversified with respect to manager, strategy, vintage year, geography, and industry exposure. These diversification objectives will be managed and monitored through the PCF's strategic plan, which will identify the appropriate pace and level of commitments to achieve strategy, vintage year, geographic, and sector diversification and liquidity objectives.

The PCF's geographic exposure will be focused on investments made in developed economies to limit exposures to undue market, currency, or political risk. Allocation to emerging markets should be considered within the context of the PCF's total portfolio and be limited to 10% or less of the total PCF exposure.

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Private Equity

The Private Investment Fund ("PIF") will invest in various Private Equity strategies and vehicles in order to meet the CRPTF asset allocation guidelines for Private Equity. The purpose of the PIF is to generate attractive risk-adjusted rates of return through investments in private companies and earn returns in excess of the public equity markets over the long-term. The PIF is also expected to reduce the impact of market volatility by diversifying the total asset base by providing the CRPTF with exposure to investment opportunities not available through public market investments.

The benchmark for the PIF portfolio is the Russell 3000 plus a 250-basis point premium, while the expected rate of return of individual investments within PIF may vary based on the particular investment strategy deployed. Due to vintage year impacts, valuation methodologies and illiquid nature of private investments, comparisons relative to the benchmark are best measured over a period of five-years or more.

Asset Class Strategy

The PIF will invest in various Private Equity strategies and vehicles, with a particular focus on Venture Capital and Corporate Finance investment strategies. Venture Capital typically involves equity capital invested in young or development stage companies, whether start-up, early, mid or late stage companies. Corporate Finance typically involves equity and debt capital invested in growth, mature or distressed stage companies, often through the financing of acquisitions, spin-offs, mergers, or changes in capitalization.

Private Equity investments will generally be made in partnerships with the CRPTF as a limited partner and the investment manager serving as the general partner. The Private Equity investment managers execute active strategies that are subject to the investment guidelines agreed to between the manager, the CRPTF, and other investors in the investment vehicle.

Asset Class Characteristics

The following Corporate Finance private equity strategies will be considered eligible for CRPTF's portfolio:

- Buyouts
- Growth equity
- Mezzanine and structured capital
- Turnround, distressed, restructuring, and special situations
- Any opportunistic investment strategy approved by the Treasurer as an eligible investment.

The following Venture Capital private equity strategies will be considered eligible for CRPTF's portfolio:

- Early, mid, late and balanced stage venture capital
- Any opportunistic investment strategy approved by the Treasurer as an eligible investment.

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As outlined in the *Private Markets* section, Private Equity investments may be accessed through primary, secondary, and co-investment opportunities.

Portfolio Construction Considerations

In addition to the parameters outlined in the *Private Markets* section, the following sub-allocation targets to Corporate Finance and Venture Capital investments will be utilized to allocate capital where there is the greatest opportunity for enhanced return while managing overall portfolio risks through diversification. The sub-allocation targets shown below are based on the PIF's percentage of total exposure, defined as market value plus unfunded commitments.

	Lower Range %	**Upper Range %**
Corporate Finance	70	100
Venture Capital	0	30

Risk Considerations

In addition to the Risk Considerations outlined in the *Private Markets* section above, additional Private Equity risk factors that will be managed and monitored include, but are not limited to sector, development stage and geographic exposures. These diversification objectives will be managed and monitored through the implementation of the PIF's strategic plan, which will identify the appropriate pace and level of commitments to achieve strategy, vintage year, geographic, and sector diversification and liquidity objectives.

The PIF will consider sector agnostic as well as sector-focused strategies to provide the portfolio with diversified exposure across economic sectors.

Stage diversification refers to investments made in companies at various stages of the business life cycle, including start-up, growth, and established stages where different financial and business strategies are utilized. The PIF will be well diversified by stage through commitments made to managers focusing on investments in companies at early, expansion and mature development stages.

The PIF's geographic exposure will be focused on investments made in developed economies to limit exposures to undue market, currency, or political risk. Allocation to emerging markets should be considered within the context of the PIF's total portfolio and be limited to 10% or less of the total PIF exposure.

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Real Estate

The Real Estate Fund's ("REF") strategic objectives are to provide diversification to the overall CRPTF investment program, preserve investment capital and generate attractive risk-adjusted rates of return. In addition to providing current income and the potential for capital appreciation, real assets provide at least two primary benefits to a diversified plan. First, real estate assets have low correlation to equities and fixed income markets and should thereby provide diversification benefits to the CRPTF. Real estate is also designed to yield an inflation-adjusted or positive "real" return.

Asset Class Strategy

The REF will invest in various strategies and vehicles, with a particular focus on Real Estate Investment strategies. Real Assets investments will generally be made in partnerships with the CRPTF as a limited partner and the investment manager serving as the general partner; in open end or closed end diversified funds; directly in the form of limited partnership or other appropriate limited liability vehicle and for which the CRPTF is the sole investor or through publicly traded portfolios. The Real Estate investment managers execute active strategies that are subject to the investment guidelines agreed to between the manager, the CRPTF, and other investors in the investment vehicle.

The Real Estate Portfolio will be sub-divided into two segments: the Core Portfolio and the Non-Core Portfolio.

Under this structure, the strategic objectives of the Core Portfolio are to: (i) produce stable current income; and (ii) generate market level returns commensurate with a low to moderate level of risk. At least 30% of the Real Estate Portfolio will be allocated to the Core Portfolio.

The Non-Core Portfolio is expected to produce higher returns than the Core Portfolio, subject to an incrementally greater amount of risk, thereby enhancing the overall performance of the REF. The Opportunistic Portfolio may offer limited current income and returns are often largely dependent on future appreciation. The Non-Core portfolio can include value-added and opportunistic real estate funds as well as investments in publicly traded real estate, primarily Real Estate Investments Trusts, "REITS". No more than 20% of the Real Estate Fund will be allocated to the Publicly Traded Portfolio.

The benchmark for the real estate portfolio is the NCREIF Open End Diversified Core Equity Index. Due to vintage year impacts, valuation methodologies and illiquid nature of private investments, comparisons relative to the benchmark are best measured over a period of five-years or more.

Asset Class Characteristics

The following real estate investment types will be considered eligible for CRPTF's Real Estate Fund:

- Residential
- Industrial

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- Office
- Retail
- Hotel
- Other niche types which are institutionally invested (ie, self-storage, student housing, data centers, life science)

As outlined in the *Private Markets* section, Real Estate investments may be accessed through primary, secondary, and co-investment opportunities. The REF may invest in open ended funds that have investment and redemption provisions and/or limited partnerships that have fund expiration and extension provisions. The CRPTF will utilize its annual pacing plans and liquidity fund management process to ensure that optimum liquidity is available to manage liquidity needs.

Portfolio Construction Parameters

In addition to the parameters outlined in the *Private Markets* section, the following limits are intended to further limit potential concentrations.

	Lower Range %	Upper Range %
Individual company/property	0%	10%
Country: U.S.	70%	100%
Individual Non-US Country	0%	15%
Individual Metropolitan Area in U.S.	0%	15%
Property Type	0%	40%

Risk Considerations

Risk Considerations that will be managed and monitored include but are not limited to sector and geographic exposures and leverage levels.

To address these risks, REF's portfolio will seek to be diversified with respect to manager, strategy, vintage year, geography, and sector exposure. These diversification objectives will be managed and monitored through the REF's strategic plan, which will identify the appropriate pace and level of commitments to achieve strategy, vintage year, geographic, and sector diversification and liquidity objectives.

The REF's geographic exposure will be focused on investments made in developed economies to limit exposures to undue market, currency, or political risk. Allocation to emerging markets should be considered within the context of the REF's total portfolio and be limited to 5% or less of the total REF exposure.

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Infrastructure and Natural Resources Fund The Infrastructure and Natural Resources Fund's ("INR") strategic objectives are to provide diversification to the overall CRPTF investment program, preserve investment capital and generate attractive risk-adjusted rates of return. In addition to providing current income and the potential for capital appreciation, Infrastructure and Natural Resources Investments provide at least two primary benefits to a diversified plan. First, INR assets have low correlation to equities and fixed income markets and should thereby provide diversification benefits to the CRPTF.

Asset Class Strategy

The INR will be sub-divided into three segments:

- Core Infrastructure
- Non-Core Infrastructure
- Natural Resources

Under these segments, the Core Infrastructure Portfolio is to produce stable current income and generate market level returns commensurate with a low to moderate level of risk. At least 20% of the INR will be allocated to the Core Infrastructure Portfolio.

The Non-Core Portfolio is expected to provide greater levels of appreciation for the CRPTF through enhancements and occasionally development of greenfield or brownfield assets.

The portfolio can include investments in publicly traded Infrastructure or Natural Resources. No more than 20% of the INR will be allocated in publicly traded investments. While most investments in the INR will be equity investments, additional strategies across the capital stack may be implemented.

The benchmark for infrastructure and natural resources is the CPI + 400 basis points. Due to vintage year impacts, valuation methodologies and illiquid nature of private investments, comparisons relative to the benchmark are best measured over a period of five-years or more.

Asset Class Characteristics

INRF will be invested across sectors facilities, services, and installations considered essential to the functioning and economic productivity of a society.

The natural resources portfolio will be invested in land, facilities, services and the acquisition of materials/substances that can be mined, farmed or collected in raw form for economic value.

Investments in Infrastructure and/or Natural resources asset types/segments include and are not limited to:

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Infrastructure	Natural Resources
Communications	Agriculture
Energy Generation, Distribution	Agribusiness
Energy Transportation, Storage	Commodities
IT Services	Food Products
Municipal Buildings and Schools	Metals and Minerals/Mining
Roadways, Bridges, Ports, Airports, Railways	Oil, Gas & Fuels
Transportation	Sustainability Products and Services
Utilities	Timber
Waste	Water

Portfolio Construction Considerations

In addition to the parameters outlined in the Private Markets section, the following limits are intended to further limit potential concentrations.

	Lower Range %	Upper Range %
Individual company/asset	0%	15%
Country: U.S.	50%	100%
Individual Non-OECD Country	0%	20%
Asset Type/Segment	0%	40%

Risk Considerations

Outside of the Parameters above, additional risk factors that will be monitored include, but are not limited to: leverage, construction risk, currency, asset type mix, lease and/or contract expirations, and geographic exposures.

Risk Considerations that will be managed and monitored include, but are not limited to, sectors and geographic exposures. To address these risks, REF's portfolio will seek to be diversified with respect to manager, strategy, vintage year, geography, and sector exposure. These diversification objectives will be managed and monitored through the REF's strategic plan, which will identify the appropriate pace and level of commitments to achieve strategy, vintage year, geographic, and sector diversification and liquidity objectives.

The INRF's geographic exposure will be focused on investments made in developed market to limit exposures to undue market, currency, or political risk. Allocation to non-OECD markets should be considered within the context of the total portfolio and be limited to 30% or less of the total INRF exposure. Wherever possible, investments in non-OECD markets should be dollar or other OECD currency denominated.

As outlined in the Private Markets section, INR investments may be accessed through primary, secondary, and co-investment opportunities The INR may invest in open-end funds that have investment and redemption provisions and/or limited partnerships that have fund expiration and extension provisions. The CRPTF will utilize its annual pacing plans and liquidity fund management process to ensure that optimum liquidity is available to manage liquidity needs.

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Appendix D – Detailed Risk Framework

Introduction

Risk management does not require the elimination of risk but instead strives to achieve a balance between risk and return. The Treasurer recognizes that the CRPTF must assume some level of risk to achieve desired levels of return. The objectives of the CRPTF's risk management framework, are to ensure that risks taken are evaluated and determined to be appropriate in light of the CRPTF's investment objectives and are properly managed.

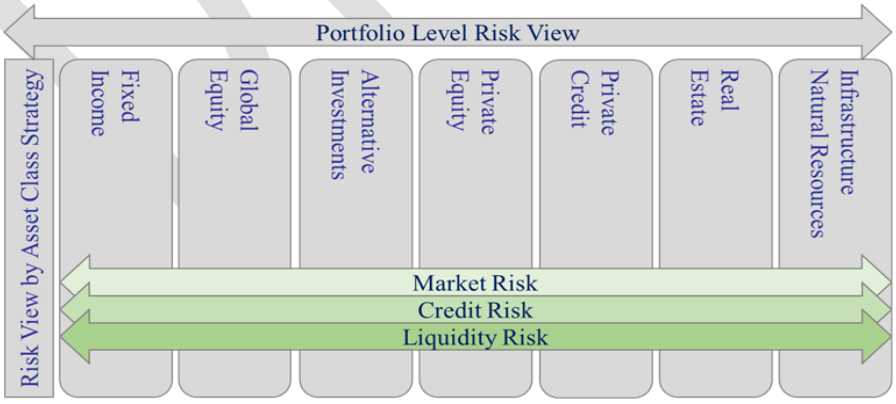
The risk framework is intended to be a dynamic document and may be modified periodically to reflect the changing nature of economic conditions, investing markets, Trust Fund assets, investment programs, and benefit obligations.

Risk Management Approach

Investment decisions are made within a broad and complex risk environment and risks are market dependent. Market-dependent risks are determined by numerous market factors such as interest rates, credit quality, liquidity, and price volatility. For purposes of this framework, risk is defined as the uncertainty that accompanies the CRPTF's investment activities.

CRPTF's risk management approach is concerned with measuring, mitigating, and controlling potential large financial losses associated with unexpected market moves and unanticipated variations in financial conditions. CRPTF Staff manages risk by establishing and adhering to investment guidelines, pursuing multiple approaches to diversification (such as asset class, geography, liquidity profile, currency, and degree of active management), and conducting regular measurement and analytical exercises.

CRPTF's framework takes a Trust Fund level portfolio-wide approach to risk management. This approach has two distinct, although related, dimensions: coordinated risk assessment and management for each asset class strategy; and the integrated evaluation of investment risk across all asset classes.



CRPTF Staff seeks to diligently identify, assess, and monitor relevant investment risks throughout the investment process, from determining its strategic asset allocation to ongoing evaluation and

monitoring of the Fund's exposures and performance. This helps to ensure that risks assumed by the Fund are intentional and adequately compensated. Specific risk management guidelines will be required for each investment manager's underlying investment strategy. Strategy level and aggregate risk exposures of the entire portfolio will be reviewed on a periodic basis and may be managed through a third-party risk aggregator with an analysis of fundamental factors, sector analysis, Value at Risk (VAR) analysis and stress testing. The preponderance of the portfolio will be transparent in terms of the risk profile.

CRPTF measures investment risk using multiple metrics on both an absolute and relative basis at all relevant levels (i.e., total Fund, functional asset categories, and underlying asset classes). CRPTF Staff also strives to employ stress testing, scenario analyses, and broader financial and economic analyses to understand current and potential risks related to its investment strategy and decisions. CRPTF selects appropriate benchmarks to assess and determine whether investment risks taken by the Fund are appropriate in order to achieve expected investment returns.

Goals for Risk Management

- Seek to achieve the desired rate of total return within appropriate levels of risk and liquidity.
- Seek to maintain sufficient diversification to reduce the potential for large losses, minimize exposure to unintended risk, and preserve capital.
- Provide an integrated process for overall investment risk management on both a consolidated and disaggregated basis.
- Select, implement, and maintain risk management tools to provide analyses that inform and support the investment process across portfolios and strategies.
- Confirm that external managers have established and will maintain appropriate risk management programs to reduce risks potentially affecting their portfolios.

Risk Parameters

Liquidity: The CRPTF has liquidity needs based upon net annual benefits withdrawals from the portfolio as well as rebalancing needs and private investment capital calls. Liquidity is evaluated holistically across the portfolio and is primarily based on the following:

- Having adequate net funding to pay beneficiaries
- Rebalance the portfolio and maintain the integrity of the portfolio's asset allocation
- Fund net capital calls for private investments
- Maintaining sufficient funding resources to avoid forced liquidation of assets during periods of market turbulence.

Based upon, but not limited to, the factors listed above, the Treasurer will determine the appropriate allocation to cash equivalents in order to meet the Trust Funds' liquidity needs in the near term. Liquidity requirements will be reviewed regularly by Staff (generally monthly and quarter, as well as daily when necessary) to ensure that each of the CRPTF's policies and practices are structured so as to accommodate changing liquidity needs.

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Leverage: the policy of the CRPTF is to not use leverage in the portfolio, with the exception of approved private and alternative asset classes that prudently use leverage within the underlying active manager's strategy level (fund level) guidelines and risk parameters.

Diversification and concentration risk: CRPTF's investments will be diversified by asset class and strategy to reduce volatility associated with concentrated portfolios and to limit the probability of large losses on individual money managers within the portfolio. Diversification is an important risk mitigant and underpins the structure of the CRPTF as a global, diversified portfolio. It is also important to avoid excessive diversification. Accordingly, the CRPTF will be constructed and maintained to provide prudent diversification among the asset classes in accordance with the asset allocation policy.

Within each asset class, the holdings in aggregate should have broad exposure across geographies, industries, sectors, and styles. Within actively managed portfolios, holdings should be meaningfully different from a passive alternative to justify the higher fees associated with active management and create a higher probability of generating outperformance relative to the appropriate benchmark.

Actively managed portfolios should also be prudently diversified regarding the concentration of holdings in individual issues, corporations, partnerships or industries in accordance with each underlying active manager's strategy level (fund level) guidelines and risk parameters. CRPTF's general diversification and concentration limits are as follows:

- Liquid portfolios: To minimize investment fees, investment mandates (regardless of asset class) will generally be a minimum of $100 million and should not constitute more than 33% of the investment manager's particular strategy for which it is being engaged at the time of investment. However, the Treasurer at his/her discretion and acting in consultation with the IAC may develop programs intended to encourage the development of investment managers who demonstrate the capacity to add value to the CRPTF but may not have the requisite amount of assets under management.
- Private (illiquid portfolios): The CRPTF will be diversified with respect to vintage year, geography, industry, strategy, and stage focus. Given the illiquid nature of private equity investments, attempting to "time the market" is not a realistic alternative. The CRPTF will dollar cost average into the market with new commitments on a steady, annual basis. The CRPTF's commitment should be no more than 33% of the total amount committed to a single commingled fund unless waived.
- Hybrid liquid (alternative) portfolios: The CRPTF's commitment should be no more than 33% of the total amount committed to a single commingled fund unless waived.
- Number of Portfolios: for the purpose of avoiding concentration, all asset classes representing more than 3% of the CRPTF will have at least two managers, which includes internally or externally managed indexed or passive funds.

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Use of Derivatives

Derivative instruments are defined as any contract or investment vehicle whose performance, risk characteristics or value is based on a specific asset, interest rate or index value. The policy of CRPTF is to allow managers in the underlying portfolio (and Staff) to use derivatives to hedge risk and manage exposures, and not to engage in speculation. All other uses of derivatives are prohibited unless specifically approved by the Treasurer and endorsed by the IAC. Money managers are expected to have internal risk management programs in place to ensure that derivatives-based strategies do not result in undue risk to the portfolio.

Currency Exposure and Hedging:

As an investor in international markets, the CRPTF is exposed to the foreign currencies in which securities are denominated. Over the long term, returns of foreign currencies are expected to be zero. The policy of the CRPTF is not to directly hedge currency exposure. Managers with holdings exposed to foreign currencies may hedge currency in accordance with their strategy guidelines and documented policies in the investment management agreement or other contract.

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Appendix E -- Responsible Contractor Policy

I. Introduction

The State of Connecticut Retirement Plans & Trust Funds ("CRPTF" or "the Plan") has a deep interest in the condition of workers employed on behalf of the Plan and its advisors. The Plan, through the Responsible Contractor Policy ("Policy") described below, supports and encourages fair wages and fair benefits for workers employed by its contractors and subcontractors, subject to fiduciary principles concerning duties of loyalty and prudence, both of which further require competitive returns on the Plan's investments in real assets. The Plan endorses small business development, market competition, and control of operating costs. The CRPTF supports many of the ideals espoused by labor unions and encourages participation by labor unions and their signatory contractors in the development and management of its investments in real assets. The Plan believes that an adequately compensated and trained worker delivers a higher quality product and service.

II. Definition of a Responsible Contractor

A Responsible Contractor, as used in this Policy, is a contractor or subcontractor who: (1) pays workers a fair wage and a fair benefit as evidenced by payroll and employee records; and (2) is not debarred by and whose principal officer is not debarred by a municipal, state or federal government. "Fair benefits" are defined as including, but are not limited to, employer-paid family health care coverage, pension benefits, employee safety training, apprenticeship programs and paid time off. What constitutes a "fair wage" and "fair benefit" depends on the wages and benefits paid on comparable projects, based upon local market factors, that include the nature of the project (e.g., residential or commercial; public or private), comparable job or trade classifications, and the scope and complexity of services provided.

For real estate or infrastructure projects that include local, state or federal financing that triggers prevailing wage laws, the Plan supports and requires investment managers to pay such prevailing wages. Responsible contractors recognize the right of all workers to freedom of association in the workplace as protected under local, state and federal law and as recognized by International Labour Organization (ILO) standards (https://www.ilo.org/global/standards/lang--en/index.htm).

III. Initial Requirements of the Responsible Contractor Policy

A. Duty of Loyalty: Notwithstanding any other considerations, assets shall be managed for the exclusive benefit of the participants and the beneficiaries of the CRPTF. The Plan's, as well as its advisors', duty to the participants and their beneficiaries shall take precedence over any other duty.

B. Prudence: The Treasurer, IAC and CRPTF's advisors are charged with the fiduciary duty to exercise the care, skill, prudence and diligence appropriate to the task.

C. Competitive Return: To comply with duties of loyalty and prudence, all investments and services must be made and managed in a manner that produces a competitive risk-adjusted return.

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D. Competitive Bidding: Contractors and their subcontractors for construction, maintenance, and services shall be selected through a competitive bidding and selection process. The purpose of this provision is to encourage fair competition and to actively seek bids from all qualified sources within an area, particularly those identified as Responsible Contractors. Advisors and their subcontractors shall create a bidding process that includes notification and invitations to bid, distributed to a broad spectrum of potential bidders, particularly those identified as Responsible Contractors. The review of the bids shall include considerations of loyalty, prudence, competitive risk-adjusted returns, experience, reputation for honesty, integrity, timeliness, dependability, fees, safety record, and the adherence to the Responsible Contracting Policy.

E. Local, State and National Laws: All advisors, property managers, contractors, and their subcontractors shall observe all local, state, and national laws (including, by way of illustration, those pertaining to insurance, withholding taxes, minimum wage, labor relations, health, and occupational safety).

IV. Selection Preference of a Responsible Contractor

If Initial Requirements A through D (see Section III above) are satisfied, CRPTF expresses a strong preference that Responsible Contractors be hired.

V. Transition, Enforcement, Monitoring and Administration

A. Applicable Investments and Phasing: This Policy shall apply to equity real estate and infrastructure investments. The Policy shall not apply to investments such as mezzanine debt, hybrid debt, joint ventures, opportunity funds, international investments, secondary funds, indirect, specialty, and mortgage investments that lack equity features, and other real estate investments where CRPTF owns 50% or less and/or lacks control of the investment. However, in those instances where CRPTF does not have a majority ownership stake and/or control of the investment, staff will make reasonable attempts to encourage partners to comply with the spirit and practice of Responsible Contracting. In addition, reasonable efforts will be made to include fund managers that have adopted responsible contractor policies and to seek out investment opportunities that have responsible contractor policies in place for investment consideration.

B. Notification: CRPTF shall provide all applicable current and prospective real assets fund advisors with a copy of this Policy, including investments where CRPTF does not have more than 50% ownership and control of the investment.

C. Solicitation Documents: All requests for proposal and invitations to bid covered by this Policy shall include the terms of this Policy. Responses by bidders shall include information to assist the staff in evaluating a bid.

