GC3 EXPLORATORY REPORT

A report of the Governor's Council on Climate Change

July 2015 through January of 2016 represents an exploratory phase for the Governor's Council on Climate Change (GC3) and its working groups. This report summarizes the work undertaken during this period and preliminary results of those efforts as well as recommendations for activities and further analysis in 2016.

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Executive Summary

Connecticut has established a strong record of addressing climate change by funding and implementing comprehensive energy-efficiency programs, establishing innovative financing mechanisms to deploy renewable energy technologies, developing local and regional partnerships focused on climate change mitigation and adaptation, and passing landmark legislation to reduce statewide greenhouse gas (GHG) emissions by 10 percent below 1990 levels by 2020 and 80 percent below 2001 levels by 2050. This leadership is paying off: between 1990 and 2012 (the most recent year for which full data are available), Connecticut reduced its emissions 10.5 percent even as the state's economy and population grew. Having achieved its 2020 GHG target eight years ahead of schedule, the state is now focusing its attention on developing a pathway to achieve its 2050 target of 80 percent below 2001 levels.

In April 2015, Governor Malloy issued Executive Order 46 creating the Governor's Council on Climate Change. In launching the Council, he assigned it four tasks:

1. establish interim goals, that if met, will ensure that the state will achieve its 2050 emission reduction target;
2. annually monitor statewide GHG emissions to determine if the state is poised to meet its 2050 target and any established interim goal(s);
3. examine the efficacy of existing policies and regulations designed to reduce GHG emissions; and
4. recommend new policies, regulation, or legislative actions that will assist in achieving established emission reduction targets.

Chaired by Robert Klee, Commissioner of Energy and Environmental Protection, the Council is composed of high-level representatives of major state agencies, Connecticut businesses, and nongovernmental organizations and is supported by the Department of Energy and Environmental Protection.

The period of July 2015 through January of 2016 represented an exploratory phase for the Council and its two working groups. This report summarizes the work and activities undertaken during this period and offers recommendations for continued activities and analysis in 2016.

The Leadership, Accountability, and Engagement (LAE) working group focused on developing a set of recommendations to enable voluntary action across all sectors and to create a transparent and effective engagement process with stakeholders on the development and implementation of statewide GHG mitigation strategies.

In collaboration with the Yale Environmental Protection Clinic, the LAE working group sponsored research on national and international models of climate change leadership,

accountability, and engagement. The LAE working group also hosted a workshop with a diverse set of stakeholders from across the state. The workshop's aim was to inform the Council's effort to engage and mobilize stakeholder groups to shape, support, and inspire climate change action now and in the future.

On the basis of the results of the research and workshop, the LAE working group provided a series of recommendations for state agencies, municipalities, businesses, labor groups, environmental groups, and others to take action in 2016 and beyond. Recommendations were categorized into one of the following themes: competition and recognition; resources and training; cross-sector partnerships and collective action; goal setting, measurement, and evaluation; leading by example; and communication and stakeholder engagement.

The Analysis, Data, and Metrics (ADM) working group, with support from the Northeast States for Coordinated Air Use Management, focused on establishing a reference case for investigating emission-reduction measures and strategies to evaluate setting an interim target(s) and/or range that, if achieved, would set the state on a path to meet its 2050 goal. In 2016, the ADM working group will begin to assess the merits of various technologies and measures to bend the trajectory of statewide greenhouse gas emissions toward that goal.

The GC3 will use the results of this analysis to develop recommendations for an interim target or targets and a corresponding suite of policies and programs, which will be incorporated into a forthcoming comprehensive climate strategy to be released in late 2016.

Climate Change Progress to Date and Challenges Ahead

We have to take a very broad approach to [achieve] … 80 percent reduction by 2050. I can't think of any work more important than that.

Governor Dannel Malloy, July 2015

For well over a decade, Connecticut has been a regional, national, and international leader in responding to mounting scientific evidence that climate change, driven by the burning of fossil fuels and other human activity, represents a growing threat in New England and globally.

In 2001, Connecticut was one of several regional jurisdictions that signed onto the *New England Governors/Eastern Canadian Premiers (NEG/ECP) Climate Change Action Plan* which included an agreement to reduce regional greenhouse gas (GHG) emissions 75 to 85 percent below 1990 levels by 2050.[1] Four years later, the state issued the *2005 Connecticut Climate Change Action Plan (CCAP).* The CCAP identified a portfolio of actions to meet the regional 2020 target and set the state on a path to achieve the long-term 2050 goal.[2]

In 2008, Connecticut's General Assembly passed the landmark *Global Warming Solutions Act* (GWSA) mandating that the state reduce GHG emissions to at least 10 percent below 1990 levels by 2020 and at least 80 percent below 2001 levels by 2050.[3]

Since that time, Connecticut has advanced numerous other forward-thinking public policies, legislation, programs, and groundbreaking regional initiatives that address GHG emissions:

- becoming a founding member of the Regional Greenhouse Gas Initiative, the first U.S. mandatory market-based regulatory program aimed at reducing GHG emissions from the electric-power sector — a program whose revenues have enabled the state to pump millions of dollars into energy efficiency and renewable energy;[4]
- participating member of the New England Governors and Eastern Canadian Premiers resolution to adopt a 2030 reduction marker range of at least 35 percent to 45 percent below 1990 levels;[5]
- doubling investments in cost-effective energy efficiency programs;[6]

[1] New England Governor/Easter Canadian Premiers Climate Change Action Plan
[2] CT Climate Change Action Plan (CCAP)
[3] CT Global Warming Solutions Act (Public Act 08-98)
[4] The Regional Greenhouse Gas Initiative is a cooperative effort among the states of Connecticut, Delaware, Maine, Maryland, Massachusetts, New Hampshire, New York, Rhode Island, and Vermont to cap and reduce CO_2 emissions from the power sector.
[5] At the 39th NEG/ECP Annual Conference Resolution 39-1, Resolution Concerning Climate Change, was passed to adopt a regional 2030 reduction marker range of at least 35 percent to 45 percent below 1990 levels.

- signing a memorandum of understanding with seven other states to put 3.3 million zero-emission vehicles on the road by 2025[7] and joining 12 European and North American governments in creating the International ZEV Alliance[8] to accelerate global adoption of ZEVs;
- establishing the Connecticut Green Bank, the nation's first full-scale financial institution devoted to driving investment in clean energy deployment;[9]
- enacting legislation to increase the state's Renewable Portfolio Standard (RPS) to further support production of energy from renewable sources such as wind, solar, and geothermal;[10]
- developing the state's first-ever Comprehensive Energy Strategy— an assessment of, and strategy for, all residential, commercial, and industrial energy issues, including energy efficiency, industry, electricity, natural gas, and transportation;[11]
- coordinating clean energy procurement with other states in the region;
- conducting competitive procurements for long-term contracts that could secure nearly one-fifth of Connecticut's electric demand from clean energy, helping the state to stay on track to meet its RPS and GWSA requirements and improve the reliability of the electric system at a lower cost to electric ratepayers;
- participating in the Transportation and Climate Initiative, a regional collaboration that seeks to reduce GHG emissions in the transportation sector;[12]
- joining the Climate Group, an international collaboration among sub-national governments (cities, states and regions) promoting climate protection and climate change adaptation globally;[13]
- launching the Connecticut Institute for Resilience and Climate Adaptation, a partnership between DEEP and the University of Connecticut, to engage the natural

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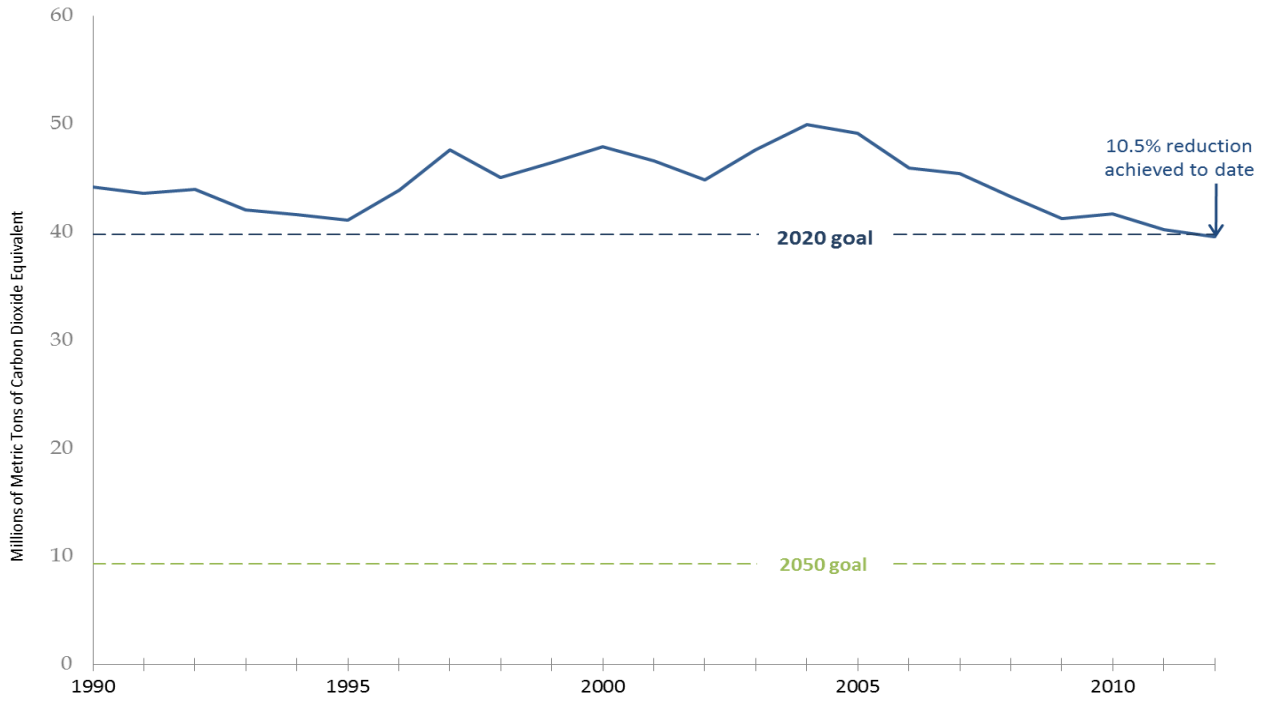
[6] Public Act 13-298: "An Act Concerning Implementation of Connecticut's Comprehensive Energy Strategy and Various Revisions to the Energy Statutes"
[7] State Zero-Emission Vehicle Programs Memorandum of Understanding
[8] The International Zero-Emission Vehicle Alliance
[9] The Connecticut Green Bank is a quasi-state agency that accelerates the deployment of clean energy by using limited public dollars to attract private capital investment in clean energy projects.
[10] Established in 1998 and subsequently revised several times, Connecticut's Renewable Portfolio Standard requires each electric supplier and each electric distribution company wholesale supplier to obtain a designated percentage of its retail load from renewable energy. The percentage rises annually, culminating at 27 percent by January 1, 2020.
[11] Released February 2013, Connecticut's Comprehensive Energy Strategy covers all fuels in all sectors with a planning horizon out to 2050. It offers an analysis of the state's current energy circumstances and a set of recommendations designed to advance the Governor's objective of steadily moving Connecticut toward a cheaper, cleaner, and more reliable energy future.
[12] The TCI is a regional collaboration of 12 Northeast and Mid-Atlantic jurisdictions that seeks to develop the clean-energy economy and reduce GHG emissions in the transportation sector.
[13] The Climate Group

and social science disciplines to develop policy and practice designed to increase the resilience and sustainability of vulnerable communities along the state's coast and inland waterways;[14]

- fostering development of a network of clean-energy task forces in municipalities across the state through critical support and funding to the Clean Energy Communities Program.[15]

This leadership is paying off as Connecticut transitions to a clean energy economy. Between 1990 and 2012 (the most recent year for which full data are available), Connecticut reduced its emissions 10.5 percent (see Figure 1). Having achieved its 2020 GWSA target eight years ahead of schedule, the state is now focusing its attention on developing a pathway to achieve its long-term 2050 target of reducing emissions by at least 80 percent below 2001 levels.

