2009 Forecast of Loads and Resources

Connecticut Siting Council
October 8, 2009

INTRODUCTION

The Connecticut General Assembly has mandated the Connecticut Siting Council (Council) to review annually the state's electricity needs and resources, looking ahead ten years. Most of Connecticut's electric system data, which is used in common by all the state and regional planners, is supplied by Connecticut generators and by our state's two largest transmission and distribution companies, The Connecticut Light and Power Company (CL&P) and The United Illuminating Company (UI). The Connecticut Municipal Electric Energy Cooperative (CMEEC), comprised of the municipal electric distribution companies, also provides its forecast report to the Council.

This report is intended to serve as an abbreviated addendum of metrics and data to the Council's 2008 Forecast Report.

ELECTRIC DEMAND

Peak Load Forecasting

This past year the country has been experiencing its worst economic decline in decades, fueled by a near collapse in the financial markets. Accordingly, citizens and businesses are cutting costs resulting in lower overall electric usage. However, peak demand is known to occur during the hottest days of the year, mainly attributed to air conditioning. Peak electric usage is driven not only by price but also lifestyle choices. Consequently, peak demand is expected to grow and is the value that must be used to weigh against resources in arriving at a forecast for long-term reliability.

The predicted statewide normal weather (50/50) peak load is 6,805 MW for 2009. It is expected to grow at an annual compound growth rate (ACGR) of 1.18 percent, reaching 7,562 MW by year 2018. This growth is mostly attributable to CL&P, since it has the largest service area in the state.

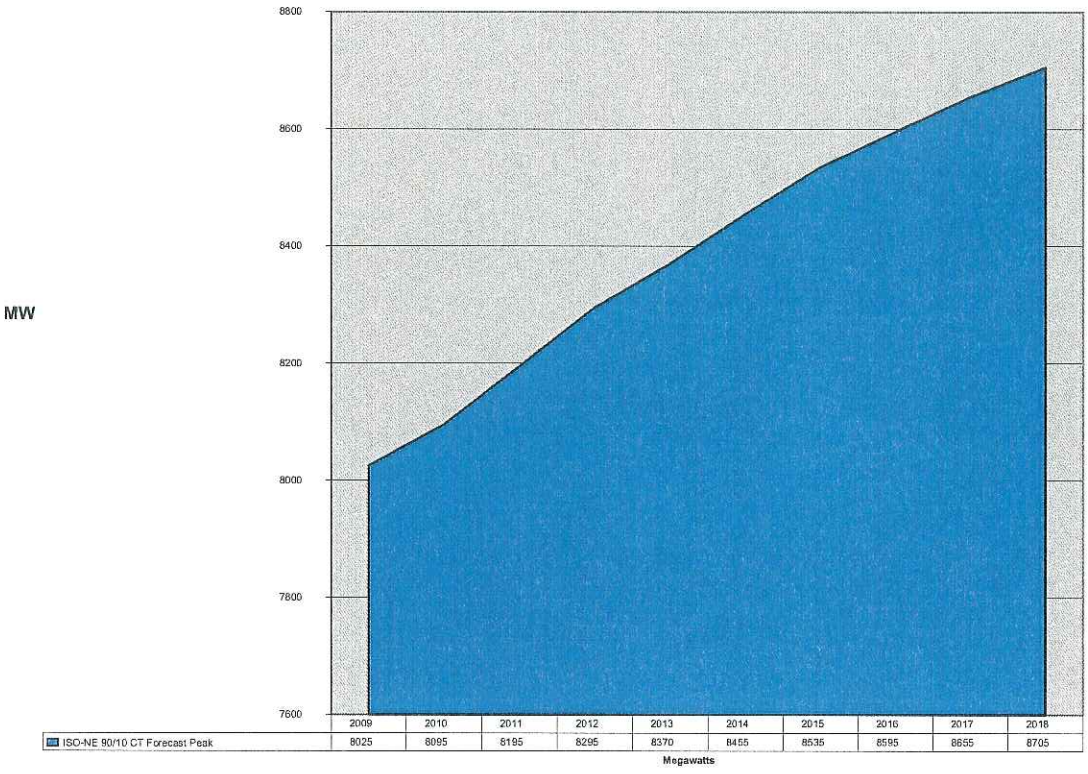
In its 50/50 forecast for Connecticut, the regional grid operator, ISO-New England Inc. (ISO-NE), predicts a peak load of 7,500 MW during 2009. This peak load is expected to grow at an ACGR of 0.87 percent and reach 8,105 MW by year 2018. Note that the ISO-NE 50/50 forecast exceeds the sum of the utilities' forecasts each year by an average of 619 MW. This is because conservation and load management (C&LM), load response (LR), and distributed generation (DG) load reductions are not included in the ISO-NE forecast.