D. Contracts and Renewals: All contracts entered into after the effective date of this Policy and pertaining to applicable real assets investments, including renewals of such contracts, shall include the terms of this Policy.

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E. Responsibilities: The responsibilities of CRPTF's staff, advisors, property managers, contractors, and unions are defined as follows:

1. Staff: CRPTF staff shall have the following responsibilities:
   a. Review the advisors' annual certification reports regarding compliance with the Policy, which reports may be included in overall compliance reports submitted by advisors to CRPTF.
   b. Insert appropriate contract language where applicable.
   c. In those instances where CRPTF does not have more than 50% ownership and control of an investment, make reasonable attempts to encourage partners to comply with the spirit and practice of Responsible Contracting.

2. Advisors: Advisors' responsibilities shall include:
   a. Communicate the Policy to all property managers and incorporate its requirements, including without limitation the property manager requirements under Section V.E.3, into applicable contracts with property managers.
   b. Review a contract listing for each property prepared by each property manager.
   c. Maintain a simplified bid summary for each applicable contract. The summary should include identifying contract, successful bidder, and bidder's status as Responsible Contractor.
   d. Maintain an annual report in their home office, describing their own efforts as well as those by property managers and their subcontractors.
   e. Monitor and enforce the Policy including investigation of potential violations.
   f. Annually, the signatory to the CRPTF contract will submit a report regarding compliance with the Policy, which report may be included in overall compliance reports submitted by the advisor to the CRPTF. At a minimum, the report shall include: (1) a description of any report or investigation into non-compliance to the Policy; and (2) certify that the advisor complied with its responsibilities under the Policy. The advisor, upon request, will provide additional written substantiation of such compliance.
   g. Develop and maintain a list of all CRPTF properties that are more than 50% owned and controlled. The list will include the property name, address, advisor and property manager, and phone number of the property manager and real assets fund advisors.

3. Property Managers: Property managers will have responsibility for the following:
   a. Communicate in bid documents the Responsible Contractor Policy to contractors seeking to secure construction or building service contracts.
   b. Communicate the Policy to any interested party.

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c. Ensure there is a competitive bidding process that is inclusive of potentially eligible Responsible Contractors.

d. Send a project bid Notification Form to the Real Estate Management Tracking System (REMATS) maintained by participating national trades unions. Such notice shall be sent as soon as practical prior to the bid due date.

e. Require bidders to provide to property manager a Responsible Contractor self-certification on a form approved by CRPTF.

f. Prepare and send to advisors a contract listing for applicable service contracts for each property under management. The building trades and service trades and other potential bidders will have access to this list.

g. Provide advisors with a simplified bid summary for each contract.

h. Provide property level annual report information to advisor.

i. Maintain documentation for successful bidders.

j. Seek from trade unions/service unions input in the development of Responsible Contractor lists.

k. Maintain list of any interested Responsible Contractors (names, addresses and telephone numbers).

l. Provide solicitation documents to any potential contractor who has, in writing, expressed an interest in bidding for the relevant contract.

4. Contractors: Contractors will have the responsibility for the following:

a. Submit to property manager a Responsible Contractor self-certification on a form approved by CRPTF.

b. Communicate to subcontractors the Responsible Contractor Policy.

c. Provide to property manager Responsible Contractor documentation.

5. Unions: Trade unions/service unions shall be asked to perform the following tasks:

a. Deliver to the property manager or advisor lists of names and phone numbers of Responsible Contractors.

b. Refer interested and qualified Responsible Contractors to the property manager.

c. Continually monitor the local labor markets to update the lists.

d. Provide technical input as appropriate.

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e. Send project notifications to applicable Local Building Trades Councils.

F. Reserved

G. Minimum Contract Size: The Policy shall absolutely apply to all contracts of a minimum size of $100,000, individually or annually, as applicable. Minimum contract size refers to the total project value of the work being contracted for and not to any disaggregation by trade or task. For example, a $100,000 contract to paint two buildings in a single office complex would not be treated as two $50,000 contracts, each less than the minimum contract size. Disaggregation designed to evade the requirements of the Policy is not permitted.

H. Applicable Expenditures Categories: The Policy shall apply to tenant improvements, capital expenditures, and operational service contracts (such as cleaning).

I. Fair Wage, Fair Benefits, Training: The Policy avoids a narrow definition of "fair wage", "fair benefits" and "training" that might not be practical in all markets. Furthermore, the Policy does not require a "prevailing wage" as defined by government surveys. Instead, the Policy looks to local practices with regard to type of trade and type of project. The Policy recognizes that practices and labor market conditions vary across the country and that flexibility in its implementation is important.

In determining "fair wages" and "fair benefits" with regard to a specific contract in a specific market, items that may be considered include local wage practices, state laws, prevailing wages, labor market conditions, and other items.

In place of a prevailing wage standard, the Policy requires a broad outreach and competitive bidding program, as described in Section III.D, and V.F and J. This program is premised upon the availability of a list of Responsible Contractors in every market in which CRPTF directly owns a property. While advisors and their property managers and contractors are responsible for gathering and analyzing information relevant to identifying and hiring a Responsible Contractor, compilation of this list does not depend solely on the advisors, property managers, or contractors. This Policy instead invites the various local trades to suggest contractors, which in their view qualify as Responsible Contractors. Sources of information include local building and service trade councils, builders associations, and governments.

J. Competitive Bidding: Property managers and contractors should give notice for applicable bids in local trade publications, bulletins and union building trades councils. Property managers should seek input from building trades councils to develop lists of Responsible Contractors for inclusion in the bidding process.

Property managers may choose from the list of Responsible Contractors a reasonable number of contractors to be invited to bid. Given the time and expense required to solicit and evaluate bids, it is not essential that advisors, property managers, and contractors invite all potential bidders.
The property manager must ensure that there is a competitive bidding process, which is inclusive of potentially eligible Responsible Contractors. Inclusion is not

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necessarily assured by large numbers of bidders. Care must be taken that bidders include potentially eligible Responsible Contractors.

Although the Policy does not require hiring union workers, the trade unions will be invited to: (1) deliver to the property manager or advisor lists of names and phone numbers of Responsible Contractors, including those Responsible Contractors who have expressed any interest in bidding; and (2) continually monitor the local markets to update the lists. Property managers shall maintain these lists supplied by the trade unions.

K. Neutrality: CRPTF recognizes the rights of employees to representation, and supports and strongly encourages a position of neutrality, in the event there is a legitimate attempt by a labor organization to organize workers employed in the construction, maintenance, operation, and services at a CRPTF-owned property.

Resolution of any inter-jurisdictional trade disputes will be the responsibility of the trades and the various state and national building trades councils. This Policy does not call for any involvement by the advisors, property managers, or contractors in inter-jurisdictional trade disputes.

L. Enforcement: If Staff becomes aware of non-compliance, this Plan will place a non-complying advisor or property manager on a probation watch list. If the advisor or property manager does not modify this pattern of conduct even after discussions with CRPTF's staff, the Plan will consider this pattern of conduct along with other information when it reviews the advisor or property manager contract for possible renewal. The key indicator is a pattern of conduct that is inconsistent with the provisions of this Policy.

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Appendix F -- Policy for Implementation of Investment Restrictions

Primary among the Treasurer's considerations for the investment of the assets of the Connecticut Retirement Plans and Trust Funds ("CRPTF") is the long-term economic benefit of plan participants and beneficiaries. Toward this end, the Treasurer may divest, decide to not further invest state funds, or not enter into any future investment, consistent with Connecticut statute,[5] the CRPTF's Investment Policy Statement and common law standards of fiduciary duty.

State law directs the Treasurer to "consider the implications of any particular investment in relation to the foreign policy and national interests of the United States."[6] In addition to this general directive, specific matters implicating foreign policy and U.S. national interests have been embodied in state statutes for consideration in making investments in companies doing business in Iran[7] and Sudan.[8] These statutes provide guidance to the Treasurer when making investment decisions, have been incorporated into the investment processes and are reflected in all contracts under which CRPTF assets are invested.

This ***Policy for Implementation of Investment Restrictions*** sets forth the process by which the Treasurer may prohibit specific investments, as well as the administrative procedures to be followed to ensure that the CRPTF's managers are compliant with said Policy.

I. Prohibition of Investments

The Treasurer may prohibit investment of CRPTF assets in particular securities, types of securities, or companies pursuant to the Treasurer's statutory investment restriction authority and/or based on the following determination:

- there are one or more risk factors that may impact profitability and long-term shareholder value
- said risks run counter to the goals and objectives of the CRPTF to provide investment income and appreciation in line with the long-term liabilities that the CRPTF is designed to support; and
- said prohibition will not adversely or materially impact the CRPTF's risk/return profile.

The consolidated list of all restricted investments, whether pursuant to statutory investment restrictions or otherwise based on the exercise of the Treasurer's discretion (e.g., civilian firearms manufacturers or Russia-domiciled investments) shall be referred to as the "Restricted Investments List."

The Principal Investment Officer for Corporate Governance and Sustainable Investment ("PIO/CGSI") shall compile the update to the Restricted Investments List annually, incorporating any statutory investment restriction updates from the Chief Compliance Officer ("CCO"). They will collaborate on updates to the Restricted Investments List annually for the Chief Investment Officer's review and Treasurer's approval.

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[5] See Conn. Gen. Stat. § 3-13d(a), which allows the Treasurer to consider the "social, economic, and environmental implications of investments of trust funds in particular securities or types of securities." See also Conn. Gen. Stat. §§ 3-13g and 3-21e.
[6] Conn. Gen. Stat. § 3-13d(a).
[7] Conn. Gen. Stat. § 3-13g.
[8] Conn. Gen. Stat. § 3-21e (collectively with § 3-13d(a) and § 3-13g, the "statutory investment restrictions").

II. Notice Provisions

The Treasury's investment staff will publish the Restricted Investments List on the Treasury's website, annually on or about July 1st of each year, or as changes are made from time to time.

Treasury investment staff will annually provide a copy of the Restricted Investments List to the CRPTF's investment managers, as applicable, and said List shall be incorporated by reference in all contracts under which CRPTF assets are invested.

The CCO will implement the Treasurer's required notice to companies from which CRPTF assets may be divested as a result of a statutory investment restriction.

III. Monitoring and Enforcement of Investment Restrictions

A. Monitoring by Treasury Staff

1. Monthly Review – The CRPTF's investment staff shall, on a monthly basis, review the investments held by the CRPTF custodian bank to confirm that that no restricted investments are owned by the CRPTF. The PIO/CGSI shall confirm each monthly review.
2. Quarterly and Annual Reviews -- The CRPTF's investment staff shall, as part of ongoing performance reviews, verify investment managers' compliance with the Restricted Investments List.
3. Annual Global Risk Assessment Certification – The CCO shall request and review investment managers' annual certification regarding compliance with the Restricted Investments List.

B. Investment Managers' Responsibilities

1. Investment managers shall adhere to specific investment restrictions imposed by the Treasurer, within the timeframes specified in applicable instructions.
2. Investment managers shall implement procedures to monitor portfolios they manage on behalf of the CRPTF to ensure compliance with the Restricted Investments List and related instructions.
3. Investment managers shall confirm, as part of their performance reviews with investment staff, that no restricted investments are held within the portfolio of CRPTF's assets.
4. Investment managers shall certify annually to the Treasury's Chief Compliance Officer that no restricted investments were acquired for the CRPTF's portfolio during the preceding year.

C. Enforcement

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Failure to comply with investment restrictions imposed by the Treasurer herein constitutes a violation of this Policy and a breach of contract. In the event of non-compliance, the PIO/CGSI shall recommend to the Chief Investment Officer that an investment manager be directed to divest the restricted investment, where applicable, with due consideration to minimizing transaction costs. Investment staff will review the circumstances giving rise to non-compliance, and may recommend to the Treasurer that an investment manager be placed on a Watch List or terminated.

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Appendix G -- Proxy Voting Policies

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I. INTRODUCTION

This document sets forth the State of Connecticut Retirement Plans and Trust Funds' ("CRPTF") Proxy Voting Policies that guide the CRPTF's proxy voting and shareholder activities, which are essential elements of protecting and increasing the long-term value of the CRPTF's equity investments.

The CRPTF does not expect that the board of directors of each company in which it invests will adopt or embrace every issue in these proxy voting policies. The CRPTF recognizes that some policies may not be appropriate for every company, due to differing business needs and structures as well as risk factors and competitive needs. The CRPTF looks to each board of directors to take appropriate action in the best interests of the company and its shareholders. The policies in this document represent the CRPTF's views on best practices relative to corporate policy.

The proxy voting policies conform to common law fiduciary standards, including Connecticut statutes pertinent to fiduciary conduct, such as the Uniform Prudent Investor Act. These policies also are consistent with Connecticut statutes that permits the Treasurer to consider the environmental, social and economic implications of investment decisions.[1]

All votes will be reviewed on a company-by-company basis and no issues will be considered routine. Each issue will be considered in the context of the company under review and subject to a rigorous analysis of the economic impact an issue may have on the long-term shareholder value.

The CRPTF also actively engages companies on issues of concern in an effort to increase shareholder value. When appropriate, the CRPTF will itself sponsor shareholder resolutions. These proxy voting policies provide guidance for these activities as well.

II. THE BOARD OF DIRECTORS

Electing the board of directors is the most important stock ownership right that shareholders can exercise. By electing directors with views similar to their own, shareholders can help to define performance standards against which management can be held accountable.

The CRPTF believes that at least a majority of board members be independent of management and that all members of key board committees (e.g. nominating, compensation, and audit) be independent. For these purposes, the CRPTF defines an independent director as:

Someone whose only nontrivial professional, familial or financial connection to the corporation, its chairman, CEO or any other executive officer is his or her directorship. Stated most simply, an independent director is a person whose directorship constitutes his or her only connection to the corporation.[2]

The CRPTF also believes that ongoing assessment of directors' skills and performance is an important attribute of a well-functioning board, and that boards have an obligation to ensure a balance of experience and tenure of their directors.

Accordingly, the CRPTF will consider all relevant facts and circumstances to determine whether a director is independent, including a director's years of service on the board.[3]

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A director will NOT be considered independent under the following conditions:

- The director is employed by the company or one of its affiliates;
- The Board has determined by attestation that the director is not independent;
- The director is a former CEO of the company (except if served on an interim emergency basis);
- The director is a former CEO of an acquired company within the past five years;
- The director is a former significant executive of the company, an affiliate or an acquired firm within the past five years;
- The director is a relative of a current significant executive level employee of the company or its affiliates;
- The director is a relative of an individual who was a significant executive within the past five years of the company or its affiliate;
- The director currently provides (or a relative provides) professional services directly to the company, to an affiliate of the company or an individual officer of the company or one of its affiliates;
- The director is employed by (or a relative is employed by) a significant customer or supplier;
- The director has (or a relative has) any transactional relationship with the company or its affiliates; or
- The director has any material financial tie or other related party transactional relationship to the company.

A. Voting for Director Nominees in Uncontested Elections

Traditionally in an uncontested election, all nominees are elected because only a plurality vote is needed to elect each director. Recently, at the urging of shareholders, many companies have moved to either requiring a majority vote to elect a director in an uncontested election, or to require a director that did not receive a majority vote to tender his/her resignation (which can be accepted or rejected by the board). Therefore, uncontested elections have become real elections.

For companies where there is a majority vote standard, the vote options on the proxy are FOR/AGAINST. At plurality vote companies, the proxy vote options are FOR/WITHHOLD.

Votes on director nominees are made on a CASE-BY-CASE basis, considering company performance and individual director performance.

The CRPTF will WITHHOLD votes from or vote AGAINST directors individually or the entire board, for egregious actions or failure to replace management as appropriate.

The CRPTF may WITHHOLD votes from or vote AGAINST directors individually or the entire board where the company has failed to align their business plans with the goals of the Paris Climate Agreement, to establish a plan to achieve net zero emissions by 2050, or where a director individually or the entire board have failed to exercise appropriate risk oversight of environmental and social issues.

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The CRPTF will WITHHOLD votes from or vote AGAINST individual directors in some cases based on examination of the following factors:

- Nominee is both the CEO and chairman of the board of directors (except for certain situations as cited in Section II.D.);
- Nominee's attendance of meetings is less than 75 percent without valid reason;
- Non-independent nominee being a member of a key board committee (audit, nominating and compensation committee);
- Nominee is serving on an excessive number of other boards; for a CEO this would be more than two (2) public company boards (one plus his or her own), for a non-CEO with a full time job this would be more than three (3) public company boards and for a non-CEO with no other employment except as a board member, this would be five (5) public company boards unless the company has disclosed in the annual proxy statement reasons why additional board service exceeding the guidelines above would not interfere with a nominee's ability to perform his or her responsibilities or there are other mitigating circumstances (e.g. a CEO sitting on the board of a wholly-owned subsidiary);
- Nominee is serving on the board or in an executive position of another company where that company was involved in Chapter 7 bankruptcy, or where there were proven SEC violations, or a proven criminal offense related to the nominee;
- Poor performance by nominee on the board of another company, such as being a director of a company which filed for bankruptcy and where there are credible allegations of fraud;
- Interlocking directorships where the CRPTF Proxy Voting Advisor and/or other experts deem those relationships an impairment to independent judgment and action;
- Related party transactions where the CRPTF Proxy Voting Advisor and/or other experts deem those transactions to be more in the interest of the director nominee than the shareholders.

The CRPTF will WITHHOLD votes from or vote AGAINST the entire board of directors (excepting new nominees, who the CRPTF will evaluate based on the other criteria in this section) if:

- The company's poison pill has a dead-hand or modified dead-hand feature;
- The board adopts or renews a poison pill unless the poison pill is subject to shareholder approval;
- The board failed to act on a shareholder proposal that received approval by a majority of shares outstanding the previous year;
- The board failed to act on takeover offers where the majority of the shareholders tendered their shares;
- The board failed to address an issue(s) that caused a 50% or greater withhold vote for any director in the previous director election;
- The board did not respond to a request from major institutional investors about significant policy issues that have material significance to shareholder value;
- The Board does not have in place a succession plan for the CEO and key board members such as the chairman and/or lead director;
- Issues specific to key board committees (as outlined below) are not addressed by the board as a whole;
- The company has no women on its board;

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- The board has not ensured that management has installed effective mechanisms to manage risks that may affect the company, its industry and the economy.

The CRPTF will WITHHOLD votes from or vote AGAINST non-independent directors when:

- The non-independent director serves on any of the three key committees: audit, compensation or nominating;
- The company lacks an audit, compensation or nominating committee, enabling the board to function as that committee;
- The full board is less than majority independent.

The CRPTF will WITHHOLD votes from or vote AGAINST members of key board committees in cases of poor performance of those committees of which the nominee is a member.

The CRPTF will WITHHOLD votes from or vote AGAINST members of the Nominating Committee if:

- The committee does not seek out candidates for the board from a diverse candidate pool, with particular attention to race and gender diversity, particularly when such diversity is underrepresented or nonexistent on the board;
- The board did not respond to a request from major institutional investors for information about the racial and/or ethnic composition of its board, or declined to disclose such information**;**
- The board lacks appropriate skills and attributes, including when there is only one woman on the board.

The CRPTF will WITHHOLD votes from or vote AGAINST members of the Audit Committee if:

- The non-audit fees paid to the accounting firm performing the audit are greater than 25% of the total fees paid to the firm by the company (see also Section V.);
- The Audit Committee failed to respond to a material weakness identified in the Section 404 Sarbanes-Oxley Act disclosures;
- There are chronic internal control issues and an absence of established effective control mechanisms identified by the external auditors that are not being addressed in a timely manner;
- The committee has poor oversight of the company's procedures to assure independence of the auditors (see Section V. for further discussion);
- The company fails to allow shareholders the opportunity to vote to ratify the company's audit firm.

The CRPTF may WITHHOLD votes from or vote AGAINST the members of the Compensation Committee if the company has poor compensation practices. (See section IX. B. for discussion of poor compensation practices.)

Appendix A to these guidelines contains a discussion and enumeration of poor compensation practices, is incorporated by reference to this section and will be the criteria used for both voting

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for re-election of members of the Compensation Committee, as well as for the Say on Pay vote (see Section IX.B.)

If the company holds an annual advisory vote on executive compensation, the CRPTF may vote AGAINST the advisory vote to signal its concerns on compensation issues rather then vote against members of the compensation committee. If the pay practices that raise concerns are not corrected, the CRPTF would vote against re-election of the compensation committee member in the subsequent year.

For companies that do not hold an advisory vote on executive compensation in a particular year, the CRPTF may vote AGAINST the members of the compensation committee as dictated by this subsection.

B. Voting for Director Nominees in Contested Elections

Competing slates will be evaluated based upon the personal qualifications of the candidates, the economic impact of the policies that they advance, and their expressed and demonstrated commitment to the interests of all shareholders and stakeholders (e.g. employees, customers, and communities in which a company resides), as well as using the criteria outlined in Section II.A. regarding uncontested elections.

Votes in a contested election of directors are evaluated on a CASE-BY-CASE basis, considering the following factors:

- Long-term financial performance of the company relative to its industry;
- Management's track record;
- Performance evaluation of any director standing for re-election;
- Background to the proxy contest;
- Qualifications of director nominees (both slates);
- Evaluation of what each slate is offering shareholders, as well as the likelihood that the proposed objectives and goals can be met;
- Stock ownership positions of individual directors;
- Impact on stakeholders such as the community, employees, customers, etc.

C. Board Diversity

The CRPTF supports company efforts to ensure a diverse and inclusive board of directors as a means of enhancing long-term financial performance. The charter of the nominating committee should include a policy that commits the company to seeking a diverse slate of candidates, including ethnic, racial and gender diversity, as well as consideration of candidates' experience, skills, age, geography, sexual orientation and gender identity.

Generally, the CRPTF will vote FOR shareholder resolutions requesting reports on the company's efforts to diversify the board, unless:

- The board composition is reasonably inclusive in relation to companies of similar size and business; or

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- The board already reports on its nominating procedures and diversity initiatives.

The CRPTF will vote on a CASE-BY-CASE basis on shareholder resolutions asking the company to increase the board's diversity taking into account:

- The degree of board diversity;
- Comparison with peer companies;
- Established processes for improving board diversity including existence of independent nominating committees and use of an outside search firm;
- History of Equal Employment Opportunity (EEO) violations.

D. Independent Director as Chairman of the Board

The CRPTF believes that the positions of chairman and CEO should be held by different persons, except in extraordinary circumstances. In those circumstances, there should be a lead independent director.

Generally, the CRPTF will WITHHOLD its vote from or vote AGAINST a director nominee who holds both positions.

Overall, the CRPTF will vote FOR shareholder resolutions that ask companies to require the position of chairman of the board be filled by an independent director, except in extraordinary circumstances that are explicitly spelled out.

E. Substantial Majority of Independent Directors

The CRPTF believes that at a minimum, a substantial majority of every board of directors should be independent from management. Boards should strive to maintain board composition made up of a substantial majority of independent directors.

The CRPTF will vote FOR shareholder resolutions asking that a substantial majority of directors be independent.

F. Shareholder Access to the Proxy

The CRPTF supports proxy ballot access for shareholders' nominees to the board, provided that shareholders, holding in aggregate at least 3% of a company's voting stock with 3 years of continuous ownership, have shown support for each nominee.

Generally, the CRPTF will vote FOR shareholder resolutions asking companies to provide shareholders, holding in aggregate at least 3% of shares with 3 years of continuous ownership, with the ability to nominate director candidates to be included on management's proxy card.

G. Nominating Directors on a Company's Proxy Card

Securities and Exchange Commission (SEC) rules permit a shareholder or group of shareholders meeting certain requirements to nominate candidates to the board of directors through the company's proxy card.