Figure 1. Connecticut annual GHG emissions, 1990—2012



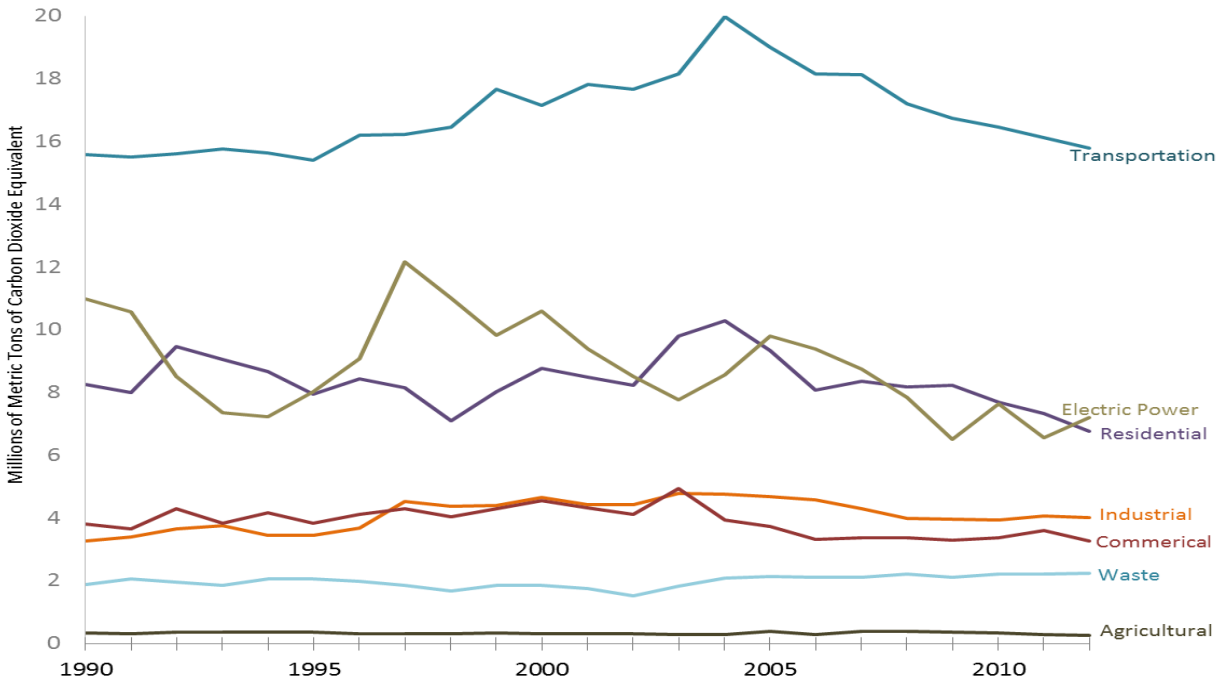
Connecticut's greatest progress in reducing statewide GHG emissions has occurred in the electric power sector, where emissions decreased 34 percent since 1990. The next largest reductions were in the agricultural, residential, and commercial sectors, at 22, 18, and 15 percent, respectively (see Figure 2). These reductions can be attributed to state policies and

[14] The mission of the Connecticut Institute for Resilience and Climate Adaptation is to increase the resilience and sustainability of vulnerable communities along Connecticut's coast and inland waterways to the growing impacts of climate change on the natural, built, and human environment.

[15] Jointly offered by the Connecticut Green Bank and the Connecticut Energy Efficiency Fund, the Clean Energy Communities program offers simple steps to help community leaders, households, and local businesses work together to set and achieve energy efficiency and clean energy goals.

programs that encourage investment in energy efficiency in homes and businesses, a shift to cleaner fuels and generation sources, and increased deployment of renewable energy sources.

Figure 2. Connecticut annual GHG emissions by sector, 1990—2012

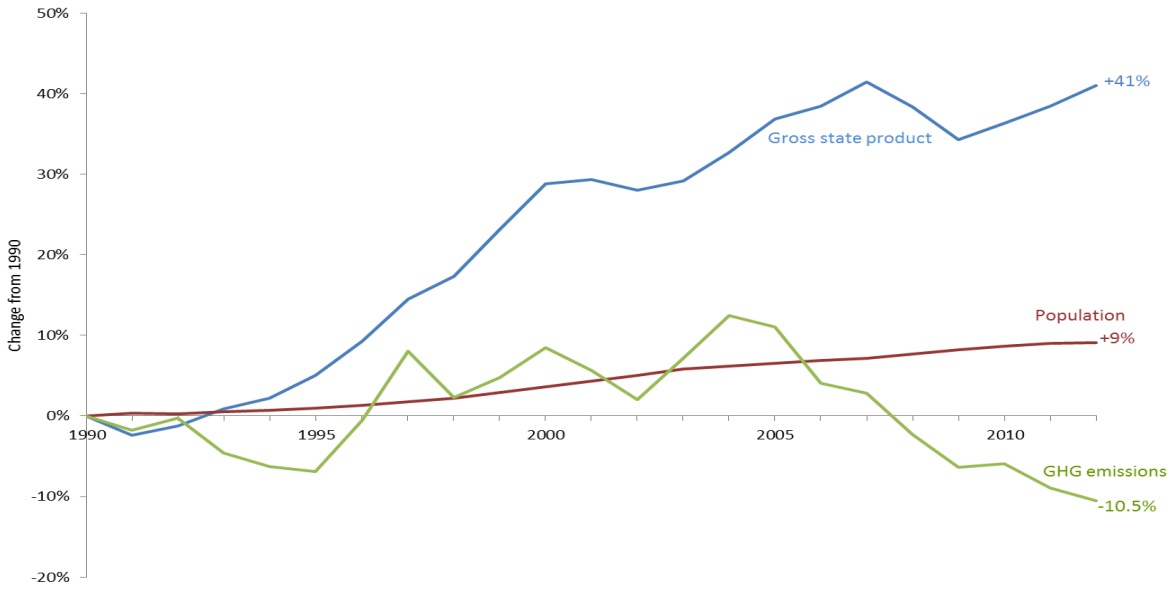


Taking actions to reduce GHG emissions also yields important co-benefits in the form of economic growth, improved public health, reduced exposure to volatile fossil fuel prices, and more vibrant and resilient communities. Evidence of these co-benefits is already clear in the state's current efforts to transition to a low-carbon economy. For instance, for every $1 spent on energy efficiency, Connecticut has received electric, gas, fuel oil, and propane system benefits valued at nearly $2.40.[16] Connecticut also saw a 10-fold increase in the deployment of renewable energy within the state's borders between 2010 and 2014, producing new jobs and local economic benefits. Smart investments like these help to stabilize and reduce the rising cost of energy, improve the reliability of our regional electric grid, and insulate us from volatile fossil-fuel prices.

It is also important to note that since 1990, as demonstrated in Figure 3, Connecticut has seen an overall decline in GHG emissions and at the same time an increase in the gross state product and population. This underscores the progressive decoupling of economic growth from emission reduction achievements.

[16] Connecticut Energy Efficiency Fund 2014 Programs and Operations Report

Figure 3. Connecticut change in GHG emissions, gross state product (in 2009 $), and population, 1990–2012



Although Connecticut's progress in reducing GHG emissions has been significant, far deeper cuts are needed in the coming decades to meet the GWSA 2050 target. By 2012, emissions had been reduced 15 percent from 2001 levels, meaning that over the next 38 years Connecticut must reduce emissions by an additional 65 percent from 2001 levels. One of the central goals for the GC3 is to establish an interim target (or targets) to ensure that Connecticut will continue the progress it has already made, and to identify additional actions to meet the 2050 target in an efficient, cost-effective, and sustainable manner.

The Governor's Council on Climate Change

Recognizing the magnitude of the challenge the 2050 goal represents — and the need to extend Connecticut's climate leadership to meet this challenge — Governor Dannel Malloy created the Governor's Council on Climate Change (GC3) through Executive Order 46 (Appendix E) on April 22, 2015. The GC3's mission is to "examine the efficacy of existing policies and regulations designed to reduce greenhouse gas emissions and identify new strategies to meet the established emission reduction targets." Specifically, the Council is to:

- establish interim goals that, if met, will ensure that the state will achieve the 2050 target;
- monitor greenhouse gas emission levels in Connecticut annually to determine whether the state is poised to meet the interim goals and the 2050 target; and
- recommend policies, regulations, or legislative actions that will assist in achieving the interim goals and 2050 target.

Unlike its predecessor, the Governor's Steering Committee on Climate Change (which was active until 2011), a body composed entirely of agency heads, the GC3 is comprised of agency heads as well as members of the business community and representatives of several nongovernmental organizations. The executive order noted this was to provide a "diversity of perspectives [that] will ensure that policy and program recommendations are more robust" and reflects a recognition that government acting alone cannot achieve the state's goals. The Council members, appointed for two-year terms, are:

Melody Currey, Commissioner, Department of Administrative Services

Bryan Garcia, President and Chief Executive Officer, Connecticut Green Bank

T.J. Hanson, Product Director, Thule Inc.

Arthur House, Chairman, Public Utilities Regulatory Authority

John Humphries, Organizer, Connecticut Roundtable on Climate and Jobs

Scott Jackson, (former) Under Secretary for Intergovernmental Policy, Office of Policy and Management, serving on behalf of Secretary Barnes

Robert Klee (Council Chair), Commissioner, Department of Energy and Environmental Protection

Evonne Klein, Commissioner, Connecticut Department of Housing

James O'Donnell, Executive Director, Connecticut Institute for Resilience and Climate Adaptation

James Redeker, Commissioner, Department of Transportation

David Robinson, Executive Vice President and General Counsel, The Hartford Financial Services Group, Inc.

Catherine Smith, Commissioner, Department of Economic and Community Development

Lynn Stoddard, Director, Institute for Sustainable Energy at Eastern Connecticut State University

Don Strait, President, Connecticut Fund for the Environment

Katharine Wade, Commissioner, Connecticut Insurance Department.

Staff support for the GC3 is provided by DEEP's Office of Climate Change, Technology, and Research in the Bureau of Energy and Technology Policy.

Principles and Working Groups

At its first meeting, held on July 10, 2015, the Council's broad agenda included: each member of the Council describing their organization's efforts to address climate change and ways in which their jurisdictional responsibilities contribute to GHGs to help identify opportunities for additional action in the future; an overview of the state's climate change action and progress to date; an assessment of state and regional strategies beyond 2020; and a discussion on the proposed Council principles, structure, deliverables, and schedule.

The primary outcomes of the first meeting included a confirmation of the guiding principles and the creation of working groups to take on the bulk of the work and activities.

The principles are intended to guide the GC3's efforts to develop recommendations for short- and long-term strategies for statewide GHG reductions. They are:

Commitment to analysis — Use technical expertise and analytical rigor to inform the GC3's policy deliberations and recommendations.

Commitment to leadership — Cultivate climate leadership in state government, in the business community, in non-governmental organizations, and in municipal government.

Commitment to accountability — Assure the effectiveness of climate programs by monitoring progress, proposing course corrections as needed, engaging stakeholders, and making the GC3's deliberations transparent.

Council members were assigned to one of the following two working groups, with a few members electing to participate in both:

- Analysis, Data, and Metrics
- Leadership, Accountability, and Engagement

Analysis, Data, and Metrics Working Group

In collaboration with the Northeast States for Coordinated Air Use Management (NESCAUM) and DEEP's Office of Climate Change, members of the Analysis, Data, and Metrics (ADM) working group provide guidance on technical modeling of mitigation scenarios, assessment of policy proposals, and review of analyses published in Connecticut and elsewhere. Using cost,

GHG-reduction impact, ease of implementation, and associated co-benefits as criteria for evaluation, members will digest the results of NESCAUM's analyses and provide feedback and recommendations to the full GC3.

The ADM group is co-chaired by James O'Donnell and Robert Klee, and its other members are:

Arthur House
John Humphries
James Redeker
Catherine Smith
Lynn Stoddard
Don Strait

Leadership, Accountability, and Engagement Working Group

Meeting Connecticut's aggressive climate goals requires strong leadership, accountability, and engagement in all corners and sectors of the state. The Leadership, Accountability, and Engagement (LAE) working group was charged with investigating leadership strategies, accountability mechanisms, and stakeholder engagement approaches. Upon examination of climate action models and programs in Connecticut and around the world, the LAE working group was tasked with developing a set of recommendations to enable voluntary action across all sectors and to ensure the creation of a transparent and effective engagement process with stakeholders on the development and implementation of statewide GHG mitigation strategies.

The group was co-chaired by Bryan Garcia and Scott Jackson, and its other members were:

Melody Currey
John Humphries
Evonne Klein
David Robinson
Lynn Stoddard
Don Strait
Katharine Wade

Council Process

Council meetings provide opportunities for structured discussion informed by current research on GHG mitigation strategies and by the diverse perspectives of Council members. The aim of this dialogue is to help identify issues that need to be addressed, highlight and discuss various strategies for significant GHG reduction, and provide Council members the opportunity to contribute to the decision making process. The chair of the GC3 is responsible for ensuring that all members have equal opportunities to access, discuss, and respond to the issues under consideration. A variety of opportunities for dialogue will be provided before decisions are made. Adequate time should be allowed for discussion and feedback. This reflects the Council's nature as an advisory body that serves the Governor and that operates at

the intersection of multiple state agencies, the business community, and the nongovernmental community.

The Council has operated by informal consensus, based on three principles:

1. The Council seeks to understand the position and interest of all parties.
2. The Council seeks to reach consensus on issues brought before it.
3. The Council's goal is to review each issue in a fair and balanced manner.

The Council will follow this process to bring forward items for discussion:

- Individual issues/agenda items can be brought to the chairs of a working group as appropriate.
- Working group co-chairs can opt to present the topic as an agenda item for consideration by the group and, if appropriate after consideration by the working group, recommend the item for consideration by the entire GC3.
- New items can be added to the agenda at the beginning of each meeting.

After discussion and deliberation by the GC3, outcomes will be captured as part of the meeting minutes to reflect consensus, agreements, and minority viewpoints as well as any agreed-upon recommendations or action items.

Meeting minutes are drafted by DEEP staff and then submitted to the Council/working group members for review as an accurate account of the topics discussed. DEEP staff then incorporates recommended edits; upon final review and acceptance from Council members, meeting notes are posted to the GC3 website.

Objectives and Organization of the Report

July 2015 through January of 2016 represents an exploratory phase for the Council and its working groups. This report summarizes the work and activities undertaken during this period and offers recommendations for continued activities and analysis in 2016. All meetings of the GC3 and working groups were open to the public, with a public comment period provided. Meeting presentations and minutes are publically available on the DEEP Climate Change website.

The Council plans to issue a second report in 2016 that will recommend a comprehensive climate strategy for meeting the states GHG reduction goals — action by state government, municipalities, the business community, the labor movement, faith-based and civic organizations, the nonprofit sector and private citizens.

