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# DEP SIPRAC Presentation

October 14, 2010

## Purpose: CGSA 16-245n



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***“for expenditures that promote investments in renewable energy sources in accordance with a comprehensive plan developed by it to foster the growth, development and commercialization of renewable energy sources and related enterprises and stimulate demand for renewable energy and deployment...and for the further purpose of supporting operational demonstration projects for advanced technologies that reduce energy use from traditional resources.”***

# Governance: A Quasi-Quasi



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- ▶ **15 Member Statutorily Appointed State Board**
  - ▶ Develops Comprehensive Plan
  - ▶ Authorizes Expenditures
- ▶ **Within CI for Administrative Purposes Only**
- ▶ **CCEF is not a Body Politic**
- ▶ **Small Staff—All CI Employees**
- ▶ **DPUC Shall Approve, Reject or Modify Comprehensive Plan**
- ▶ **Annual independent audit and state audit by Auditors of Public Accounts**



- ▶ **Systems Benefit Charge - ~ \$27M/annually**
- ▶ **RGGI - ~ \$1M/Quarter—**
- ▶ **Federal - ~ \$20M ARRA SEP**
  - ▶ \$8M Fuel Cell
  - ▶ \$3M Solar PV
  - ▶ \$4M Solar Thermal
  - ▶ \$5M Geothermal (Ground source heat pump)

# Goals



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**Goal 1: Increase energy generation from clean and efficient renewable resources.**

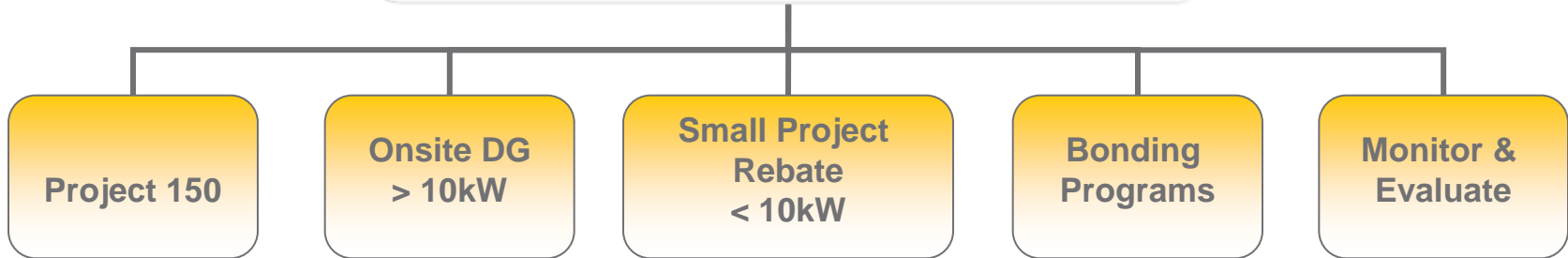
**Goal 2: Accelerate the incubation and commercialization of new technologies that will become the future engine of CT's Clean Energy Industry.**

**Goal 3: Assist CT communities in adopting comprehensive clean and efficient energy measures.**

**Goal 4: Further the goals of clean energy development through the advocacy and adoption of supporting public policies.**