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The CRPTF will evaluate whether the replacement of individual board members is beneficial to the company and will join other shareholders in nominating candidates on a CASE-BY-CASE basis.

H. Majority Vote for Election of Directors

Generally, the CRPTF will vote FOR shareholder resolutions (including binding resolutions requesting that the board amend the company's bylaws) calling for directors to be elected with a majority of votes cast[4] for electing directors, provided the proposal includes a carve-out for a plurality voting standard when there are more director nominees than board seats (e.g. contested elections).[5]

I. Stock Ownership Requirements

The CRPTF will vote FOR shareholder resolutions that ask companies to require members of the board of directors to own some amount of stock of the companies on which they serve as board members. Exceptions should be made for clergy.

J. Annual Election of Directors

The CRPTF will vote FOR shareholder resolutions that ask companies to ensure all members of the board of directors be elected by shareholders every year.

K. Term of Office

The CRPTF will vote FOR shareholder resolutions proposing term limits or mandatory retirement age for members of the board of directors, provided that such proposals permit the board to waive this requirement on a CASE-BY-CASE basis.

L. Cumulative Voting

The CRPTF will generally vote FOR shareholder resolutions to allow cumulative voting in contested elections, provided that the resolution does not require cumulative voting in uncontested elections. Under a cumulative voting scheme, the shareholder is permitted to have one vote per share for each director to be elected and shareholders are permitted to apportion those votes in any manner they wish among the director candidates.

M. Director and Officer Indemnification and Liability Protection

Management proposals typically seek shareholder approval to adopt an amendment to the company's charter to eliminate or limit the personal liability of directors to the company and its shareholders for monetary damages for fiduciary breaches arising from gross negligence.

Generally, the CRPTF will vote AGAINST management proposals to limit or eliminate entirely director and officer liability for:

- A breach of the duty of loyalty,

- Acts or omissions not in good faith or involving intentional misconduct or knowing violations of the law,
- Acts involving the unlawful purchases or redemptions of stock,
- The payment of unlawful dividends, or
- Use of the position as director for receipt of improper personal benefits.

III. COMPANY RESPONSIVENESS TO SHAREHOLDERS

Shareholders are the owners of the company and, as such, have an important right and duty to elect members of the board of directors. The members of the board of directors in turn oversee the company and act on behalf of shareholders to protect shareholders' interests. Shareholders often express their concerns through written communications, direct conversations, shareholder resolutions, and voting on proxy issues including voting for directors. Boards of directors need to be responsive to these shareholder communications.

A. Response to Majority Votes

When a shareholder resolution receives the support of a majority of the shareholders voting, the board of directors and management has an obligation to affirmatively consider the wishes of the shareholders.

The CRPTF will vote FOR shareholder resolutions that request companies to adopt a policy that creates a mechanism and an obligation for the board of directors to take action on any shareholder resolution that receives an affirmative vote of a majority of those shares voted.

B. Communication with Shareholders

Members of the board of directors have a responsibility to listen to shareholders and to be responsive to their concerns.

The CRPTF will vote FOR shareholder resolutions that request companies to create a formal mechanism for shareholder communication with independent directors.

The CRPTF will vote FOR shareholder resolutions that request companies to require that all directors be present at the annual meeting of shareholders (unless there are extenuating circumstances) and that there is a period set aside at the annual meeting for the independent directors to answer questions from shareholders on issues of concern (management may be present).

IV. PROXY CONTEST DEFENSES

A. Poison Pills

"Shareholder rights plans," typically known as poison pills, provide the target board with veto power over takeover bids and insulate management from the threat of a change in control. Because poison pills greatly alter the balance of power between shareholders and management, shareholders should be allowed to make their own evaluation of such plans.

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The CRPTF will vote FOR shareholder resolutions that request companies to submit its poison pill for shareholder ratification.

The CRPTF will review on a CASE-BY-CASE basis shareholder resolutions that request companies to redeem a company's poison pill.

The CRPTF will review on a CASE-BY-CASE basis management proposals to ratify a poison pill.

B. Amend Bylaws without Shareholder Consent

The CRPTF will vote AGAINST management proposals giving the board exclusive authority to amend the bylaws.

The CRPTF will vote AGAINST shareholder resolutions giving the board the ability to amend the bylaws without shareholder approval.

V. AUDITORS

The CRPTF believes that a company's auditors should be independent of outside influence and therefore should not perform non-audit-related consulting work. The audit committee should adopt and implement a formal policy on the independence of the auditors that is disclosed in the audit committee report of the proxy statement. Such policy should state that the auditors will not be considered independent if they provide significant non-audit services to the company apart from the audit. Services are considered significant if they are worth the lesser of $50,000 or 1 percent of the audit firm's gross revenues for the most recent fiscal year. Under no circumstances should the amount of payment paid to the auditor for non-audit services (including audit related services) be larger than the payment for audit services. The audit committee should not indemnify the auditor. The appointment of the auditor should always be placed before shareholders for approval.

The CRPTF will vote AGAINST management proposals to ratify auditors if:

- An auditor has a financial interest in or association with the company, and is therefore not independent;
- There is reason to believe that the independent auditor has rendered an opinion which is inaccurate or non-indicative of the company's financial position;
- During the prior year, the fees paid to the audit firm for non-audit-related services was more than 25% of total fees paid to the firm by the company.

VI. ACQUISITIONS AND MERGERS

Votes on mergers and acquisitions and related issues are considered on a CASE-BY-CASE basis, with the primary concern being the best long-term economic interests of shareholders. In making this evaluation, the CRPTF will take into account at least the following:

- Anticipated financial and operating benefits;
- Offer price (cost vs. premium);
- Prospects of the combined companies;
- How the deal was negotiated;

- Fairness opinion (or the lack of one);
- Changes in corporate governance and its impact on shareholder rights;
- Impact on community stakeholders and workforce;
- Strategic rationale for the merger or acquisition;
- Analysis of whether there are any conflicts of interest;
- Analysis of corporate governance of the newly formed entity - both compared to the governance provisions of the companies prior to the merger or acquisition and compared to the governance provisions of these proxy voting policies.

A. Fair Price Provisions

The CRPTF will vote on a CASE-BY-CASE basis on proposals to adopt fair price provisions (provisions that stipulate that an acquirer must pay the same price to acquire all shares as it paid to acquire the control shares), evaluating factors such as the vote required to approve the proposed acquisition, the vote required to repeal the fair price provision, and the mechanism for determining the fair price.

B. Greenmail

Greenmail payments are targeted repurchases by management of company stock from individuals or groups seeking control of the company. Since only the hostile party receives payment, usually at a substantial premium over the market value of its shares, the practice discriminates against all other shareholders.

The CRPTF will vote FOR shareholder resolutions to adopt anti-greenmail charter or bylaw amendments or otherwise restrict a company's ability to make greenmail payments.

C. Stakeholder Provisions

The CRPTF will vote FOR shareholder resolutions that ask the board to consider non-shareholder constituencies including employees, customers, the community in which a company resides, and stakeholder or constituency issues of concern, when evaluating a merger or business combination.

VII. SHAREHOLDER RIGHTS

A. Confidential Voting

The CRPTF will vote FOR shareholder resolutions that request companies to adopt a policy allowing for confidential voting.

B. Shareholder Ability to Call Special Meetings

Shareholders should be permitted to call special meetings of shareholders to address and vote on issues that the Board of Directors is not addressing, including but not limited to, removal of members of the board. The rules implementing this provision should provide for timely calling of such meetings.

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The CRPTF will vote FOR shareholder resolutions that request companies to adopt a policy allowing for shareholders' right to call special meetings within the parameters of corporate law of the state in which the company is incorporated to take action on certain matters, including removal of directors, submitting shareholder resolutions or responding to a beneficial offering.

The CRPTF will vote AGAINST proposals to restrict or prohibit shareholder ability to call special meetings and AGAINST provisions that would require advance notice of more than sixty days.

C. Shareholder Ability to Act by Written Consent

The CRPTF will vote FOR shareholder resolutions that request companies to adopt a policy allowing for shareholders' ability to take action by written consent within the parameters of corporate law of the state in which the company is incorporated to take action on certain matters including removal of directors, submitting shareholder resolutions or responding to a beneficial offering.

The CRPTF will vote AGAINST proposals to restrict or prohibit shareholder ability to take action by written consent.

D. Equal Access

The CRPTF will vote FOR shareholder resolutions that request companies to give shareholders (or group of shareholders), holding in aggregate at least 3% of a company's voting stock with 3 years of continuous ownership, access to management's proxy material for the purpose of nominating candidates to the board of directors.

E. Unequal Voting Rights

The CRPTF will vote FOR shareholder resolutions that request companies to maintain or provide one-share one-vote and will vote AGAINST management proposals for dual class stock with different voting rights.

F. Supermajority Shareholder Vote Requirement to Amend the Charter or Bylaws

The CRPTF will vote FOR management or shareholder proposals to reduce supermajority vote requirements for charter and bylaw amendments and mergers. However, for companies with shareholders who have significant ownership levels, the CRPTF will vote CASE-BY-CASE, taking into account: (1) ownership structure; (2) quorum requirements; and (3) supermajority requirements.

The CRPTF will vote AGAINST management proposals to adopt supermajority requirements for a shareholder vote to approve charter, bylaw amendments and mergers. The CRPTF also will vote AGAINST management proposals seeking to lower supermajority shareholder vote requirements when such requirements accompany management sponsored proposals which would also change certain charter or bylaw provisions.

G. Reimbursement of Proxy Solicitation Expenses

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The CRPTF will vote on CASE-BY-CASE basis for shareholder proposals to fully reimburse all appropriate proxy solicitation expenses associated with dissidents waging a proxy contest.

H. Shareholder Ability to Remove Directors

The CRPTF will vote FOR resolutions requiring shareholder resolutions that request companies to adopt a policy allowing shareholders the ability to remove directors with cause, including causes that do not rise to the level of legal malfeasance. Such causes include: not attending meetings, failure to carry out committee responsibilities, or actions which may be detrimental to the interests of shareholders.

The CRPTF will vote AGAINST resolutions that provide that directors may be removed only for cause and AGAINST resolutions that provide only continuing directors may elect replacements to fill board vacancies.

I. Action to Fill Board Vacancies

The CRPTF will vote FOR proposals that any board member named to fill a vacancy must be elected by shareholders at the next annual meeting.

The CRPTF will vote AGAINST proposals to allow management or the board to fill vacant board seats on an interim basis if the board fails to allow a shareholder vote for the interim members at the next annual meeting.

J. Shareholder Ability to Alter the Size of the Board

The CRPTF will vote AGAINST proposals to allow management or the board to alter the size of the board without shareholder approval.

VIII. CAPITAL STRUCTURE

The management of a corporation's capital structure involves a number of important issues, including dividend policy, types of assets, opportunities for growth, ability to finance new projects internally, and the cost of obtaining additional capital. Many financing decisions have a significant impact on shareholder value, particularly when they involve the issuance of additional common stock, preferred stock, or debt.

The CRPTF will review these proposals for changes in capital structure on a CASE-BY-CASE basis.

In general, the CRPTF will vote FOR proposals that are based on a solid business plan, while opposing proposals that:

- Diminish the rights of the current stockholders;
- Are intended to be used as a takeover defense; or
- Unduly dilute the economic or voting interests of current shareholders.

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A. Common Stock Authorization

CRPTF supports management proposals requesting shareholder approval to increase authorized common stock when management provides persuasive justification for the increase.

CRPTF will evaluate on a CASE-BY-CASE basis proposals where the company intends to use the additional authorized stock to implement a poison pill or other takeover defense.
Generally, the CRPTF will review on a CASE-BY-CASE basis, proposals to increase the number of shares of common stock authorized for issue.
Generally, the CRPTF will vote AGAINST proposed common stock authorizations that increase the existing authorization by more than 50 percent unless a clear need for the excess shares is presented by the company.

B. Preferred Stock

Preferred stock is an equity security, which has certain features similar to debt instruments, such as fixed dividend payments; seniority of claims compared to common stock; and, in most cases, no voting rights. The terms of blank check preferred stock give the board of directors the power to issue shares of preferred stock at its discretion—with voting rights, conversion, distribution and other rights to be determined by the board at time of issue. Blank check preferred stock can be used for sound corporate purposes but could be used as a devise to thwart hostile takeovers.

Generally, the CRPTF will vote FOR management proposals to create blank check preferred stock in cases where the company expressly states that the stock will not be used as a takeover defense or carry superior voting rights.
Generally, the CRPTF will vote on a CASE-BY-CASE basis on management proposals when the company indicates that such preferred stock may be used as a takeover defense.

C. Adjust Par Value of Common Stock

The CRPTF will vote FOR management resolutions to reduce the par value of common stock.

D. Preemptive Rights

Preemptive rights permit shareholders to share proportionately in any new issues of stock of the same class. These rights guarantee existing shareholders the first opportunity to purchase shares of new issues of stock in the same class as their own and in the same proportion. The absence of these rights could cause shareholders' interest in a company to be reduced by the sale of additional shares without their knowledge and at prices unfavorable to them. Preemptive rights, however, can make it difficult for corporations to issue large blocks of stock for general corporate purposes. Both corporations and shareholders benefit when corporations are able to arrange issues without preemptive rights that do not result in a substantial transfer of control.

Generally, the CRPTF will vote on a CASE-BY-CASE basis on management proposals to create or abolish preemptive rights. In evaluating proposals on preemptive rights, the CRPTF will look at the size of a company and the characteristics of its shareholder base.

E. Debt Restructuring

The CRPTF will vote on a CASE-BY-CASE basis on management proposals to increase common and/or preferred shares and to issue shares as part of a debt restructuring plan. The CRPTF will consider the following issues:

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- Dilution - How much will ownership interests of existing shareholders be reduced, and how extreme will dilution to any future earnings be?
- Change in control - Will the transaction result in a change in control of the company?
- Bankruptcy - Is the threat of bankruptcy, which would result in severe losses in shareholder value, the main factor driving the debt restructuring?

Generally, the CRPTF will vote FOR management proposals that facilitate debt restructuring unless there are clear signs of self-dealing or other abuses.

F. Dual-Class Stock

The CRPTF will vote FOR a one-share one-vote structure.

The CRPTF will vote AGAINST management proposals to create a new class of common stock with superior voting rights.

The CRPTF will vote AGAINST management proposals at companies with dual-class capital structures to increase the number of authorized shares of the class of stock that has superior voting rights.

G. Issue Stock for Use with Rights Plan

The CRPTF will vote AGAINST management proposals that increase authorized common stock for the explicit purpose of implementing a non-shareholder approved shareholder rights plan (poison pill).

H. Recapitalization

The CRPTF will vote on a CASE-BY-CASE basis on recapitalizations (reclassifications of securities), taking into account the following:

- More simplified capital structure;
- Enhanced liquidity;
- Fairness of conversion terms;
- Impact on voting power and dividends;
- Reasons for the reclassification;
- Conflicts of interest;
- Other alternatives considered.

I. Reverse Stock Splits

A reverse stock split occurs when blocks of more than one share of stock are converted into one share.

The CRPTF will vote FOR management proposals to implement reverse stock splits when the number of authorized shares will be proportionately reduced.

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The CRPTF will vote on a CASE-BY-CASE basis on management proposals to implement reverse stock splits that do not proportionately reduce the number of shares authorized for issues as determined using a model developed by a proxy voting service.

J. Share Repurchase Programs

The CRPTF will vote FOR management proposals to institute open-market share repurchase plans in which all shareholders may participate on equal terms, provided that adjustments are made to executive compensation programs to reflect the reduced number of shares outstanding (e.g. calculations of earnings per share).

K. Stock Distributions: Splits and Dividends

The CRPTF will vote FOR management proposals to increase the common share authorization for a stock split or share dividend, provided that the increase in authorized shares would not result in an excessive number of shares available for issuance as determined using a model developed by a proxy voting service.

L. Tracking Stock

The CRPTF will vote on a CASE-BY-CASE basis on the creation of tracking stock, weighing the strategic value of the transaction against such factors as:

- Adverse governance changes;
- Excessive increases in authorized capital stock;
- Unfair method of distribution;
- Diminution of voting rights;
- Adverse conversion features;
- Negative impact on stock option plans;
- Alternatives such as spin-off.

IX. EXECUTIVE AND DIRECTOR COMPENSATION

A. CRPTF's General Principles for Voting on Executive Compensation

Executive compensation is generally comprised of three basic components: salary, bonus and equity compensation. In addition, there are other forms of compensation, such as retirement benefits, severance benefits, basic employee benefits (such as health and life insurance), loans (and forgiveness of loans), payment of taxes on certain compensation, and "perks" including personal use of company facilities (such as company aircraft).

The CRPTF considers a good compensation policy as one that balances these different forms of compensation to provide incentives for continuous improvement and ties pay to performance. Developing measures of performance for the CEO and other executives is a key component of a compensation plan.

It is the role of the compensation committee to set the compensation for top management and approve compensation policy for the company as a whole. Shareholders look to the compensation

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committee to align management's interests with shareholder interests while providing incentives for long-term performance.

Exorbitant pay, unwarranted severance packages, lack of internal pay equity, abuse of perquisites ("perks"), and corporate scandals, where executives have been highly paid while shareholders have lost billions of dollars, and employees have lost their jobs and much of their life savings, have shown that many compensation committee members have not been doing their jobs. These examples provide a reminder to all compensation committee members of the importance of their responsibility to align pay with performance, to encourage management to effectively manage risks that may affect the company, its industry and the economy, and to provide compensation incentives for management while protecting the financial interests of shareholders.

The compensation committee should commit to providing full descriptions of the qualitative and quantitative performance measures and benchmarks used to determine annual incentive compensation, including the weightings of each measure. At the beginning of the period during which an executive's performance is to be measured, the compensation committee should calculate and disclose the maximum compensation payable in the event that performance-related targets are met. At the end of the performance cycle, the compensation committee should disclose actual targets and details on the determination of final payouts.

The compensation committee should adopt and implement a formal policy on the independence of compensation consultants that is disclosed in the Compensation Discussion and Analysis (CD&A) of the proxy statement. Such policy should state that a compensation consultant will not be considered independent if the consultant firm provides significant services to the company apart from work performed for the compensation committee. Services are considered significant if they are worth the lesser of $50,000 or 1 percent of the consultant firm's gross revenues for the most recent fiscal year. Under no circumstances should the amount of payment paid to a consultant be larger for management services than the payment for compensation committee services. The compensation committee should not indemnify the compensation consultant for work provide to the committee.

The CRPTF proxy voting policies are based on pay for long-term sustained performance, and the responsibility of the compensation committee to make this happen.

B. Advisory Vote on Executive Compensation

The CRPTF supports the right of shareholders to exercise an advisory vote on executive compensation practices.

The CRPTF will vote FOR management proposals to require annual advisory votes on executive compensation.

When evaluating executive compensation for the purposes of casting an advisory vote on executive compensation, the CRPTF will evaluate the criteria as enumerated in Appendix A, which is incorporated by Reference into this section.

In evaluating executive compensation for the purposes of casting an advisory vote, the CRPTF will review:

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- **Pay for performance** – including how both pay and performance are measured.
- The company's **compensation policy** (for both named executives, other employees) as spelled out in the Compensation Discussion and Analysis – including the clarity and transparency of that policy, as well as how the policy ties compensation to the creation of long term shareholder value.
- The company's responsiveness to **input from shareholders** on compensation policy and practices.
- The degree to which the company employs **poor compensation practices,** as delineated in the CRPTF proxy voting guidelines, and as outlined below.

The CRPTF will evaluate these issues in a holistic way, considering all of a company's compensation practices (rather than any one issue) in determining how to vote. How a company's compensation policy and practices have changed from previous years – or not changed in the case of poor compensation practices – will be an additional factor considered.

See Appendix A for the factors to be evaluated in determining how to vote.

C. Golden Parachutes/Severance Agreements for Executives

Golden parachute compensation is defined as any type of compensation (whether present, deferred, or contingent) that is based on or otherwise relates to a merger, acquisition, or sale transaction. (A separate vote would not be required if disclosure of that compensation had been included in a prior advisory vote on Executive Compensation, and that compensation arrangement remained unchanged.)

The CRPTF will vote on these issues on a CASE-BY-CASE basis. When evaluating such benefits, the CRPTF will evaluate a number of criteria outlined below. The CRPTF will evaluate these issues in a holistic way, and no one issue will be decisive in determining how to vote.
An acceptable "golden parachute" change-in-control payment and policy should include, but is not limited to, the following:

- The triggering mechanism is beyond the control of management;
- The amount of the payment does not exceed three times the base amount, defined as the average annual taxable W-2 compensation during the five years prior to the year in which the change-in-control occurs;
- The change-in-control payment is double-triggered, i.e., 1) after a change in control has taken place, and 2) termination of the executive as a result of the change in control. Change-in-control is defined as a change in the company ownership structure;
- The company does not provide tax gross-ups on parachute payments;
- The company takes into account the amount of company stock owned by the executive, the benefits payable under any retirement plan(s) in which the executive is a participant, and the amount of compensation deferred by the executive;
- There is no accelerated vesting of equity held by the executive as a result of a change-in-control, provided that in the case where unvested equity no longer exists, the executive is granted equity of equal value with comparable vesting requirements by the new entity.

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The CRPTF will vote FOR shareholder proposals requesting companies to eliminate accelerated vesting of equity following the termination of employment for any reason, excepting change-in-control.

The CRPTF will vote FOR shareholder proposals requesting companies to eliminate accelerated vesting of equity held by the executive as a result of a change-in-control, provided that in the case where unvested equity no longer exists, the executive is granted equity of equal value with comparable vesting requirements by the new entity.

D. Equity Compensation

The CRPTF supports compensating executives at a reasonable rate and believes that executive compensation should be strongly correlated to the long-term performance of the company.

Stock option grants and other forms of compensation should be performance-based with an objective of improving shareholder value and maintaining that value over the long term. Well-designed stock option plans align the interests of executives and shareholders by providing that executives benefit when stock prices rise as the company, and shareholders, prosper over the long-term.

The CRPTF will vote on a CASE-BY-CASE basis on proposals for equity-based compensation plans.

The CRPTF will vote FOR proposals for equity compensation plans that provide challenging performance objectives and serve to motivate executives to deliver long-term performance, and vote AGAINST plans that permit reloading of exercised stock options and apparent unreasonable benefits to executives that are not available to any other employees.

The CRPTF will vote on a CASE-BY-CASE basis for management proposals for equity-based compensation plans that link executive compensation to corporate responsibility, such as corporate downsizing, customer or employee satisfaction, community involvement, human rights, environment performance, predatory lending, and executive/employee pay disparities. The CRPTF considers many of these corporate responsibility issues as key business issues linked directly to long-term shareholder return and will evaluate them accordingly.

The CRPTF will vote AGAINST proposals for equity-based compensation plans if any of the following factors apply:

- The total cost of the company's equity-based compensation plans is unreasonable, based on a model developed by a proxy voting service;
- The plan expressly permits the repricing of stock options without prior shareholder approval;
- The plan expressly permits the reloading of stock options;
    - There is a disconnect between CEO pay and the company's performance;
    - The company's three-year burn rate exceeds 3% or the industry average;
    - The plan is a vehicle for poor pay practices.

E. Employee Stock Ownership Plans (ESOPs)

The CRPTF will vote FOR proposals to implement an ESOP or increase authorized shares for existing ESOPs, unless the number of shares allocated to the ESOP is excessive (more than five percent of outstanding shares).

F. Incentive Bonus Plans and Tax Deductibility Proposals

The CRPTF will vote FOR management proposals that amend shareholder-approved compensation plans to include administrative features or place a cap on the annual grants that any one participant may receive to comply with the provisions of Section 162(m).

The CRPTF will vote FOR management proposals to add performance goals to existing compensation plans to comply with the provisions of Section 162(m) unless they are clearly inappropriate.