Exploring Climate Solutions Webinar Series

The need to systematically explore state-of-the-art models of climate change leadership and policymaking prompted the GC3 to launch the Exploring Climate Solutions Webinar Series. The webinars — free and available to the public — provide first-hand accounts of high-profile municipal climate programs, climate initiatives in the corporate world, new greenhouse gas reporting frameworks, statewide sustainability programs, low-carbon fuel initiatives, and other programs and projects that help reduce GHG emissions or improve climate resilience.

GC3 members and stakeholders from across the state were notified via email, Facebook, and various list-serves about upcoming webinars. Attendees were able to attend and ask questions of presenters virtually via their own web browsers. Each webinar presentation was recorded and posted on the DEEP Climate Change website for later viewing. The webinars were well attended and provide the GC3 and members of the public with a rich resource for information as they update Connecticut's climate change strategy.

For a full list and description of the webinars offered between September 2015 and January 2016, see Appendix D.

The success of the webinar series has prompted DEEP's Office of Climate Change to continue hosting the series through 2016. With input from GC3 members and stakeholders, a new line-up of guest presenters is currently under development.

Leadership, Accountability, and Engagement Working Group

Working Group Charge

Meeting Connecticut's aggressive climate goals requires strong leadership, accountability and engagement in all corners and sectors of the state. In recognition of this, the Leadership, Accountability, and Engagement (LAE) working group was charged to address:

> *Leadership strategies* — explore and identify best-practice leadership models and programs that will inform and inspire agencies, municipalities, the business community, nongovernmental organizations, and the general public to take actions that result in emission reductions;
>
> *Accountability systems* — develop systems to assure that Connecticut's climate programs are effective and a process to ensure the state meets its climate obligations; and
>
> *Systems to engage stakeholders* — develop a process to effectively engage and communicate with stakeholders and ensure transparency of the GC3 processes.

With guidance from working group co-chairs Bryan Garcia, President and Chief Executive Officer of the Connecticut Green Bank, and Scott Jackson, (former) Under Secretary for Intergovernmental Policy at the Office of Policy and Management (and current Commissioner of the Department of Labor, who may stay on the GC3 in this new role), working group members[17] met on a monthly basis[18] to address the following questions:

Defining and identifying leadership:

1. What criteria are we using to define leadership on climate change at the state agency, municipal, business, nongovernmental, and general public levels?
2. How is Connecticut already leading?
3. What are other examples of leadership across the country and around the world?
4. What can the GC3 recommend to support existing climate leadership in Connecticut, and encourage its further development?

[17] Melody Currey (DAS), Bryan Garcia (CT Green Bank – Co-Chair), John Humphries (CT Roundtable on Climate and Jobs), Scott Jackson (OPM – Co-Chair), Evonne Klein (DOH), Lynn Stoddard (ISE at ECSU), Don Strait (CFE), Katharine Wade (DOI), and David Robinson (The Hartford).
[18] Meeting dates: August 28, 2015; October 16, 2015; November 17, 2015; December 9, 2015; and January 15, 2016. Meeting minutes and presentations are archived on the CT DEEP Climate Change website.

Measuring performance to ensure accountability:

1. What mechanisms are state agencies, municipalities, businesses, nongovernmental organizations, and the general public employing to measure progress, and how frequently?

Public engagement:

1. What strategies should be used to ensure diverse stakeholder engagement?
2. What modes of communication should be utilized?
3. What mechanisms should be used to ensure transparency?
4. How should success be communicated and celebrated?

Working Group Activities and Outcomes

Defining Leadership

At the kickoff meeting of the LAE working group, Co-chair Bryan Garcia facilitated a whiteboard brainstorming exercise to identify key attributes that define leadership. More than 40 words and phrases were offered by working group members and meeting attendees. Drawing on this initial list, DEEP staff surveyed LAE members, who together selected the top five terms informing a well-rounded vision of leadership. Definitions for these terms were then developed, reviewed, and finalized by the working group:

> *Commitment* — Dedication and demonstrated progress toward achieving stated goals by engaging with and empowering key stakeholders, and prioritizing long-term outcomes rather than limited, one-time initiatives or self-promotional activities.
>
> *Visionary/Inspiring* — Demonstrates effective leadership through taking a holistic perspective that is forward thinking, emphasizes proactivity over reactivity, and creates a high level of excitement and eagerness for others to follow.
>
> *Innovative* — Creative ability to approach problems in a way that generates added value and that challenges the status quo by proposing and implementing alternative solutions that are replicable and scalable.
>
> *Inclusive* — Collaborative nature that extends across sectors, embraces a global perspective for sharing information and best practices, and commits to engaging all stakeholders in developing and implementing meaningful solutions.
>
> *Accountable* — Prioritizes measuring and tracking progress to achieve stated goals; assumes responsibility for both successes and failures; ensures a transparent process by making information easily available and accessible; and evaluates outcomes and identifies lessons learned.

These definitions guided the investigation of best-practice leadership models and programs in Connecticut and around the world.

Best-Practice Research

The LAE working group co-chairs and DEEP staff submitted a project proposal to the Yale Environmental Protection Clinic for the fall 2015 semester. [19] The proposal requested a team of students to conduct research and interviews, analyze best practices, and develop a set of recommendations and strategies for enhancing models of climate change leadership, accountability, and engagement across all sectors of Connecticut. Three students selected the LAE working group project proposal and with guidance and input from working group members conducted a semester-long research program.[20]

Methodology and Interviews

Working directly with working group members and DEEP staff, the Yale team developed a list of noteworthy organizations and programs from around the world to research and interview. Their goal was to examine an array of diverse programs representative of the landscape of primarily voluntary climate initiatives, focusing on those with the greatest potential applicability in Connecticut, in order to gain an understanding of how each program approaches leadership, accountability, and engagement and to identify common threads of success that could be applied effectively to Connecticut's GHG emissions-reduction strategy. They also reviewed models of leadership in Connecticut and offered recommendations to promote, support, and/or expand the programs. A summary of Connecticut models of leadership is in Appendix A.

Interviews were conducted utilizing a set of basic questions focusing on leadership strategies, engagement, accountability, funding, and goal setting (see Appendix C for interview questions), which the students adapted to the organization or program being interviewed. Due to time limitations and an inability to reach some organization/program staff, the students supplemented the interviews with an examination of online resources for some organizations and programs for which interviews were not conducted.

A total of 26 interviews were conducted and 14 organization's/program's online resources were reviewed. Interviewees included representatives of five companies, seven local, state, and federal government agencies, nine nonprofit organizations, and five multi-stakeholder coalitions. The companies, organizations, programs, and initiatives interviewed are listed in Table 1.

[19] The Environmental Protection Clinic is an interdisciplinary clinic that addresses environmental law and policy problems on behalf of client organizations such as environmental groups, government agencies, and international bodies.

[20] Monica DiLeo, Yale College, 2016; Theresa McCarty, Yale School of Forestry & Environmental Studies, 2017; and Stefanie Wnuck, Yale School of Forestry & Environmental Studies, 2016.

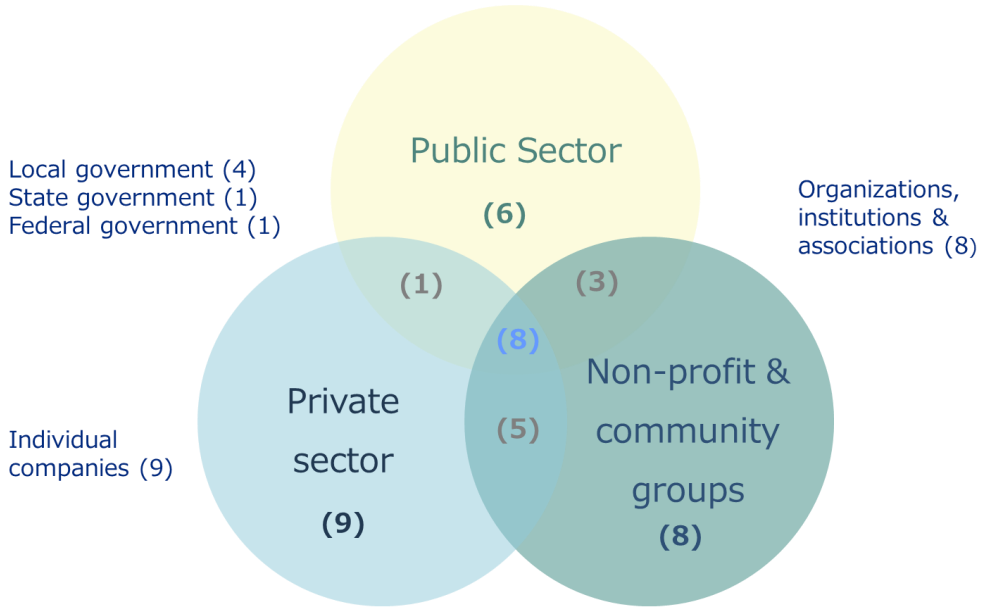
Table 1. List of organizations interviewed

- ALIGN: Alliance for a Greater New York
- Assa Abloy
- Boston Green Ribbon Commission
- California Environmental Protection Agency, Greenhouse Gas Reduction Report Cards
- Catholic Climate Covenant
- CDP (formerly the Carbon Disclosure Project)
- Ceres
- City of Bridgeport, Connecticut, BGreen2020
- City of Portland, Oregon, Equity Work Group
- Clear the Air Challenge
- The Climate Registry
- Connecticut Roundtable on Climate and Jobs
- Environmental Health Coalition
- Green Justice Coalition
- Greenworks Philadelphia
- The Hartford
- King County Cities Climate Collaboration
- MomentUs
- Patagonia
- Pirelli
- SC Johnson
- Sustainable Jersey
- U.S. Conference of Mayors, Climate Protection Agreement
- U.S. Environmental Protection Agency, Green Power Partnership
- We Mean Business
- World Business Council for Sustainable Development

Altogether, there were 40 models of leadership, accountability, and engagement from across all levels and all sectors. The diagram in Figure 4 depicts the numerous cross-sector partnerships of the model programs researched and illustrates the degree to which they overlap. Programs were grouped based on participant involvement.

The research did not attempt to capture all relevant models of climate change leadership, accountability, and engagement, but rather to select a representative sample of the range of initiatives that exist. Further research may be needed to fill any potential gaps or to learn more about additional examples of interest to Connecticut stakeholders.

Figure 4. Research on Leadership, Accountability, and Engagement Models: Breakdown by Participant Involvement



Findings and Recommendations

Several common themes emerged from the research and analysis of the models investigated. The following elements emerged as key features of success in the organizations and programs:

- ✓ Competition and recognition
- ✓ Resources and training
- ✓ Cross-sector partnerships and collective action
- ✓ Goal setting, measurement, and evaluation
- ✓ Leading by example
- ✓ Communication and stakeholder engagement

What follows is a description of these key features and examples of each. Recommendations are based on a synthesis of the research findings and discussions that occurred during the LAE working group meetings. Some recommendations may be implementable in the short-term, while others may require additional planning and coordination. The LAE working group has prioritized a small number of recommendations to pursue in 2016. These are highlighted in Appendix B.

Competition and Recognition

Encouraging healthy competition can engage businesses, municipalities, and nonprofits to take voluntary actions to mitigate their impact on climate change. Programs such as Connecticut's Clean Energy Communities Program, the DOE's Workplace Charging Challenge[21], EPA's Green Power Partnership, and the Clean Air Challenge[22] nudge organizations to compete against themselves and/or others in ways that lead to actions beyond those they might have undertaken otherwise.

> *Green Power Partnership*
>
> *The Green Power Partnership encourages organizations (corporations, small businesses, governments, and universities) to purchase renewable, green power and provides a forum for organizations to compare their level of purchases to those of peer organizations. The EPA also advertises participation through annual rankings and awards, attendance at industry conferences, and webinars.*

Highlighting successful climate initiatives through leadership awards and other recognition strategies can also spark competition among groups and lead to increased efforts and greater ambition to reduce emissions. Entities addressing

[21] The U.S. Department of Energy (DOE) Workplace Charging Challenge is open to employers of all sizes and industry types in the United States whose charging stations are primarily for employee use. Taking the Challenge offers benefits to employers who are considering installing charging, as well as those who have successfully launched workplace charging programs.

[22] The Clean Air Challenge is a month long competition that challenges Utah citizens to reduce vehicle emissions by choosing alternative methods of transportation. Organized and facilitated through the Utah Department of Transportation's TravelWise program, the challenge is issued by businesses, government, and community leaders and focused on improving air quality by eliminating unnecessary vehicle trips.

climate change want to receive public recognition for their positive actions. This can be in the form of award ceremonies or opportunities to participate in forums where they can share their success stories. Formal or informal recognition opportunities can provide an added value beyond the act of reducing energy consumption and emissions within their own organization.

Recommendations

Enhance and support opportunities for statewide competition and recognition:

1. Investigate revitalizing the former *Climate Change Leadership Awards Program* to recognize leadership in addressing climate change in Connecticut. Focus recognition on categories such as transportation initiatives, bottom-up and top-down approaches, sustainable development, energy reduction achievements, renewable energy generation, stakeholder engagement, and innovative initiatives. A coordinated public-outreach campaign will help generate interest and participation. Announcement of the award winners should be featured in local newspapers, online platforms, and social media.