The more important forecast to be discussed in this review is the one produced by ISO-NE. This is called the "90/10" forecast. It is separate from the normal weather (50/50) forecasts offered by the Connecticut utilities. However, it is the one used by both ISO-NE and by the Connecticut utilities for utility infrastructure planning, including transmission and generation.

A 90/10 forecast is a plausible worst-case hot weather scenario. The forecast would be exceeded, on average, once every ten years. While this projection is extremely conservative, it is reasonable for facility planning because of the potentially severe disruptive consequences of inadequate facilities: brownouts, blackouts, damage to equipment, and other failures. Accordingly, the Council will base its analysis in this review on the ISO-NE 90/10 forecast.

ISO-NE's 90/10 forecast has a projected (worst-case) peak load of 8,025 MW in 2009. This load is expected to grow at an ACGR of 0.91 percent and reach 8,705 by 2018. See Figure 1.

Figure 1: Extreme Weather and 90/10 Forecasts in MW



Forecasting Electric Energy Consumption

Taken together, the Connecticut utilities' data result in a statewide electric energy consumption of approximately 31,980 GWh in 2009. This number is expected to decline at a (weighted) ACGR of 0.21 percent and reach 31,394 GWh by 2017.

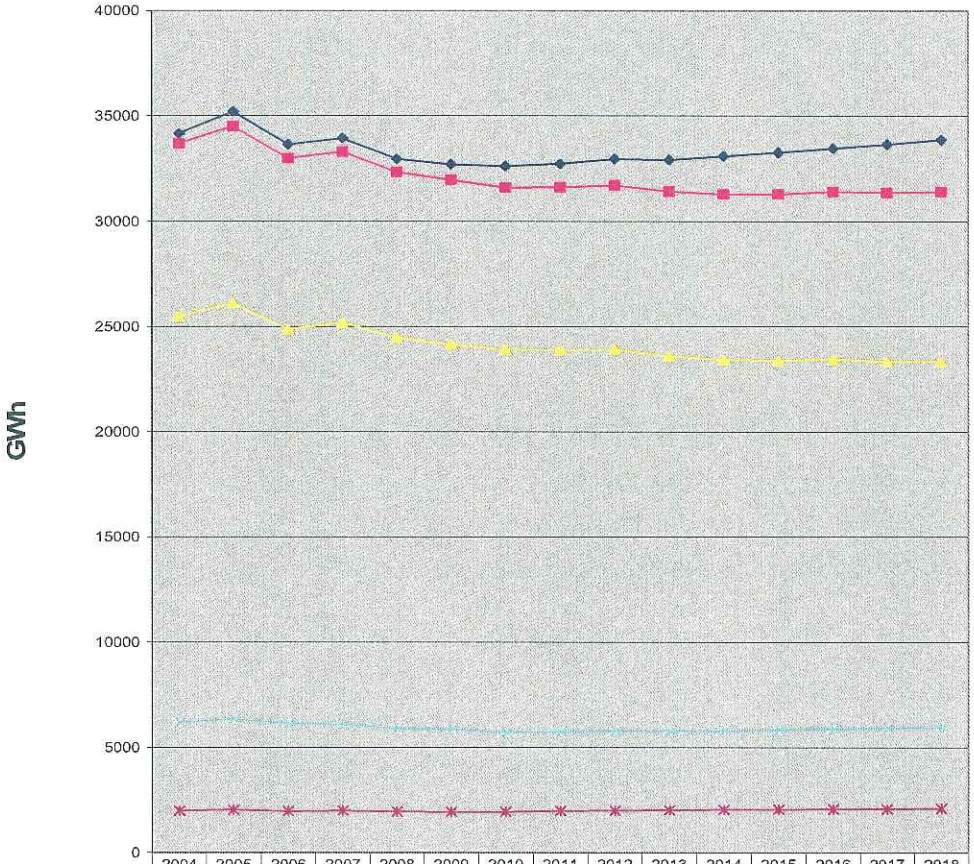
On the surface, this decline in energy consumption may seem counterintuitive and even inconsistent, given the 1.18 percent ACGR of peak electric load growth in the state. Actually, it is not. It is the result of changing customer behavior in response to concerns about the economy and electric rates, and also due to various efficiency efforts encouraged by the utilities and the state. Peak load occurs only during relatively short periods: even though energy consumption will increase during those times, net energy consumption will still decline overall.