The CRPTF will vote on a CASE-BY-CASE basis on management proposals to amend to existing plans to increase shares reserved and to qualify for favorable tax treatment under the provisions of Section 162(m), as long as the plan does not exceed the allowable cap and the plan does not violate any of the supplemental policies.

Generally, the CRPTF will vote FOR cash or cash and stock bonus plans that are submitted to shareholders for the purpose of exempting compensation from taxes under the provisions of Section 162(m), if no increase in shares is requested.

G. Option Exchange Programs/Repricing Options

The CRPTF will vote on a CASE-BY-CASE basis on management proposals seeking approval to exchange/reprice options, taking into consideration:

- Historic trading patterns;
- Rationale for the re-pricing;
- Value-for-value exchange;
- Treatment of surrendered options;
- Option vesting;
- Term of the option;
- Exercise price;
- Participation;
- If the surrendered options are added back to the equity plans for re-issuance, the CRPTF will also take into consideration the company's three-year burn rate.

H. Director Compensation

The CRPTF will vote on a CASE-BY-CASE basis on compensation plans for non-employee directors.

The CRPTF will vote FOR a director compensation plan if ALL of the following qualitative factors are met and disclosed in the proxy statement:

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- Director stock ownership policies that require payment of a minimum of 50% of annual director compensation in equity and encourage directors to hold their equity interests while serving on the board.
- A vesting schedule or mandatory holding/deferral period (a minimum vesting of three years for stock options or restricted stock or deferred stock payable at the end of a three-year deferral period);
- Mix between cash and equity;
- No retirement benefits or perquisites provided to non-employee directors;
- Detailed disclosure provided on cash and equity compensation delivered to each non-employee director for the most recent fiscal year, including annual retainer, board meeting fees, committee retainer, committee-meeting fees, and equity grants.

I. Director Retirement Plans

The CRPTF will vote AGAINST management proposals for retirement plans for non-employee directors.

X. SHAREHOLDER RESOLUTIONS ON COMPENSATION

A. Option Expensing

Generally, the CRPTF will vote FOR shareholder resolutions that request companies to expense stock options, unless the company has already publicly committed to expensing options by a specific date.

B. Option Repricing

The CRPTF will vote FOR shareholder resolutions that require companies to put option repricing to shareholder vote.

C. Limiting Executive and Director Pay

Shareholder resolutions to limit executive and director pay need to be evaluated on a CASE-BY-CASE basis.

Generally, the CRPTF will vote FOR shareholder proposals that seek additional disclosure of a significant change in executive and director pay information.

Generally, the CRPTF will vote FOR shareholder proposals that seek to eliminate outside directors' retirement benefits.

Generally, the CRPTF will vote FOR shareholder proposals that seek to provide for indexed and/or premium priced options.

Generally, the CRPTF will vote FOR shareholder proposals that seek non-discrimination in retirement benefits (e.g. retirement benefits and pension plans that are different based on age of employee such as cash balance plans).

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Generally, the CRPTF will vote FOR shareholder resolutions that request that earnings from a company's pension plan not be included in company earnings for the purpose of evaluating whether an executive met performance targets in their compensation agreement.

The CRPTF will vote FOR shareholder resolutions that request companies to require executives to repay long-term incentive compensation or other performance-based compensation to the company in the event a company restates its financial statements for a previous reporting period and such compensation as recalculated is found not to have been earned.

Generally, the CRPTF will vote FOR shareholder resolutions that request companies to advocate the use of performance-based awards like indexed, premium-priced, and performance-vested options or performance-based shares.

Generally, the CRPTF will vote FOR shareholder resolutions that ask companies to prohibit tax gross-up payments to executives.

D. Clawbacks

Compensation that is paid based on financial results that are later stated, or on meeting performance metrics that are later revised downward, is compensation that has not been earned. Companies should have policies that "claw-back" unearned compensation.

The CRPTF will vote on a CASE-BY-CASE basis on proposals to recoup unearned incentive bonuses or other incentive payments made to senior executives if it is later determined that the performance metrics upon which the incentive compensation is earned later turn out to have been in error. When making its determination, the CRPTF will take into account:

- If the company has adopted a formal recoupment bonus policy;
- If the company has chronic restatement history or material financial problems; or
- If the company's policy substantially addresses the concerns raised by the proponent.

E. Internal Pay Equity

Significant differences in pay between top executives and non-executives of a company may adversely impact employee performance, are often an indication of poor compensation practices. The CRPTF will vote on a CASE-BY-CASE basis for shareholder proposals that ask the board compensation committee to adopt a policy regarding internal pay equity, and the relationship between the compensation received by the CEO and other named executive officers whose compensation is disclosed in the proxy statement.

The CRPTF will vote FOR shareholder proposals requesting the company to adopt a policy that asks the board compensation committee to consider internal pay equity in: (a) the establishment, modification and termination of senior executive pay plans and programs; and (b) making specific awards under those plans and programs.

The CRPTF will vote FOR shareholder proposals that ask the company to disclose to shareholders the role of internal pay equity considerations in the process of setting compensation for the CEO and other named executive officers.

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The CRPTF will vote AGAINST shareholder proposals asking the board to adopt a policy that would fix the pay ratio between the CEO and other named executive officer to a specific percentage or multiple of pay.

G. Golden Coffins/Executive Death Benefits

The CRPTF will vote FOR shareholder resolutions that ask the board of directors to submit for shareholder approval any future agreements and corporate policies that would obligate the company to make payments, grants, or awards following the death of a senior executive in the form of unearned salary or bonuses, accelerated vesting of equity awards, perquisites and other payments or awards made in lieu of compensation. This would not apply to any benefit programs or equity plan proposals for which the broad-based employee population are eligible, nor would it apply to compensation earned by the executive and deferred during his or her lifetime.

H. Supplemental Executive Retirement Plans

Supplemental Executive Retirement Plans (SERPs) are retirement plans for senior executives that are separate from and in addition to retirement plans for all other employees. Often these plans are used to provide compensation to a senior executive that is not based on performance or provides excessive retirement benefits.

Generally, the CRPTF will vote FOR shareholder resolutions that request companies to allow for a shareholder vote to approve SERP agreements, unless the company's executive pension plans do not contain excessive benefits (based on an analysis by the CRPTF's proxy voting service and other expert analysis).

Generally, the CRPTF will vote FOR shareholder resolutions that request companies to call for limitations of annual retirement benefits to a maximum of earned annual salary and bonus.

I. Stock Retention

The purpose of grants of stock and stocks options to senior executives (rather than cash compensation) is to align their financial interest with that of shareholders. This alignment is maintained only if the executive retains the ownership of the stock.

Generally, the CRPTF will vote FOR shareholder proposals requiring senior executives to retain a percentage of shares acquired through equity compensation programs. When voting for these proposals, the CRPTF will take into account current stock ownership guidelines, existing long-term stock-holding requirements and actual equity ownership by executives, and the length of the current holding period.

J. Responsible Use of Company Stock

The purpose of grants of stock and stocks options to senior executives (rather than cash compensation) is to align their financial interest with that of shareholders. This alignment can be undermined if the executive enters into a derivative transaction that limits the loss in the event that the company performs poorly, and the stock value declines.

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Generally, the CRPTF will vote FOR shareholder proposals asking the board of directors to adopt policies limiting the ability of named executive officers to enter into derivative or speculative transactions involving company stock, including but not limited to trading in puts, calls, covered calls or other derivative products; engaging in hedging or monetization transactions with respect to company stock; holding company stock in a margin account; or pledging company stock as collateral for a loan.

K. Compensation Consultant Independence

The CRPTF will vote FOR shareholder resolutions that request companies to include in their corporate governance guidelines that any compensation consultant employed by the compensation committee is independent of management and that such consultant should not provide significant consulting services to the management of the company (see Section IX.A. for further discussion).

XI. STATE AND COUNTRY OF INCORPORATION

A. Voting on State Takeover Statutes

The CRPTF will vote on a CASE-BY-CASE basis on proposals to opt in or out of state takeover statutes (including control share acquisition statutes, control share cash-out statutes, freeze out provisions, fair price provisions, stakeholder laws, poison pill endorsements, severance pay and labor contract provisions, anti-greenmail provisions, and disgorgement provisions).

The CRPTF generally supports opting into stakeholder protection statutes if they provide comprehensive protections for employees and community stakeholders. The CRPTF would be less supportive of takeover statutes that only serve to protect incumbent management from accountability to shareholders, and which negatively influence shareholder value.

B. Voting on Reincorporation Proposals

The CRPTF will vote on a CASE-BY-CASE basis on proposals to change a company's state of incorporation, taking into consideration both financial and corporate governance concerns, including the reasons for reincorporating, a comparison of the governance provisions, comparative economic benefits, and a comparison of the jurisdictional laws.

The CRPTF will vote FOR reincorporation when the economic factors outweigh any neutral or negative governance changes.

C. Off-Shore Reincorporation

Proposals to reincorporate outside of the U.S. and management proposals to expatriated companies to reincorporate back in the U.S. will be examined closely.

The CRPTF will vote AGAINST any reincorporation management proposals that are found to reduce the rights of shareholders.

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The CRPTF will vote FOR shareholder resolutions that request an expatriated company to study reincorporation back in the U.S. and report back to shareholders.

The CRPTF will vote FOR shareholder resolutions to reincorporate back in the U.S. if those proposals are found to increase the rights of shareholders, and/or have financial benefits to shareholders.

XII. SHAREHOLDER RESOLUTIONS ON EQUAL EMPLOYMENT OPPORTUNITY AND OTHER WORKPLACE PRACTICE REPORTING ISSUES

A. Equal Employment Opportunity

These proposals generally request that a company establish a policy of reporting to shareholders its progress with equal opportunity and affirmative action programs. The costs of violating federal laws that prohibit discrimination by corporations are high and can affect corporate earnings.

The CRPTF will vote FOR shareholder resolutions that request companies to take action on equal employment opportunity and anti-discrimination.

The CRPTF will vote FOR shareholder resolutions calling for legal and regulatory compliance and public reporting related to non-discrimination, affirmative action, workplace health and safety, environmental issues, and labor policies and practices that affect long-term corporate performance.

The CRPTF will vote FOR shareholder resolutions that request companies to take action calling for non-discrimination in salary, wages and all benefits.

The CRPTF will vote FOR shareholder resolutions that request companies to ask for disclosure of statistical information and policy statements regarding non-discriminatory hiring, performance evaluation and advancement, and workforce composition.

The CRPTF will vote FOR shareholder resolutions that request companies to disclose the EEO-1 consolidated data report that is filed with the Equal Opportunity Commission (EEOC).

The CRPTF will vote FOR shareholder resolutions that request companies to create policy statements regarding non-discriminatory hiring, performance evaluations, advancement and affirmative action.

The CRPTF will vote FOR shareholder resolutions that request companies to add the terms "sexual orientation," "gender identity," and/or "gender expression" to written non-discrimination policies.

B. Non-Discrimination in Retirement Benefits

Many companies are changing their retirement benefits, including moving to cash balance and defined contribution pension plans. There is the potential for some employees to benefit more than others due to these changes.

The CRPTF will vote FOR shareholder resolutions that request companies to ensure non-discrimination with regard to retirement benefits.

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C. Workplace Diversity

i. Glass Ceiling

Generally, the CRPTF will vote FOR reports outlining the company's progress towards race and gender inclusiveness in management and the board of directors.

ii. Sexual Orientation, Gender Identity

The CRPTF will vote FOR shareholder resolutions that request companies to amend EEO statements in order to prohibit discrimination based on sexual orientation or gender identity.

D. International Labor Standards/Human Rights

i. Contract Supplier Standards / International Codes of Conduct / Vendor Standards

This section addresses shareholder resolutions that call for compliance with governmental mandates and corporate policies regarding nondiscrimination, affirmative action, right to affiliate or organize, work place safety and health, and other basic labor and human rights protections, particularly in relation to the use of international suppliers. The global labor standards and human rights resolutions call for global companies to implement comprehensive codes of conduct, and to abide by conventions of the International Labor Organization (ILO) on workplace human rights, in order to assure that its products are made under humane conditions and workers are paid at a minimum the legal minimum wage. The CRPTF proxy voting policies support these resolutions on the grounds that these standards are good business practices that protect shareholder value by improving worker productivity, reducing turnover and time lost due to injury, etc, as well as avoiding negative publicity and a loss of consumer confidence.

Generally, the CRPTF will vote FOR resolutions that request companies to ensure that its products are not made in “sweatshops.”

Generally, the CRPTF will vote FOR resolutions that request companies to help eradicate forced labor and child labor, promote the rights of workers to form and join labor unions and to bargain collectively, seek to ensure that all workers are paid a living wage, and require that company contractors submit to independent monitoring of their factories.

Generally, the CRPTF will vote FOR resolutions that request companies to adopt labor standards – a “Code of Conduct” - for foreign and domestic suppliers and licensees, and a policy that the company will not do business with suppliers that manufacture products for sale using forced labor, child labor, or that fail to comply with applicable laws protecting employees' wages and working conditions including all applicable standards and laws protecting employees’ wages, benefits, working conditions, freedom of association (right to organize), and other rights.

Generally, the CRPTF will vote FOR resolutions that request companies to publish their “Code of Conduct.”

Generally, the CRPTF will vote FOR resolutions that request companies to publish a report summarizing the company's current practices for enforcement of its “Code of Conduct.”

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Generally, the CRPTF will vote FOR resolutions that request companies to engage independent monitoring programs by non-governmental organizations to monitor suppliers and licensee compliance with a company's "Code of Conduct."

Generally, the CRPTF will vote FOR resolutions that request companies to create incentives to encourage suppliers to raise standards rather than terminate contracts.
Generally, the CRPTF will vote FOR resolutions that request companies to implement policies for ongoing wage adjustments, ensuring adequate purchasing power and a sustainable living wage for employees of foreign suppliers and licensees.

Generally, the CRPTF will vote FOR resolutions that request companies to improve transparency of their contract supplier reviews.

Generally, the CRPTF will vote FOR shareholder resolutions that request companies to outline vendor standards.

ii. Corporate Conduct and Human Rights

The CRPTF will generally support proposals that call for the adoption and/or enforcement of principles or codes relating to countries in which there are systematic violations of human rights, such as: the use of slave, child, or prison labor; a government that is illegitimate; or where there is a call by human rights advocates, pro-democracy organizations, or legitimately-elected representatives for economic sanctions.

Generally, the CRPTF will vote FOR resolutions that request companies to support Principles or Codes of Conduct relating to the company investment in countries with patterns of workplace and/or human rights abuses.

Generally, the CRPTF will vote FOR shareholder resolutions that request companies to adopt policies that reflect the provisions of the General Statutes of Connecticut.

E. Equal Credit and Insurance Opportunity

Access to capital and insurance is essential to participating in our society. The Equal Credit Opportunity Act prohibits lenders from discriminating with regard to race, religion, national origin, sex, age and the like. "Redlining," the systematic denial of services in an area based on its economic or ethnic profile has a similar negative impact on denying participation in our society.

The CRPTF will vote FOR shareholder resolutions that request companies to provide reports on lending practices in low/moderate income or minority areas and on steps to remedy mortgage lending discrimination.

The CRPTF will vote FOR shareholder resolutions that request companies to develop fair "lending policies" that would assure access to credit for major disadvantaged groups and require annual reports to shareholders on their implementation.

The CRPTF will vote FOR shareholder resolutions that request insurance companies and banks to appraise their practices and develop policies to avoid redlining.

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XIII. SHAREHOLDER RESOLUTIONS ON ENVIRONMENTAL, SOCIAL AND GOVERNANCE ISSUES

The CRPTF supports the integration of environmental, social, and governance (ESG) factors in the investment decision making process, given that such factors can impact both risk and return over the long term.

In most cases, the CRPTF will vote FOR shareholder resolutions that request companies to disclose non-proprietary information related to ESG issues.

In determining the CRPTF's vote on shareholder resolutions that address these issues, the CRPTF will analyze the following factors:

- Whether adoption of the resolution would have a positive or negative impact on the company's long-term share value;
- The degree to which the company's stated position on the issues could affect its reputation or sales, or leave it vulnerable to boycott or selective purchasing;
- Whether the company has already responded in some appropriate manner to the request embodied in a proposal;
- Whether the company's analysis and voting recommendation to shareholders is persuasive;
- What other companies have done in response to the issue;
- Whether the proposal itself is well framed and reasonable;
- Whether implementation of the resolution would achieve the objectives sought in the proposal; and
- Whether the subject of the resolution is best left to the discretion of the board.

In general, the CRPTF will vote FOR shareholder resolutions that request companies to furnish information helpful to shareholders in evaluating the company's operations. In order to be able to monitor their investments, shareholders often need information best provided by the company in which they have invested. Requests to report such information merits support.

The CRPTF will evaluate on a CASE-BY-CASE basis proposals that request the company to cease certain actions that the proponent believes is harmful to society or some segment of society, with special attention to the company's legal and ethical obligations, its ability to remain profitable, and potential negative publicity if the company fails to honor the request.

A. Principles for Responsible Investment

The Principles for Responsible Investment (PRI)[6] provide a framework to give consideration to ESG issues that can affect the performance of investment portfolios. The Principles were developed in 2006 by a number of institutional investors, including the Connecticut State Treasurer's Office. These proxy voting policies reflect the principle of active ownership, and the associated responsibility to "incorporate ESG issues into our ownership policies and practices."

C. Climate Change, Energy, and Environment

i. Global Warming, Climate Change, and Sustainability

The United Nations' Intergovernmental Panel on Climate Change concluded in 2018 that the current pace of greenhouse gas emissions will have significant, adverse impact on the world's economy as soon as 2040.[7] And, according to a joint study by the World Bank's International Finance Corporation and Mercer, climate change "will inevitably have an impact on investment returns, so investors need to view it as a new return variable." [8]

There are direct economic and financial risks to companies from physical damage due to extreme weather patterns caused by climate change. Economic and financial risks can also occur when companies are not prepared for complying with new regulations curbing carbon emissions.

The CRPTF will vote FOR shareholder resolutions that request companies to assess actions the company is taking to mitigate the economic impact on the company of increasing regulatory requirements, competitive pressures, and public expectations to significantly reduce carbon dioxide and other emissions and issue a report to shareholders.

The CRPTF will vote FOR shareholder resolutions that request companies to assess financial risks resulting from climate change and its impacts on shareholder value in the short-, medium- and long-terms, as well as actions the board of directors deems necessary to provide long-term protection of business interests and shareholder value and issue a report to shareholders.

The CRPTF will vote FOR shareholder resolutions that request companies to report on greenhouse gas emissions from company operation and of the company's products in relation to their impact on global climate change.

The CRPTF will vote FOR shareholder resolutions that request companies to develop a standard reporting format and data baseline so that data from the company can be accurately compared to data from other companies and compared to recognized measurement standards.

The CRPTF will vote FOR shareholder resolutions that request companies to provide a "sustainability report (also called a "corporate social responsibility report)," such as the Global Reporting Initiative, that describes how the company plans to address issues of climate change and other long-term social, economic and environmental issues in order to maintain the long-term financial health of the company in a changing environment.

The CRPTF will vote FOR shareholder resolutions that request companies respond to the annual questionnaire of the Carbon Disclosure Project.

ii. Paris Climate Agreement

The global climate change agreement reached at the 21st Conference of the Parties, also known as "The Paris Agreement", provides globally supported targets related to climate change.
Generally, the CRPTF will vote FOR shareholder resolutions that request that companies to outline their preparations to comply with standards established by The Paris Agreement and any successor protocol in countries in which the protocol applies.

Generally, the CRPTF will vote FOR shareholder resolutions that request companies to report on or adopt accounting metrics that can better address market changes induced by climate change.

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Generally, the CRPTF will vote FOR shareholder resolutions that request companies to conduct and disclose planning and policies for transitioning the company business model to align with a low carbon economy including, specifically, alignment with the Paris Agreement's goal of limiting global warming to well below 2°C, including addressing the company's (Scope 1-3) greenhouse gas emissions.

iii. CERES Principles

The CRPTF will vote FOR shareholder resolutions requesting companies to adopt the CERES Principles, taking into account:

- The company's current environmental disclosure beyond legal requirements, including environmental health and safety (EHS) audits and reports that may duplicate CERES;
- The company's environmental performance record, including violations of federal and state regulations, level of toxic emissions, and accidental spills;
- Environmentally conscious practices of peer companies, including endorsement of CERES;
- Costs to the company of membership and implementation.

Generally, the CRPTF will vote FOR shareholder resolutions that request companies to sign onto the Global Compact, Equator Principles, and other similarly broadly recognized commitments to sustainability principles.
The CRPTF will vote FOR shareholder resolutions that request companies to address matters of specific ecological impact, e.g. sustainable use of natural resources, waste reduction, wiser use of energy, reduction of health and safety risks, marketing of safer products and services, reduction or elimination of chlorine in production processes, responsible environmental restoration, etc.

The CRPTF will vote FOR shareholder resolutions that request companies to report on, assess the impact of, and curtail environmental hazards to communities that result from their activities.

The CRPTF will vote FOR shareholder resolutions that request oil companies not to explore and oil and gas extraction in areas where there is a significant danger of permanent damage to the environment.

iv) Water Risk

Shareholders may ask for a company to prepare a report evaluating the business risks linked to water use and impacts on the company's supply chain, including subsidiaries and bottling partners. Such proposals also ask companies to disclose current policies and procedures for mitigating the impact of operations on local communities in areas of water scarcity.

The CRPTF will vote FOR shareholder resolutions that request companies to assess their current and future water usage, evaluate whether sufficient water will be available in the future, develop plans to reduce water usage, and report to shareholders on these assessments.

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The CRPTF will vote FOR shareholder resolutions that request companies to respond to the Carbon Disclosure Project's water disclosure questionnaire and similar investor-backed initiatives.

The CRPTF will vote FOR shareholder resolutions that request companies to on or adopt policies for water use that incorporate social and environmental factors.

v) Arctic National Wildlife Refuge

Generally, the CRPTF will vote FOR shareholder resolutions that request companies to provide reports outlining how it would prevent potential environmental damages from drilling in the Arctic National Wildlife Refuge (ANWR).

vi) Environmental - Economic Risk Report

Generally, the CRPTF will vote FOR shareholder resolutions that request companies to perform an economic risk assessment of environmental performance, unless the company has already publicly demonstrated compliance with the spirit of the resolution by including a report of such risk assessment in a sustainability report, corporate responsibility report, or similar report.

vii) Environmental Reports

Generally, the CRPTF will vote FOR shareholder resolutions that request companies to provide reports disclosing the company's environmental policies, unless the company already has environmental management systems that are well-documented and available to the public.

viii) Nuclear Safety

Generally, the CRPTF will vote FOR shareholder resolutions that request companies to provide reports on risks and/or benefits associated with their nuclear reactor designs and/or the production and interim storage of irradiated fuel rods.

ix) Operations in Protected Areas

Generally, the CRPTF will vote FOR shareholder resolutions that request companies to provide reports outlining potential environmental damage from operations in protected regions, including wildlife refuges.

x) Renewable Energy

Generally, the CRPTF will vote FOR requests for reports on the feasibility of developing renewable energy sources, unless the report is duplicative of existing disclosure or irrelevant to the company's line of business.

xi) Environmental Justice

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The CRPTF will generally support proposals asking companies to report on whether environmental and health risks posed by their activities fall disproportionately on any one group or groups, and to take action to reduce those risks at reasonable costs to the company.

The CRPTF will generally support proposals asking companies when sitting and addressing issues related to facilities which may have impact on local environment and to respect the rights of local communities to participate in decisions affecting their local environment.

D. Special Policy Review and Shareholder Advisory Committees

The CRPTF will vote FOR shareholder resolutions that request companies to support advisory committees when they appear to offer a potentially effective method for enhancing shareholder value.

