Advancing Connecticut's Energy Resiliency

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Connecticut Department of
ENERGY &
ENVIRONMENTAL
PROTECTION

Comprehensive Vision

- Unprecedented Power Disruptions
- Public Act 12- 148
- Comprehensive Energy Strategy: October 2012
  - Cleaner, Cheaper, More Reliable
    - Complementary regional and decentralized components
  - Advancing Regulatory Flexibility
- Financing Investments

Cheaper, Cleaner, More Reliable

- All cost effective Energy Efficiency & Demand Response
- Codes & Standards
- Reduce use of heating oil;
  - Natural Gas Conversion
  - Heat Pumps
- Better procurement
  - Reverse auctions, declining subsidies, long term PPAs

Cheaper, Cleaner, More Reliable

- Competitive procurement of large scale renewables: state & regional
- ZREC/LREC Reverse auctions
- Solarize initiatives
- Alternative fueled vehicle infrastructure
- Natural Gas Expansion

Cheaper, Cleaner, More Reliable

Improve Resiliency & Maintain Critical Services

- Planning & Preparedness
- Harden Infrastructure
  - Poles, wires, vegetation mngmt, adaptive siting
- DG & Microgrids for critical facilities & core services
  - Sewage treatment, hospitals, prisons, fire, police, communications
  - Pharmacies, gas stations, grocery stores, shelters, banks
- Cyber Security

Connecticut's $45m Microgrid Initiative

- Technical Assistance
- Regulatory Options
  - Energy Improvement Districts
  - Virtual Net Metering
- Design & Engineering Grants
  - Phase I: Summer 2013 Award
  - Phase II: Fall 2013 – Spring 2014
  - Phase III: Late Spring 2014 - Late Fall 2014

$15m Microgrid Engineering & Design Grants

Project	Facilities	Generation	Grant Value
UConn Depot Campus/Storrs	Campus Buildings	400 kW fuel cell, 6.6 kW PV	$2,144,234
City of Bridgeport-City Hall/Bridgeport	City hall, Police Station, Senior Center	(3) 600 kW natural gas microturbines	$2,975,000
Wesleyan/Middletown	Campus, Athletic Center (Public Shelter)	(1) 2.4 MW and (1) 676 kW Natural Gas Combined Heat and Power Reciprocating Engine	$693,819
University of Hartford-St. Francis/Hartford	Dorms, Campus Center, Operation Building	(2) 1.9 MW diesel (existing), 250 kW diesel, 150 kW diesel	$2,270,333
SUBASE/Groton	Various Buildings and Piers	5 MW cogen turbine, 1.5 MW diesel	$3,000,000
Town of Windham/Windham	2 Schools (Various Public Purposes)	(2) 130 kW natural gas, 250 kW solar, 200 kWh battery; (2) kW diesel,	$639,950
Town of Woodbridge/Woodbridge	Police Stations, Fire Station, Department of Public Works, Town Hall, High School, Library	1.6 MW natural gas, 400 kW fuel cell	$3,000,000
City of Hartford-Parkville Cluster/Hartford	School, Senior Center, Library, Supermarket, Gas station	600 kW natural gas	$2,063,000
Town of Fairfield-Public Safety/Fairfield	Police Station, Emergency Operations Center, Cell Tower, Fire Headquarters, Shelter	50 kw natural gas recip engine, 250 kW natural gas recip engine, 27 kW PV, 20 kW PV	$1,167,659

Meeting the Financial Challenge

- CEFIA
  - CPACE
  - SmartE loans
- State Bonding
  - Lead by Example
  - Microgrids
- On Bill Financing
  - EEB, EDC & LDC cooperation
- Energy Performance Contracting

Ongoing Program Challenges

- Integration with Grid & EDCs Role
- Regulatory Structures
- Capital Investment Choices

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