> *Clean Energy Communities*
> *148 of Connecticut's municipalities are Clean Energy Communities and have pledged to both reduce their municipal-building energy consumption by 20 percent and purchase 20 percent of their municipal-building electricity from clean, renewable energy sources by 2018. An online dashboard enables each town to compare its own actions and accomplishments to those of other participating towns — leading to friendly competitions across the state. Additionally, municipalities are recognized for their efforts at the annual Clean Energy Communities Awards Ceremony hosted by Eversource, United Illuminating, Connecticut Green Bank, and CT DEEP.*

2. Develop and/or support various platforms for municipalities, businesses, and nonprofits to share success stories. This could include developing case studies, content on state agency websites, and industry-specific webinars, meetings, forums, or conferences (highlighting bottom-up and top-down approaches, lead by example initiatives, etc.).
3. Collaborate with Connecticut industry associations (CT Business and Industry Association (CBIA), CT Sustainable Business Council, CT Conference of Municipalities, CT Alliance for Campus Sustainability, etc.) to support and/or develop annual reporting and recognition programs that highlight entities truly leading the charge to reduce GHG emissions.
4. Support and promote work-based challenges that mitigate GHG emissions associated with transportation, such as:
    - The Department of Energy's Workplace Charging Challenge
    - Employee commuting challenges; E.g. the National Bike to Work Day or the Clean Air Challenge.

Resources and Training

Training or educational learning opportunities for individuals and organizations can be useful tools to encourage and promote continued engagement. New tools for mitigating and adapting to climate change are frequently developed, updated, and released by federal agencies, think tanks, nonprofits, and educational institutions. Identifying meaningful opportunities to connect individuals and organizations to these resources energizes the climate-related work they are doing.

Environmental Health Coalition

The Environmental Health Coalition works to support its community base and believes that leadership development is critical to achieving success. As the organization's members become more deeply involved, they are invited to participate in a signature leadership training entitled SALTA (Salud Ambiental, Líderes Tomando Acción — Environmental Health, Leaders Taking Action). These nine-session trainings ensure that all leaders have the skills and experience necessary to achieve environmental justice in their own communities. Environmental Health Coalition also aims to provide a way for everyone to participate, for example, providing childcare, meals, or transportation for meetings when those are barriers to involvement.

Organizations can approach climate from the bottom up or from the top down —through grassroots initiatives that percolate up or through initiatives that are established at a high level and implemented throughout the organizational structure. Organizations that are most successful at implementing climate solutions often incorporate both approaches: frameworks developed at the executive level create a mandate, while individuals dispersed within the organization operate within the architecture this mandate provides. The executive level signals an intention to systematically integrate climate concern within the organization, and the grassroots work to flesh out the plan, ground it in corporate operations and culture, and provide feedback on progress and opportunities.

Connecticut Institute for Resilience & Climate Adaptation (CIRCA)

CIRCA, a collaborative between UConn, DEEP, and the National and Atmospheric Administration, is a multi-disciplinary, center of excellence that brings together experts in the natural sciences, engineering, economics, political science, finance, and law to provide practical solutions to problems arising as a result of a changing climate.

Through its research, outreach, and education programs, CIRCA aims to improve scientific understanding, create a climate-literate public, foster resilient and sustainability communities, and deploy best practices for climate resilience.

In addition to training or educational opportunities, it is important to note that in at least 13 of the 26 interviews conducted, obtaining grants or other financial support emerged as a central component of successful initiatives over the long term. Foundations or sponsorships can help address significant funding gaps, particularly for grassroots and multi-stakeholder coalitions engaging with and giving a greater voice to underrepresented communities. Collaborative initiatives that seek to develop or strengthen partnerships among different groups may be more attractive to potential funders.

Recommendations

Optimize the deployment of resources and training to help drive sustained and meaningful engagement.

1. Strengthen relationships with Connecticut colleges and universities to leverage statewide expertise, resources, and research support. Connecticut boasts nearly 40 private and state colleges and universities, community colleges, and technical institutes, many of which are actively working on sustainability and climate initiatives on their campuses. There are significant opportunities to increase engagement efforts and tap into the expertise of academic institutions.

> ***The Hartford***
>
> *At The Hartford, one of the nation's leading insurance companies, the Office of the General Counsel is responsible for environmental stewardship. The General Counsel is one of the eight most senior managers, reporting directly to the chief executive officer. The company's Environment Committee, comprising senior-level staff representing all areas of the company, meets quarterly to report on progress and discuss new initiatives. At the same time, the Hartford Environmental Action Team engages and empowers individuals throughout the organization.*

2. Promote climate-related learning and training opportunities provided by nonprofits, associations, labor unions, and state and federal agencies through announcements on social media, websites, list-serves, and public calendars.
3. Develop climate change mitigation and adaptation toolkits that are customized for different sectors (business, community groups, municipalities, higher education, etc.) and help stakeholders learn about and contribute to meeting the statewide climate goals. The toolkits could focus on messaging about climate change and suggest concrete actions that these sectors can undertake to address and adapt to climate change. Development of a toolkit could be a collaborative process among various organizations that hold relevant expertise (e.g. CIRCA).
4. Continue the *Exploring Climate Change Solutions Webinar Series*. Originally intended to be a short series of webinars —September through December 2015—focused on educating members of the GC3 and interested stakeholders on salient strategies to address climate change, the series has proven to be well attended, informative, and inspiring. Additional topics and speakers have been identified for monthly or bi-monthly webinars in 2016.
5. Help identify opportunities for financial support from foundations, grants, and sponsorships for climate action initiatives in Connecticut. This could also include encouraging multi-organization programming or cross-sector partnerships.
6. Work with leading businesses and organizations to develop resources and tools for both executive-level leadership and bottom-up approaches.

Goal Setting, Measurement, and Evaluation

Given the urgency of climate change, it is essential to set ambitious goals and regularly assess progress to achieve them. And given its importance in building the public trust necessary for deep long-term reductions, it is essential that this assessment be carried out and reported transparently.

> ***American College & University Presidents Climate Commitment***
>
> *The American College & University Presidents Climate Commitment provides a framework and support for America's colleges and universities to commit to the goal of climate neutrality and prepares students to develop the solutions for a just, healthy, and sustainable society. Building on the growing momentum for leadership and action on climate change, the climate commitment now integrates a goal of carbon neutrality with climate resilience and provides a systems approach to mitigating and adapting to a changing climate. The commitment recognizes the unique responsibility that institutions of higher education have as role models for their communities and in training the people who will develop social, economic, and technological solutions to reverse global warming.*

A number of states have established formal GHG reduction goals, either through executive order or through statute. State and local governmental goals typically are pegged to international climate policy objectives such as preventing long-term warming beyond 2° C, as are goals adopted by colleges and universities. Numerous companies have publicly set goals as well, although these typically are shorter-term milestones and correspond less closely to specific international objectives.

Among governments, colleges, and companies, diligence in regular reporting of progress varies widely. A strong example of state leadership is the Greenhouse Gas Reduction Report Card program in which all California state agencies are required to participate. High-profile private programs to facilitate accountability in government, business, and higher education include the Climate Registry, CDP (formerly the Carbon Disclosure Project), and Second Nature's Climate Leadership Commitments. Eleven companies in Connecticut disclose their emissions through the CDP. Those that CDP ranks as responding aggressively to climate change are The Hartford, Pitney Bowes, Stanley Black & Decker, United Technologies Corp., Sikorsky parent Lockheed Martin, and Praxair. Ten Connecticut colleges and universities have committed to carbon neutrality through their participation in the American College & University Presidents' Commitment to Climate Change (ACUPCC), at least eleven have established formal GHG reduction goals, and one registers and verifies its emissions inventory via the Climate Registry.

> ***CA GHG Reduction Report Cards***
>
> *The California Environmental Protection Agency Greenhouse Gas Reduction Report Card program is administered through the CA State Climate Action Team, which is a mandated component of the Global Warming Solutions Act of 2006. Each state agency is required to provide annual updates on its contribution toward meeting California's goal of reducing greenhouse gas emissions to 1990 levels by 2020.*

Recommendations

Encourage and support Connecticut businesses, state agencies, municipalities, and nonprofits to measure their annual emissions and set reduction targets — and publically recognize those that do so.

1. Call on all Connecticut state agencies, municipalities, companies, and institutions of higher learning to formally set GHG reduction goals in line with the statewide goals and to regularly assess progress and publicly report the results.
2. Routinely highlight prominent examples of goal setting, reporting, and transparency by Connecticut companies, institutions of higher education, and municipalities. This could be through webinars, content on state agency web pages, and a climate leadership award program.
3. Develop case studies and opportunities to share best practices on how Connecticut municipalities, companies, and colleges have gone about setting goals and developing frameworks for assessment and reporting. Case studies could be written in collaboration between DEEP and students and faculty.
4. Encourage and support the adoption of existing national best practice guidelines for goal setting, assessment, and reporting for each sector.

Cross-Sector Partnerships and Collective Action

Cross-sector partnerships between public, private, and/or nonprofit organizations represent an important way to share resources and to work cooperatively toward achieving common goals. These collaborations have the ability to turn divergent interests into engagements that combine the unique capabilities and resources of each actor to deliver outcomes that surpass those of any sector acting in isolation. Cross-sector initiatives such as Stamford 2030 District[23], goNewHavengo, the Green Justice Coalition[24], the Boston Green Ribbon Commission, and the CT Roundtable on Climate and Jobs[25] draw upon diverse

goNewHavengo

GoNewHavenGo is a coalition that brings together organizations and individuals to increase the use of mass and active transportation options. It uses its resources and relationships with employees and employers to promote alternative transit use. In doing so, it aims to create a healthier, more sustainable, more active city with lower public health costs. With global temperatures increasing, congestion and traffic intensifying, air quality worsening, and the obesity epidemic spreading, goNHgo is dedicated to doing what works: transportation demand management.

[23] The Stamford 2030 District is an interdisciplinary public-private-nonprofit collaborative working to create a groundbreaking high-performance building district in downtown Stamford.
[24] The Green Justice Coalition is a unique partnership between community groups, labor unions, environmental groups, and other organizations that support a sustainable, equitable, and clean-energy economy in the Boston

expertise to deliver comprehensive solutions that reach beyond individual constituencies. Such initiatives demonstrate that partnerships across multiple sectors to tackle climate change can lead to powerful demonstrations of action that inspire others to take steps to reduce their climate impact. The strategic mobilization of resources and ideas to address climate change and adaption is critical to the development of enduring solutions.

Harnessing collective action through developing strategic and coordinated programs and/or goals has also proven to move organizations to address climate change in ways they might not on their own. A single organization's action by itself is noteworthy; but collective action can have a multiplying effect that can make the actions taken more meaningful and impactful.

Recommendations

Foster expansion of successful cross-sector partnerships in Connecticut and encourage development of new partnerships that lead to innovative strategies to address climate change.

1. Support the expansion of the goNewHavengo model to additional Connecticut communities as a means to tackle transportation-related emissions.
2. Facilitate and support dialogue between sectors to identify shared values and opportunities for partnership and collective action.
3. Foster the expansion of successful cross-sector partnerships in Connecticut and encourage development of new partnerships that lead to innovative strategies to address climate change while acknowledging the many co-benefits of climate driven action.
4. Encourage and support Connecticut industry associations (CBIA, CT Sustainable Business Council, CT Conference of Municipalities, CT Alliance for Campus Sustainability, etc.) to develop or enhance collective action initiatives.

The Boston Green Ribbon Commission

The Boston Green Ribbon Commission is a group of business, institutional, and civic leaders in Boston working to develop shared strategies for fighting climate change in coordination with the city's Climate Action Plan.
Commission members serve on one of six different working groups: Commercial Real Estate, Health Care, Higher Education, Climate Preparedness, Communication, and Transportation. The working groups are charged to focus either on solving problems and spurring action in specific sectors, or on crosscutting approaches that complement and amplify the work of the Commission.

region. The coalition works to ensure that these communities are at the forefront of the growing green, sustainable economy.

[25] The Connecticut Roundtable on Climate and Jobs is an innovative partnership between the Interreligious Eco-Justice Network and the CT AFL-CIO that seeks to strengthen collaboration among Connecticut's labor, environmental, and religious groups in advocating for public policies that address urgent concerns about climate change while creating good-paying jobs in the state.

Leading by Example

Massachusetts Leading by Example

Created through Executive Order 484, Massachusetts' Leading by Example Program sets aggressive targets for facilities owned and operated by the Commonwealth of Massachusetts regarding greenhouse gas emission reductions, energy conservation and efficiency, renewable energy, green buildings, and water conservation. The program works with partners across Massachusetts state government to provide leadership, technical assistance, guidance, and grant funding to ensure successful implementation of strategies outlined in Executive Order 484.

Leading-by-example initiatives have proven to be an effective way to influence others to take action. These initiatives turn intention into reality and pave the way for others to follow. Assessment of best practices in Connecticut and across the country identified several companies, organizations, municipalities, and states leading by example through their implementation of energy efficiency projects, adoption of renewable energy technologies, and building to LEED green building standards.[26] Recognizing the value of this approach, DEEP has developed a Lead by Example program that aims to reduce energy use in state and local government buildings and operations.

Lead-by-example initiatives are critical mechanisms the State of Connecticut should promote and employ to further challenge and inspire voluntary actions that achieve long-term GHG emissions reductions.

Recommendation

Inspire voluntary action by promoting and employing lead-by-example initiatives.

1. Expand the state Lead by Example program to include transportation and fleet management.

Connecticut DEEP Lead by Example

The Department of Energy and Environmental Protection's Lead By Example program aims to reduce energy use in Connecticut's state and local government buildings and operations. The program will help achieve Governor Malloy's goal of making Connecticut the most energy efficient state in the nation, and has a goal of reducing energy use in State buildings 20 percent by 2018.