ISO-NE's projections for energy consumption differ from the sum of the utilities' projections because of the different forecasting models used. Furthermore, the ISO-NE forecast differs from the sum of the utilities' forecasts because ISO-NE excludes the impact of C&LM and DG effects. DR is not expected to affect energy consumption significantly since demand response only operates for a limited number of peak hours per year.

Specifically, ISO-NE predicts electric energy consumption in Connecticut to be 32,710 GWh in 2008. This number is expected to grow at an ACGR of 0.38 percent and reach 33,850 GWh.

While the ISO-NE projections are higher than the utilities numbers, this discrepancy can be largely explained by the exclusion of efficiency measures and a different forecasting model than the utilities. Figure 2 depicts all the separate energy requirement forecasts for Connecticut.

Figure 2: State and Utility Energy Requirements in GWh



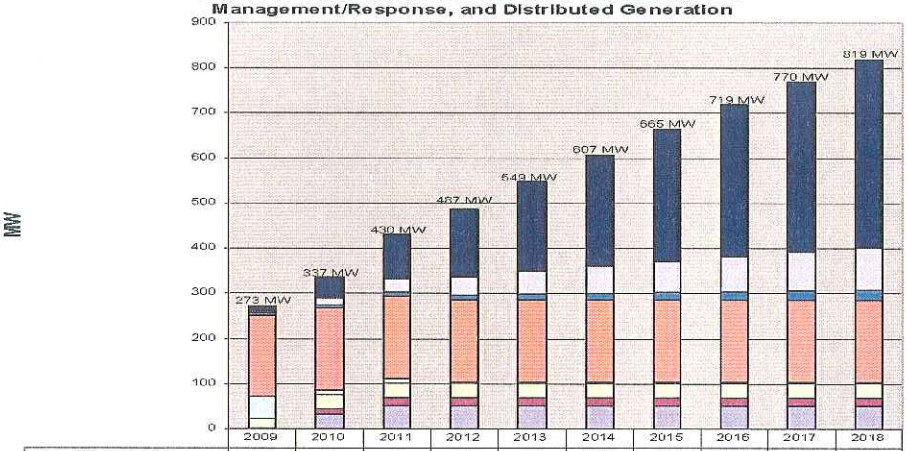
	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018
ISO-NE	34171	35202	33656	33948	32958	32710	32620	32730	32955	32910	33080	33260	33450	33645	33850
CT Utilities	33706	34519	33005	33314	32355	31980	31607	31622	31712	31414	31279	31275	31399	31345	31394
CL&P	25496	26119	24871	25185	24485	24150	23910	23883	23917	23605	23429	23383	23441	23350	23338
UI	6205	6360	6149	6119	5912	5883	5742	5748	5794	5785	5809	5840	5894	5919	5968
CMEEC	2005	2040	1985	2010	1958	1947	1955	1991	2001	2024	2041	2052	2064	2076	2088

Gigawatt-Hours (GWh)

CONSERVATION AND LOAD MANAGEMENT (C&LM)

CL&P's distributed generation is projected to reach 20 MW in 2009 and grow to 32 MW by 2018. UI expects that 2.5 MW of distributed generation will be added in 2009 and 19.2 MW will be added by 2018. CMEEC's distributed generation is expected to grow from 0 MW in 2009 to 50 MW in 2018. Thus, the total statewide DG output is expected to grow from 22.5 MW in 2009 to 101 MW in 2018. This results in an ACGR of 18.2 percent. Accordingly, Figure 3 depicts total load reductions by utility and type of reduction, i.e. conservation, load management/load response, and distributed generation.

