



Empowering you to make
smart energy choices

Clean Energy Finance and Investment Authority

Programs for Energy Savings at Hospitals

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CEFIA is Connecticut's "Green Bank"



... transitioning programs away from government-funded grants, rebates, and other subsidies, and towards deploying private capital

... CEFIA was established in 2011 to develop programs that will leverage private sector capital to create long-term, sustainable financing for energy efficiency and clean energy to support residential, commercial, and industrial sector implementation of energy efficiency and clean energy measures.

CEFIA

Financing Toolkit

Bonds	<ul style="list-style-type: none">□ Securitization
Enhancements	<ul style="list-style-type: none">□ LLR, IRB, TPI□ ESPC, ESA, PPA
Loans	<ul style="list-style-type: none">□ Loans and Leases
Eco Markets	<ul style="list-style-type: none">□ RECs, FCMs, CO2□ PACE, OBF
Subsidies	<ul style="list-style-type: none">□ EPBB and PBI

CEFIA Partnerships



\$4.2 million to support the Neighbor to Neighbor Energy Challenge in 14 communities for residential energy efficiency



\$0.5 million in 12 communities for SunShot Initiative and \$1.8 million SEEDs grant



National leadership co-chairing Finance Committee of U.S. Department of Energy and U.S. Environmental Protection Agency state and local level effort



Supported \$5.5 million competitive grant for innovative new multifamily energy loan fund pilot program using an ESA



Leveraged ratepayer funds to attract \$200,000 of foundation investment in innovative marketing pilot program in Connecticut



National outreach and leadership representation of Governor Malloy and CEFIA on Connecticut's "green bank" model with other states

CEFIA

Accomplishments to date

- C-PACE
- Lead by Example
- Solar Lease
- Multifamily Energy Loan Program
- Campus Efficiency Now
- CHP & AD programs
- Smart-E Loan
- Cozy Loan
- Solar Loan
- RSIP
- Solarize

Property Assessed Clean Energy

- An innovative financing structure that enables property owners to access financing for qualified energy upgrades and repay through a benefit assessment on a property tax bill.

Private capital provides 100% upfront, low-cost, long-term funding

Repayment through property taxes

A senior PACE lien is put on the property and stays regardless of ownership

CEFIA's Role in C-PACE

Design Program

- Onboard Municipalities
- Publish Guidelines November 2012
- Website launched (www.c-pace.com)