[26] LEED, or Leadership in Energy & Environmental Design, is a green building certification program that recognizes best-in-class building strategies and practices. To receive LEED certification, building projects satisfy prerequisites and earn points to achieve different levels of certification.

Communication and Stakeholder Engagement

A thoughtful communication and stakeholder engagement strategy is a critical element for businesses, municipalities, nonprofits, governments, and the general public to effectively address climate change. Helping the audience understand the many co-benefits associated with addressing climate change will add value to any actions a stakeholder may take. For the long-term success of any program or initiative, clear communication on strategies and actions — as well as evidence that one has engaged with and understands the concerns and priorities of stakeholders — is essential.

> *Portland, Oregon, Equity Work Group*
>
> *The Equity Work Group consisted of representatives from six community organizations, two Climate Action Plan (CAP) Update Steering Committee members, and three municipal and county staff Members. The group looked for opportunities to incorporate equity into the updated actions to decrease disparities through CAP actions, and to develop equity metrics for these actions.*

Stakeholders bring diverse perspectives, values, and expectations that can help build a better collective understanding of the nature and scope of climate risks and opportunities, and how best to approach them. Understanding how these perspectives are similar to or different from each other is essential to maximizing program effectiveness and impact. Additionally, ensuring that a broad range of perspectives is considered increases the effectiveness and likely acceptability of any proposed actions.

Intentionally engaging stakeholders from underserved or underrepresented communities is critical to building trust and long-term engagement and support of stakeholders who often are not included in policy discussions. In Portland, Oregon, a municipal Climate Equity Work Group serves as an excellent example of how to effectively address the concerns of and identify opportunities within communities of color, low-income populations, and other marginalized groups. Developed through an intensive year-long engagement process, the work group developed a list of "Climate Equity Considerations" to help evaluate the impact of the city's climate action plan.

> *ALIGN, Climate for All*
>
> *ALIGN*: The Alliance for a Greater New York *brings together labor and social justice communities in New York City. Recently, their work has focused on creating a ten-point plan for the future of sustainability and the economy in New York City. Through seeking different stakeholders' input and experience in the fields in which they are experts, and via groups in which they already participate, ALIGN created a powerful and inclusive alliance in crafting this plan.*

Engagement and communication are essential, not only to share good practice and showcase successes but also to understand priorities and shortcomings and to explore the lessons they offer.

Recommendations

Develop a robust short- and long-term communication and stakeholder engagement framework that can be adjusted to fit the evolving needs of stakeholders.

1. Develop opportunities for stakeholders to share success stories through storytelling.
2. Provide stakeholders with training on how to create effective and tailored messaging that appeals to and drives actions from a variety of audiences. This could include partnering with Connecticut-based experts and programs, such as the Yale Program on Climate Change Communication, whose Climate Change in the American Mind project provides important insights into both attitudes on climate and effective messaging on climate.
3. Further investigate the Portland, OR, Equity Work Group model and related metrics for ensuring equity is incorporated into the state's climate strategy.
4. Ensure clear and accessible two-way communication channels between the State and stakeholders by developing regular opportunities for dialogue.
5. Develop partnerships with stakeholder groups to facilitate dialogue among Connecticut stakeholders.

Stakeholder Engagement Workshop

On December 1, 2015, the LAE working group hosted two workshop sessions to gather stakeholder ideas and feedback on the design of a future GC3 stakeholder process that will engage the full range of stakeholders in an effective, transparent, and accountable process. Approximately 100 stakeholders were invited from a wide range of interest areas, organizations, and locations across the state. In total 76 people participated. Sectors represented included: business, education, environmental health, environment and clean energy, labor, municipal, religious, seniors, transportation, unaffiliated residents, and others. After introductions and a summary of the context, and timeline for the GC3 and the goals of the workshop, the participants engaged in small-group facilitated discussions on four questions. Note-takers captured the ideas and comments, and participants had the option of leaving additional written comments and suggestions.

A number of themes emerged from the workshop discussions and written comments:

- There was a clear desire for a multifaceted approach that was broad demographically and geographically.
- Engagement should start early and be consistent throughout the process, with the purposes, opportunities, and outcomes clearly and succinctly conveyed to stakeholders.
- The method and degree of incorporation of stakeholder input will have an impact on public support during implementation.
- Engaging stakeholders through trusted intermediaries and with peer-to-peer experiences will lend trust and credibility to the process and accelerate implementation.
- The framing of the issues, data, and substance must be clear and compelling. When appropriate, it should be tailored to the interests and concerns of particular stakeholder audiences to help them understand the importance of the issues, the need for solutions, and the role that each person or organization can play in implementation.

The GC3 should provide a number of mechanisms for stakeholders to be apprised of, follow, and monitor the work of the Council. In addition, there should be a number of opportunities to learn about the activities and provide input into the state's draft climate strategy at stages where there is sufficient flexibility and time for the feedback to be considered and incorporated as appropriate. The stakeholder process should also make clear that the GC3 itself has no authority to implement recommendations and the climate strategy it develops will be advice for action by the Governor, DEEP, and other executive branch offices; the General Assembly; and public, private, and nonprofit sectors. Through stakeholder engagement, it should be made clear that no single entity can take sufficient action to achieve the GHG targets on its own. Therefore, a cross-sector strategy arrived at through consultation

and with broad support is necessary for long-term success in implementation and continued involvement.

The GC3 has identified transparency and accountability as essential to effective stakeholder engagement. An essential aspect of transparency is to set expectations for stakeholders about the purpose of their involvement at any stage and recognize that any process must be able to be accomplished within time, budgetary, and staffing constraints.

In broad terms, stakeholder engagement has three purposes or goals:

- To *share information*. This is a generally one-way communication out to stakeholders. Typically this helps educate stakeholders about the issues and prepare them for or notify them of public engagement events and opportunities.
- To *consult* through a process which allows stakeholders to weigh in and provide feedback on the alternatives.
- To *deliberate* with stakeholders, allowing them to offer views, suggestions and recommendations for ideas for the GC3 to include.

Short- and Long-term Stakeholder Engagement Strategy

Reference Case and Largest Potential GHG Reduction Measures — Estimated time frame, January to April 2016

During the January-April 2016 time frame, preliminary technologies and measures will be reviewed and compared against the reference case.

A reference case from 2010 to 2050 was developed to provide a basis for examination and to serve as a starting point for analysis of scenarios aimed at achieving future GHG emission reduction targets. Factors that are expected to shape the projected future GHG emissions were used to build the reference case. These factors are based on projected energy market trends and economic growth occurring under state and federal policies and regulations currently in place.

Based on the GHG reduction potential – and a review of the literature and steps being pursued by leading jurisdictions such as California – the emissions-reduction scenarios evaluated will involve technologies and measures within the transportation, building, and electricity sectors.

Opportunities for stakeholders to learn about the reference case and the preliminary set of technologies and measures being analyzed include:

- The January 22, 2016, GC3 meeting, where the reference case was presented and finalized. Stakeholders in attendance in person or via webinar had the opportunity to formally comment on the issues that were discussed, both during the public comment period at the meeting and through subsequent written comments.
- An Analysis, Data, and Metrics (ADM) working group meeting in March 2016, where the preliminary set of technologies and measures for the three sectors will be reviewed and discussed. This will provide a venue for feedback on additional technologies and

measures from GC3 members and stakeholders in attendance or by written submission.

- A stakeholder engagement meeting and presentation with a question-and-answer period in April 2016. The meeting will aim to achieve the following:
  - ✓ map out what steps will occur in modeling;
  - ✓ review a preliminary set of technologies and measures for each sector; and
  - ✓ request feedback from stakeholders on other technologies and measures not on the preliminary list but within the identified sectors.

Scenario Analysis — Estimated time frame, May to July 2016

During this phase, GC3 members and stakeholders will have an opportunity to review and discuss the preliminary scenario analysis developed using the modeling tool, Long Range Energy Alternatives Planning (LEAP).[27] The LEAP scenarios will be long-range storylines of how energy systems and GHG emissions might evolve over time. Alternative scenarios based on technologies and measures implemented through individual policies or combinations of policies will be evaluated for potential GHG reductions, economic impacts, and ease of implementation. This approach will allow GC3 members and stakeholders to assess the marginal impact of an individual policy as well as the interaction that occurs when multiple policies are combined. For example, the benefits of electrifying the transportation sector cannot be realized to the fullest extent unless the electricity sector is decarbonized. At this time, the GC3 will also be able to evaluate mid-term GHG reduction targets and/or ranges.

Opportunities for stakeholders to learn about and provide feedback on the scenario analysis and mid-term target scenarios include:

- An ADM working group meeting in May 2016 in which members will review, ask questions about, and provide suggestions on additional technologies, measures, and scenarios to investigate. Stakeholders in attendance will have the opportunity to learn about and provide feedback to the working group on the modeling effort.
- A GC3 meeting in June 2016 in which GC3 members will review and discuss the scenarios and potential mid-term targets. Stakeholders in attendance in person or via webinar will have the opportunity to address and comment on the issues discussed at the meeting during the public comment period at the meeting and through written comments.
- A stakeholder engagement meeting and/or webinar in July 2016 could also be provided.
- To ensure that a diverse set of stakeholders are reached, during the May to July timeframe, the GC3 should investigate and identify opportunities to partner with organizations across the state to facilitate stakeholder dialogue in various locations.

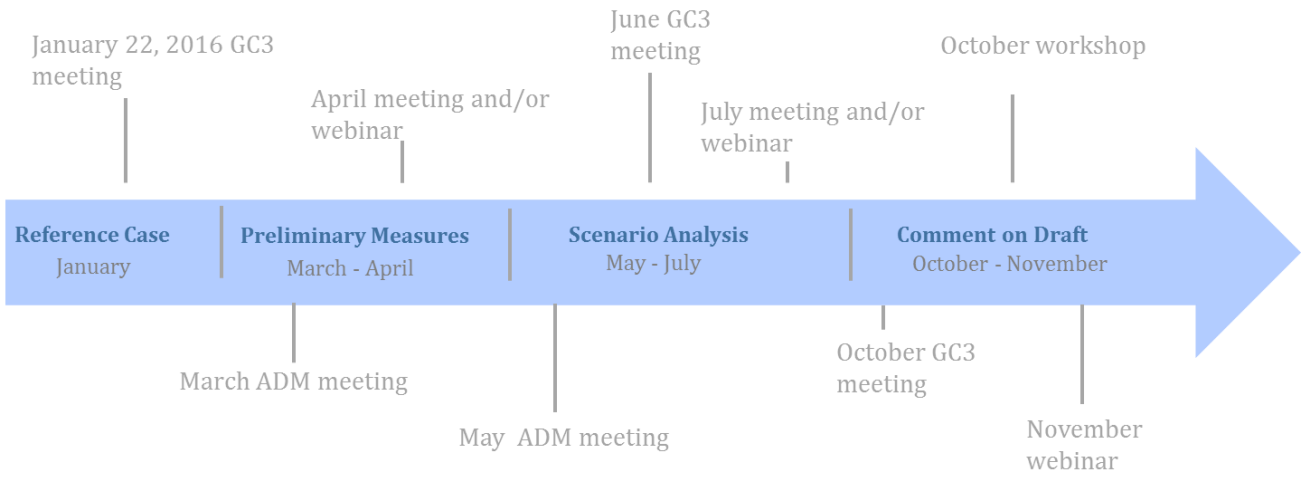
[27] Long range Energy Alternatives Planning System, is a widely-used software tool for energy policy analysis and climate change mitigation assessment developed at the Stockholm Environment Institute.

Draft Climate Strategy and Policy Recommendations — Estimated timeframe, October to November 2016

During this phase a draft climate strategy with policy recommendations and a mid-term target(s) and/or range will be released. Stakeholders across the state will have an opportunity to learn about the proposed strategy and recommendations and provide feedback. Opportunities for dialogue and participation in this process include:

- A GC3 meeting in October 2016 at which GC3 members will review and discuss the draft Climate Strategy. Stakeholders in attendance in person or via webinar have the opportunity to address and comment on the issues discussed at the meeting during the public comment period at the meeting and through written comments.
- A stakeholder engagement workshop in October 2016 at which a presentation of the draft strategy could be presented, followed by small-group discussions to elicit stakeholder feedback and ideas.
- A webinar in October/November 2016 during which the draft strategy will be presented and questions can be asked and answered.
- To ensure that a diverse set of stakeholders are reached, during the October to November timeframe, the GC3 should investigate and identify opportunities to partner with organizations across the state to facilitate stakeholder dialogue in various locations.

Figure 5. 2016 Stakeholder Engagement Opportunities



Climate Change Stakeholder Engagement Group

In addition to the above targeted meetings and webinars, the development of a Climate Change Stakeholder Engagement Group for both short- and long-term stakeholder engagement should be further explored and considered. The Group could be made up of individuals from organizations that adequately represent the 10 sectors indicated in Figure 6 below. The Group could convene as frequently as members choose to, but a minimum of 4

times per year would be required. A facilitator independent from the State would manage the meetings, set the agenda, and coordinate work group outcomes.

