



CT Strategies to Meet Electric System Deficiencies



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CT Strategies to Meet Electric System Deficiencies

**Transmission
Upgrades**

**Generation
Capacity**

**Demand-side
Strategies**

**Energy Efficiency
Conservation
Demand/Load
Response**

Distributed Generation



Steps to Addressing CT Electric System Needs

- 1) Ensure adequate resources are in place to provide system reliability**
- 2) Mitigate adverse \$\$\$ monetary impacts from various price pressures (FMCCs)**

Action plan outlined in Public Act 05-1:

An Act Concerning Energy Independence
(Public Act 05-1/June Special Session)



CT Policy Approach to Improve Electric System

An Act Concerning Energy Independence
Public Act 05-1

Basic strategies promoted:

- **Short-term measures**
 - **Long-term measures – RFP for addt'l capacity**
 - **Customer-side distributed generation -\$\$\$ incentives**
 - **Demand side resources – demand response & EE**
 - **Rate Design**
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Short Term Measures to Reduce FMCCs

Docket 05-07-14 Phase 01

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- **Approved addt'l \$\$\$ for EE initiatives to reduce peak demand in 2006**
 - **Approved addt'l \$\$\$ for load response initiatives to reduce peak demand in 2006**
 - **Established goals for above at about 40MW**
 - **Actually achieved 89MW**
 - **Goals were surpassed due to \$\$\$ incentives**
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Connecticut RFP 2006

DPUC Procurement Process to Reduce
Congestion Charges for CT Ratepayers

www.Connecticut2006rfp.com

Long Term Measures (Docket 05-07-14 Phase 02)

Purpose

- Reducing impact of federal charges & other cost drivers
- Procuring new and/or incremental supply-side & demand-side resources

Eligible resources

- Generation & generation related resources
- Demand-side response: Load response/control
- Energy Efficiency, Conservation, Load Mgmt projects



Connecticut RFP 2006

DPUC Procurement Process to Reduce
Congestion Charges for CT Ratepayers



Overview of RFP

- Capacity must be electrically (generation) or physically (non-generation demand resources) **located in Connecticut**
 - Contract pricing will settle against ISO-NE Markets
 - Forward Capacity Market (mandatory)
 - Locational Forward Reserve Market (at bidder's election in the proposal)
 - Day-Ahead Energy Market (at bidder's election in the proposal)
 - Connecticut electric distribution companies will serve as counterparties to contracts for **terms of up to 15 years**
 - Two separate contracts – generation and demand resources
 - Bids will be evaluated using a method that involves cost-benefit analysis and as well as an assessment of Other Factors based on Connecticut's policy priorities
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This summary does not replace or substitute the language in the RFP or contract.



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Bid evaluation process: Analysis of “Other Factors”

Fuel Diversity

- Renewable projects and Demand Resources will be granted additional points
- Other non-natural gas and non-oil fired and plants will also receive additional points
- Natural gas-fired and oil-fired plants will not receive any points

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Bid evaluation process: Analysis of “Other Factors”

Environmental Emissions

- Additional points granted based on relative change in SO₂, NO_x, and CO₂ emissions (based on ton/kW basis) attributable to project over the term of the Agreement.

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Results of RFP to Date

- **Bids just recently received and are subject to confidentiality clauses**
- **Response has been robust and diverse, i.e., demand and supply-side resource bids received**



Incentives for Customer-side Distributed Resources

- **Capital Grants**
 - **Low Interest Loans**
 - **Natural Gas Rebate**
 - **Back-up Charge Exemption**
 - **Renewable Energy Credits (RECs)**
 - **Customers can choose from available incentives as appropriate for their project**
 - **No requirement that project receive a monetary grant to be eligible for other incentives**
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(as of 1/10/06)