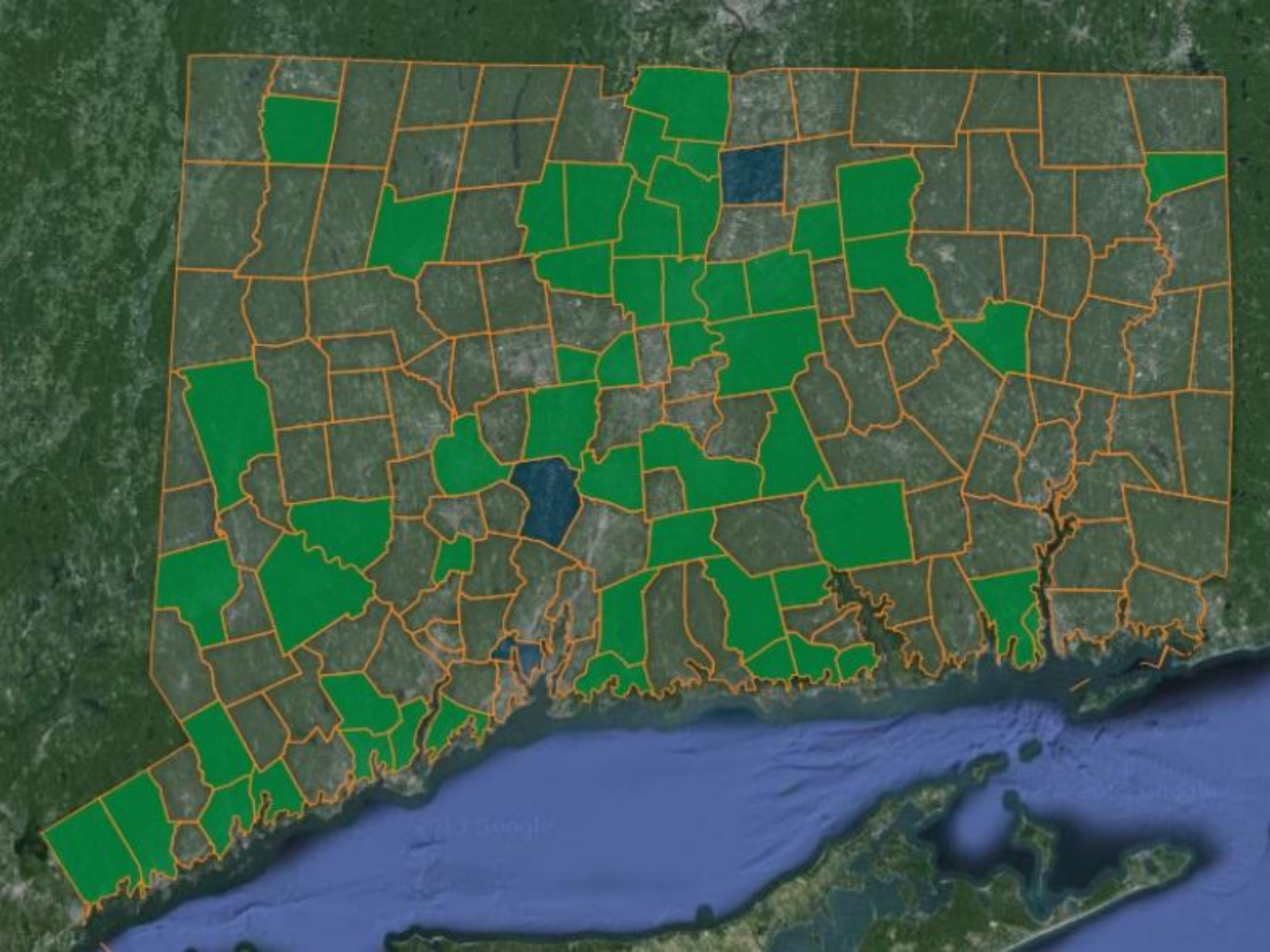
Administer Program

- Technical Underwriting
- Marketing & Outreach
- Work with Existing Mortgage Lenders

Attract Private Capital

- Qualify Capital Providers
- Offer Credit Enhancement tools (as needed)
- Provide capital (as needed)
- Develop warehouse