**Goal 1**  
**Increase Installed Capacity**  
**FY 2009 – FY 2010 Program Allocations**





**Goal 2**  
**Promote Renewable Technologies**  
**FY 2009 – FY 2010 Program Allocations**

**Operational  
Demonstration  
Program**

**Equity  
Investments**

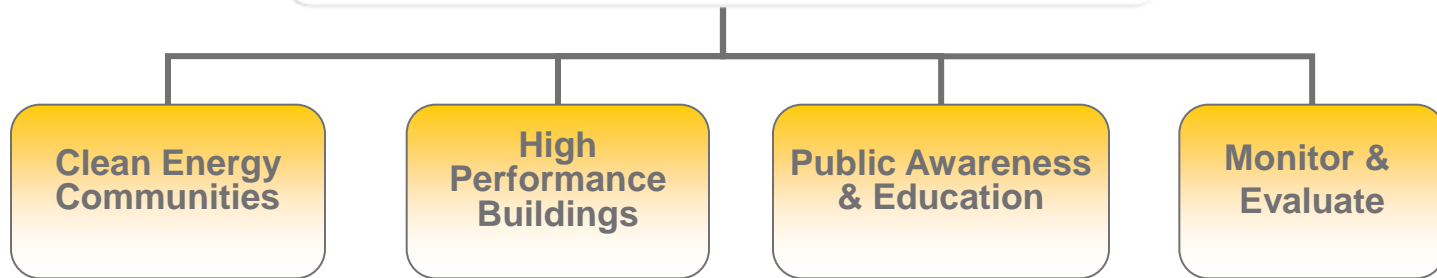
**Infrastructure  
Development**

**Technology  
& Economic  
Dev Studies**

**Monitor &  
Evaluate**



**Goal 3**  
**Create Model, Sustainable Communities**  
**FY 2009 – FY 2010 Program Allocations**





# ARRA Support/Efforts



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- ▶ Stimulus Forum in April 2009
- ▶ Contracted with GSP
- ▶ Partnering with CI, DECD, SBIR
- ▶ Seeking to assist (**financially, technically, policy design support, etc.**) businesses in forging strategic partnerships to better position CT entities in leveraging federal \$\$\$
- ▶ CCEF has been a partner or provided some level of support to over 20 companies thus far
- ▶ CCEF-led application on “Neighbor to Neighbor Energy Challenge” with 8 partners and 14 communities chosen for \$4.2M DOE competitive grant