E. Drug Reimportation

Generally, the CRPTF will vote FOR shareholder resolutions that request companies to provide reports on the financial and legal impact of their policies regarding prescription drug reimportation, unless such information is already publicly disclosed.

Generally, the CRPTF will vote AGAINST shareholder resolutions requesting that companies adopt specific policies to encourage or constrain prescription drug reimportation.

F. HIV/AIDS, Malaria, Tuberculosis

The CRPTF will vote FOR shareholder resolutions to request companies to establish, implement, and report on a standard of response to the HIV/AIDS, tuberculosis, and malaria health pandemic in Africa and other developing countries, unless the company doesn't have significant operations in these markets or has adopted policies and/or procedures to address these issues comparable to those of industry peers.

G. Predatory Lending

The CRPTF will vote FOR shareholder resolutions that request companies to adopt policies that preclude predatory lending practices.

The CRPTF will vote on a CASE-BY-CASE basis on requests for reports on the company's procedures for preventing predatory lending, including the establishment of a board committee for oversight, taking into account:

- Whether the company has adequately disclosed mechanisms in place to prevent abusive lending practices;
- Whether the company has adequately disclosed the financial risks of its subprime business;
- Whether the company has been subject to violations of lending laws or serious lending controversies;
- Peer companies' policies to prevent abusive lending practices.

H. Toxic Chemicals

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Generally, the CRPTF will vote FOR shareholder resolutions that request companies disclose its policies related to toxic chemicals.

The CRPTF will vote on a CASE-BY-CASE basis on resolutions requesting that companies evaluate and disclose the potential financial and legal risks associated with utilizing certain chemicals.

XIV. SHAREHOLDER RESOLUTIONS ON GENERAL CORPORATE ISSUES

A. Corporate Political Expenditures

Political contributions can benefit the strategic interests of a company. Shareholders understand that corporate participation in the political process including through political contributions can benefit companies strategically and contribute to value creation. However, shareholders are concerned that board level policies and processes need to exist to ensure that such giving is aligned with shareholders' long-term interests. Shareholders are concerned about the influence of corporate political giving. This activity has the potential to create risks to shareholder value, through reputational harm and through reactions by employees and/or customers.

Shareholders seek to understand who sets political giving policies, who makes the decisions on contributions, and what types of internal controls are in place at the board level to manage, monitor and disclose political contributions, and manage related risks. Shareholders are not interested in obtaining disclosure of the reason specific contributions are made, but instead seek data on contributions and an understanding of mechanisms, such as board-level policies and processes, through which the board exercises oversight over the process.

It is not an appropriate role for shareholders to vote on specific political expenditures--whether such vote is in the form of an advisory proposal or would be binding.

Corporate political expenditures can be direct in the form of campaign contributions or indirect in the form of advertising or publicity on politically-related issues.

In the aftermath of the U.S. Supreme Court ruling in *Citizens United*, which ruled that corporations have a constitutional right to free speech – including political advertising – new forms of corporate political spending have emerged. New organizations have been created under sections 501(c) (4), 501 (c) (5) and 501 (c) (6) of the Internal Revenue Code that receive corporate contributions and engage in political advertising. These organizations are not required to disclose their donors.

The CRPTF will vote FOR shareholder resolutions that request companies to provide greater disclosure of corporate campaign financing.

The CRPTF will vote FOR shareholder resolutions that request companies to disclose any and all corporate expenditures for advertising in support of, or in opposition to, any political candidate, issue, and/or ballot referendum, including contributions to political candidates, political action committees, 501(c) (3, 4, and 5) organizations or any other expenditure which may be used to influence an election.

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The CRPTF will vote FOR shareholder resolutions that call on the board to establish corporate political giving guidelines and internal reporting provisions or controls.

The CRPTF will vote AGAINST shareholder resolutions that seek shareholder input to corporate political giving policies or on the contributions themselves. The CRPTF will vote AGAINST shareholder resolutions seeking an advisory vote on political contributions.

B. Charitable Contributions

The CRPTF will vote AGAINST shareholder resolutions that request companies not to make charitable contributions.

C. Link Executive Compensation to Corporate Activities Promoting Sustainability

The CRPTF will vote on a on a CASE-BY-CASE basis on equity-based compensation plans that link executive compensation to responsible business practices that promote the long-term sustainability of the environment, the economic vibrancy of the local community and the welfare of the company's employees.

Such resolutions will be evaluated in the context of:

- The degree to which the issue can be linked to executive compensation and the long term financial performance of the company;
- The degree that performance standards are related to corporate activities those promote long-term sustainability.
- Violations or complaints filed against the company relating to such performance standards;
- Current company pays levels.

D. Outsourcing

The CRPTF will vote on a CASE-BY-CASE basis on proposals calling for companies to report on the risks and opportunities associated with outsourcing.

E. Military Sales

Generally, the CRPTF will vote FOR shareholder resolutions that request companies to report on foreign military sales and economic conversion of facilities, as long as such resolutions permit non-disclosure of confidential and proprietary information.

F. Operations in Nations Sponsoring Terrorism Business Strategy

The CRPTF will vote on a CASE-BY-CASE basis on shareholder resolutions that require the establishment of a board committee to review and report on the company's financial, legal and reputational risks from its operations in a terrorism-sponsoring state.

G. Business Strategy

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Shareholders have introduced resolutions asking boards of directors to examine the impact of particular business strategies on long-term corporate value in light of changing market conditions that could affect those particular business strategies, and to report back to shareholders. The CRPTF generally supports enhanced disclosure to shareholders on how the company addresses issues that may present significant risk to long-term corporate value.

XV. GLOBAL PROXY VOTING

All international proxies shall be voted consistent with the CRPTF's Proxy Voting Policies and the relevant provisions of contracts with advisors, as necessary, and take into account relevant market listing rules and regulations, local laws and regulations, as well as local market best practice standards.

APPENDIX A

Executive Compensation Evaluation Criteria

Pay for Performance

- The degree to which pay is tied to long term performance, and the alignment of compensation practice with long term shareholder value – including salary, bonus, equity compensation, long term incentive plans, retirement benefits, perquisites, etc.
- The rigor of performance metrics that are used to evaluate executive performance in determining compensation, and the company's practice in disclosing these metrics to shareholders.
- The amount of payments provided for in contracted severance agreements, including change of control, severance for cause, and severance without cause, and whether and how these payments would be based on past performance. (See section X.D. below for more detail on criteria).
- The relationship between compensation granted in the current year to amount of key executives' walk-away pay (compensation received at time of termination, including severance benefits, accelerated vesting of stock options, restricted stock and restricted stock units, deferred compensation, pension benefits, and other post retirement benefits).
- The inclusion of "claw back" provisions which recapture incentive payments that were made to executives on the basis of having met or exceeded performance targets and subsequent financial restatements show that performance targets were not met. Claw back provisions should be triggered whether or not the executive was involved in fraudulent activity or the executive was found personally responsible for the financial misstatements.
- Appropriate use of peer companies to benchmark compensation structures

Compensation Policy

- The clarity and thoroughness of the Compensation Committee's statement of their compensation philosophy contained in the committee's annual report to shareholders, (as well as in the Committee's charter).
- The clarity and transparency of the presentation in the Compensation Discussion and Analysis (CD&A).

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Input from Shareholders

- Willingness of the company's compensation committee members to engage with shareholders and discuss executive compensation policies and practices.
- Use of other mechanisms by the company to seek shareholder input, including surveys of shareholders, mechanisms for shareholders to provide written input to the compensation committee (letters, e-mail, directly from a website, etc.), management meetings with shareholders, etc.

Poor Compensation Practices

The CRPTF will consider the extent to which a company uses what are considered poor compensation practices. The CRPTF will review these criteria holistically, and no one poor practice will result in a no vote. The CRPTF considers the following to be poor compensation practices:

- Re-pricing of stock options and/or options policies that provide for "reloading" of exercised stock options.
- Awarding of equity compensation (including stock options, restricted stock, restricted stock units, etc.) that excessively dilutes shareholder economic value or shareholder voting rights.
- Awarding Golden Coffins - provisions that award continuing compensation after an executive's death.
- Implementing compensation schemes that encourage excessive risk-taking, including both risks to the company and, for financial service companies, risks to the national and global financial system and the economy.
- Allowing for tax gross ups (except for pay adjustments that recognize extraordinary expenses related to work assignments).
- Engaging a compensation consultant that is retained by the company to provide other significant services other than work performed for the compensation committee (non-independent compensation consultant).
- Allowing for contractual severance provisions that would reward poor performance.
- Including change-in-control agreements that do not require both a change-in-control and loss of employment or diminution of job responsibilities to trigger payments.
- Changing performance metrics during the performance period in a way that misaligns pay and performance or that are not adjusted to reflect stock repurchase programs.
- Paying for Supplemental Executive Retirement Plans (SERP) that are deemed overly generous, based on an analysis by the CRPTF's proxy voting service and other expert analysis.
- Awarding new hire packages to new CEOs which are deemed overly generous ("golden hello package"), based on an analysis by the CRPTF's proxy voting service and other expert analysis.
- Failing to provide for a "claw back" policy – requiring repayment of performance-based compensation when financial restatements shows that compensation was not earned. Failing to submit one-time transfers or stock options to a shareholder vote.

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[1] Conn. Gen. Stat. § 3-13(d)(a).
[2] Council of Institutional Investors' Corporate Governance Polices, Section 7.2, Revised September 17, 2019, https://www.cii.org/files/ciicorporategovernancepolicies/09_17_19_corp_gov_policies.pdf
[3] *See* Harvard Law School's Forum on Corporate Governance: "[C]ompanies with a balanced board composition relative to director tenure tend to show better financial results and have a lower risk profile compared to their peers. At the same time, companies whose directors' tenure is heavily concentrated (whether mostly short-tenured or mostly long-tenured) exhibit poorer performance and have a higher risk profile. Therefore, as an extension beyond practicing basic board refreshment, companies may gain significant benefits by maintaining a balance of experience and new capacity on the board. https://corpgov.law.harvard.edu/2018/09/01/board-refreshment-finding-the-right-balance/
[4] This would replace the plurality vote standard which is an election where the candidate with the most votes is elected rather than requiring a majority of the votes for election – withhold votes do not count.
[5] In contested elections a majority vote is not needed because these elections are competitive.
[6] www.unpri.org
[7] https://www.ipcc.ch/sr15/
[8] Investing in a Time of Climate Change, https://www.ifc.org/wps/wcm/connect/e9bfa328-e091-465b-9da6-8fe312261b98/Investing+in+a+time+of+climate+change.pdf?MOD=AJPERES&CVID=kTFEATf

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Proposed Revisions to the

Investment Policy Statement

for the

Connecticut Retirement Plans and Trust Funds

Presented to the Investment Advisory Council

July 20, 2022

The Investment Policy Statement ("IPS")

Sets forth the standards governing the investment of the assets of the Connecticut Retirement Plans and Trust Funds ("CRPTF")

- Requisite elements of the IPS are outlined in state statute,
  Conn. Gen. Stat. § 3-13b

- Treasurer tasked with recommending an IPS which ***shall*** include, with respect to each trust fund:
  - Investment objectives
  - Asset allocation policy and risk tolerance
  - Asset class definitions (including permissible and restricted investments)
  - Guidelines on manager selection and termination, performance evaluation and proxy voting

Statutory Process for Revising the IPS

Connecticut General Statutes Sec. 3-13b(c)(1)

Wednesday, July 20, 2022

- Treasurer submits draft IPS to IAC for review

Tuesday, August 30, 2022

- IAC shall publish recommended changes and provide public notice in accordance with statute at least two (2) weeks prior to the September meeting

Wednesday, September 14, 2022

- Treasurer shall adopt the IPS "with any such changes [he] deems appropriate, with the approval of a majority" of the IAC
- If not approved, the IAC shall provide the reasons for failure to approve to the Treasurer. He may thereafter submit an amended proposed IPS at a subsequent meeting of the IAC.

Revisions to the IPS

Drafting Approach

- Comprehensive review of the IPS, including a fresh look at Connecticut's approach to risk management, investment processes, asset class definitions
- Consultation with the Investment Advisory Council ("IAC") regarding revisions, in accordance with state statute
- Strategic asset allocation reviewed and refined by the Treasurer/PFM investment team – subject to approval by the IAC
- Comparison with best practices promulgated by the CFA Institute and other public pension funds
- Eliminate outdated and/or procedural language

RESULT: **A streamlined, principles-based document that**

- **underscores the IAC's approval of asset allocation, advisory role on strategic approach**
- **facilitates the exercise of the Treasurer's investment discretion**

Highlights of Substantive Revisions

(Current IPS vs. Revisions as of July 15, 2022)

- Explicit reference to investment objectives
- Detailed rationale for specific asset classes within the portfolio, performance expectations
- Formalized focus on risk management (including integration of ESG considerations in investment processes), rebalancing policy
- Transparency around the Treasury's investment process
  - ✓ approval of investment mandates
  - ✓ execution of investment policy
  - ✓ manager selection, performance reviews, reporting to the IAC
- Appendices streamlined, Asset class structures/guidelines reevaluated
- Scaled down from 212 pages to 113 pages

Summary of Proposed Revisions

(Current IPS vs. Revisions as of July 15, 2022)

Introduction

- Adds 3 new trusts to the CRPTF
  - Teachers' Retirement Health Insurance Fund
  - Participants' Retirement Investment Fund
  - Participants' Investment Fund

Governance

- Clarifies the process for amending appendices related to asset allocation policy
  - Follows the same process that applies to revisions to the IPS

Scope and Purpose

- Explicit statements of investment philosophy, objectives and risk tolerance
- Commitment to providing opportunities for diverse managers to compete for investment mandates and brokerage business

Summary of Proposed Revisions

(Current IPS vs. Revisions as of July 15, 2022)

Strategic Asset Allocation ("SAA")

- Last full SAA and Asset-Liability study were conducted in 2018
- New approach for 2022 SAA Update:
  - PFM staff-driven process, in consultation with Meketa and IAC's Asset Allocation Subcommittee
- Final SAA submitted for IAC approval on July 20, 2022
- Once approved, will be incorporated into the IPS

Summary of Proposed Revisions

(Current IPS vs. Revisions as of July 15, 2022)

Investment Process

- Description of the asset class framework, goals and role of each asset class
- Guidelines for manager selection, performance evaluation
- Provides authority to the Treasurer to establish operational procedures for investment staff
- Public Markets vs. Private Markets Investment Managers
  - Difference – Sourced via requests for proposals ("RFPs") vs. tracking of potential investments
- CIO reviews reports for submission to the IAC on a monthly and quarterly basis

Summary of Proposed Revisions

(Current IPS vs. Revisions as of July 15, 2022)

Risk Management

CIO, with input from the CRO, responsible for devising and implementing CRPTF's risk framework and mitigating investment-related risks

Goals:

Achieve the desired rate of total return within appropriate levels of risk and liquidity
Maintain sufficient diversification to reduce potential for large losses
Minimize exposure to unintended risk
Preserve capital

Objectives:

Appropriate risk-taking given the CRPTF's investment goals
Proper monitoring

Summary of Proposed Revisions

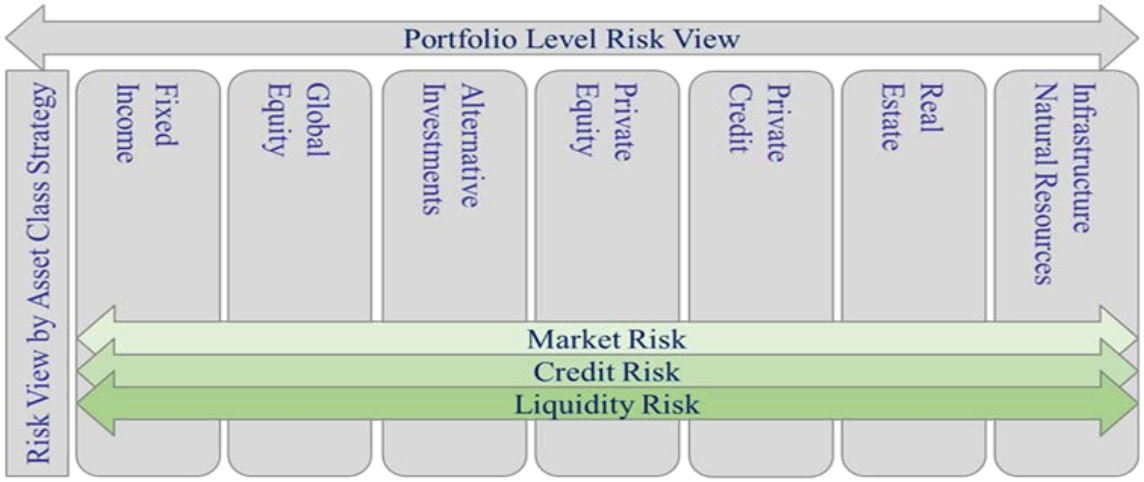
(Current IPS vs. Revisions as of July 15, 2022)

Risk Management Framework

Plan level portfolio-wide approach to risk management

Two distinct, related dimensions:

1) coordinated risk assessment and management for each asset class strategy, and
2) integrated evaluation of investment risk across all asset classes



Summary of Proposed Revisions

(Current IPS vs. Revisions as of July 15, 2022)

Other Considerations

- *Guidelines for Corporate Citizenship* replaced with section describing integration of environmental, social and governance factors
  - Recognizes the materiality of ESG and the impact of these factors on long-term returns
  - Describes how staff will evaluate managers' ESG policies and practices, relevant to each mandate

- Details Treasurer's discretion to restrict investments and/or divest based on specific criteria

- Consolidates Domestic and Global Proxy Voting Policies

Summary of Proposed Revisions

(Current IPS vs. Revisions as of July 15, 2022)

Appendices

A – Policy Target and Benchmarks *(To be approved by the IAC)*

B – Asset Allocations for each Plan and Trust

C – Asset Class Structure

D – Risk Framework

E – Responsible Contractor Policy

F – Policy for Implementation of Investment Restrictions

G – Proxy Voting Policies

Summary of Proposed Revisions

(Current IPS vs. Revisions as of July 15, 2022)

Appendix E – Responsible Contractor Policy

Approach to updates: Best practices review, peer comparison, Labor

Substantive revisions:

- Revises definition of "responsible contractor" to exclude those debarred by a municipal, state or federal governmental entity
- Applies to both real estate and infrastructure investments
- Applies where the CRPTF has more than 50% ownership and control
- Supports prevailing wages for real estate and infrastructure projects where required by funding source
- Recognizes workers' right to organize
- Advisors are required to:
  - Annually report on compliance with the Policy
  - Maintain a list of all CRPTF properties that are more than 50% owned and controlled

Summary of Proposed Revisions

(Current IPS vs. Revisions as of July 15, 2022)

Appendix F – Policy for Implementation of Investment Restrictions

- Replaces ***Compliance Policy for Implementation of Statutory Investment Restrictions***

- One comprehensive *Restricted Investments List* will include companies doing business in Iran and Sudan, Russia-domiciled companies and securities, and civilian firearms manufacturers

Summary of Proposed Revisions

(Current IPS vs. Revisions as of July 15, 2022)

Appendix G – Proxy Voting Policies

Approach to updates:

- Best practices review (Council of Institutional Investors, ISS, peer activity
- Experiences since last revisions in 2011, 2020

Substantive revisions:

- Separate policies for domestic and global proxy voting now consolidated
- New language: "All international proxies shall be voted consistent with the CRPTF's Proxy Voting Policies and the relevant provisions of contracts with advisors, as necessary, and take into account relevant market listing rules and regulations, local laws and regulations, as well as local market best practice standards."

TEACHER'S RETIREMENT FUND

Net of All Fees and Expenses
5/31/2022

Funds / *Benchmark*	Percent Holdings	Policy Weights	Lower Range	Upper Range	Market Value (mil.)	Month	Three Months	Fiscal YTD	Calendar YTD	One Year	Three Year	Five Year	Seven Year	Ten Year
											Compound, annualized returns			
Teacher's Retirement Fund					**$21,838.0**	**0.40**	**-2.81**	**-3.14**	**-6.76**	**-1.89**	**8.47**	**6.87**	**6.66**	**8.10**
Policy Benchmark						*-0.07*	*-3.42*	*-3.00*	*-6.58*	*-1.85*	*8.78*	*7.25*	*6.73*	*8.17*
Dynamic Benchmark						*-0.14*	*-4.05*	*-4.75*	*-7.58*	*-3.67*	*8.36*	*6.84*	*6.39*	*N/A*
Domestic Equity	**21.0%**	**20.0**	15.0	25.0	**$4,589.6**	**-0.16**	**-6.49**	**-6.34**	**-14.12**	**-4.25**	**15.36**	**12.50**	**11.43**	**13.90**
Russell 3000						*-0.13*	*-6.15*	*-6.00*	*-13.89*	*-3.68*	*15.60*	*12.75*	*11.55*	*14.00*
Developed Markets ISF	**12.0%**	**11.0**	6.0	16.0	**$2,617.4**	**0.61**	**-5.08**	**-9.55**	**-11.51**	**-10.58**	**6.80**	**4.30**	**4.86**	**8.65**
MSCI EAFE IMI Net						*0.53*	*-5.53*	*-10.18*	*-11.97*	*-11.27*	*6.59*	*4.83*	*4.52*	*8.56*
Emerging Markets ISF	**10.0%**	**9.0**	4.0	14.0	**$2,190.1**	**0.46**	**-6.42**	**-20.57**	**-12.36**	**-20.32**	**7.44**	**4.76**	**4.85**	**4.83**
MSCI Emerging Markets IMI						*0.17*	*-6.90*	*-18.96*	*-11.62*	*-18.62*	*5.71*	*4.06*	*3.43*	*4.36*
Global Equities [4]	**43.0%**	**40.0**	25.0	55.0	**$9,397.1**	*0.20*	*-6.08*	*-9.54*	*-13.00*	*-8.79*	*11.53*	*8.48*	*8.14*	*11.25*
MSCI All Country World Net Index						*0.12*	*-5.90*	*-7.99*	*-12.83*	*-6.78*	*11.71*	*9.00*	*7.97*	*10.25*
Core Fixed Income	**11.4%**	**13.0**	8.0	18.0	**$2,481.8**	**0.39**	**-6.20**	**-9.39**	**-9.37**	**-8.64**	**0.09**	**0.93**	**1.32**	**1.60**
Barclays U.S. Aggregate Bond Index						*0.64*	*-5.86*	*-8.86*	*-8.92*	*-8.22*	*0.00*	*1.18*	*1.49*	*1.71*
Emerging Market Debt	**4.5%**	**5.0**	0.0	10.0	**$991.2**	**0.85**	**-5.60**	**-14.49**	**-11.63**	**-14.58**	**-2.25**	**-0.65**	**1.39**	**1.52**
50% JPM EMBI Global Div / 50% JPM GBI EM Global Div						*0.89*	*-6.12*	*-15.73*	*-12.80*	*-15.94*	*-2.33*	*-0.59*	*1.05*	*1.45*
High Yield	**5.9%**	**3.0**	0.0	8.0	**$1,280.9**	**-0.22**	**-3.89**	**-5.48**	**-6.92**	**-4.11**	**3.89**	**3.61**	**4.04**	**5.08**
Bloomberg Barclays U.S. High Yield 2% Issuer Cap Index						*0.23*	*-4.43*	*-6.52*	*-7.99*	*-5.28*	*3.04*	*3.31*	*3.93*	*5.02*
Liquidity Fund	**1.6%**	**2.0**	0.0	3.0	**$344.9**	**0.07**	**0.14**	**0.18**	**0.16**	**0.18**	**0.71**	**1.23**	**1.07**	**0.82**
50% U.S. 3-Month T-Bill / 50% Bloomberg Barclays US Government Treasury 1 to 3 Year Index						*0.33*	*-0.59*	*-1.38*	*-1.14*	*-1.47*	*0.44*	*1.01*	*0.86*	*0.65*
Real Assets[1]	**15.5%**	**19.0**	10.0	25.0	**$3,378.4**	**N/A**	**2.99**	**11.70**	**4.51**	**13.15**	**6.99**	**7.00**	**7.70**	**8.79**
*Blended Custom Benchmark 1Q in Arrears^* [2]						*N/A*	*3.02*	*11.00*	*2.74*	*12.67*	*7.19*	*7.05*	*8.06*	*8.96*
Private Investment[1]	**11.8%**	**10.0**	5.0	15.0	**$2,570.9**	**N/A**	**5.67**	**26.83**	**5.67**	**34.68**	**25.25**	**20.96**	**17.56**	**16.32**
*Russell 3000 + 250 basis points 1Q in Arrears^*						*N/A*	*-4.04*	*10.43*	*1.29*	*14.69*	*24.89*	*16.86*	*14.65*	*16.13*
Private Credit[1]	**2.4%**	**5.0**	0.0	10.0	**$519.9**	**N/A**	**2.72**	**12.18**	**2.59**	**13.27**	**N/A**	**N/A**	**N/A**	**N/A**
*S&P / LSTA Leveraged Loan Index + 150 basis points 1Q in Arrears^*						*N/A*	*1.43*	*5.31*	*1.79*	*5.32*	*N/A*	*N/A*	*N/A*	*N/A*
Alternative Investment Fund	**4.0%**	**3.0**	0.0	10.0	**$872.9**	**-0.45**	**-0.59**	**-0.55**	**-1.16**	**-0.54**	**1.92**	**2.75**	**2.27**	**3.25**
Absolute Return Strategy blended benchmark [3]						*-0.72*	*-1.05*	*-1.40*	*-1.70*	*-1.41*	*2.31*	*2.64*	*1.96*	*1.39*

[1] Actual performance, reported one quarter in arrears.