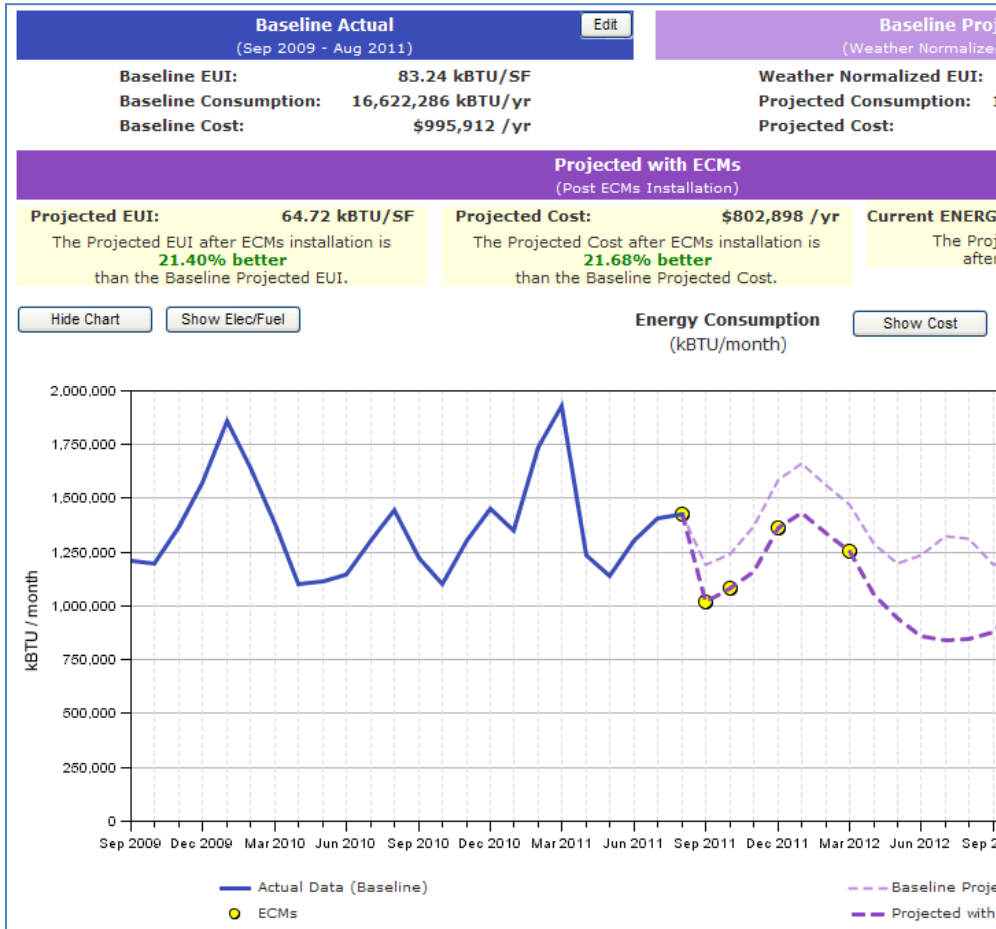


3rd Party team determines project eligibility

Anything that saves energy from baseline ... *as long as it isn't going anywhere*

- High efficiency lighting
- HVAC upgrades
- New automated building and HVAC controls
- Variable speed drives (VSDs) on motors fans and pumps
- High efficiency chillers, boilers, and furnaces
- High efficiency hot water heating systems
- Combustion and burner upgrades
- Fuel switching
- Water conservation
- Heat recovery and steam traps
- Building enclosure/envelope improvements
- BMS
- Renewable energy systems

CEFIA Data Management Platform



	Projected
Costs and Savings:	
Estimated Required Investment (unleveraged):	\$1,992,976
Estimated Annual Savings:	\$258,563
Projected: \$21,547 avg. / month	
Return on Investment (ROI):	13.0%
Simple Payback Term (years):	7.71
True Payback Term (years):	7.33
Savings to Investment Ratio (unleveraged):	3.03
Savings to Investment Ratio (leveraged):	2.06
Total Cash Flows (unleveraged):	\$2,446,034
Total Cash Flows (leveraged):	\$1,507,840
Finance Scenario:	
Estimated Required Investment (100% leveraged):	\$0
Amount Financed:	\$1,992,976
Estimated Annual Debt Service:	\$195,411
180 months at 5.5% interest	\$16,284
Estimated First Year Benefit:	\$0
Excess Annual Cash Flow (first year):	\$63,152
Financial Analytics:	
Asset Value Impact from ECMs:	
@ 6.50% CAP rate	\$3,977,899
@ 7.50% CAP rate	\$3,447,512
@ 8.50% CAP rate	\$3,041,922
Asset Value Impact less Required Investment:	
@ 6.50% CAP rate	\$1,984,923
@ 7.50% CAP rate	\$1,454,536
@ 8.50% CAP rate	\$1,048,946
Internal Rate of Return (unleveraged IRR):	11.5%
Internal Rate of Return (leveraged IRR):	N/A
Net Present Value (unleveraged NPV):	\$470,296
Net Present Value (leveraged NPV):	\$790,653
Time to Positive Cash Flow (leveraged):	Immediate

Program Snapshot: First 10 Months

- 66 towns on board
- 75% of the CT market eligible
- 200+ contractors trained
- 14 qualified capital providers
- 113 Projects in Pipeline
 - Est. \$50 million in projects
- \$20M in CEFIA capital
 - \$13 million approved
 - \$ 7 million in closed transactions

Case Study – Boiler Replacement at Non-Profit

Project

- \$650,000 boiler replacement

Financing

- \$384,000 of replacement financed through 20 year C-PACE assessment.
- \$250,000 covered with grant from Department of Economic and Community Development.
- \$16,000 incentive from CL&P