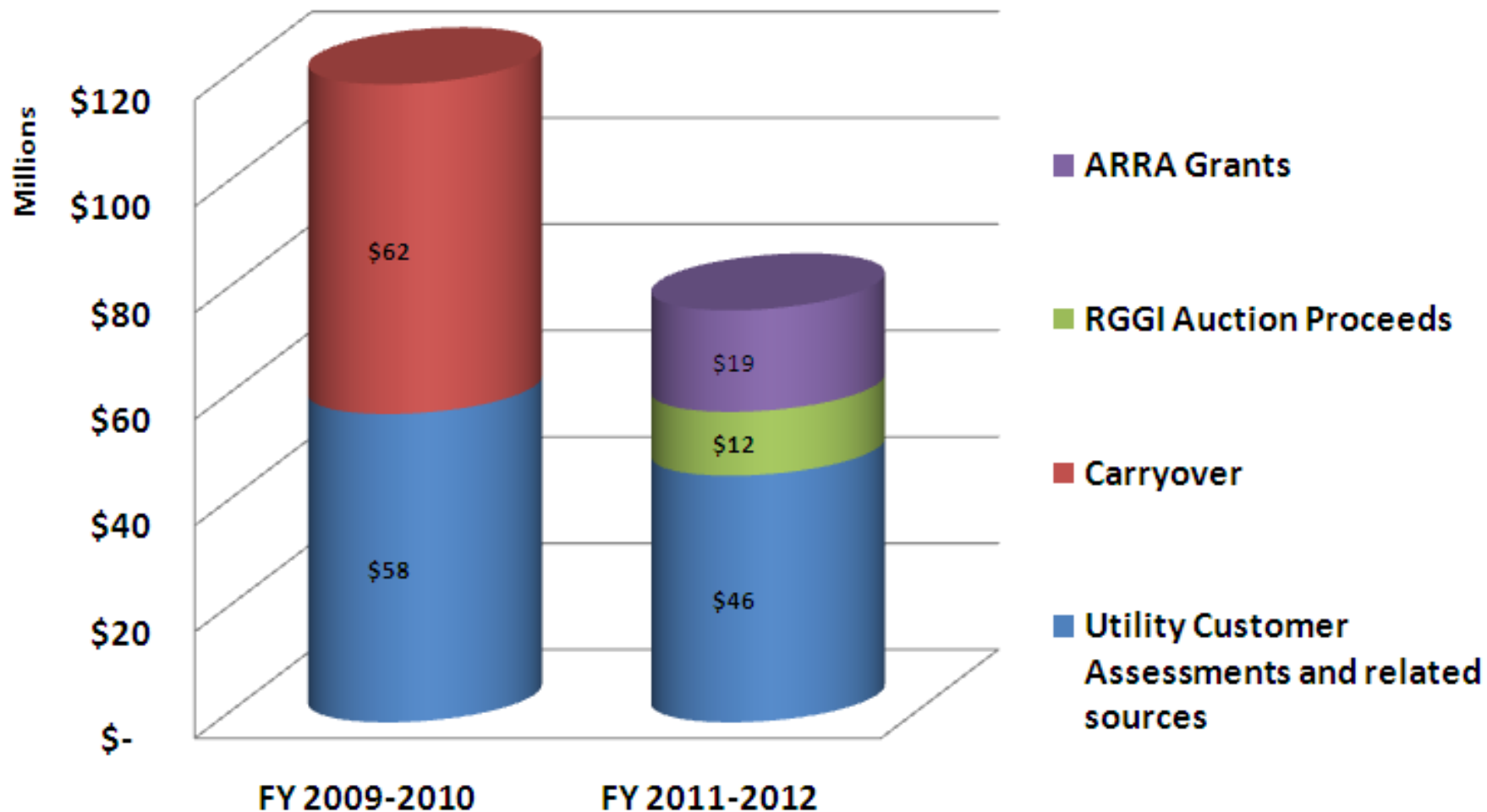
# Strategic Investment Opportunities



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- ▶ **Opportunity for projects, companies, citizens, and other stakeholders to access CCEF funding support.**
- ▶ **Process developed to consider potential support for opportunities that fall outside existing programs.**
- ▶ **Launched in 2009**
- ▶ **Six applicants**
- ▶ **Two Proposals Funded**

## Available Funds



# What's New in the FY 2011-2012 Comprehensive Plan?



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- **Competitive Solicitations**

- Sustains Solar Thermal but not Geothermal
- Loan Financing
- Net Zero Carbon Micro-Grid Demo

- **Business Commitment**

- EPA Climate Leaders

**Goal 1: Increase energy generation from clean and efficient renewable resources.**



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**Rationale:**

**Support Aggressive CT Energy Policy Objectives Through Development of Clean Energy**

- ▶ Renewable Energy
- ▶ Environmental Protection
- ▶ Public Health
- ▶ Climate Change
- ▶ Economic Development/Job Creation

**Total Budget = ~\$58M**

**Goal 1: Increase energy generation from clean and efficient renewable resources---Non-Residential.**



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- **Feasibility grants**=15 potential clean energy generation projects will complete pre-development activities
- **Competitive RFP**=incentives to install “best of class” systems (e.g. commercial, industrial, institutional) that will produce up to 6 megawatts of renewable power. (min. 10 projects)
- **Competitive RFP**=incentives for businesses that agree to join EPA Climate Leaders Program and commit to specific program requirements (appx. 1.6 MW)

**Goal 1: Increase energy generation from clean and efficient renewable resources----Non-Residential.**



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- ▶ Competitive RFP process=1.2 MW on affordable housing.
- ▶ 150 solar thermal and geothermal (GSHP) projects will be installed at CI&I sites.
- ▶ Grants -- 5.2 MW of clean energy projects will be installed on public buildings.

**Goal 1: Increase energy generation from clean and efficient renewable resources --Residential.**



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- ▶ Rebates and grants to support 1,000 residential systems that will produce up to 7 megawatts of renewable power (e.g.. solar PV, solar thermal and small wind projects).
- ▶ With ARRA funding support 900 residential solar thermal and geothermal projects.



**Goal 1: Increase energy generation from clean and efficient renewable resources.**



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**Leverage funding----**

Create and manage revolving loan fund which leverages private and federal dollars (1:5 through 1:10 basis) for residential and non-residential Class I clean energy projects.