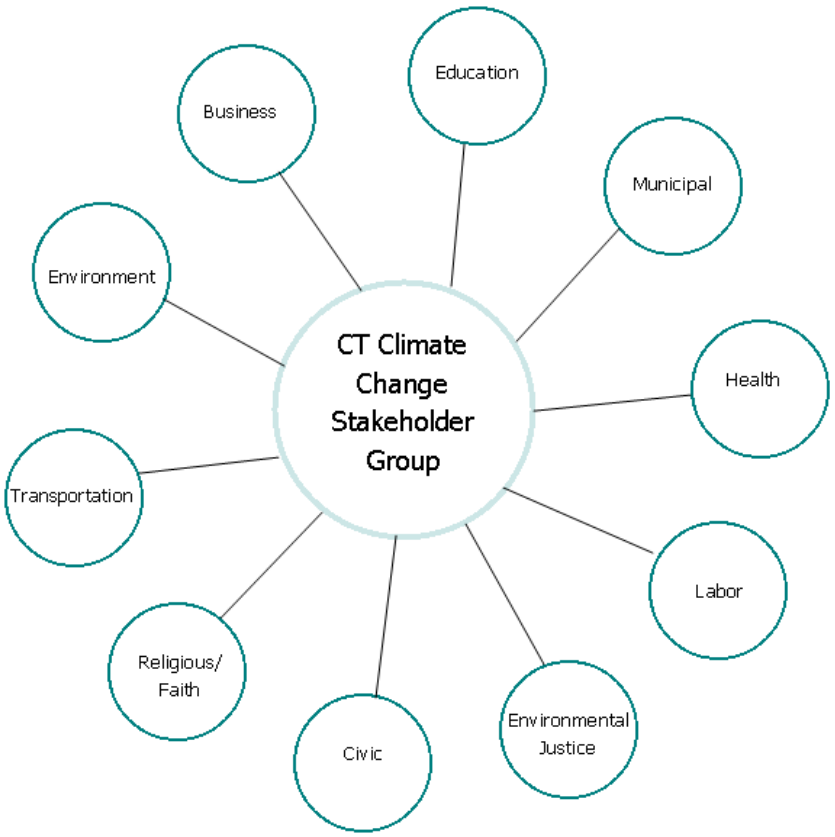
Each sector Group lead(s) would be responsible for convening meetings, developing/coordinating sector-specific initiatives, and facilitating communication among member groups in their sector. The initiatives that each sector selects to pursue should be aligned with achieving the GC3's emissions reduction strategies and any agreed upon Group goals.

The CT Climate Change Stakeholder Group would report, at a minimum, annually to GC3 members and facilitate bi-directional communication on:

- strategies for reducing GHG emissions;
- voluntary efforts that lead to emission reductions; and
- general stakeholder input, ideas, and concerns.

As a next step the GC3 will consider the advantages and challenges of establishing a stakeholder engagement group; who would organize and facilitate the group; and what type of resources would be necessary to fully develop the group. If established, it will be important to define desired outcomes and expectations of the stakeholder groups involved.

Figure 6. Connecticut Climate Change Stakeholder Group



Analysis, Data, and Metrics Working Group

Working Group Charge

In collaboration with the Northeast States for Coordinated Air Use Management (NESCAUM) and DEEP's Office of Climate Change, members of the Analysis, Data, and Metrics (ADM) working group will provide guidance on the technical modeling of mitigation scenarios, assessment of policy proposals, and review of analyses published in Connecticut and elsewhere. Using cost, GHG reduction impact, ease of implementation, and associated co-benefits as criteria for evaluation, members will digest the results of NESCAUM's analyses and provide feedback and recommendations.

With guidance from working group co-chairs Robert Klee, Commissioner of the Department of Energy and Environmental Protection (DEEP), and James O'Donnell, Executive Director of the Connecticut Institute for Resilience and Climate Adaptation (CIRCA), working group members[28] met three times from September to December 2015[29] to review and discuss the following questions:

1. How does in-state electricity generation compare to the consumption-based GHG accounting methodology? Given the regional nature of the electric grid, which accounting approach should be utilized in setting up the reference case?
2. Which reduction measures have proven successful elsewhere, and can we expect these results in Connecticut?
3. How far do strategies "on the books" and "on the way" for Connecticut and adopted federally for emissions reductions get us? How big is the remaining gap?
4. What are the primary wedges and/or measures that have the greatest GHG-reduction potential?

Working Group Activities and Outcomes

Consumption-based Versus In-state Generation Accounting

Purchases of electricity and material goods have emissions associated with their production. Some of that production happens inside Connecticut's state borders, but much of it happens outside the state's borders. Standard greenhouse gas emissions accounting methods utilize an in-state generation approach to quantifying a state's carbon impact. In-state generation includes quantifying the emissions produced within the state's physical boundaries — e.g., emissions associated with in-state power plants, vehicles, building heating systems, industry, waste, and agriculture. The U.S. Environmental Protection Agency utilizes this methodology

[28] Art House (PURA), John Humphries (CT Roundtable), James Redeker (DOT), Catherine Smith (DECD), Lynn Stoddard (ISE at ECSU), Don Strait (CFE).
[29] Meeting dates: September 16, 2015; October 14, 2015; December 3, 2015; Meeting minutes and presentations are archived on the CT DEEP Climate Change website.

for its *State Inventory and Projection Tool*, which is the inventory tool the State of Connecticut employs to officially report and track its greenhouse gas emissions.[30]

Consumption-based accounting takes a different approach: all emissions caused by the consumption of goods and electricity in the state belong to the state, regardless of where they were physically emitted. Using an accounting approach that is commonly called "life cycle" analysis, the methodology captures emissions from the raw materials extraction, processing, manufacturing, transport, use, and disposal of a product. By looking at the life cycle emissions of a product, one can identify where the largest greenhouse gas impact occurs and evaluate opportunities for reducing emissions.

One inventory approach is not better than the other, per se. Rather, each approach presents an incomplete view of how a state contributes to global emissions. Conducting both inventory approaches can offer a more comprehensive perspective, which can be better than a single perspective.

Conducting a comprehensive consumption-based analysis across all sectors — electricity, buildings, residential, etc. — is resource intensive and not something the working group felt it could recommend that DEEP take on at this time. Instead, the group suggested identifying opportunities to partner with Connecticut research institutions to conduct a comprehensive consumption-based analysis in the future.

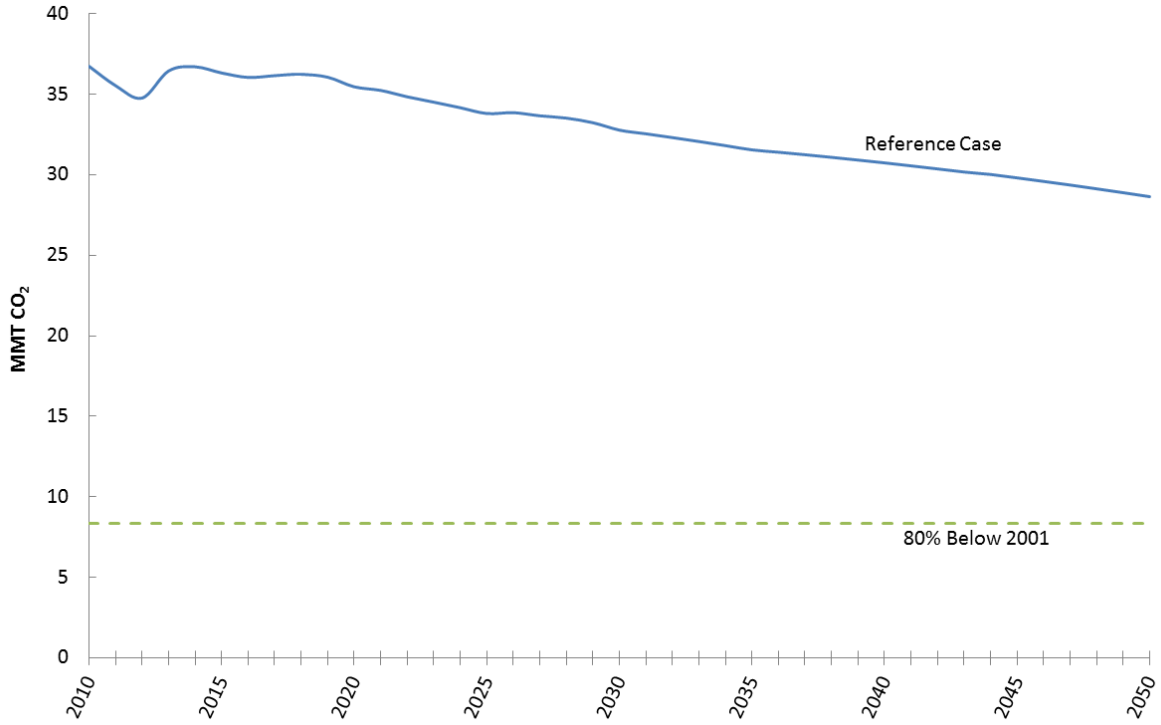
However, based on NESCAUM's recommendation, the working group did elect to utilize a hybrid consumption-based approach for the electric sector when building the reference case. This is an approach that has become an increasingly common practice in other states and better aligns with the regional nature of the New England electric grid. This methodology accounts for emissions associated with electricity consumed within the state regardless of whether it was generated in Connecticut or in another state. Using this method would help to better align Connecticut's inventory with actions it can take to reduce emissions based on the consumption of electricity, such as promoting efficiency in electricity use or sourcing electricity from renewable energy sources from around the region, and as such, provides important insights into how to design market-based emissions-reduction strategies.

Building the Reference Case (Business as Usual)

The first step in developing a climate strategy is building a Connecticut-specific reference case to provide a basis for examination of potential GHG mitigation technologies and measures. Utilizing projection data from the Energy Information Administration and factors expected to shape Connecticut's future energy consumption, NESCAUM developed a reference case projection of future emissions through 2050 (see figure 7).

[30] EPA's State Inventory and Projection Tool is an interactive spreadsheet model designed to help states develop GHG emissions inventories and was developed to lessen the time it takes to develop an inventory (collecting data, identifying emission factors, etc.).

Figure 7: Connecticut GHG Emissions Reference Case[31]



The major assumptions underlying the reference case include:

- Connecticut's Renewable Portfolio Standard;
- Regional Greenhouse Gas Initiative adjusted cap reflected in the February 2013 MOU;
- Clean Air Interstate Rule ;
- Mercury and Air Toxics Standards ;
- Regional Haze Rule;
- all federal regulations aimed at energy efficiency and renewable energy; and
- up-to-date 2025 CAFE standards (Tier 3).

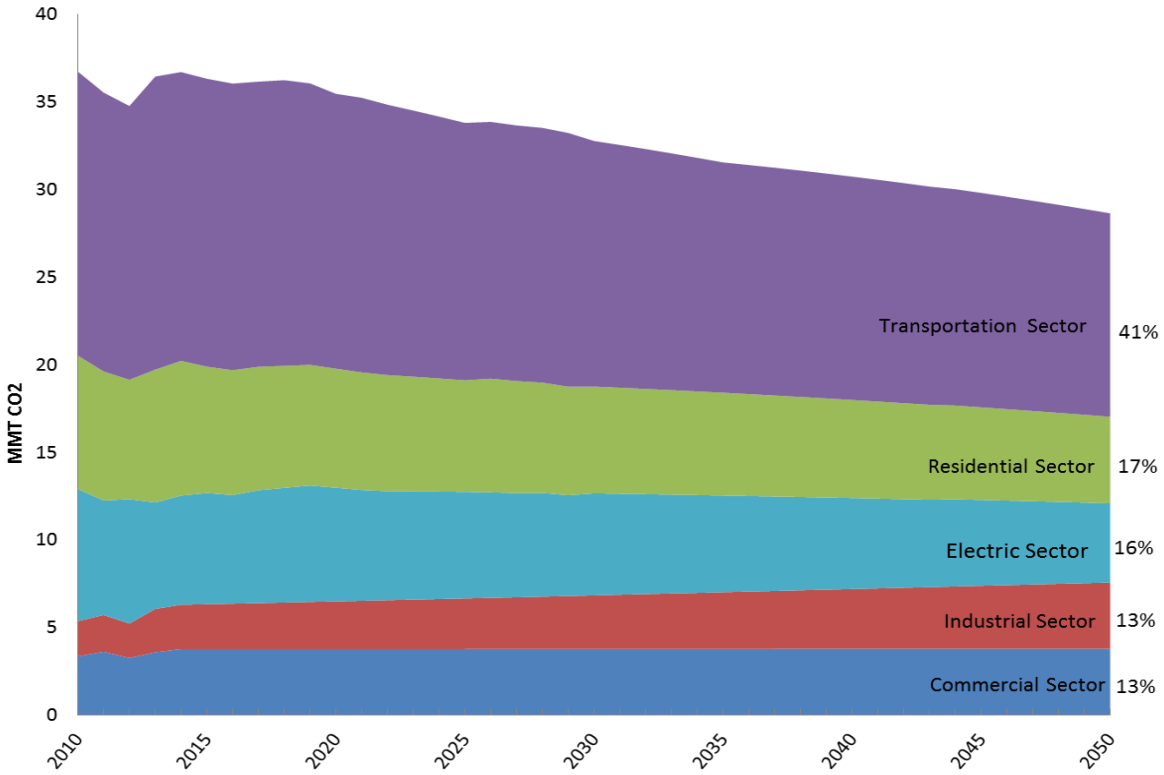
The reference case does not include:

- Updated Cross-State Air Pollution Rule;
- EPA's Clean Power Plan;
- state specific energy-efficiency programs, e.g. CT Energy Efficiency Fund; or
- future EPA heavy-duty vehicle GHG standards.