Impact

- Annual savings of \$48,000

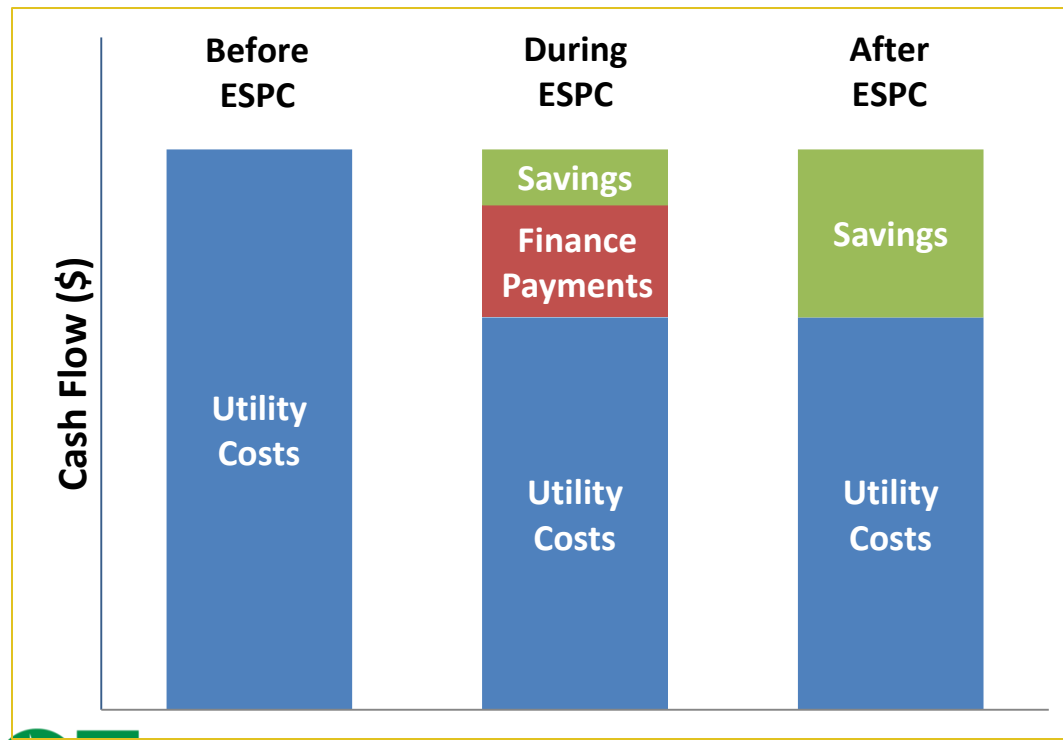


Lead By Example

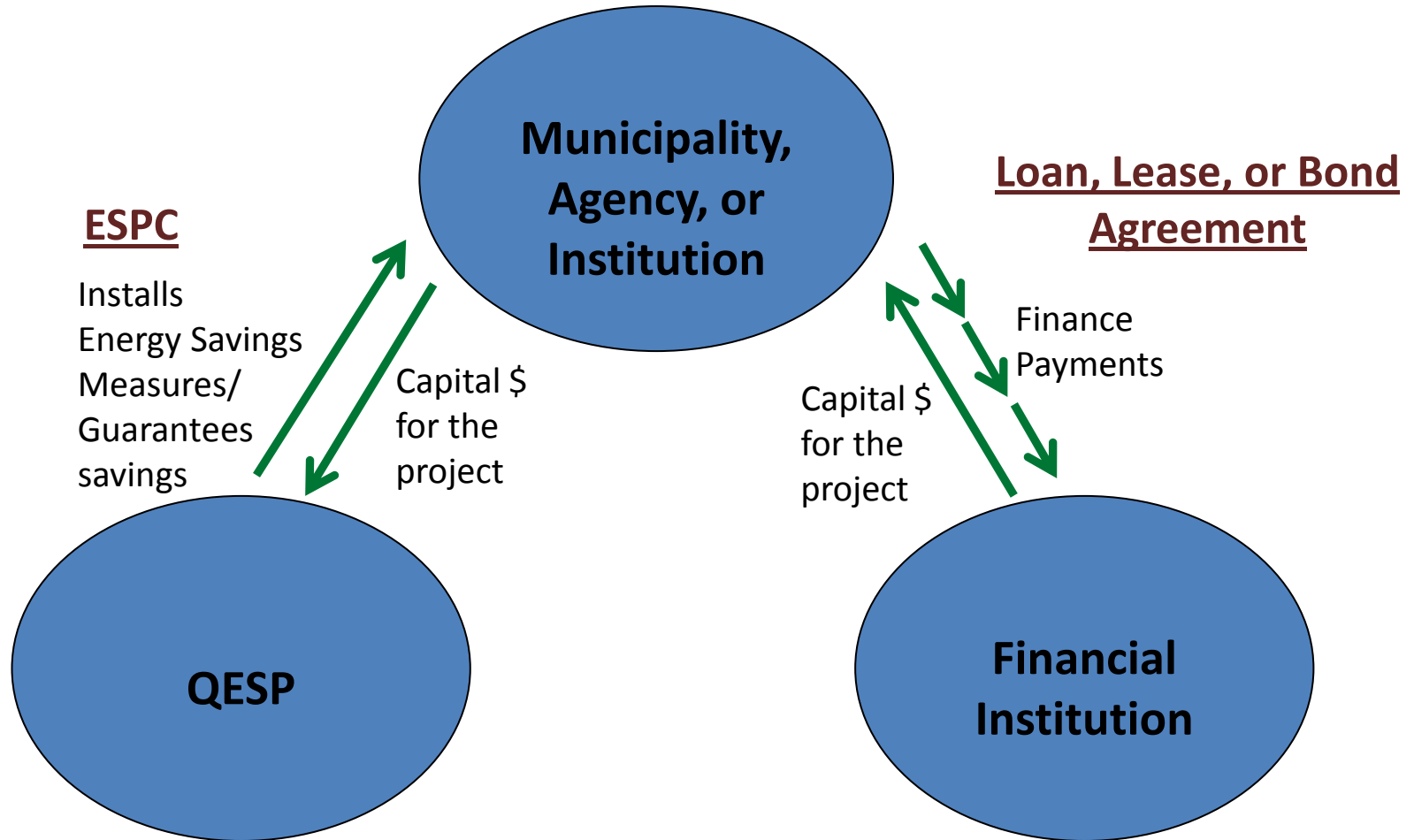
- Statutory goals to reduce energy use in state-owned buildings
- Developed standardized ESPC process
 - Solicit Interest
 - Develop feasibility study
 - Select qualified ESCO company
 - Perform Investment Grade Audit
 - Sign ESPC Contract