[2] A blended benchmark comprised of the weightings of Real Estate, Infrastructure / Natural Resources and U.S. TIPS as of April 2020.

[3] A blended benchmark comprised of the weightings of each of the investments utilized within the fund of funds vehicle multiplied by their respective benchmarks as of April 2020.

[4] Unofficial Benchmark, for comparison purposes only

STATE EMPLOYEES' RETIREMENT FUND

Net of All Fees and Expenses
5/31/2022

Funds / *Benchmark*	Percent Holdings	Policy Weights	Lower Range	Upper Range	Market Value (mil.)	Month	Three Months	Fiscal YTD	Calendar YTD	One Year	Three Year	Five Year	Seven Year	Ten Year
											Compound, annualized returns			
State Employees' Retirement Fund					**$16,261.4**	**0.39**	**-2.83**	**-3.17**	**-6.77**	**-1.93**	**8.47**	**6.93**	**6.70**	**8.14**
Policy Benchmark						*-0.07*	*-3.42*	*-3.00*	*-6.58*	*-1.85*	*8.78*	*7.25*	*6.73*	*8.18*
Dynamic Benchmark						*-0.13*	*-3.98*	*-4.69*	*-7.52*	*-3.61*	*8.40*	*6.93*	*6.49*	*N/A*
Domestic Equity	**20.9%**	**20.0**	15.0	25.0	**$3,393.7**	**-0.16**	**-6.49**	**-6.34**	**-14.12**	**-4.25**	**15.36**	**12.50**	**11.43**	**13.90**
Russell 3000						*-0.13*	*-6.15*	*-6.00*	*-13.89*	*-3.68*	*15.60*	*12.75*	*11.55*	*14.00*
Developed Markets ISF	**11.9%**	**11.0**	6.0	16.0	**$1,939.7**	**0.61**	**-5.08**	**-9.55**	**-11.51**	**-10.58**	**6.80**	**4.30**	**4.86**	**8.65**
MSCI EAFE IMI Net						*0.53*	*-5.53*	*-10.18*	*-11.97*	*-11.27*	*6.59*	*4.83*	*4.52*	*8.56*
Emerging Markets ISF	**10.0%**	**9.0**	4.0	14.0	**$1,627.3**	**0.46**	**-6.42**	**-20.57**	**-12.36**	**-20.32**	**7.44**	**4.76**	**4.85**	**4.83**
MSCI Emerging Markets IMI						*0.17*	*-6.90*	*-18.96*	*-11.62*	*-18.62*	*5.71*	*4.06*	*3.43*	*4.36*
Global Equities [4]	**42.8%**	**40.0**	25.0	55.0	**$6,960.7**	*0.20*	*-6.08*	*-9.54*	*-13.00*	*-8.79*	*11.53*	*8.48*	*8.14*	*11.25*
MSCI All Country World Net Index						*0.12*	*-5.90*	*-7.99*	*-12.83*	*-6.78*	*11.71*	*9.00*	*7.97*	*10.25*
Core Fixed Income	**11.2%**	**13.0**	8.0	18.0	**$1,816.4**	**0.39**	**-6.20**	**-9.39**	**-9.37**	**-8.64**	**0.09**	**0.93**	**1.32**	**1.60**
Barclays U.S. Aggregate Bond Index						*0.64*	*-5.86*	*-8.86*	*-8.92*	*-8.22*	*0.00*	*1.18*	*1.49*	*1.71*
Emerging Market Debt	**4.5%**	**5.0**	0.0	10.0	**$729.8**	**0.85**	**-5.60**	**-14.49**	**-11.63**	**-14.58**	**-2.25**	**-0.65**	**1.39**	**1.52**
50% JPM EMBI Global Div / 50% JPM GBI EM Global Div						*0.89*	*-6.12*	*-15.73*	*-12.80*	*-15.94*	*-2.33*	*-0.59*	*1.05*	*1.45*
High Yield	**5.8%**	**3.0**	0.0	8.0	**$939.4**	**-0.22**	**-3.89**	**-5.48**	**-6.92**	**-4.11**	**3.89**	**3.61**	**4.04**	**5.08**
Bloomberg Barclays U.S. High Yield 2% Issuer Cap Index						*0.23*	*-4.43*	*-6.52*	*-7.99*	*-5.28*	*3.04*	*3.31*	*3.93*	*5.02*
Liquidity Fund	**2.6%**	**2.0**	0.0	3.0	**$414.8**	**0.07**	**0.14**	**0.18**	**0.16**	**0.18**	**0.71**	**1.23**	**1.07**	**0.82**
50% U.S. 3-Month T-Bill / 50% Bloomberg Barclays US Government Treasury 1 to 3 Year Index						*0.33*	*-0.59*	*-1.38*	*-1.14*	*-1.47*	*0.44*	*1.01*	*0.86*	*0.65*
Real Assets[1]	**15.6%**	**19.0**	10.0	25.0	**$2,531.6**	**N/A**	**2.99**	**11.70**	**4.51**	**13.15**	**6.99**	**7.00**	**7.70**	**8.79**
*Blended Custom Benchmark 1Q in Arrears^* [2]						*N/A*	*3.02*	*11.00*	*2.74*	*12.67*	*7.19*	*7.05*	*8.06*	*8.96*
Private Investment[1]	**11.3%**	**10.0**	5.0	15.0	**$1,834.8**	**N/A**	**5.67**	**26.83**	**5.67**	**34.68**	**25.25**	**20.96**	**17.56**	**16.32**
*Russell 3000 + 250 basis points 1Q in Arrears^*						*N/A*	*-4.04*	*10.43*	*1.29*	*14.69*	*24.89*	*16.86*	*14.65*	*16.13*
Private Credit[1]	**2.4%**	**5.0**	0.0	10.0	**$395.0**	**N/A**	**2.72**	**12.18**	**2.59**	**13.27**	**N/A**	**N/A**	**N/A**	**N/A**
*S&P / LSTA Leveraged Loan Index + 150 basis points 1Q in Arrears^*						*N/A*	*1.43*	*5.31*	*1.79*	*5.32*	*N/A*	*N/A*	*N/A*	*N/A*
Alternative Investment Fund	**3.9%**	**3.0**	0.0	8.0	**$638.8**	**-0.45**	**-0.59**	**-0.55**	**-1.16**	**-0.54**	**1.92**	**2.75**	**2.27**	**3.25**
Absolute Return Strategy blended benchmark [3]						*-0.72*	*-1.05*	*-1.40*	*-1.70*	*-1.41*	*2.31*	*2.64*	*1.96*	*1.39*

[1] Actual performance, reported one quarter in arrears.

[2] A blended benchmark comprised of the weightings of Real Estate, Infrastructure / Natural Resources and U.S. TIPS as of April 2020.

[3] A blended benchmark comprised of the weightings of each of the investments utilized within the fund of funds vehicle multiplied by their respective benchmarks as of April 2020.

[4] Unofficial Benchmark, for comparison purposes only

MUNICIPAL EMPLOYEES RETIREMENT FUND

Net of All Fees and Expenses
5/31/2022

Funds / *Benchmark*	Percent Holdings	Policy Weights	Lower Range	Upper Range	Market Value (mil.)	Month	Three Months	Fiscal YTD	Calendar YTD	One Year	Three Year	Five Year	Seven Year	Ten Year
											Compound, annualized returns			
Municipal Employees' Retirement Fund					**$3,135.2**	**0.40**	**-2.92**	**-3.30**	**-6.96**	**-2.06**	**8.34**	**6.78**	**6.59**	**7.54**
Policy Benchmark						*-0.07*	*-3.42*	*-3.00*	*-6.58*	*-1.85*	*8.78*	*7.04*	*6.57*	*7.63*
Dynamic Benchmark						*-0.14*	*-4.10*	*-4.83*	*-7.70*	*-3.75*	*8.25*	*6.72*	*6.36*	*N/A*
Domestic Equity	**21.5%**	**20.0**	15.0	25.0	**$674.2**	**-0.16**	**-6.49**	**-6.34**	**-14.12**	**-4.25**	**15.36**	**12.50**	**11.43**	**13.90**
Russell 3000						*-0.13*	*-6.15*	*-6.00*	*-13.89*	*-3.68*	*15.60*	*12.75*	*11.55*	*14.00*
Developed Markets ISF	**12.3%**	**11.0**	6.0	16.0	**$384.5**	**0.61**	**-5.08**	**-9.55**	**-11.51**	**-10.58**	**6.80**	**4.30**	**4.86**	**8.65**
MSCI EAFE IMI Net						*0.53*	*-5.53*	*-10.18*	*-11.97*	*-11.27*	*6.59*	*4.83*	*4.52*	*8.56*
Emerging Markets ISF	**10.3%**	**9.0**	4.0	14.0	**$322.0**	**0.46**	**-6.42**	**-20.57**	**-12.36**	**-20.32**	**7.44**	**4.76**	**4.85**	**4.83**
MSCI Emerging Markets IMI						*0.17*	*-6.90*	*-18.96*	*-11.62*	*-18.62*	*5.71*	*4.06*	*3.43*	*4.36*
Global Equities [4]	**44.0%**	**40.0**	25.0	55.0	**$1,380.6**	*0.20*	*-6.08*	*-9.54*	*-13.00*	*-8.79*	*11.53*	*8.48*	*8.14*	*11.25*
MSCI All Country World Net Index						*0.12*	*-5.90*	*-7.99*	*-12.83*	*-6.78*	*11.71*	*9.00*	*7.97*	*10.25*
Core Fixed Income	**11.5%**	**13.0**	8.0	18.0	**$361.0**	**0.39**	**-6.20**	**-9.39**	**-9.37**	**-8.64**	**0.09**	**0.93**	**1.32**	**1.60**
Barclays U.S. Aggregate Bond Index						*0.64*	*-5.86*	*-8.86*	*-8.92*	*-8.22*	*0.00*	*1.18*	*1.49*	*1.71*
Emerging Market Debt	**4.6%**	**5.0**	0.0	10.0	**$144.8**	**0.85**	**-5.60**	**-14.49**	**-11.63**	**-14.58**	**-2.25**	**-0.65**	**1.39**	**1.52**
50% JPM EMBI Global Div / 50% JPM GBI EM Global Div						*0.89*	*-6.12*	*-15.73*	*-12.80*	*-15.94*	*-2.33*	*-0.59*	*1.05*	*1.45*
High Yield	**5.9%**	**3.0**	0.0	8.0	**$185.3**	**-0.22**	**-3.89**	**-5.48**	**-6.92**	**-4.11**	**3.89**	**3.61**	**4.04**	**5.08**
Bloomberg Barclays U.S. High Yield 2% Issuer Cap Index						*0.23*	*-4.43*	*-6.52*	*-7.99*	*-5.28*	*3.04*	*3.31*	*3.93*	*5.02*
Liquidity Fund	**0.4%**	**2.0**	0.0	3.0	**$13.7**	**0.06**	**0.14**	**0.18**	**0.16**	**0.18**	**0.71**	**1.23**	**1.07**	**0.82**
50% U.S. 3-Month T-Bill / 50% Bloomberg Barclays US Government Treasury 1 to 3 Year Index						*0.33*	*-0.59*	*-1.38*	*-1.14*	*-1.47*	*0.44*	*1.01*	*0.86*	*0.65*
Real Assets[1]	**15.1%**	**19.0**	15.0	25.0	**$474.8**	**N/A**	**2.99**	**11.70**	**4.51**	**13.15**	**6.99**	**7.00**	**7.70**	**8.79**
*Blended Custom Benchmark 1Q in Arrears^* [2]						*N/A*	*3.02*	*11.00*	*2.74*	*12.67*	*7.19*	*7.05*	*8.06*	*8.96*
Private Investment[1]	**11.8%**	**10.0**	5.0	15.0	**$369.8**	**N/A**	**5.67**	**26.83**	**5.67**	**34.68**	**25.25**	**20.96**	**17.56**	**16.32**
*Russell 3000 + 250 basis points 1Q in Arrears^*						*N/A*	*-4.04*	*10.43*	*1.29*	*14.69*	*24.89*	*16.86*	*14.65*	*16.13*
Private Credit[1]	**2.5%**	**5.0**	0.0	10.0	**$77.0**	**N/A**	**2.72**	**12.18**	**2.59**	**13.27**	**N/A**	**N/A**	**N/A**	**N/A**
*S&P / LSTA Leveraged Loan Index + 150 basis points 1Q in Arrears^*						*N/A*	*1.43*	*5.31*	*1.79*	*5.32*	*N/A*	*N/A*	*N/A*	*N/A*
Alternative Investment Fund	**4.1%**	**3.0**	0.0	10.0	**$128.2**	**-0.45**	**-0.59**	**-0.55**	**-1.16**	**-0.54**	**1.92**	**2.75**	**2.27**	**3.25**
Absolute Return Strategy blended benchmark [3]						*-0.72*	*-1.05*	*-1.40*	*-1.70*	*-1.41*	*2.31*	*2.64*	*1.96*	*1.39*

(1) Actual performance, reported one quarter in arrears.

(2) A blended benchmark comprised of the weightings of Real Estate, Infrastructure / Natural Resources and U.S. TIPS as of April 2020.

(3) A blended benchmark comprised of the weightings of each of the investments utilized within the fund of funds vehicle multiplied by their respective benchmarks as of April 2020.

(4) Unofficial Benchmark, for comparison purposes only

OPEB FUND

Net of All Fees and Expenses
5/31/2022

Funds / *Benchmark*	Percent Holdings	Policy Weights	Lower Range	Upper Range	Market Value (mil.)	Month	Three Months	Fiscal YTD	Calendar YTD	One Year	Three Year	Five Year	Seven Year	Ten Year
											Compound, annualized returns			
OPEB					**$2,152.2**	**0.39**	**-2.75**	**-3.07**	**-6.68**	**-1.81**	**8.48**	**6.90**	**6.63**	**N/A**
Policy Benchmark						*-0.07*	*-3.42*	*-3.00*	*-6.58*	*-1.85*	*8.78*	*7.05*	*6.55*	*N/A*
Dynamic Benchmark						*-0.13*	*-3.92*	*-4.64*	*-7.48*	*-3.56*	*8.47*	*6.92*	*6.52*	*N/A*
Domestic Equity	**20.4%**	**20.0**	15.0	25.0	**$439.1**	**-0.16**	**-6.49**	**-6.34**	**-14.12**	**-4.25**	**15.36**	**12.50**	**11.43**	**N/A**
Russell 3000						*-0.13*	*-6.15*	*-6.00*	*-13.89*	*-3.68*	*15.60*	*12.75*	*11.55*	*N/A*
Developed Markets ISF	**11.7%**	**11.0**	6.0	15.0	**$252.4**	**0.61**	**-5.08**	**-9.55**	**-11.51**	**-10.58**	**6.80**	**4.30**	**4.86**	**N/A**
MSCI EAFE IMI Net						*0.53*	*-5.53*	*-10.18*	*-11.97*	*-11.27*	*6.59*	*4.83*	*4.52*	*N/A*
Emerging Markets ISF	**9.8%**	**9.0**	4.0	14.0	**$211.0**	**0.46**	**-6.42**	**-20.57**	**-12.36**	**-20.32**	**7.44**	**4.76**	**4.85**	**N/A**
MSCI Emerging Markets IMI						*0.17*	*-6.90*	*-18.96*	*-11.62*	*-18.62*	*5.71*	*4.06*	*3.43*	*N/A*
Global Equities [4]	**41.9%**	**40.0**	25.0	54.0	**$902.5**	*0.20*	*-6.08*	*-9.54*	*-13.00*	*-8.79*	*11.53*	*8.48*	*8.14*	*N/A*
MSCI All Country World Net Index						*0.12*	*-5.90*	*-7.99*	*-12.83*	*-6.78*	*11.71*	*9.00*	*7.97*	*N/A*
Core Fixed Income	**11.1%**	**13.0**	8.0	18.0	**$238.5**	**0.39**	**-6.20**	**-9.39**	**-9.37**	**-8.64**	**0.09**	**0.93**	**1.32**	**N/A**
Barclays U.S. Aggregate Bond Index						*0.64*	*-5.86*	*-8.86*	*-8.92*	*-8.22*	*0.00*	*1.18*	*1.49*	*N/A*
Emerging Market Debt	**4.5%**	**5.0**	0.0	10.0	**$96.3**	**0.85**	**-5.60**	**-14.49**	**-11.63**	**-14.58**	**-2.25**	**-0.65**	**1.39**	**N/A**
50% JPM EMBI Global Div / 50% JPM GBI EM Global Div						*0.89*	*-6.12*	*-15.73*	*-12.80*	*-15.94*	*-2.33*	*-0.59*	*1.05*	*N/A*
High Yield	**5.8%**	**3.0**	0.0	8.0	**$125.5**	**-0.22**	**-3.89**	**-5.48**	**-6.92**	**-4.11**	**3.89**	**3.61**	**4.04**	**N/A**
Bloomberg Barclays U.S. High Yield 2% Issuer Cap Index						*0.23*	*-4.43*	*-6.52*	*-7.99*	*-5.28*	*3.04*	*3.31*	*3.93*	*N/A*
Liquidity Fund	**4.2%**	**2.0**	0.0	3.0	**$90.7**	**0.08**	**0.14**	**0.18**	**0.16**	**0.18**	**0.71**	**1.23**	**1.07**	**N/A**
50% U.S. 3-Month T-Bill / 50% Bloomberg Barclays US Government Treasury 1 to 3 Year Index						*0.33*	*-0.59*	*-1.38*	*-1.14*	*-1.47*	*0.44*	*1.01*	*0.86*	*N/A*
Real Assets[1]	**15.0%**	**19.0**	15.0	25.0	**$321.8**	**N/A**	**2.99**	**11.70**	**4.51**	**13.15**	**6.99**	**7.00**	**7.70**	**N/A**
*Blended Custom Benchmark 1Q in Arrears^* [2]						*N/A*	*3.02*	*11.00*	*2.74*	*12.67*	*7.19*	*7.05*	*8.06*	*N/A*
Private Investment[1]	**11.4%**	**10.0**	5.0	15.0	**$245.1**	**N/A**	**5.67**	**26.83**	**5.67**	**34.68**	**25.25**	**20.96**	**17.56**	**N/A**
*Russell 3000 + 250 basis points 1Q in Arrears^*						*N/A*	*-4.04*	*10.43*	*1.29*	*14.69*	*24.89*	*16.86*	*14.65*	*N/A*
Private Credit[1]	**2.3%**	**5.0**	0.0	10.0	**$50.2**	**N/A**	**2.72**	**12.18**	**2.59**	**13.27**	**N/A**	**N/A**	**N/A**	**N/A**
*S&P / LSTA Leveraged Loan Index + 150 basis points 1Q in Arrears^*						*N/A*	*1.43*	*5.31*	*1.79*	*5.32*	*N/A*	*N/A*	*N/A*	*N/A*
Alternative Investment Fund	**3.8%**	**3.0**	0.0	10.0	**$81.6**	**-0.45**	**-0.59**	**-0.55**	**-1.16**	**-0.54**	**1.92**	**2.75**	**2.27**	**N/A**
Absolute Return Strategy blended benchmark [3]						*-0.72*	*-1.05*	*-1.40*	*-1.70*	*-1.41*	*2.31*	*2.64*	*1.96*	*N/A*

[1] Actual performance, reported one quarter in arrears.

[2] A blended benchmark comprised of the weightings of Real Estate, Infrastructure / Natural Resources and U.S. TIPS as of April 2020.

[3] A blended benchmark comprised of the weightings of each of the investments utilized within the fund of funds vehicle multiplied by their respective benchmarks as of April 2020.