Sector specific projections out to 2050 suggest that the transportation sector will make up 41 percent of future emissions, with the residential and electricity sectors following at 17 and 16 percent, respectively (see Figure 8).

[31] Heaps, C.G., 2012. Long-range Energy Alternatives Planning (LEAP) system. [Software version 2015.0.14] Stockholm Environment Institute. Somerville, MA, USA. www.energycommunity.org

Figure 8: Connecticut Sector-Specific 2050 GHG Emissions Reference Case[32]



Continued Analysis and Next Steps for 2016

The reference case developed by NESCAUM will serve as the baseline against which the next phase of analysis will be measured. With input from GC3 members and stakeholders, NESCAUM will begin analyzing technologies, measures, and scenarios that bend the reference case curve closer to achieving the 2050 target. Table 2 outlines the timeline for the various stages of analysis.

Table 2. 2016 Timeline of Stages of Analysis

Task	Jan.	Feb.	Mar.	Apr.	May	Jun.	Jul.	Aug. – Dec.
Develop sector-specific technology, measures, and scenario sets								
Build technologies, measures, and scenarios into LEAP								
Develop a policy narrative around GHG mitigation scenarios								
Conduct addition analytics as needed								

[32] Heaps, C.G., 2012. Long-range Energy Alternatives Planning (LEAP) system. [Software version 2015.0.14] Stockholm Environment Institute. Somerville, MA, USA. www.energycommunity.org

NESCAUM will analyze GHG mitigation technologies, measures, and scenarios for future statewide emission reductions using the Long Range Energy Alternative Planning System (LEAP). Developed by the Stockholm Environment Institute, LEAP is a widely-used software tool for energy policy analysis and climate change mitigation.[33] For additional details on the LEAP modeling tool click here.

In August 2015 Connecticut became a signatory to the NEGC/ECP Resolution 39-1 adopting a regional GHG reduction marker in the range of 35-45% by 2030.[34] In line with the NEGC/ECP reduction marker, NESCAUM will look at 35%, 45% and 55% reductions by 2030 to guide its planning and scenario development for potential Connecticut specific targets.

On the basis of this analysis, as well as a parallel analysis of economic benefits, co-benefits, and further stakeholder engagement, the Council will draft a comprehensive climate strategy to guide the state's efforts to meet its climate goals.

Upon receiving stakeholder feedback on the draft climate strategy, the Council will issue a final report in late 2016. In accordance with the Executive Order creating the GC3, the strategy will include one or more interim goals and/or ranges for the period 2020 to 2050 and will recommend a set of policies, regulations, and legislative actions that will assist in achieving the interim goals and 2050 target.

[33] Stockholm Energy Institute (SEI) is an independent international research institute established by the Swedish Government in 1989. SEI's objective is to provide rigorous and objective scientific analysis to guide and inform decision making and public policy around sustainability issues.

[34] At the 39th NEG/ECP Annual Conference Resolution 39-1, Resolution Concerning Climate Change, was passed to adopt a regional 2030 reduction marker range of at least 35 percent to 45 percent below 1990 levels.

Appendices

Appendix A: Examples of Connecticut Models of Leadership

- Co-chaired by Yale University and the Institute for Sustainable Energy at Eastern Connecticut State University, the **Connecticut Alliance for Campus Sustainability empowers sustainability action in Connecticut's higher education institutions**. Designed to serve as a network that encourages greater coordination and cooperation on sustainability issues at the local and state levels, the Alliance convenes colleges and universities from across the state to share best practices, develop collaborative strategies, and identify and develop new resources to further sustainability efforts.
- **Ten colleges and universities in Connecticut are pledged to carbon neutrality** through the American College and University Presidents Climate Commitment (ACUPCC). Supported by Second Nature, presidents signing the Commitment are pledging that their institution will eliminate its contribution to global warming over time. This includes establishing an institutional structure to oversee the development and implementation of the school's program; completing an emissions inventory within a year and annually thereafter, establishing a climate neutrality action plan, taking some immediate steps to reduce greenhouse gas emissions, integrating sustainability into the curriculum and making their climate action plan, inventory and progress reports publicly available. For the full list of Connecticut signatories click here.
- **Eleven companies in Connecticut disclose their carbon emissions** through the CDP's (Carbon Disclosure Project) Climate Change Program. The CDP is an independent not-for-profit organization holding the largest database of primary corporate climate change information in the world. Almost 2,000 organizations from across the world's major economies measure and disclose their greenhouse gas emissions and climate change strategies through CDP. For the list of participating Connecticut companies click here.
- **Seven companies/universities in Connecticut have joined the DOE's Workplace Charging Challenge.** The U.S. Department of Energy (DOE) Workplace Charging Challenge is open to employers of all sizes and industry types in the United States whose charging stations are primarily for employee use. Taking the Challenge offers benefits to employers who are considering installing charging, as well as those who have successfully launched workplace charging programs. For a list of participating companies/universities click here.
- **148 of Connecticut's municipalities are Clean Energy Communities** and have pledged to both reduce 20% of their municipal-building energy consumption and purchase 20% of their municipal-building electricity from clean, renewable energy

- sources by 2018. For a full list of participating municipalities visit the Clean Energy Communities dashboard.
- **goNHgo is a coalition of partners** that brings together organization and individuals in New Haven, CT to **increase the use of mass and active transportation options.** By collaborating with communities, government agencies, businesses, schools and NGOs across New Haven and Connecticut the goNHgo program develops and implements actionable strategies to reduce people's dependence on individual cars.
- The **Stamford 2030 District** is an **interdisciplinary public-private-nonprofit collaborative** working to create a groundbreaking high performance building district in downtown Stamford. This nationally recognized collaborative aims to dramatically **reduce energy and water consumption and reduce emissions from transportation**, while increasing competitiveness in the business environment and owners' returns on investment.
- **BGreen 2020** is the result of a public-private partnership between the City of Bridgeport and the Bridgeport Regional Business Council, a consortium of local business groups. BGreen 2020 priorities include the creation of an **Energy Improvement District** to support energy efficiency and production, adopting a **"Transit First" policy**, developing a plan for **open space use and maintenance**, **expanding recycling**, and **protecting the region's waterways** through enhanced **stormwater management**.
- The **Business Sustainability Challenge** is a utility led initiative that helps businesses become more competitive and resilient. It provides the resources needed to tackle common business issues like **utility costs, waste, and employee engagement in the context of sustainability and energy efficiency**. BSC members set their own performance goals and helps commercial and industrial customers to create a strategic sustainability plan.
- The Department of Energy and Environmental Protection's **Lead By Example** program aims to reduce energy use in Connecticut's state and local government buildings and operations. The program will help achieve Governor Malloy's goal of making Connecticut the most energy efficient state in the nation, and will **reduce energy use in state buildings 20% by 2018.**
- The Department of Energy and Environmental Protection's **GreenCircle Sustainability Award recognizes businesses, schools, organizations, government entities, and institutions** that take a coordinated and holistic approach to **reducing their environmental impact and resource demands** of their operations and activities. Awardees receive a certificate of commendation, listings in press releases, visibility on the DEEP website, and promotion in the Hartford Business Journal's CT Green Guide.

Appendix B: 2016 Leadership, Accountability, and Engagement Priority Recommendations

Recommendation	Priority in 2016 (Y or N)	Potential Lead Organization	Comments
Competition & Recognition			
1. Investigate revitalizing the former Climate Change Leadership Awards Program to recognize leadership in addressing climate change in Connecticut (highlight both top-down and bottom-up approaches).	Y	DEEP	This award could be coordinated by DEEP, but come from the GC3 (recognition from state agencies, business and NGO reps) making it different from the Green Circle Awards DEEP gives out each year.
2. Develop and or support various platforms for municipalities, businesses, and nonprofits to share success stories. This could include developing case studies (highlight bottom-up and top-down approaches, lead by example, etc.), content on state agency websites, and industry-specific webinars, meetings, forums, or conferences.			An academic institution or center could potentially take this on.
3. Collaborate with Connecticut industry associations (CBIA, CT Sustainable Business Council, CT Conference of Municipalities, CT Alliance for Campus Sustainability, etc.) to support and/or develop annual reporting and recognition programs that highlight entities truly leading the charge to reduce GHG emissions.			• First Step: develop an inventory of existing awards. • Contact Heather Burns at the Sustainable Business Council to gauge interest in participating in the business sector. • Contact Daphne Dixon of Live Green CT to gauge interest in participating. • CT CleanCities • Green Leaf schools recognition program.
4. Support and promote work-based challenges that mitigate GHG emissions associated with transportation, such as: • The Department of Energy's Workplace Charging Challenge • Employee commuting challenges; i.e. the National Bike to Work Day or the Clean Air Challenge.	Y	The Hartford and reach out to CTRides to partner.	

Resources & Training			
1. Strengthen relationships with Connecticut colleges and universities to leverage statewide expertise, resources, and research support.	Y	DEEP and CT Alliance for Higher Education	CT Alliance for Higher Education is currently working with faculty to develop a research agenda to inform CT state policy.
2. Promote climate-related learning and training opportunities provided by nonprofits, associations, labor unions, and state and federal agencies through announcements on social media, websites, list-serves, and public calendars.			• CWA Sustainable list-serve with municipal clean energy task forces.
3. Develop climate change mitigation and adaptation toolkits that are customized for different sectors (business, community groups, municipalities, higher education, etc.) and help stakeholders learn about and contribute to the state's climate goals. Development of a toolkit could be a collaborative process among various organizations that hold relevant expertise needed.			• CT RiverCOG has an adaptation tool. • ISE and the Alliance for Higher Education have tools and resources. • Student at Yale FES may be available and interested in developing a municipal toolkit (Shannon Laun will connect)
4. Continue the Exploring Climate Change Solutions Webinar Series. Additional topics and speakers have been identified for monthly or bi-monthly webinars for 2016.	Y	DEEP	• Investigate setting up an iTunes Channel. • Review list with GC3 members and set priorities for 2016 (1 or 2 a month)
5. Help identify opportunities for financial support from foundations, grants, and sponsorships for climate action initiatives in Connecticut. This could also include encouraging multi-organization programming or cross-sector partnerships.			
6. Work with leading businesses and organizations to develop resources and tools for both executive level leadership and grassroots bottom-up approaches.			
Goal Setting, Measurement and Evaluation			
1. Call on all Connecticut state agencies, municipalities, companies, and institutions of higher learning to formally set GHG reduction goals in line with the statewide goals and to regularly assess progress and publicly report the results.	Y	DEEP staff will investigate developing a GHG inventory specifically for DEEP as a model for other state agencies to follow.	DEEP Climate website can point to Connecticut based companies, municipalities, and institutions of higher education that have developed GHG inventories/reduction targets (CDP report and ACUPCC).

2. Routinely highlight prominent examples of goal setting, reporting, and transparency by Connecticut companies, institutions of higher education, and municipalities. This could be through webinars, content on state agency web pages, and a climate leadership award program.	Y	DEEP	CT Roundtable on Climate and Jobs to explore climate impact on legislative proposals (similar to fiscal impact analysis)
3. Develop case studies and opportunities to share best practices on how Connecticut municipalities, companies, and colleges have gone about setting goals and developing frameworks for assessment and reporting. Case studies could be written in collaboration between DEEP and students and faculty.			
4. Encourage and support the adoption of existing national best practice guidelines for goal setting, assessment, and reporting for each sector.			
Cross-Sector Partnerships and Collective Action			
1. Support the expansion of the goNewHavengo model to additional Connecticut communities as a means to tackle transportation-related emissions.	Y	DEEP/DOT/ CTRides	• First step: this effort can be folded into the Competition and Recognition #4 recommendation with a focus on the city of Hartford.
2. Facilitate and support dialogue between sectors to identify shared values and opportunities for partnership and collective action.			• CT Roundtable on Climate & Jobs is currently doing this.
3. Foster the expansion of successful cross-sector partnerships in Connecticut and encourage development of new partnerships that lead to innovative strategies to address climate change while acknowledging the many co-benefits of climate action.			CT RiverCOG interested in exploring.
4, Encourage and support Connecticut industry associations (CBIA, CT Sustainable Business Council, CT Conference of Municipalities, CT Alliance for Campus Sustainability, etc.) to develop or enhance collective action initiatives.			• Contact Heather Burns at the Sustainable Business Council to gauge interest in leading the business sector. • Contact Daphne Dixon of Live Green CT to gauge interest in participating.
Leading by Example			

1. Expand the state "lead by example" program to include transportation and fleet management.			Work with DAS to discuss feasibility.
Communications and Stakeholder Engagement			
1. Develop opportunities for stakeholders to share success stories and challenges through storytelling. Focus on developing imaginative approaches and multiple mediums for storytelling.			
2. Provide stakeholders with training on how to create effective and tailored messaging that appeals and drives actions from various audiences.			• Connect with Yale Project on Climate Change Communication. • Need to investigate other CT academic institutions are doing on this topic.
3. Further investigate the Portland, OR Equity Work Group model and metrics for ensuring equity is incorporated into the state's climate strategy.	Y	CT Roundtable on Climate & Jobs	
4. Ensure clear and accessible two-way communication channels between the state and stakeholders through developing regular opportunities for dialogue.	Y	DEEP	
5. Develop partnerships with stakeholder groups to facilitate discussion and dialogue among Connecticut stakeholders.			