 - State agencies must use standardized contract
 - Municipalities/others may use

What is an Energy Savings Performance Contract (ESPC)?

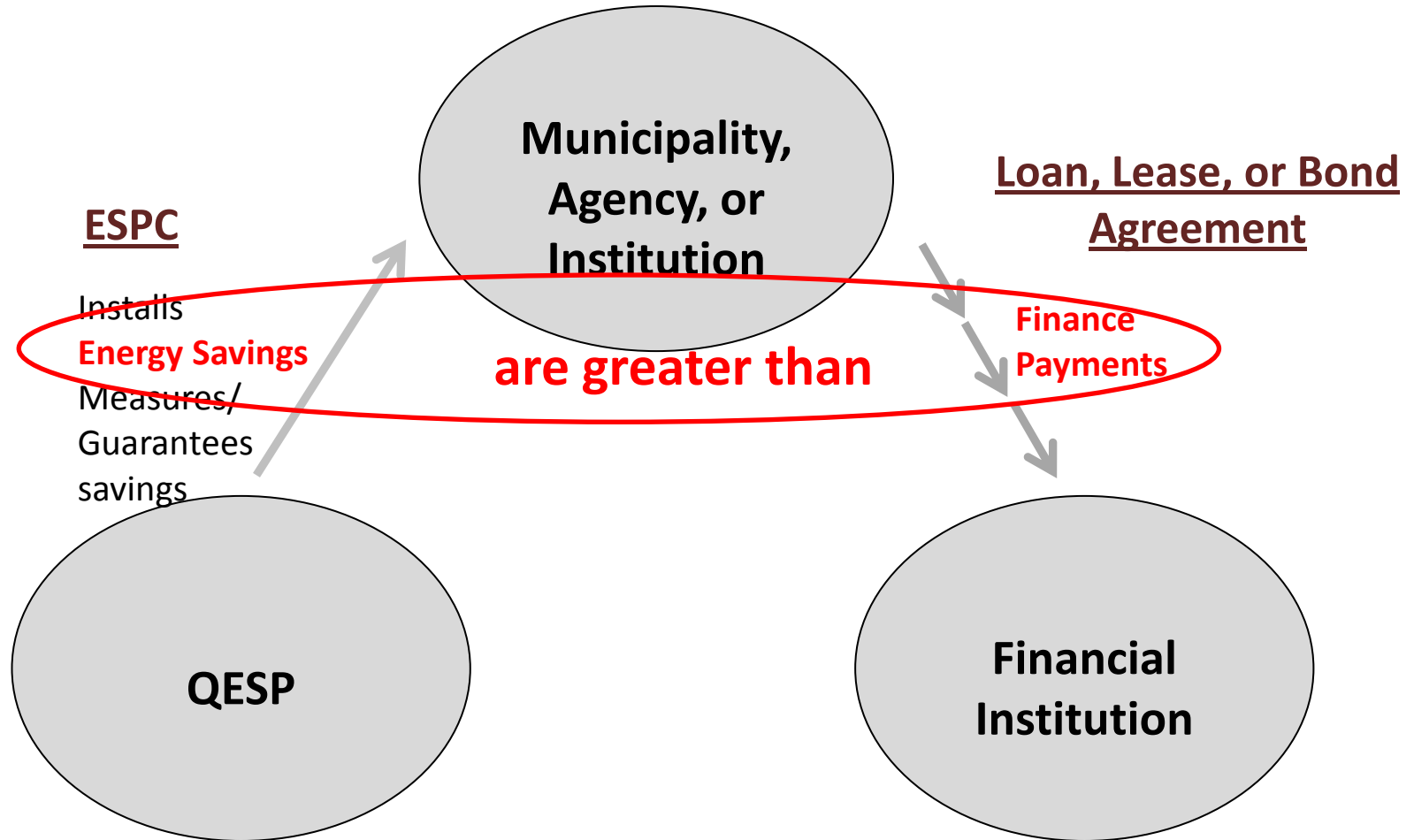
- An energy saving project paid for by the value of future energy savings¹
- The future energy savings are guaranteed by the Energy Service Company (ESCO) that installs the Energy Saving Measures