Figure 3: Load Reductions Due to Conservation, Load Management/Response, and Distributed Generation



	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018
CL&P Conservation	10	46	98	150	199	246	292	336	378	418
UI Conservation	5.1	16.6	29	40.1	50.5	60.1	69.4	77.6	84.7	92.1
CMEEC Conservation	5	7	9	11	13	15	17	19	21	23
CL&P Load Management	182	182	182	182	182	182	182	182	182	182
UI Load Management	0	0	0	0	0	0	0	0	0	0
CMEEC Load Management	48	11	11	3	3	3	3	3	3	3
CL&P DG	20	29	32	32	32	32	32	32	32	32
UI DG	7.5	13.2	19.2	19.2	19.2	19.2	19.2	19.2	19.2	19.2
CMEEC DG	0	32	50	50	50	50	50	50	50	50

Megawatts

The Council believes that energy efficiency and programs like Connecticut Energy Efficiency Fund (CEEF) are an extremely important part of Connecticut's electric energy strategy. Increased efficiency allows the state's electric needs to be met, in part, without incurring the incremental pollution that would be caused by dispatching generation to serve the additional load. Reductions in peak load due to increased efficiency can also impact the schedule of necessary changes to existing utility infrastructure, such as transmission lines and substation equipment (transformers, distribution feeders, etc.) and hence tend to hold down utility costs. Electric energy efficiency also reduces federal congestion costs and the costs of new generation.

ELECTRIC SUPPLY

The Balance Table (Table 1) indicates a shortage of electric generation supply early in the forecast period (2009 through 2010). However, the assumptions are quite conservative with respect to assumed unavailable generation (576 MW) since the reserve requirement taking into account the loss of the largest resource (Millstone 3: 1,233 MW), an average import capacity (2,000 MW), and neglects load management (approx. 185 MW). Overall, given that the magnitude of the deficit is less than 600 MW (i.e. approx. 7 percent of the peak load), and assuming most generation is available for dispatch, it is likely that supplies will meet demand, taking into account the most conservative forecast (ISO-NE's 90/10 estimate).

According to the 2009 Integrated Resources Plan, approximately 1,267 MW of oil-fired generation could retire beginning in 2013, per more strict environmental standards. This results

in a shortage in the Balance Table beginning in 2013. The Council notes this projection is hypothetical and subject to change. It is difficult to predict with certainty, which, if any, generation would retire and which, if any, would be replaced with newer, more efficient units.

Demand/Supply Balance

Table 1 contains a tabulation of generation capacity vs. peak loads. The ISO-NE 90/10 forecast is applied in this table because it is the forecast used for utility transmission facility planning purposes. The largest reserve requirement is 1,233 MW, which is approximately the size of Connecticut's largest generator, Millstone 3. In the event that Millstone 3 or any significantly sized smaller unit or combination of smaller units trip off-line, reserves must be available to rapidly compensate for that loss of capacity.

Assumed unavailable generation is an estimate of the typical amount of generation off-line for maintenance purposes. Existing generation supply resources are based on the total existing generation in Connecticut listed in Appendix A. Appendix A contains data from the July 2009 Seasonal Claimed Capability report from ISO-NE. Approved generation projects (not yet constructed and/or complete) are also included in Table 1. In-service dates for these facilities are estimates and may be subject to change.

The retirement of older generating units is difficult to predict because it is the result of many factors such as market conditions, environmental regulations and the generating companies' business plans. It is important to note that prior to a unit retiring its owner must file with ISO-NE for approval; if a unit is qualified as a reliability-must-run unit it is unlikely the request would be granted, at least for the near-term. As a hypothetical, per the utilities' 2009 Integrated Resources Plan, retirements were included in the Balance Table.

Conservation and distributed generation are also included in the Balance Table. Although these are not included in the ISO-NE forecast, they would likely be in effect during a peak load situation as depicted on Table 1.