**CCEF Strategic Investment Fund --invest in mission-related, high potential opportunities.**

- ▶ Strategic investment criteria will be re-evaluated.
- ▶ At least 10 prospective business propositions will be considered.



**Goal 2: Accelerate** the incubation and commercialization of new technologies that will become the future engine of Connecticut's clean energy industry.

***Rationale:***

**Supporting effective commercialization of early stage clean energy technologies that will advance Connecticut's clean energy industry, create jobs, grow tax revenues and build successful companies.**

**Budget = ~\$7.85M**



**Goal 2--Strategy 1.** Fund early stage companies to demonstrate, assess, develop and commercialize high potential technologies. Leverage non-CCEF funds when possible.

- **Alpha Program:** launch and fund up to 3 projects.
- **Op Demo Program:** launch new program and fund at least 6 new opportunities.
- **CleanTech Fund:** fund at least 2 new opportunities.



## Goal 2--Strategy 2. cont.

**Address information gaps that impede investment in or adoption of clean energy technologies.**

### ▶ **Fuel Cell Monitoring:**

- ▶ Model full economic and environmental value proposition.
- ▶ Disseminate analysis and real-time performance data on at least 6 CCEF funded FCs.

### ▶ **Small Wind Monitoring:**

- ▶ Determine feasibility of establishing a small wind rebate program.
- ▶ Disseminate performance data and analysis on 4 small wind turbines.




## **Goal 2--Strategy 2. cont.** Address information gaps that impede investment in or adoption of clean energy technologies.

### **Net-Zero Energy:**

- ▶ Model, demonstrate, and assess full economic and environmental value proposition of integrated RE, EE and smart grid systems----ID those with economic/commercial potential to achieve net-zero carbon impact.

**Clean Energy Innovation Cluster**----organized, planned, and implemented.

**Goal 3: CT communities will adopt comprehensive clean and efficient energy measures.**



***Rationale:***

**Community and educational initiatives are proven methods for encouraging citizens, businesses, institutions and municipal governments to voluntarily adopt clean energy practices and create sustainable clean energy communities.**

**CCEF's innovative community-based programs result in renewable energy systems placed at schools and public buildings.**

**Budget = ~\$9M**

**Goal 3: Assist CT communities in adopting comprehensive clean and efficient energy measures.**



- ▶ **Voluntary support for Clean Energy= at least 3% of CT's electricity demand (focus on muni governments, businesses, institutions, and residents)**
- ▶ **400 KWs of Clean Energy earned under CT Clean Energy Communities Program.**
- ▶ **At least 50 communities will receive Community Innovation Grants (resulting in at least 100 local clean energy “awareness” projects)**

**Goal 3: Assist CT citizens and institutions in adopting comprehensive clean and efficient energy measures.**



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- ▶ **15 Public Schools adopt high performance standards including renewable energy systems (priority distressed communities)**
- ▶ **Pilot to encourage Net-Zero Energy homes developed w/CEEF**
- ▶ **Integration of sustainable energy lessons into 100 classrooms—using toolkits**
- ▶ **6 tech high schools offering green jobs training**
- ▶ **15 science centers/museums serve as centers of learning about sustainable energy/solution**
- ▶ **7 job training institutions accredited to provide students with Green Job credentials---aligned with DOE standards**



# RGGI Revenue Supported Projects....



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- ▶ **21 municipal projects completed (3-5 pending)**
- ▶ **~ 1.1. MW of capacity (PV)**
- ▶ **~ 60% of funds allocated**
  
- ▶ **Annual Aggregated Project Stats.....**
  - ▶ ~ 1.3M lbs/CO<sub>2</sub>
  - ▶ ~ 675 lbs/NO<sub>x</sub>
  - ▶ ~ 2500 lbs/SO<sub>2</sub>
  - ▶ ~ 109 cars removed
  - ▶ ~ 220 trees planted



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**THANK YOU**

**Visit us online  
[ctcleanenergy.com](http://ctcleanenergy.com)**

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