Basic Finance Concept



Basic Finance Concept



Potential roles for CEFIA in ESPC

- **Guidance to prospective project hosts**
 - Financing 101 – help in considering options
- **Connect project hosts with lenders**
 - Pre-qualify lenders
 - Standardize applications and backup documentation
- **Support financing agreements**
 - Standardize contract language
 - Combine with other grants/financing tools where possible
- **Other ideas**
 - Short term loans for working capital for project hosts
 - Leverage CEFIA or other program \$ to create lending pools
 - Adapt other models to CT (i.e. Maryland Clean Energy Center, Delaware Sustainable Energy Utility)

Overview of the CT Solar Lease

- Solar lease facility combining tax equity and leveraged bank debt
 - \$60 million fund overall
- The first solar lease facility for
 - Residential solar PV (~11MWs, 1,600 systems)
 - Residential solar hot water (~400 systems)
 - **Commercial solar PV (~3MWs / 30-50 systems / 50-350kw / needs ZREC / C-PACE)**
- Expected life - two years (if successful ... more to come)

Qualifying System Hosts / Customers

- Municipalities and schools
 - Must be rated A3 (Moody's) or A- (S&P/Fitch)
- Commercial properties
 - Must be rated Aa2 (Moody's) or AA (SP/Fitch)
 - **OR** C-PACE to secure the investment

System Requirements

- ≥ 50 kW nameplate STC preferred ... smaller projects (particularly if bundled) may be considered on a case by case basis
- ≤ 350 kW nameplate STC ... larger projects may be considered, but are not preferred due to need for special approval from solar lease fund tax equity investor
- **Only roof mounted systems** ... no ground mount for environmental compliance reasons

Pricing Considerations

- **Must have a ZREC award**
- CEFIA “base case” model assumes \$3.00/W installed cost
- Pricing under base case:
 - Combined ZREC / PPA income stream should equal \$0.175 / kWh
 - e.g. ZREC award of \$100 requires PPA of \$0.075 / kWh
 - Assumption of 2.9% escalator per year
- Higher / lower actual installed costs will get reflected in higher / lower required PPA rates

Operations & Maintenance

- CT Solar Lease will cover all O&M, via a third-party warranty wrap that will get priced into the PPA
- Installer still needs to offer six-year workmanship warranty on panels, inverters, and racking, in addition to all standard product manufacturer warranties
- CT Solar Lease will provide PL&C Coverage



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