Table 2: MW Balance

Year	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018
90/10 Load	8025	8095	8195	8295	8370	8455	8535	8595	8655	8705
Reserve (Equiv. Millstone 3)	1233	1233	1233	1233	1233	1233	1233	1233	1233	1233
Load + Reserve	9258	9328	9428	9528	9603	9688	9768	9828	9888	9938
Existing Generation	7100	7100	7100	7100	7100	7100	7100	7100	7100	7100
Est.Unavail. Generation	576	576	576	576	576	576	576	576	576	576
Available Generation	6524	6524	6524	6524	6524	6524	6524	6524	6524	6524
Normal Import[1]	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000
Energy Efficiency[2] per Fig. 3	20	70	136	201	263	321	378	433	484	533
Total Avail. Resources	8544	8594	8660	8725	8787	8845	8902	8957	9008	9057
Surplus/Deficiency[3]	**-714**	**-734**	**-768**	**-803**	**-816**	**-843**	**-866**	**-871**	**-880**	**-881**
Approved Generation Projects										
Ameresco	5	5	5	5	5	5	5	5	5	5
Project 150[4]		0	9	54	54	54	54	54	54	54
Cos Cob	40	40	40	40	40	40	40	40	40	40
Middletown			620	620	620	620	620	620	620	620
Waterbury	96	96	96	96	96	96	96	96	96	96
Ansonia			58	58	58	58	58	58	58	58
NRG Devon #15-18			200	200	200	200	200	200	200	200
NRG Middletown #12-15				200	200	200	200	200	200	200
Surplus/Deficiency	**-573**	**-593**	**260**	**470**	**457**	**430**	**407**	**402**	**393**	**392**
Possible Generation Retirements Per 2009 IRP[5]					-1267	-1267	-1267	-1267	-1267	-1267
Surplus/Deficiency	**-573**	**-593**	**260**	**470**	**-810**	**-837**	**-860**	**-865**	**-874**	**-875**
Future Projects Under Council Review										
NEEWS[6,7,8]	0	0	0	0	0	300	700	1100	1100	1100
Clearview Renewable Energy, LLC (Proj. 150)				30	30	30	30	30	30	30
Future Projects Not Yet Filed[9]										
South Norwalk Renewable Generation (Proj. 150)			32.5	32.5	32.5	32.5	32.5	32.5	32.5	32.5
Stamford Hospital Fuel Cell CHP (Proj. 150)		5	5	5	5	5	5	5	5	5
Clearview East Canaan Energy, LLC (Proj. 150)			3	3	3	3	3	3	3	3
Waterbury Hospital Fuel Cell CHP (Proj. 150)		2	2	2	2	2	2	2	2	2
PSEG Power New Haven			130	130	130	130	130	130	130	130
Total Net Surplus/Deficiency	**-573**	**-586**	**432.5**	**673**	**-608**	**-335**	**42.5**	**437.5**	**428.5**	**427.5**

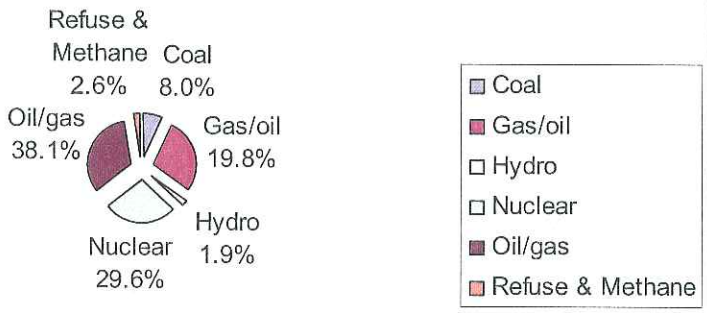
[1]This is an average value. The actual import capacity can range between 1,500 MW to 2,500 MW.
[2]This takes into account only passive (non-dispatched) demand reductions such as energy efficiency, to be conservative.
[3]This is based on a one-in-ten years event and assumes conservative import capacity, no load response, and no newly-approved generation.
[4]Only the Council-approved projects associated with Project 150 are listed in this row.
[5]Such retirements are hypothetical based on certain conditions, and are difficult to predict with certainty at this time, especially since they require ISO-NE approval.

[6]NEEWS is a group of transmission projects, three of which are in Connecticut. The Council is currently considering the first of these, along with a non-transmission alternative.
[7]The other NEEWS applications are expected to be received in the near future.
[8]NEEWS' effect on import capacity will ultimately depend on which, if any, of the projects are approved.
[9]It is not known when these projects will be filed with the Council or whether they would be approved.

Fuel Mix

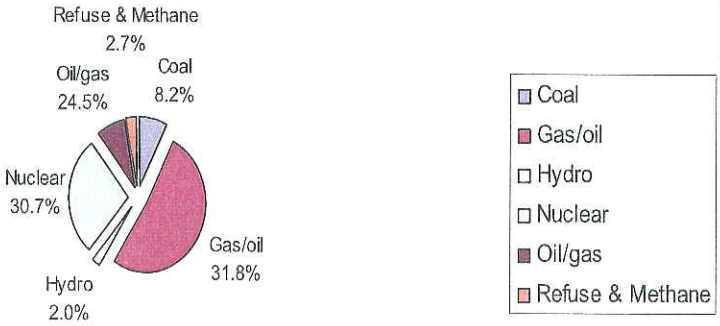
Based on existing generation and future (approved) generation projected in Table 1, the estimated fuel mix in MW based on peak power demand is provided below for 2009 and also 2018, the end of the forecast period. In this proceeding, NRG recommended that the Council assume for planning purposes that the Norwalk Harbor, Middletown, and Montville generating stations are retired. See Figure 4a and 4b below.