[4] Unofficial Benchmark, for comparison purposes only

PROBATE JUDGES EMPLOYEES' RETIREMENT FUND

Net of All Fees and Expenses
5/31/2022

Funds / *Benchmark*	Percent Holdings	Policy Weights	Lower Range	Upper Range	Market Value (mil.)	Month	Three Months	Fiscal YTD	Calendar YTD	One Year	Three Year	Five Year	Seven Year	Ten Year
											Compound, annualized returns			
Probate Judges Employees' Retirement Fund					**$131.8**	**0.41**	**-2.86**	**-3.27**	**-6.91**	**-2.06**	**8.28**	**6.70**	**6.56**	**7.54**
Policy Benchmark						*-0.07*	*-3.42*	*-3.00*	*-6.58*	*-1.85*	*8.78*	*7.05*	*6.61*	*7.71*
Dynamic Benchmark						*-0.15*	*-4.14*	*-4.88*	*-7.74*	*-3.85*	*8.30*	*6.73*	*6.39*	*N/A*
Domestic Equity	**21.3%**	**20.0**	15.0	25.0	**$28.1**	**-0.16**	**-6.49**	**-6.34**	**-14.12**	**-4.25**	**15.36**	**12.50**	**11.43**	**13.90**
Russell 3000						*-0.13*	*-6.15*	*-6.00*	*-13.89*	*-3.68*	*15.60*	*12.75*	*11.55*	*14.00*
Developed Markets ISF	**12.3%**	**11.0**	6.0	16.0	**$16.2**	**0.61**	**-5.08**	**-9.55**	**-11.51**	**-10.58**	**6.80**	**4.30**	**4.86**	**8.65**
MSCI EAFE IMI						*0.53*	*-5.53*	*-10.18*	*-11.97*	*-11.27*	*6.59*	*4.83*	*4.52*	*8.56*
Emerging Markets ISF	**10.2%**	**9.0**	4.0	14.0	**$13.5**	**0.46**	**-6.42**	**-20.57**	**-12.36**	**-20.32**	**7.44**	**4.76**	**4.85**	**4.83**
MSCI Emerging Markets IMI						*0.17*	*-6.90*	*-18.96*	*-11.62*	*-18.62*	*5.71*	*4.06*	*3.43*	*4.36*
Global Equities [4]	**43.8%**	**40.0**	25.0	55.0	**$57.8**	*0.20*	*-6.08*	*-9.54*	*-13.00*	*-8.79*	*11.53*	*8.48*	*8.14*	*11.25*
MSCI All Country World Net Index						*0.12*	*-5.90*	*-7.99*	*-12.83*	*-6.78*	*11.71*	*9.00*	*7.97*	*10.25*
Core Fixed Income	**11.5%**	**13.0**	8.0	18.0	**$15.1**	**0.39**	**-6.20**	**-9.39**	**-9.37**	**-8.64**	**0.09**	**0.93**	**1.32**	**1.60**
Barclays U.S. Aggregate Bond Index						*0.64*	*-5.86*	*-8.86*	*-8.92*	*-8.22*	*0.00*	*1.18*	*1.49*	*1.71*
Emerging Market Debt	**4.5%**	**5.0**	0.0	10.0	**$5.9**	**0.85**	**-5.60**	**-14.49**	**-11.63**	**-14.58**	**-2.25**	**-0.65**	**1.39**	**1.52**
50% JPM EMBI Global Div / 50% JPM GBI EM Global Div						*0.89*	*-6.12*	*-15.73*	*-12.80*	*-15.94*	*-2.33*	*-0.59*	*1.05*	*1.45*
High Yield	**6.0%**	**3.0**	0.0	8.0	**$7.9**	**-0.22**	**-3.89**	**-5.48**	**-6.92**	**-4.11**	**3.89**	**3.61**	**4.04**	**5.08**
Bloomberg Barclays U.S. High Yield 2% Issuer Cap Index						*0.23*	*-4.43*	*-6.52*	*-7.99*	*-5.28*	*3.04*	*3.31*	*3.93*	*5.02*
Liquidity Fund	**0.5%**	**2.0**	0.0	3.0	**$0.7**	**0.07**	**0.14**	**0.18**	**0.16**	**0.18**	**0.71**	**1.23**	**1.07**	**0.82**
50% U.S. 3-Month T-Bill / 50% Bloomberg Barclays US Government Treasury 1 to 3 Year Index						*0.33*	*-0.59*	*-1.38*	*-1.14*	*-1.47*	*0.44*	*1.01*	*0.86*	*0.65*
Real Assets[1]	**15.2%**	**19.0**	15.0	25.0	**$20.1**	**N/A**	**2.99**	**11.70**	**4.51**	**13.15**	**6.99**	**7.00**	**7.70**	**8.79**
*Blended Custom Benchmark 1Q in Arrears^* [2]						*N/A*	3.02	*11.00*	2.74	12.67	7.19	7.05	8.06	8.96
Private Investment[1]	**12.3%**	**10.0**	5.0	15.0	**$16.2**	**N/A**	**5.67**	**26.83**	**5.67**	**34.68**	**25.25**	**20.96**	**17.56**	**16.32**
*Russell 3000 + 250 basis points 1Q in Arrears^*						*N/A*	-4.04	*10.43*	*1.29*	*14.69*	*24.89*	*16.86*	*14.65*	*16.13*
Private Credit[1]	**2.1%**	**5.0**	0.0	10.0	**$2.7**	**N/A**	**2.72**	**12.18**	**2.59**	**13.27**	**N/A**	**N/A**	**N/A**	**N/A**
*S&P / LSTA Leveraged Loan Index + 150 basis points 1Q in Arrears^*						*N/A*	1.43	*5.31*	*1.79*	*5.32*	*N/A*	*N/A*	*N/A*	*N/A*
Alternative Investment Fund	**4.1%**	**3.0**	0.0	10.0	**$5.5**	**-0.45**	**-0.59**	**-0.55**	**-1.16**	**-0.54**	**1.92**	**2.75**	**2.27**	**3.25**
Absolute Return Strategy blended benchmark [3]						*-0.72*	*-1.05*	*-1.40*	*-1.70*	*-1.41*	*2.31*	*2.64*	*1.96*	*1.39*

(1) Actual performance, reported one quarter in arrears.

(2) A blended benchmark comprised of the weightings of Real Estate, Infrastructure / Natural Resources and U.S. TIPS as of April 2020.

(3) A blended benchmark comprised of the weightings of each of the investments utilized within the fund of funds vehicle multiplied by their respective benchmarks as of April 2020.

(4) Unofficial Benchmark, for comparison purposes only

STATE JUDGES RETIREMENT FUND

Net of All Fees and Expenses
5/31/2022

Funds / *Benchmark*	Percent Holdings	Policy Weights	Lower Range	Upper Range	Market Value (mil.)	Month	Three Months	Fiscal YTD	Calendar YTD	One Year	Three Year	Five Year	Seven Year	Ten Year
											Compound, annualized returns			
State Judges Retirement Fund					**$290.0**	**0.40**	**-2.89**	**-3.28**	**-6.91**	**-2.03**	**8.33**	**6.79**	**6.59**	**7.56**
Policy Benchmark						*-0.07*	*-3.42*	*-3.00*	*-6.58*	*-1.85*	*8.78*	*7.04*	*6.57*	*7.63*
Dynamic Benchmark						*-0.14*	*-4.07*	*-4.81*	*-7.67*	*-3.72*	*8.38*	*6.81*	*6.42*	*N/A*
Domestic Equity	**21.3%**	**20.0**	15.0	25.0	**$61.9**	**-0.16**	**-6.49**	**-6.34**	**-14.12**	**-4.25**	**15.36**	**12.50**	**11.43**	**13.90**
Russell 3000						*-0.13*	*-6.15*	*-6.00*	*-13.89*	*-3.68*	*15.60*	*12.75*	*11.55*	*14.00*
Developed Markets ISF	**12.0%**	**11.0**	6.0	16.0	**$34.9**	**0.61**	**-5.08**	**-9.55**	**-11.51**	**-10.58**	**6.80**	**4.30**	**4.86**	**8.65**
MSCI EAFE IMI Net						*0.53*	*-5.53*	*-10.18*	*-11.97*	*-11.27*	*6.59*	*4.83*	*4.52*	*8.56*
Emerging Markets ISF	**10.1%**	**9.0**	4.0	14.0	**$29.3**	**0.46**	**-6.42**	**-20.57**	**-12.36**	**-20.32**	**7.44**	**4.76**	**4.85**	**4.83**
MSCI Emerging Markets IMI						*0.17*	*-6.90*	*-18.96*	*-11.62*	*-18.62*	*5.71*	*4.06*	*3.43*	*4.36*
Global Equities [4]	**43.5%**	**40.0**	25.0	55.0	**$126.1**	*0.20*	*-6.08*	*-9.54*	*-13.00*	*-8.79*	*11.53*	*8.48*	*8.14*	*11.25*
MSCI All Country World Net Index						*0.12*	*-5.90*	*-7.99*	*-12.83*	*-6.78*	*11.71*	*9.00*	*7.97*	*10.25*
Core Fixed Income	**11.4%**	**13.0**	8.0	18.0	**$32.9**	**0.39**	**-6.20**	**-9.39**	**-9.37**	**-8.64**	**0.09**	**0.93**	**1.32**	**1.60**
Barclays U.S. Aggregate Bond Index						*0.64*	*-5.86*	*-8.86*	*-8.92*	*-8.22*	*0.00*	*1.18*	*1.49*	*1.71*
Emerging Market Debt	**4.5%**	**5.0**	0.0	10.0	**$13.0**	**0.85**	**-5.60**	**-14.49**	**-11.63**	**-14.58**	**-2.25**	**-0.65**	**1.39**	**1.52**
50% JPM EMBI Global Div / 50% JPM GBI EM Global Div						*0.89*	*-6.12*	*-15.73*	*-12.80*	*-15.94*	*-2.33*	*-0.59*	*1.05*	*1.45*
High Yield	**5.9%**	**3.0**	0.0	8.0	**$17.0**	**-0.22**	**-3.89**	**-5.48**	**-6.92**	**-4.11**	**3.89**	**3.61**	**4.04**	**5.08**
Bloomberg Barclays U.S. High Yield 2% Issuer Cap Index						*0.23*	*-4.43*	*-6.52*	*-7.99*	*-5.28*	*3.04*	*3.31*	*3.93*	*5.02*
Liquidity Fund	**2.1%**	**2.0**	0.0	3.0	**$6.1**	**0.05**	**0.14**	**0.18**	**0.16**	**0.18**	**0.71**	**1.23**	**1.07**	**0.82**
50% U.S. 3-Month T-Bill / 50% Bloomberg Barclays US Government Treasury 1 to 3 Year Index						*0.33*	*-0.59*	*-1.38*	*-1.14*	*-1.47*	*0.44*	*1.01*	*0.86*	*0.65*
Real Assets[1]	**14.8%**	**19.0**	15.0	25.0	**$42.8**	**N/A**	**2.99**	**11.70**	**4.51**	**13.15**	**6.99**	**7.00**	**7.70**	**8.79**
*Blended Custom Benchmark 1Q in Arrears^* [2]						*N/A*	*3.02*	*11.00*	*2.74*	*12.67*	*7.19*	*7.05*	*8.06*	*8.96*
Private Investment[1]	**11.8%**	**10.0**	5.0	15.0	**$34.2**	**N/A**	**5.67**	**26.83**	**5.67**	**34.68**	**25.25**	**20.96**	**17.56**	**16.32**
*Russell 3000 + 250 basis points 1Q in Arrears^*						*N/A*	*-4.04*	*10.43*	*1.29*	*14.69*	*24.89*	*16.86*	*14.65*	*16.13*
Private Credit[1]	**2.0%**	**5.0**	0.0	10.0	**$5.8**	**N/A**	**2.72**	**12.18**	**2.59**	**13.27**	**N/A**	**N/A**	**N/A**	**N/A**
*S&P / LSTA Leveraged Loan Index + 150 basis points 1Q in Arrears^*						*N/A*	*1.43*	*5.31*	*1.79*	*5.32*	*N/A*	*N/A*	*N/A*	*N/A*
Alternative Investment Fund	**4.1%**	**3.0**	0.0	10.0	**$11.9**	**-0.45**	**-0.59**	**-0.55**	**-1.16**	**-0.54**	**1.92**	**2.75**	**2.27**	**3.25**
Absolute Return Strategy blended benchmark [3]						*-0.72*	*-1.05*	*-1.40*	*-1.70*	*-1.41*	*2.31*	*2.64*	*1.96*	*1.39*

[1] Actual performance, reported one quarter in arrears.

[2] A blended benchmark comprised of the weightings of Real Estate, Infrastructure / Natural Resources and U.S. TIPS as of April 2020.

[3] A blended benchmark comprised of the weightings of each of the investments utilized within the fund of funds vehicle multiplied by their respective benchmarks as of April 2020.

[4] Unofficial Benchmark, for comparison purposes only

STATE'S ATTORNEYS' RETIREMENT FUND

Net of All Fees and Expenses
5/31/2022

Funds / *Benchmark*	Percent Holdings	Policy Weights	Lower Range	Upper Range	Market Value (mil.)	Month	Three Months	Fiscal YTD	Calendar YTD	One Year	Three Year	Five Year	Seven Year	Ten Year
											Compound, annualized returns			
State's Attorneys' Retirement Fund					**$2.6**	**0.40**	**-2.88**	**-3.28**	**-6.90**	**-2.03**	**8.28**	**6.53**	**6.34**	**6.69**
Policy Benchmark						*-0.07*	*-3.42*	*-3.00*	*-6.58*	*-1.85*	*8.78*	*7.28*	*6.65*	*N/A*
Dynamic Benchmark						*-0.14*	*-4.05*	*-4.79*	*-7.65*	*-3.71*	*8.34*	*6.86*	*6.34*	*N/A*
Domestic Equity	**21.2%**	**20.0**	15.0	25.0	**$0.6**	**-0.16**	**-6.49**	**-6.34**	**-14.12**	**-4.25**	**15.36**	**12.50**	**11.43**	**13.90**
Russell 3000						*-0.13*	*-6.15*	*-6.00*	*-13.89*	*-3.68*	*15.60*	*12.75*	*11.55*	*14.00*
Developed Markets ISF	**12.1%**	**11.0**	6.0	16.0	**$0.3**	**0.61**	**-5.08**	**-9.55**	**-11.51**	**-10.58**	**6.80**	**4.30**	**4.86**	**N/A**
MSCI EAFE IMI Net						*0.53*	*-5.53*	*-10.18*	*-11.97*	*-11.27*	*6.59*	*4.83*	*4.52*	*N/A*
Emerging Markets ISF	**10.1%**	**9.0**	4.0	14.0	**$0.3**	**0.46**	**-6.42**	**-20.57**	**-12.36**	**-20.32**	**7.44**	**4.76**	**4.85**	**N/A**
MSCI Emerging Markets IMI						*0.17*	*-6.90*	*-18.96*	*-11.62*	*-18.62*	*5.71*	*4.06*	*3.43*	*N/A*
Global Equities [4]	**43.3%**	**40.0**	25.0	55.0	**$1.1**	*0.20*	*-6.08*	*-9.54*	*-13.00*	*-8.79*	*11.53*	*8.48*	*8.14*	*N/A*
MSCI All Country World Net Index						*0.12*	*-5.90*	*-7.99*	*-12.83*	*-6.78*	*11.71*	*9.00*	*7.97*	*N/A*
Core Fixed Income	**11.4%**	**13.0**	8.0	18.0	**$0.3**	**0.39**	**-6.20**	**-9.39**	**-9.37**	**-8.64**	**0.09**	**0.93**	**1.32**	**1.60**
Barclays U.S. Aggregate Bond Index						*0.64*	*-5.86*	*-8.86*	*-8.92*	*-8.22*	*0.00*	*1.18*	*1.49*	*1.71*
Emerging Market Debt	**4.5%**	**5.0**	0.0	10.0	**$0.1**	**0.85**	**-5.60**	**-14.49**	**-11.63**	**-14.58**	**-2.25**	**-0.65**	**1.39**	**1.52**
50% JPM EMBI Global Div / 50% JPM GBI EM Global Div						*0.89*	*-6.12*	*-15.73*	*-12.80*	*-15.94*	*-2.33*	*-0.59*	*1.05*	*1.45*
High Yield	**5.9%**	**3.0**	0.0	8.0	**$0.2**	**-0.22**	**-3.89**	**-5.48**	**-6.92**	**-4.11**	**3.89**	**3.61**	**4.04**	**5.08**
Bloomberg Barclays U.S. High Yield 2% Issuer Cap Index						*0.23*	*-4.43*	*-6.52*	*-7.99*	*-5.28*	*3.04*	*3.31*	*3.93*	*5.02*
Liquidity Fund	**2.2%**	**2.0**	0.0	3.0	**$0.1**	**0.05**	**0.14**	**0.18**	**0.16**	**0.18**	**0.71**	**1.23**	**1.07**	**0.82**
50% U.S. 3-Month T-Bill / 50% Bloomberg Barclays US Government Treasury 1 to 3 Year Index						*0.33*	*-0.59*	*-1.38*	*-1.14*	*-1.47*	*0.44*	*1.01*	*0.86*	*0.65*
Real Assets[1]	**14.8%**	**19.0**	15.0	25.0	**$0.4**	**N/A**	**2.99**	**11.70**	**4.51**	**13.15**	**N/A**	**N/A**	**N/A**	**N/A**
*Blended Custom Benchmark 1Q in Arrears^* [2]						*N/A*	*3.02*	*11.00*	*2.74*	*12.67*	*N/A*	*N/A*	*N/A*	*N/A*
Private Investment[1]	**11.7%**	**10.0**	5.0	15.0	**$0.3**	**N/A**	**5.67**	**26.83**	**5.67**	**34.68**	**N/A**	**N/A**	**N/A**	**N/A**
*Russell 3000 + 250 basis points 1Q in Arrears^*						*N/A*	*-4.04*	*10.43*	*1.29*	*14.69*	*N/A*	*N/A*	*N/A*	*N/A*
Private Credit[1]	**2.1%**	**5.0**	0.0	10.0	**$0.1**	**N/A**	**2.72**	**12.18**	**2.59**	**13.27**	**N/A**	**N/A**	**N/A**	**N/A**
*S&P / LSTA Leveraged Loan Index + 150 basis points 1Q in Arrears^*						*N/A*	*1.43*	*5.31*	*1.79*	*5.32*	*N/A*	*N/A*	*N/A*	*N/A*
Alternative Investment Fund	**4.1%**	**3.0**	0.0	10.0	**$0.1**	**-0.45**	**-0.59**	**-0.55**	**-1.16**	**-0.54**	**N/A**	**N/A**	**N/A**	**N/A**
Absolute Return Strategy blended benchmark [3]						*-0.72*	*-1.05*	*-1.40*	*-1.70*	*-1.41*	*N/A*	*N/A*	*N/A*	*N/A*

[1] Actual performance, reported one quarter in arrears.

[2] A blended benchmark comprised of the weightings of Real Estate, Infrastructure / Natural Resources and U.S. TIPS as of April 2020.

[3] A blended benchmark comprised of the weightings of each of the investments utilized within the fund of funds vehicle multiplied by their respective benchmarks as of April 2020.

[4] Unofficial Benchmark, for comparison purposes only

AGRICULTURAL COLLEGE FUND

Net of All Fees and Expenses
5/31/2022

Funds / *Benchmark*	Percent Holdings	Policy Weights	Lower Range	Upper Range	Market Value (mil.)	Month	Three Months	Fiscal YTD	Calendar YTD	One Year	Three Year	Five Year	Seven Year	Ten Year
											Compound, annualized returns			
Agricultural College Fund	**100.0%**				**$0.6**	**0.39**	**-6.19**	**-9.37**	**-9.36**	**-8.63**	**0.12**	**0.96**	**1.34**	**1.87**
Policy Benchmark						*0.64*	*-5.86*	*-8.86*	*-8.92*	*-8.22*	*0.00*	*1.18*	*1.49*	*1.85*
Dynamic Benchmark						*0.64*	*-5.85*	*-8.84*	*-8.90*	*-8.20*	*0.01*	*1.18*	*1.49*	*N/A*
Core Fixed Income	**99.7%**	**100.0**	100.0	100.0	**$0.6**	**0.39**	**-6.20**	**-9.39**	**-9.37**	**-8.64**	**0.09**	**0.93**	**1.32**	**1.60**
Barclays U.S. Aggregate Bond Index						*0.64*	*-5.86*	*-8.86*	*-8.92*	*-8.22*	*0.00*	*1.18*	*1.49*	*1.71*
Liquidity Fund [1]	**0.3%**				**$0.0**	**0.04**	**0.14**	**0.18**	**0.16**	**0.18**	**0.71**	**1.23**	**1.07**	**0.82**
50% U.S. 3-Month T-Bill / 50% Bloomberg Barclays US Government Treasury 1 to 3 Year Index						*0.33*	*-0.59*	*-1.38*	*-1.14*	*-1.47*	*0.44*	*1.01*	*0.86*	*0.65*

[1] Operational cash balance and expense accruals

ANDREW C. CLARK FUND

Net of All Fees and Expenses
5/31/2022

Funds / *Benchmark*	Percent Holdings	Policy Weights	Lower Range	Upper Range	Market Value (mil.)	Month	Three Months	Fiscal YTD	Calendar YTD	One Year	Three Year	Five Year	Seven Year	Ten Year
											Compound, annualized returns			
Andrew C. Clark Fund					**$1.3**	**0.33**	**-5.94**	**-9.14**	**-10.16**	**-8.43**	**3.69**	**3.49**	**3.61**	**4.50**
Policy Benchmark						*0.49*	*-5.71*	*-8.65*	*-9.85*	*-8.00*	*3.52*	*3.64*	*3.60*	*4.47*
Dynamic Benchmark						*0.49*	*-5.74*	*-8.74*	*-9.86*	*-8.06*	*3.58*	*3.73*	*3.66*	*N/A*
Domestic Equity	**14.3%**	**15.0**	10.0	20.0	**$0.2**	**-0.16**	**-6.49**	**-6.34**	**-14.12**	**-4.25**	**15.36**	**12.50**	**11.43**	**13.90**
Russell 3000						*-0.13*	*-6.15*	*-6.00*	*-13.89*	*-3.68*	*15.60*	*12.75*	*11.55*	*14.00*
Developed Markets ISF	**10.7%**	**11.0**	6.0	16.0	**$0.1**	**0.61**	**-5.08**	**-9.55**	**-11.51**	**-10.58**	**6.80**	**4.30**	**4.86**	**N/A**
MSCI EAFE IMI Net						*0.53*	*-5.53*	*-10.18*	*-11.97*	*-11.27*	*6.59*	*4.83*	*4.52*	*N/A*
Emerging Markets ISF	**3.4%**	**4.0**	0.0	5.0	**$0.0**	**0.46**	**-6.42**	**-20.57**	**-12.36**	**-20.32**	**7.44**	**4.76**	**4.85**	**N/A**
MSCI Emerging Markets IMI						*0.17*	*-6.90*	*-18.96*	*-11.62*	*-18.62*	*5.71*	*4.06*	*3.43*	*N/A*
Global Equities [1]	**28.3%**	**30.0**	16.0	41.0	**$0.4**	*0.20*	*-6.08*	*-9.54*	*-13.00*	*-8.79*	*11.53*	*8.48*	*8.14*	*N/A*
MSCI All Country World Net Index						*0.12*	*-5.90*	*-7.99*	*-12.83*	*-6.78*	*11.71*	*9.00*	*7.97*	*N/A*
Core Fixed Income	**68.5%**	**67.0**	57.0	77.0	**$0.9**	**0.39**	**-6.20**	**-9.39**	**-9.37**	**-8.64**	**0.09**	**0.93**	**1.32**	**1.60**
Barclays U.S. Aggregate Bond Index						*0.64*	*-5.86*	*-8.86*	*-8.92*	*-8.22*	*0.00*	*1.18*	*1.49*	*1.71*
Liquidity Fund	**3.3%**	**3.0**	0.0	4.0	**$0.0**	**0.04**	**0.14**	**0.18**	**0.16**	**0.18**	**0.71**	**1.23**	**1.07**	**0.82**
50% U.S. 3-Month T-Bill / 50% Bloomberg Barclays US Government Treasury 1 to 3 Year Index						*0.33*	*-0.59*	*-1.38*	*-1.14*	*-1.47*	*0.44*	*1.01*	*0.86*	*0.65*