DG Capital Grant Projects

Applicant	Docket No.	Type	Fuel	Size (kW)	Size (MW)	Town	SWCT	MW Approved	Grant Amount	Approved
1 Plainville Electric	06-04-06	Simple Cycle Natural Gas	Gas	920	0.92	Bristol	No	0.375	\$105,469	yes
2 Saybrook Inn	06-04-07	Emergency generator	Diesel	400	0.40	Saybrook	No	0.436	\$87,200	yes
3 Cellu Tissue	06-04-12	Combined Heat & Power	Gas	2920	2.92	E. Hartford	No	2.920	\$1,314,000	yes
4 Blue Cross	06-05-09	Emergency generator	Diesel	2250	2.25	No. Haven	Yes	2.250	\$562,500	yes
5 Frito Lay	06-05-11	Combined Heat & Power	Gas	5041	5.04	Killingly	No	3.772	\$1,697,400	yes
6 Fairfield Univ.	06-05-12	Combined Heat & Power	Gas	5499	5.50	Fairfield	Yes	4.600	\$2,300,000	yes
7 Erector Square	06-05-14	Emergency generator	Diesel	400	0.40	New Haven	Yes	0.325	\$81,250	yes
8 Areodyne Alloys	06-06-07	Emergency generator	Diesel	163	0.16	So. Windsor	No	0.100	\$20,000	yes
9 Stearns Dairy	06-06-08	Emergency generator	Diesel	200	0.20	Storrs	No	0.170	\$34,000	yes
10 Pharmaceutical Inst.	06-06-10	Combined Heat & Power	Gas	376	0.38	Branford	Yes	0.300	\$150,000	yes
11 Yarde Metals	06-06-11	Emergency generator	Diesel	1500	1.50	Southington	Yes	1.100	\$275,000	yes
12 New Hartford	06-06-19	Emergency generator	Diesel	150	0.15	New Htrfd	No	0.113	\$16,657	yes
13 Maneeley's Hall	06-06-20	Emergency generator	Diesel	350	0.35	So. Windsor	No	0.170	\$33,960	yes
14 ANCO Engineering	06-07-04	Emergency generator	Diesel	650	0.65	Shelton	Yes	0.427	\$124,250	yes
15 Bradley Home	06-07-03	Combined Heat & Power	Gas	75	0.075	Meriden	Yes	0.074	\$36,850	yes
16 Scott Klym	06-07-06	Combined Heat & Power	Bio-D	7.5	0.0075	Stamford	Yes	0.007	\$3,375	yes
17 SHA Development	06-07-09	Combined Heat & Power	Gas	75	0.075	Seymour	Yes	0.074	\$36,950	yes
18 Health Net	06-07-12	Emergency generator	Diesel	787	0.787	Shelton	Yes	0.787	\$196,750	yes
19 C&S Distributors	06-07-13	Emergency generator	Diesel	54	0.054	So. Windsor	No	0.060	\$12,000	yes
20 United Tech (P&W)	06-07-16	Combined Heat & Power	Gas & #2 Oil	7520	7.52	Middletown	No	7.795	\$3,507,750	yes
21 Hess Corp.	06-07-18	Reciprocating Engines	Gas	4500	4.5	Wethersfield	No	4.120	\$824,000	yes
22 Norwalk High School	06-07-22	Combined Heat & Power	Gas	250	0.25	Norwalk	Yes	0.250	\$125,000	yes
23 Pitney Bowes	06-08-07	Emergency generator	Diesel	415	0.415	Stamford	Yes	0.415	\$103,750	yes
24 Duncaster	06-08-11	Combined Heat & Power	Gas	169	0.169	Bloomfield	No	0.148	\$66,452	yes
25 1st Bristol	06-08-13	Emergency generator	Diesel	83	0.083	Bristol	No	0	0	denied
26 Sargent Mfg.	06-08-15	Emergency generator	Diesel	3200	3.2	New Haven	Yes	3.200	\$800,000	yes
27 Sheffield Labs	06-08-17	Combined Heat & Power	Gas	404	0.404	New London	No	0.575	\$258,750	yes
28 Cablevision	06-08-19	Emergency generator	Diesel	750	0.75	Shelton	Yes	0.750	\$187,500	yes
29 Mansfield Hollow Hydro	06-08-21	Baseload	Hydro	500	0.5	Mansfield Center	No	0.480	\$115,369	yes
30 King Industries	06-09-08	Emergency generator	Diesel	1,500	1.5	Norwalk	Yes	1.000	\$250,000	yes
31 Valley Container	06-09-09	Emergency generator	Diesel	600	0.6	Bridgeport	Yes			pending
32 The Rinks at Shelton	06-09-10	Emergency generator	Diesel	500	0.5	Shelton	Yes			pending
33 International Skating Ctr.	06-09-15	Turbine	Gas	142	0.142	Simsbury	No	0.134	\$60,300	yes
34 SECONN Fabrication	06-10-04	Emergency generator	Diesel	275	0.275	Waterford	No	0.275	\$55,000	yes
35 East Hartford High School	06-10-12	Combined Heat & Power	Gas	240	0.24	East Hartford	No			pending
36 Kimberly-Clark	06-10-19	Combined Heat & Power	Gas	35,168	35.168	New Milford	Yes			pending
37 Fiserv	06-10-24	Emergency generator	Diesel	150	0.15	Rocky Hill	No	0.150	\$30,000	yes
38 Norwalk Hospital	06-10-27	Combined Heat & Power	Gas	1,500	1.5	Norwalk	Yes			pending
39 Branford High School	06-10-29	Combined Heat & Power	Gas	227	0.227	Branford	Yes			pending
40 Matabasset Traetment	06-11-02	Emergency generator	Diesel	2250	2.25	Cromwell	No			pending
41 E. Lyme Public Schools	06-11-03	Emergency generator	Diesel	600	0.6	East Lyme	No			pending
42 Automatic Rolls of NE	06-11-04	Emergency generator	Diesel	1100	1.1	Dayville	No	1.100	\$220,000	yes
43 Ansonia Generation LLC	06-11-08	Combined Heat & Power	Gas	62,903	62.903	Ansonia	Yes			pending
44 Manchester Methane	06-11-09	Baseload	Methane	3,200	3.2	East Windsor	No			pending
45 Prime Resources Corp.	06-11-11	Emergency generator	Gas	500	0.5	Bridgeport	Yes			pending
46 Hoekenga Investments	06-12-03	Emergency generator	Diesel	475	0.475	Seymour	Yes			pending
47 Cervalis, LLC	06-12-11	Emergency generator	Diesel	6,000	6	Stamford	Yes			pending
48 Hartford Steam Boiler	06-12-18	Emergency generator	Diesel	400	0.4	Hartford	No			pending
49 Westmount Management	06-12-15	Emergency generator	Diesel	175	0.175	New Haven	Yes			pending
50 Taylor & Fenn	06-12-19	Combined Heat & Power	Gas	2,800	2.8	Windsor	No			pending
51 Taylor & Fenn	06-12-20	Combined Heat & Power	Gas	2,800	2.8	Windsor	No			pending
52 Sargent Mfg.	06-12-22	Combined Heat & Power	Gas	535	0.535	New Haven	Yes			pending
53 Wesleyan University	06-12-23	Combined Heat & Power	Gas	2,365	2.365	Middletown	No			pending
54 Carlton Convalescent Hosp	06-12-25	Emergency generator	Diesel	400	0.4	Fairfield	Yes			pending
55 Carlton Convalescent Hosp	06-12-26	Emergency generator	Diesel	300	0.3	Fairfield	Yes			pending
56 Norwalk Dept. of Health	06-12-27	Emergency generator	Diesel	100	0.1	Norwalk	Yes			pending
57 Seton ID Products	06-12-28	Emergency generator	Diesel	750	0.75	Branford	Yes			pending
58 Tamarack Country Club	06-12-29	Emergency generator	Diesel	450	0.45	Greenwich	Yes			pending
59 Hubbell Electric Heater Co.	06-12-31	Emergency generator	Diesel	131	0.131	Stratford	Yes			pending
60 Harty Press, Inc.	06-12-32	Emergency generator	Diesel	600	0.6	New Haven	Yes			pending
61 Lindquist Steel	06-12-33	Emergency generator	Diesel	175	0.175	Stratford	Yes			pending
62 The Chapin & Bangs Co.	06-12-34	Emergency generator	Diesel	500	0.5	Bridgeport	Yes			pending
63 Affinion Group	07-01-01	Emergency generator	Diesel	1,100	1.1	Trumbull	Yes			pending
63 Total Projects				170,520	170.52			38.452	\$13,691,482	