Figure 4a: 2009 Fuel Mix



*Lake Road plant (~700 MW) is not included in the fuel mix charts because it is electrically more a part of Rhode Island than Connecticut.

Figure 4b: 2018 Fuel Mix



Import Capacity

The 2,500 MW import capability only represents about 30 percent of the state's peak demand. Looking ahead, CL&P is developing a transmission upgrade plan that would increase the state's import capacity to approximately 45 percent of peak demand. This plan, if approved, may significantly increase the reliability of Connecticut's supply system and allow for greater import of economical supply. It is called the New England East – West Solution (NEEWS). NEEWS, a group of four related transmission projects, three of which affect Connecticut, has attracted some competing non-transmission alternatives. The first of NEEWS projects, along with an alternative, are currently under Council review. (See Appendix B Transmission facilities.)

American Clean Energy and Security Act

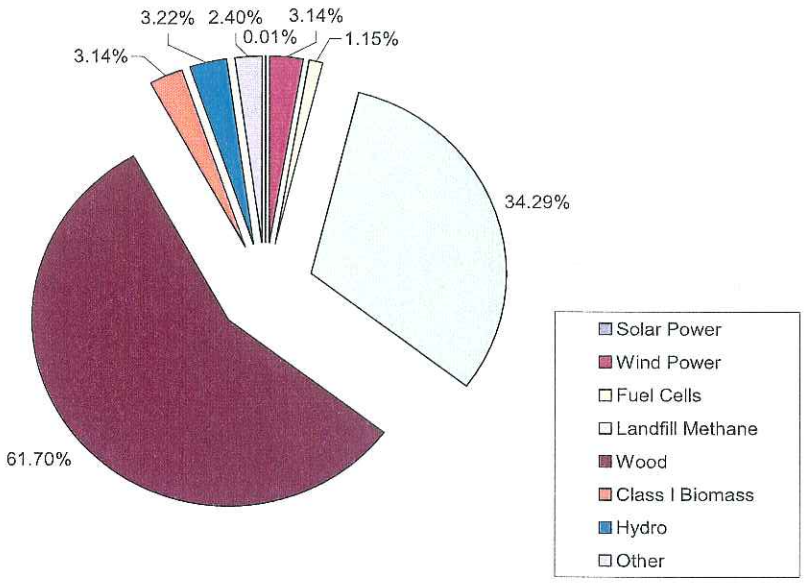
This year the United States Congress is considering legislation that would address, on a national level, issues Connecticut and other northeast states have already tackled by adopting the Regional Greenhouse Gas Initiative (RGGI) and Renewable Portfolio Standards (RPS). This federal legislation, entitled the American Clean Energy and Security Act (ACES), would amend a number of existing Acts that pertain to the utility industry, including the Public Utility Regulatory Policies of Act of 1978, the Clean Air Act, the Energy Policy and Conservation Act, and the Federal Power Act.

ACES contains a far-ranging set of policy measures aimed at improving energy efficiency and conservation. For the purposes of this report, the bill's most important features are: the adoption of a federal Renewable Portfolio Standard; energy efficiency in the production of electricity; and a cap and trade system intended to reduce the amount of greenhouse gas emissions. In comparison to Connecticut's RPS the ACES legislation is contemplating slightly lower standards. However, compared with the RGGI emissions reduction target, the ACES target is more strict. As the final version of ACES has not been enacted, it is too early to know its exact ramifications for Connecticut's electricity providers and consumers, and, its possible effects are not included in this report.