[1] Unofficial Benchmark, for comparison purposes only

SOLDIERS' SAILORS' & MARINES' FUND

Net of All Fees and Expenses

5/31/2022

Funds / *Benchmark*	Percent Holdings	Policy Weights	Lower Range	Upper Range	Market Value (mil.)	Month	Three Months	Fiscal YTD	Calendar YTD	One Year	Three Year	Five Year	Seven Year	Ten Year
											Compound, annualized returns			
Soldiers' Sailors' & Marines Fund					**$81.3**	**0.33**	**-6.00**	**-9.24**	**-10.29**	**-8.53**	**3.65**	**3.46**	**3.59**	**4.40**
Policy Benchmark						*0.49*	*-5.71*	*-8.65*	*-9.85*	*-8.00*	*3.52*	*3.64*	*3.60*	*4.37*
Dynamic Benchmark						*0.49*	*-5.77*	*-8.79*	*-9.94*	*-8.12*	*3.56*	*3.72*	*3.67*	*N/A*
Domestic Equity	**15.2%**	**15.0**	10.0	20.0	**$12.4**	**-0.16**	**-6.49**	**-6.34**	**-14.12**	**-4.25**	**15.36**	**12.50**	**11.43**	**13.90**
Russell 3000						*-0.13*	*-6.15*	*-6.00*	*-13.89*	*-3.68*	*15.60*	*12.75*	*11.55*	*14.00*
Developed Markets ISF	**11.0%**	**11.0**	6.0	16.0	**$9.0**	**0.61**	**-5.08**	**-9.55**	**-11.51**	**-10.58**	**6.80**	**4.30**	**4.86**	**N/A**
MSCI EAFE IMI Net						*0.53*	*-5.53*	*-10.18*	*-11.97*	*-11.27*	*6.59*	*4.83*	*4.52*	*N/A*
Emerging Markets ISF	**3.8%**	**4.0**	0.0	5.0	**$3.1**	**0.46**	**-6.42**	**-20.57**	**-12.36**	**-20.32**	**7.44**	**4.76**	**4.85**	**N/A**
MSCI Emerging Markets IMI						*0.17*	*-6.90*	*-18.96*	*-11.62*	*-18.62*	*5.71*	*4.06*	*3.43*	*N/A*
Global Equities [1]	**30.1%**	**30.0**	16.0	41.0	**$24.4**	*0.20*	*-6.08*	*-9.54*	*-13.00*	*-8.79*	*11.53*	*8.48*	*8.14*	*N/A*
MSCI All Country World Net Index						*0.12*	*-5.90*	*-7.99*	*-12.83*	*-6.78*	*11.71*	*9.00*	*7.97*	*N/A*
Core Fixed Income	**67.8%**	**67.0**	57.0	77.0	**$55.1**	**0.39**	**-6.20**	**-9.39**	**-9.37**	**-8.64**	**0.09**	**0.93**	**1.32**	**1.60**
Barclays U.S. Aggregate Bond Index						*0.64*	*-5.86*	*-8.86*	*-8.92*	*-8.22*	*0.00*	*1.18*	*1.49*	*1.71*
Liquidity Fund	**2.2%**	**3.0**	0.0	4.0	**$1.8**	**0.05**	**0.14**	**0.18**	**0.16**	**0.18**	**0.71**	**1.23**	**1.07**	**0.82**
50% U.S. 3-Month T-Bill / 50% Bloomberg Barclays US Government Treasury 1 to 3 Year Index						*0.33*	*-0.59*	*-1.38*	*-1.14*	*-1.47*	*0.44*	*1.01*	*0.86*	*0.65*

[1] Unofficial Benchmark, for comparison purposes only

SCHOOL FUND

Net of All Fees and Expenses

5/31/2022

Funds / *Benchmark*	Percent Holdings	Policy Weights	Lower Range	Upper Range	Market Value (mil.)	Month	Three Months	Fiscal YTD	Calendar YTD	One Year	Three Year	Five Year	Seven Year	Ten Year
											Compound, annualized returns			
School Fund					**$12.2**	**0.33**	**-6.08**	**-9.31**	**-10.38**	**-8.59**	**3.64**	**3.46**	**3.60**	**4.48**
Policy Benchmark						*0.49*	*-5.71*	*-8.65*	*-9.85*	*-8.00*	*3.52*	*3.64*	*3.60*	*4.47*
Dynamic Benchmark						*0.49*	*-5.80*	*-8.82*	*-10.01*	*-8.14*	*3.56*	*3.71*	*3.67*	*N/A*
Domestic Equity	**15.5%**	**15.0**	10.0	20.0	**$1.9**	**-0.16**	**-6.49**	**-6.34**	**-14.12**	**-4.25**	**15.36**	**12.50**	**11.43**	**13.90**
Russell 3000						*-0.13*	*-6.15*	*-6.00*	*-13.89*	*-3.68*	*15.60*	*12.75*	*11.55*	*14.00*
Developed Markets ISF	**11.3%**	**11.0**	6.0	16.0	**$1.4**	**0.61**	**-5.08**	**-9.55**	**-11.51**	**-10.58**	**6.80**	**4.30**	**4.86**	**N/A**
MSCI EAFE IMI Net						*0.53*	*-5.53*	*-10.18*	*-11.97*	*-11.27*	*6.59*	*4.83*	*4.52*	*N/A*
Emerging Markets ISF	**3.8%**	**4.0**	0.0	5.0	**$0.5**	**0.46**	**-6.42**	**-20.57**	**-12.36**	**-20.32**	**7.44**	**4.76**	**4.85**	**N/A**
MSCI Emerging Markets IMI						*0.17*	*-6.90*	*-18.96*	*-11.62*	*-18.62*	*5.71*	*4.06*	*3.43*	*N/A*
Global Equities [1]	**30.7%**	**30.0**	16.0	41.0	**$3.7**	*0.20*	*-6.08*	*-9.54*	*-13.00*	*-8.79*	*11.53*	*8.48*	*8.14*	*N/A*
MSCI All Country World Net Index						*0.12*	*-5.90*	*-7.99*	*-12.83*	*-6.78*	*11.71*	*9.00*	*7.97*	*N/A*
Core Fixed Income	**68.5%**	**67.0**	57.0	77.0	**$8.3**	**0.39**	**-6.20**	**-9.39**	**-9.37**	**-8.64**	**0.09**	**0.93**	**1.32**	**1.60**
Barclays U.S. Aggregate Bond Index						*0.64*	*-5.86*	*-8.86*	*-8.92*	*-8.22*	*0.00*	*1.18*	*1.49*	*1.71*
Liquidity Fund	**0.8%**	**3.0**	0.0	4.0	**$0.1**	**0.17**	**0.14**	**0.18**	**0.16**	**0.18**	**0.71**	**1.23**	**1.07**	**0.82**
50% U.S. 3-Month T-Bill / 50% Bloomberg Barclays US Government Treasury 1 to 3 Year Index						*0.33*	*-0.59*	*-1.38*	*-1.14*	*-1.47*	*0.44*	*1.01*	*0.86*	*0.65*

[1] Unofficial Benchmark, for comparison purposes only

IDA EATON COTTON FUND

Net of All Fees and Expenses

5/31/2022

Funds / *Benchmark*	Percent Holdings	Policy Weights	Lower Range	Upper Range	Market Value (mil.)	Month	Three Months	Fiscal YTD	Calendar YTD	One Year	Three Year	Five Year	Seven Year	Ten Year
											Compound, annualized returns			
IDA Eaton Cotton Fund					**$2.7**	**0.33**	**-5.95**	**-9.16**	**-10.16**	**-8.45**	**3.67**	**3.48**	**3.60**	**4.49**
Policy Benchmark						*0.49*	*-5.71*	*-8.65*	*-9.85*	*-8.00*	*3.52*	*3.64*	*3.60*	*4.47*
Dynamic Benchmark						*0.50*	*-5.75*	*-8.75*	*-9.86*	*-8.08*	*3.56*	*3.71*	*3.65*	*N/A*
Domestic Equity	**14.1%**	**15.0**	10.0	20.0	**$0.4**	**-0.16**	**-6.49**	**-6.34**	**-14.12**	**-4.25**	**15.36**	**12.50**	**11.43**	**13.90**
Russell 3000						*-0.13*	*-6.15*	*-6.00*	*-13.89*	*-3.68*	*15.60*	*12.75*	*11.55*	*14.00*
Developed Markets ISF	**10.7%**	**11.0**	6.0	16.0	**$0.3**	**0.61**	**-5.08**	**-9.55**	**-11.51**	**-10.58**	**6.80**	**4.30**	**4.86**	**N/A**
MSCI EAFE IMI Net						*0.53*	*-5.53*	*-10.18*	*-11.97*	*-11.27*	*6.59*	*4.83*	*4.52*	*N/A*
Emerging Markets ISF	**3.6%**	**4.0**	0.0	5.0	**$0.1**	**0.46**	**-6.42**	**-20.57**	**-12.36**	**-20.32**	**7.44**	**4.76**	**4.85**	**N/A**
MSCI Emerging Markets IMI						*0.17*	*-6.90*	*-18.96*	*-11.62*	*-18.62*	*5.71*	*4.06*	*3.43*	*N/A*
Global Equities [1]	**28.4%**	**30.0**	16.0	41.0	**$0.8**	*0.20*	*-6.08*	*-9.54*	*-13.00*	*-8.79*	*11.53*	*8.48*	*8.14*	*N/A*
MSCI All Country World Net Index						*0.12*	*-5.90*	*-7.99*	*-12.83*	*-6.78*	*11.71*	*9.00*	*7.97*	*N/A*
Core Fixed Income	**68.5%**	**67.0**	57.0	77.0	**$1.9**	**0.39**	**-6.20**	**-9.39**	**-9.37**	**-8.64**	**0.09**	**0.93**	**1.32**	**1.60**
Barclays U.S. Aggregate Bond Index						*0.64*	*-5.86*	*-8.86*	*-8.92*	*-8.22*	*0.00*	*1.18*	*1.49*	*1.71*
Liquidity Fund	**3.1%**	**3.0**	0.0	4.0	**$0.1**	**0.07**	**0.14**	**0.18**	**0.16**	**0.18**	**0.71**	**1.23**	**1.07**	**0.82**
50% U.S. 3-Month T-Bill / 50% Bloomberg Barclays US Government Treasury 1 to 3 Year Index						*0.33*	*-0.59*	*-1.38*	*-1.14*	*-1.47*	*0.44*	*1.01*	*0.86*	*0.65*

[1] Unofficial Benchmark, for comparison purposes only

HOPEMEAD FUND

Net of All Fees and Expenses
5/31/2022

Funds / *Benchmark*	Percent Holdings	Policy Weights	Lower Range	Upper Range	Market Value (mil.)	Month	Three Months	Fiscal YTD	Calendar YTD	One Year	Three Year	Five Year	Seven Year	Ten Year
											Compound, annualized returns			
Hopemead Fund					**$4.5**	**0.32**	**-5.93**	**-9.15**	**-10.19**	**-8.44**	**3.65**	**3.45**	**3.58**	**4.42**
Policy Benchmark						*0.49*	*-5.71*	*-8.65*	*-9.85*	*-8.00*	*3.52*	*3.64*	*3.60*	*4.47*
Dynamic Benchmark						*0.49*	*-5.74*	*-8.75*	*-9.90*	*-8.08*	*3.55*	*3.69*	*3.64*	*N/A*
Domestic Equity	**15.0%**	**15.0**	10.0	20.0	**$0.7**	**-0.16**	**-6.49**	**-6.34**	**-14.12**	**-4.25**	**15.36**	**12.50**	**11.43**	**13.90**
Russell 3000						*-0.13*	*-6.15*	*-6.00*	*-13.89*	*-3.68*	*15.60*	*12.75*	*11.55*	*14.00*
Developed Markets ISF	**10.8%**	**11.0**	6.0	16.0	**$0.5**	**0.61**	**-5.08**	**-9.55**	**-11.51**	**-10.58**	**6.80**	**4.30**	**4.86**	**N/A**
MSCI EAFE IMI Net						*0.53*	*-5.53*	*-10.18*	*-11.97*	*-11.27*	*6.59*	*4.83*	*4.52*	*N/A*
Emerging Markets ISF	**3.8%**	**4.0**	0.0	5.0	**$0.2**	**0.46**	**-6.42**	**-20.57**	**-12.36**	**-20.32**	**7.44**	**4.76**	**4.85**	**N/A**
MSCI Emerging Markets IMI						*0.17*	*-6.90*	*-18.96*	*-11.62*	*-18.62*	*5.71*	*4.06*	*3.43*	*N/A*
Global Equities [1]	**29.6%**	**30.0**	16.0	41.0	**$1.3**	*0.20*	*-6.08*	*-9.54*	*-13.00*	*-8.79*	*11.53*	*8.48*	*8.14*	*N/A*
MSCI All Country World Net Index						*0.12*	*-5.90*	*-7.99*	*-12.83*	*-6.78*	*11.71*	*9.00*	*7.97*	*N/A*
Core Fixed Income	**66.9%**	**67.0**	57.0	77.0	**$3.0**	**0.39**	**-6.20**	**-9.39**	**-9.37**	**-8.64**	**0.09**	**0.93**	**1.32**	**1.60**
Barclays U.S. Aggregate Bond Index						*0.64*	*-5.86*	*-8.86*	*-8.92*	*-8.22*	*0.00*	*1.18*	*1.49*	*1.71*
Liquidity Fund	**3.5%**	**3.0**	0.0	4.0	**$0.2**	**0.07**	**0.14**	**0.18**	**0.16**	**0.18**	**0.71**	**1.23**	**1.07**	**0.82**
50% U.S. 3-Month T-Bill / 50% Bloomberg Barclays US Government Treasury 1 to 3 Year Index						*0.33*	*-0.59*	*-1.38*	*-1.14*	*-1.47*	*0.44*	*1.01*	*0.86*	*0.65*

[1] Unofficial Benchmark, for comparison purposes only

ARTS ENDOWMENT FUND

Net of All Fees and Expenses
5/31/2022

Funds / *Benchmark*	Percent Holdings	Policy Weights	Lower Range	Upper Range	Market Value (mil.)	Month	Three Months	Fiscal YTD	Calendar YTD	One Year	Three Year	Five Year	Seven Year	Ten Year
											Compound, annualized returns			
Arts Endowment Fund					**$21.7**	**0.29**	**-4.78**	**-7.79**	**-10.01**	**-7.04**	**7.92**	**5.77**	**5.23**	**5.49**
Policy Benchmark						*0.29*	*-5.15*	*-8.48*	*-10.35*	*-7.80*	*6.88*	*5.51*	*4.93*	*5.40*
Dynamic Benchmark						*0.29*	*-5.01*	*-8.28*	*-10.11*	*-7.58*	*7.40*	*N/A*	*N/A*	*N/A*
Domestic Equity	**26.2%**	**28.0**	23.0	33.0	**$5.7**	**-0.16**	**-6.49**	**-6.34**	**-14.12**	**-4.25**	**15.36**	**12.50**	**11.43**	**N/A**
Russell 3000						*-0.13*	*-6.15*	*-6.00*	*-13.89*	*-3.68*	*15.60*	*12.75*	*11.55*	*N/A*
Developed Markets ISF	**16.5%**	**17.0**	12.0	22.0	**$3.6**	**0.61**	**-5.08**	**-9.55**	**-11.51**	**-10.58**	**6.80**	**4.30**	**4.86**	**N/A**
MSCI EAFE IMI Net						*0.53*	*-5.53*	*-10.18*	*-11.97*	*-11.27*	*6.59*	*4.83*	*4.52*	*N/A*
Emerging Markets ISF	**11.6%**	**12.0**	7.0	17.0	**$2.5**	**0.46**	**-6.42**	**-20.57**	**-12.36**	**-20.32**	**7.44**	**4.76**	**4.85**	**N/A**
MSCI Emerging Markets IMI						*0.17*	*-6.90*	*-18.96*	*-11.62*	*-18.62*	*5.71*	*4.06*	*3.43*	*N/A*
Global Equities [2]	**54.3%**	**57.0**	42.0	72.0	**$11.8**	*0.20*	*-6.08*	*-9.54*	*-13.00*	*-8.79*	*11.53*	*8.48*	*8.14*	*N/A*
MSCI All Country World Net Index						*0.12*	*-5.90*	*-7.99*	*-12.83*	*-6.78*	*11.71*	*9.00*	*7.97*	*N/A*
Core Fixed Income	**15.8%**	**16.0**	11.0	21.0	**$3.4**	**0.39**	**-6.20**	**-9.39**	**-9.37**	**-8.64**	**0.09**	**0.93**	**1.32**	**1.60**
Barclays U.S. Aggregate Bond Index						*0.64*	*-5.86*	*-8.86*	*-8.92*	*-8.22*	*0.00*	*1.18*	*1.49*	*1.71*
Emerging Market Debt	**7.6%**	**8.0**	3.0	13.0	**$1.7**	**0.85**	**-5.60**	**-14.49**	**-11.63**	**-14.58**	**-2.25**	**N/A**	**N/A**	**N/A**
50% JPM EMBI Global Div / 50% JPM GBI EM Global Div						*0.89*	*-6.12*	*-15.73*	*-12.80*	*-15.94*	*-2.33*	*N/A*	*N/A*	*N/A*
High Yield	**9.2%**	**9.0**	4.0	14.0	**$2.0**	**-0.22**	**-3.89**	**-5.48**	**-6.92**	**-4.11**	**3.89**	**N/A**	**N/A**	**N/A**
Bloomberg Barclays U.S. High Yield 2% Issuer Cap Index						*0.23*	*-4.43*	*-6.52*	*-7.99*	*-5.28*	*3.04*	*N/A*	*N/A*	*N/A*
Private Credit[1]	**12.6%**	**9.0**	4.0	14.0	**$2.7**	**N/A**	**2.72**	**12.18**	**2.59**	**13.27**	**N/A**	**N/A**	**N/A**	**N/A**
*S&P / LSTA Leveraged Loan Index + 150 basis points 1Q in Arrears^*						*N/A*	*1.43*	*5.31*	*1.79*	*5.32*	*N/A*	*N/A*	*N/A*	*N/A*
Liquidity Fund	**0.4%**	**1.0**	0.0	3.0	**$0.1**	**0.04**	**0.14**	**0.18**	**0.16**	**0.18**	**0.71**	**1.23**	**1.07**	**0.82**
50% U.S. 3-Month T-Bill / 50% Bloomberg Barclays US Government Treasury 1 to 3 Year Index						*0.33*	*-0.59*	*-1.38*	*-1.14*	*-1.47*	*0.44*	*1.01*	*0.86*	*0.65*

[1] Actual performance, reported one quarter in arrears,

[2] Unofficial Benchmark, for comparison purposes only

POLICEMEN AND FIREMEN SURVIVORS' BENEFIT FUND

Net of All Fees and Expenses
5/31/2022

Funds / *Benchmark*	Percent Holdings	Policy Weights	Lower Range	Upper Range	Market Value (mil.)	Month	Three Months	Fiscal YTD	Calendar YTD	One Year	Three Year	Five Year	Seven Year	Ten Year
											Compound, annualized returns			
Policemen and Firemen Survivors' Benefit Fund					**$45.8**	**0.40**	**-2.88**	**-3.25**	**-6.89**	**-2.01**	**8.30**	**6.79**	**6.63**	**7.54**
Policy Benchmark						*-0.07*	*-3.42*	*-3.00*	*-6.58*	*-1.85*	*8.78*	*7.11*	*6.63*	*N/A*
Dynamic Benchmark						*-0.14*	*-4.07*	*-4.79*	*-7.66*	*-3.71*	*8.35*	*6.82*	*6.44*	*N/A*
Domestic Equity	**21.3%**	**20.0**	15.0	25.0	**$9.7**	**-0.16**	**-6.49**	**-6.34**	**-14.12**	**-4.25**	**15.36**	**12.50**	**11.43**	**13.90**
Russell 3000						*-0.13*	*-6.15*	*-6.00*	*-13.89*	*-3.68*	*15.60*	*12.75*	*11.55*	*14.00*
Developed Markets ISF	**12.1%**	**11.0**	6.0	16.0	**$5.5**	**0.61**	**-5.08**	**-9.55**	**-11.51**	**-10.58**	**6.80**	**4.30**	**4.86**	**N/A**
MSCI EAFE IMI Net						*0.53*	*-5.53*	*-10.18*	*-11.97*	*-11.27*	*6.59*	*4.83*	*4.52*	*N/A*
Emerging Markets ISF	**10.1%**	**9.0**	4.0	14.0	**$4.6**	**0.46**	**-6.42**	**-20.57**	**-12.36**	**-20.32**	**7.44**	**4.76**	**4.85**	**N/A**
MSCI Emerging Markets IMI						*0.17*	*-6.90*	*-18.96*	*-11.62*	*-18.62*	*5.71*	*4.06*	*3.43*	*N/A*
Global Equities [4]	**43.5%**	**40.0**	25.0	55.0	**$19.9**	*0.20*	*-6.08*	*-9.54*	*-13.00*	*-8.79*	*11.53*	*8.48*	*8.14*	*N/A*
MSCI All Country World Net Index						*0.12*	*-5.90*	*-7.99*	*-12.83*	*-6.78*	*11.71*	*9.00*	*7.97*	*N/A*
Core Fixed Income	**11.3%**	**13.0**	8.0	18.0	**$5.2**	**0.39**	**-6.20**	**-9.39**	**-9.37**	**-8.64**	**0.09**	**0.93**	**1.32**	**1.60**
Barclays U.S. Aggregate Bond Index						*0.64*	*-5.86*	*-8.86*	*-8.92*	*-8.22*	*0.00*	*1.18*	*1.49*	*1.71*
Emerging Market Debt	**4.5%**	**5.0**	0.0	10.0	**$2.0**	**0.85**	**-5.60**	**-14.49**	**-11.63**	**-14.58**	**-2.25**	**-0.65**	**1.39**	**1.52**
50% JPM EMBI Global Div / 50% JPM GBI EM Global Div						*0.89*	*-6.12*	*-15.73*	*-12.80*	*-15.94*	*-2.33*	*-0.59*	*1.05*	*1.45*
High Yield	**5.9%**	**3.0**	0.0	8.0	**$2.7**	**-0.22**	**-3.89**	**-5.48**	**-6.92**	**-4.11**	**3.89**	**3.61**	**4.04**	**5.08**
Bloomberg Barclays U.S. High Yield 2% Issuer Cap Index						*0.23*	*-4.43*	*-6.52*	*-7.99*	*-5.28*	*3.04*	*3.31*	*3.93*	*5.02*
Liquidity Fund	**1.9%**	**2.0**	0.0	3.0	**$0.9**	**0.07**	**0.14**	**0.18**	**0.16**	**0.18**	**0.71**	**1.23**	**1.07**	**0.82**
50% U.S. 3-Month T-Bill / 50% Bloomberg Barclays US Government Treasury 1 to 3 Year Index						*0.33*	*-0.59*	*-1.38*	*-1.14*	*-1.47*	*0.44*	*1.01*	*0.86*	*0.65*
Real Assets[1]	**14.8%**	**19.0**	15.0	25.0	**$6.8**	**N/A**	**2.99**	**11.70**	**4.51**	**13.15**	**6.99**	**7.00**	**7.70**	**8.79**
*Blended Custom Benchmark 1Q in Arrears^* [2]						*N/A*	*3.02*	*11.00*	*2.74*	*12.67*	*7.19*	*7.05*	*8.06*	*8.96*
Private Investment[1]	**11.8%**	**10.0**	5.0	15.0	**$5.4**	**N/A**	**5.67**	**26.83**	**5.67**	**34.68**	**25.25**	**20.96**	**17.56**	**N/A**
*Russell 3000 + 250 basis points 1Q in Arrears^*						*N/A*	*-4.04*	*10.43*	*1.29*	*14.69*	*24.89*	*16.86*	*14.65*	*N/A*
Private Credit[1]	**2.1%**	**5.0**	0.0	10.0	**$1.0**	**N/A**	**2.72**	**12.18**	**2.59**	**13.27**	**N/A**	**N/A**	**N/A**	**N/A**
*S&P / LSTA Leveraged Loan Index + 150 basis points 1Q in Arrears^*						*N/A*	*1.43*	*5.31*	*1.79*	*5.32*	*N/A*	*N/A*	*N/A*	*N/A*
Alternative Investment Fund	**4.2%**	**3.0**	0.0	10.0	**$1.9**	**-0.45**	**-0.59**	**-0.55**	**-1.16**	**-0.54**	**1.92**	**2.75**	**2.27**	**N/A**
Absolute Return Strategy blended benchmark [3]						*-0.72*	*-1.05*	*-1.40*	*-1.70*	*-1.41*	*2.31*	*2.64*	*1.96*	*N/A*

[1] Actual performance, reported one quarter in arrears.

[2] A blended benchmark comprised of the weightings of Real Estate, Infrastructure / Natural Resources and U.S. TIPS as of April 2020.

[3] A blended benchmark comprised of the weightings of each of the investments utilized within the fund of funds vehicle multiplied by their respective benchmarks as of April 2020.

[4] Unofficial Benchmark, for comparison purposes only