Summary of DG Grant Program

- **63 projects have applied for grants**
 - **Represents a potential 171 MW capacity**
 - **2 CHP projects total 98MW of this capacity**
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ISO-NE Load Response Programs CT Participation

- **CT alone has 55% (480 MW) of total ISO-NE LRP (880MW)**
 - **CT has achieved some of this capacity through supplemental \$\$\$ to participants**
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Rate Design

- **New C&I rates:**
 - **Mandatory TOU: all users**
 - ✓ **Reducing on-peak hours to Noon to 8 PM, Mon-Fri**
 - **Voluntary interruptible or load response**
 - **New seasonal rates – mandatory for all users**
 - **Voluntary Day-Ahead Rates – all users**
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CT Project 100

www.ctcleanenergy.com

Project 100 Specifics

- Statute requires EDCs to enter into *contracts for at least 100 MW of renewable energy*
- Pricing includes a *premium of 5.5¢ per kWh above market*
- Are at least 1 MW in capacity

Project 100 Results to Date

- Round 1 – one project, 15MW of biomass approved
 - Round 2 – 28 proposals representing 315 MW of clean energy capacity, including solar, biomass, fuel cell, and wind sources
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Program Funding

- **\$60+ million annually - 3 mills per kWh**

Savings in 2005

- **3.2 million kWh; \$550 million in electric energy costs**
- **291 million gals of oil not burned**
- **2.2 million tons of coal not burned**

CEEF Reduction in Criteria Pollutants (in Tons)				
	2005 Annual Actual	2005 Lifetime Actual	2006 Annual Projected	2006 Lifetime Projected
SO_x	334	4,616	262	3,590
NO_x	123	1,702	97	1,324
CO₂	198,586	2,748,461	155,865	2,137,815



CT Class III Resources

CGS Section 16-1(27); DPUC Docket 05-07-19

Statute imposes Class III portfolio requirements on all CT retail electric suppliers

Class III resources include:

1. Combined Heat & Power

- customer side with $\geq 50\%$ operating efficiency rating

2. Electricity Savings

- from in-state facilities on/after January 1, 2006

3. Implementation

- Class III resources earn RECs
- Supplier must fulfill portfolio standards for Class III RECs





Possible Future Policy Initiatives

- **Increase funding \$\$ - for C&LM and DG**
 - **Support changes in market rules – to allow demand reduction to bid into FCM**
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