Appendix C: Interview Question Template

Categories of LAE Models to Interview

We will identify and interview successful, ongoing examples of leadership, accountability and/or engagement led by the following groups:

- private sector
- government (local, state, regional, or federal)
- NGOs/civil society
- public-private partnership
- academic institutions

Themes within LAE Models

- Goal-setting and timelines
- Engagement strategies and demographics
- Financial structures
- Reporting and benchmarking
- Successes and challenges
- Advice and suggestions

Interview Questions

(Note that the specific questions will be tailored for each interviewee)

<u>Goal-setting and timelines</u>

1. When did the [program/initiative/project] start and how long has it been active?
2. What is the timeline of the [program/project/initiative]?
3. What were the primary motivations for developing the [program/initiative/project]? (e.g., GHG reductions, education/awareness, engagement, accountability, cost-savings, mandated by law, etc.)

<u>Engagement strategies and demographics</u>

4. How did the [program/initiative/project] first get started? What avenues of communication did you use to get broad participation?
5. What are the different stakeholder groups the [program/initiative/project] aims to serve? What is your strategy for engaging those groups in the [program/initiative/project], and how do you get them to stay involved?
6. Who is responsible for leading or maintaining momentum for the [program/initiative/project]?
7. Where is the leadership coming from/what standpoint is the leadership taking (i.e. financial, environmental, etc.) and how does the underlying structure affect or influence engagement in the [program/initiative/project]?
8. Have you formally partnered with, or do you collaborate with any other groups on the [program/initiative/project]?

9. How did you garner support from all stakeholders, including both the general public and government?

Financial structures

10. How is the [program/initiative/project] funded? Is there a goal to use limited public funding and leverage private capital? If so, where are you in that stage? (this will likely be different in each state, but we can use CT and CA as examples)
11. Is the [program/initiative/project] financially sustainable?
12. Is there a clear pathway and structure set in place to drive down the cost of the [program/initiative/project]?

Reporting and benchmarking

13. Are there any mechanisms in place to ensure your [program/initiative/project] is held accountable? How is progress measured?
14. Is there a clear benchmarking structure in place for achieving goals, checking in on progress, and modifying plans (if necessary)? For example, are there clear benchmarks and goals for 2020, 2030, 2040, and 2050 and how is progress tracked on regional, state, and national levels?

Successes and challenges

15. What were the major challenges you had in implementing the [program/initiative/project] and how did you overcome those challenges?
16. Was there initial resistance from any stakeholder groups, and if so, how did you address it? How do you manage competing priorities?
17. Are you aware of any example [programs/initiatives/projects] that have set high targets and have not met them? How do you think that has that affected credibility, accountability, and public/private support?

Advice and suggestions

18. Do you have any advice or suggestions for others interested in adopting a similar [program/initiative/project]?

Reflection on the GC3 Leadership Criteria

19. As part of a thought exercise, members of the Governor's Council on Climate Change selected the following terms that best embody their vision for leadership:
    - Commitment
    - Visionary/inspiring
    - Innovative
    - Inclusive
    - Accountable

20. Which of these criteria do you think your [program/initiative/project] best embodies?

Appendix D: Exploring Climate Solutions Webinar Series

Stamford 2030 District (September 22, 2015)
An interdisciplinary public-private-nonprofit collaborative working to create a groundbreaking high performance building district in downtown Stamford. Learn about how one Connecticut city is reducing energy and water consumption, as well as emissions from transportation, all while increasing competitiveness in the business environment and owners' returns on investment.

Carbon Sinks: Opportunities for GHG Emission Reductions through Land and Forest Conservation in Connecticut (October 19, 2015)
Learn about carbon sink opportunities in Connecticut through utilizing effective land and forest conservation policies. Connecticut has seen a loss of its beneficial carbon sinks due to land converted from forested and vegetated landscape to recent development sprawl. Insufficient accounting methods for land use change have omitted carbon sinks from GHG emissions inventories, leading policy-makers to undervalue Connecticut's forests and open spaces as agents of regional climate stabilization. In this webinar, Harvard environmental researcher Linda Powers Tomasso and environmental attorney Helen D. Silver explain state land cover change and its relation to DEEP's climate change goals. Linda's carbon accounting using UConn's CLEAR land mapping lay the groundwork for Helen's comparative review of front-runner states effectively integrating forest preservation into climate policy. Their findings result in ten compelling recommendations for Connecticut to consider in state efforts to reduce its greenhouse gas emissions.

goNewHavengo (October 23, 2015)
Learn about the goNewHavengo active transportation program that encourages healthier, cheaper, and cleaner travel in the Greater New Haven Area. A collective effort of the New Haven Department of Transportation, Traffic, and Parking; CT Transit; the New Haven/León Sister City Project; New Haven Healthy City/Healthy Climate Change; CT Rides; Park New Haven; and the Yale Office of Sustainability, the program brings together organizations and individuals to use active transportation options and promote alternative transit. Guest presenters will speak about the initiative's partnership model, successes and lessons learned, and opportunities to bring goNewHavengo model to other municipalities.

Consumption-Based Greenhouse Gas Accounting in Oregon (October 27, 2015)
Learn about the state of Oregon's consumption based accounting methodology. Conventional greenhouse gas (GHG) accounting methods include GHG emissions generated within the state's jurisdictional boundaries and exclude emissions from purchased goods (such as electricity) produced outside the state's physical boundary. A number of studies have examined the relationship between consumption and greenhouse gas emissions at the national and international levels, and Oregon is the first U.S. state to assess emissions stemming from all consumption within its borders. Based on the Stockholm Environment

Institute's modeling analysis, Oregon's analysis provides estimates of GHG emissions released in the manufacture, transport, use, and disposal of the goods and services Oregonians enjoy. This analysis helps clarify the role of Oregon's consumption in global GHG emissions, and it identifies the specific contribution of different product types, ranging from food and beverages to clothing and appliances. By improving the understanding of the relationship between consumption and global GHG emissions, the analysis helps Oregon households, businesses, and policymakers chart a path to more sustainable consumption patterns.

The Regulatory Assistance Project (November 24, 2015)
The Regulatory Assistance Project (RAP) is an independent and nonpartisan team of experts primarily composed of former air and power regulators. RAP's team has firsthand knowledge of the constraints and challenges that regulators face. RAP advises public officials on regulatory and utility policies. The organization's strategy focuses on increased investment in cost- effective energy efficiency, integration of energy and environmental regulation, and establishing policies and regulations that effectively address climate change. This webinar will provide a review on how RAP helps energy and air regulators as well as non-governmental organizations so they can assist in the transition to clean, reliable, and cost- effective energy resources.

Boston Green Ribbon Commission (December 1, 2015)
Learn about the Boston Green Ribbon Commission's efforts to bring together leaders from all segments of Boston to share ideas, monitor progress, and engage key sectors in implementation of the city's Climate Action Plan. The Commission is comprised of members of the Barr Foundation, dozens of Boston's top executives, community leaders, and representatives from each of Boston's leading economic sectors. Commission members are also working to align the resources of the key sectors, serving as advocates and showing their peers what progress looks like by adopting and promoting leading efficiency and clean energy practices.

Connecticut Hydrogen Fuel Cell Coalition (December 4, 2015)
This webinar presentation identifies strategies and methods for development of Connecticut's hydrogen fuel cell "Roadmap" document, as well as those of other states in the Northeast. These "Roadmaps" assess: (1) the strengths, weaknesses, opportunities, and threats for hydrogen and fuel cell industry development; (2) existing and potential markets for hydrogen and fuel cell technology; (3) opportunities to leverage private and government funding; and (4) tactics for the long-term deployment of fuel cells. This presentation will also focus on the regional development of hydrogen infrastructure to support the deployment of fuel cell electric vehicle (FCEV) fleets in the Northeast. The presentation identifies private efforts currently underway, the role states may have in fostering private investment, and how incentive structures may help facilitate development of a hydrogen fueling network.

California EPA Greenhouse Gas Report Card (December 8, 2015)
As part of California's aggressive efforts to meet its medium- and long-term GHG emissions reduction goals, the California Environmental Protection Agency is required to prepare an annual report tracking how reduction measures are being implemented by state government agencies. The State Agency Greenhouse Gas Reduction Report Card covers 13 agencies and scores of issues, from the renewable portfolio standard and LED street lighting to biofuels and landfill methane. In this webinar, Dr. William Dean, of California EPA's Climate Change Unit, provides an overview of the Report Card's origins, its coverage, and its influence on state policy and agency management.

Connecticut's Clean Energy Future: Climate Goals and Employment Benefits (December 11, 2015)
On November 16, the Labor Network for Sustainability is to release a report entitled "Connecticut's Clean Energy Future: Climate Goals and Employment Benefits." Building on a national report released last month, the Connecticut study found that reaching the state's formal goal of reducing GHG emissions 80 percent below 2001 levels by 2050 will result in a net increase in jobs and strengthen the economy as a whole. In this webinar, Dr. Frank Ackerman, the Massachusetts economist who led the research team, will review the findings of the Connecticut study. The study was conducted through a partnership between Labor Network for Sustainability, the CT Roundtable on Climate and Jobs, and Synapse Energy Economics.

Multisolving (January 19, 2016)
Learn about Climate Interactive's research on Multisolving — the search for systemic solutions that protect the climate while improving health, equality, and well-being. Examples include energy and transportation policies that also reduce air pollution, energy efficiency measures that reduce living expenses for people on fixed incomes, or land conservation projects that sequester carbon and boost resilience to extreme events. While most people find the idea of addressing climate change in ways that capture co-benefits intuitively appealing, there are often practical obstacles to doing so. Climate Interactive, a not-for-profit organization based in Washington DC, is conducting research on the potential for capturing co-benefits in various aspects of climate and energy policy and opportunities for reducing the barriers that stand in the way. In this webinar Elizabeth Sawin, Co-Director of Climate Interactive, will share from this research, with an emphasis on lessons that are applicable at the state level.

Appendix E: Executive Order No. 46

CONNECTICUT
SECRETARY OF THE STATE
CAPITOL OFFICE
2015 APR 22 A 10: 28

STATE OF CONNECTICUT

BY HIS EXCELLENCY

DANNEL P. MALLOY

EXECUTIVE ORDER NO. 46

WHEREAS, this administration is committed to ensuring that Connecticut remain a national leader in addressing climate change by reducing greenhouse gas emissions through innovative energy policy;

WHEREAS, in 2008, Connecticut returned greenhouse gas emissions to 1990 levels, and has committed to further reducing emissions to 10% below 1990 levels by 2020, and to 80% below 2001 levels by 2050;

WHEREAS, the state is in a position to achieve the 2020 target well ahead of schedule;

WHEREAS, in order to meet the ambitious 2050 target, coordination among state agencies, local governments, business and industry, and non-governmental organizations is necessary, as this diversity of perspectives will ensure that policy and program recommendations are more robust;

WHEREAS, the Governor's Steering Committee on Climate Change originally established in 2002 included only state agency personnel and has been inactive since 2011; and

WHEREAS, in light of the need for diverse stakeholders to collaborate to establish the means for achieving long-term greenhouse gas emission reductions, the Governor's Steering Committee on Climate Change should be dissolved and a new Council established to fulfill this mission.

NOW, THEREFORE, I, DANNEL P. MALLOY, Governor of the State of Connecticut, by virtue of the power and authority vested in me by the Constitution and by the Statutes of the State of Connecticut do hereby **ORDER AND DIRECT**:

1. The existing Governor's Steering Committee on Climate Change is hereby disbanded;

2. There is established a new Governor's Council on Climate Change (the Council) that shall examine the efficacy of existing policies and regulations designed to reduce greenhouse gas emissions and identify new strategies to meet the established emission reduction targets;

3. The Council will be administered through the Department of Energy and Environmental Protection, which shall provide staff support; and

4. The Council shall:

    a. Meet at least quarterly, at dates, times, and locations to be established by the chair;
    b. Establish interim goals that, if met, will ensure that the state will achieve the 2050 target;
    c. Monitor greenhouse gas emission levels in Connecticut annually to establish whether the state is poised to meet the interim goals and the 2050 target;
    d. Recommend policies, regulations, or legislative actions that will assist in achieving the interim goals and 2050 target;
    e. Report its findings and recommendations to the Governor, and the Office of Policy and Management in accordance with Connecticut General Statutes § 22a-200a, no later than January 1, 2016, and biannually thereafter.

5. The Council shall be comprised of 15 individuals as follows:

    a. The Commissioner of the Department of Energy & Environmental Protection, or the Commissioner's designee, who shall serve as chair,

b. The Secretary of the Office of Policy & Management, or the Secretary's designee,
c. The Commissioner of the Department of Transportation, or the Commissioner's designee,
d. The Commissioner of the Department of Administrative Services, or the Commissioner's designee,
e. The Commissioner of the Department of Economic & Community Development, or the Commissioner's designee,
f. The Commissioner of the Connecticut Insurance Department, or the Commissioner's designee,
g. The Commissioner of the Department of Housing, or the Commissioner's designee,
h. A Commissioner of the Public Utilities Regulatory Authority,
i. The Chief Executive Officer of the Connecticut Green Bank,
j. The Executive Director of the Connecticut Institute for Resilience & Climate Adaption (CIRCA),
k. Five individuals who represent business and industry, non-governmental organizations, or local government, appointed by the Governor.

6. Members of the Council shall serve two-year terms from the first day of May in the year in which they are appointed, and until a successor has been appointed. All members of the Council shall serve at the pleasure of the Governor.

7. A majority of the members of the Council shall constitute a quorum.

This Order shall take effect immediately.

Dated at Hartford, Connecticut this 22 day of April, 2015.

Dannel P. Malloy
Governor

By His Excellency's Order

Denise Merrill
Secretary of the State