Renewable Portfolio Standards Attainment

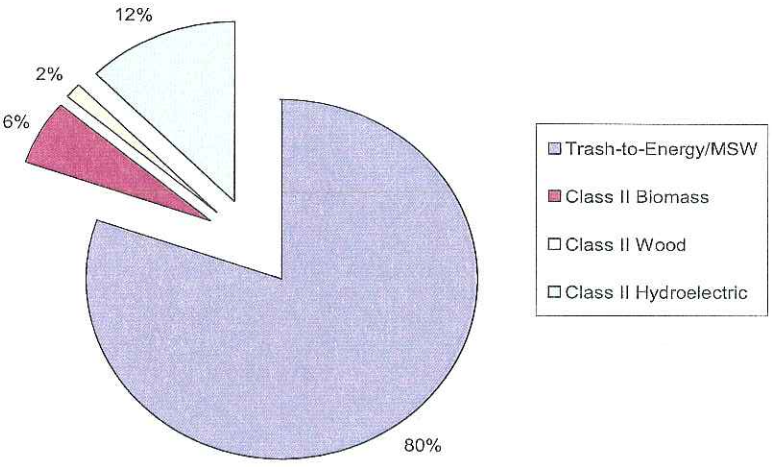
Data available through the Department of Public Utility Control make it possible to determine how Connecticut's electricity providers met the state's RPS requirements for 2007, the latest year for which data can be obtained. In this year, approximately one million megawatt hours were acquired from Class I renewable energy sources. The largest percentage of these hours, 53%, was generated using wood as a fuel.

Figure 5a: Class I Renewable Energy, by Fuel Type - 2007



In 2007, Connecticut's electricity providers acquired approximately 1,300,000 megawatt hours from Class II renewable energy fuels. The largest percentage of this total is attributable to trash-to-energy followed by hydroelectric.

Figure 5b: Class II Renewable Energy, by Fuel Type - 2007



The Integrated Resource Plan

On February 18, 2009, the DPUC issued its final decision in Docket No. 08-07-01, *DPUC Review of the Integrated Resource Plan (IRP)*. In that decision, the DPUC noted the electric distribution companies' IRP finding that Connecticut's local resource adequacy needs are satisfied for the foreseeable future. This assumes no retirements of existing generation, and the addition of planned operation to existing plants, as well as planned demand-side management resources, along with transmission upgrades.

CONCLUSION

This Council has considered Connecticut's electric energy future for the next ten years. Deficits in generation appear during the early (2009-2010) and later portions (2013-2018) of the forecast period when taking into account the most conservative weather prediction (ISO-NE's 90/10 estimate) and the possible retirement of several oil-fired generating facilities per the analysis in the 2010 IRP. However, assuming most generation is available for dispatch, and given the significant reserve requirement, it is likely that electric resources will meet demand during the forecast period. Furthermore, the NEEWS projects, if approved, would significantly increase import capacity. One NEEWS project, the Greater Springfield Reliability Project, and competing non-transmission alternatives are currently under Council review. Other NEEWS project applications are expected to be filed with the Council in the near future.

The most significant gain in generating capacity will be associated with the upcoming 620 MW Kleen Energy power plant in Middletown. Furthermore, additional generation fueled by renewable resources as well as increased efficiency in homes and businesses are expected to result from P.A. 07-242 An Act Concerning Electricity and Energy Efficiency.

Generating capacity and demand-side management are necessary to supply Connecticut's electricity needs, but the Council cannot overstate the importance of having adequate transmission to transport electricity from both in-state and out-of-state generators to serve local loads.

Issues that warrant attention in the future include:

- continue to pursue additional interstate transmission resources that will allow greater transfer capability into Connecticut, increasing reliability and helping meet the state's renewable portfolio standards requirements, as well as the growing load in the New England region;
- promote clarity, transparency and a longer forecast period in relation to ISO-NE's operating reserve requirements for Connecticut;
- be proactive regarding the deactivation/retirement of older generating facilities in the context of electric system needs and consider replacement/repowering of such facilities where feasible;
- encourage additional energy efficiency and demand response as recommended in the Integrated Resource Plan;
- increase fuel diversity to avoid excessive reliance on any one fossil fuel for generation; and
- encourage innovations that conserve energy and/or generate electricity through diverse technologies.

Appendix A
Existing Generation
(listed by fuel type)

Facility	Owner	Town	Fuel	Summer Rating	Winter Rating	In-Service Date
AES Thames	AES Thames, Inc.	Montville	Coal	181.00	182.15	12/1/1989
Bridgeport Harbor #3	PSEG Power, LLC	Bridgeport	Coal/Oil	383.43	384.98	8/1/1968
Aetna Capitol District	Capitol District Energy Ctr.	Hartford	Gas	55.25	61.33	11/1/1988
Bridgeport Energy	Bridgeport Energy LLC	Bridgeport	Gas	462.37	541.61	8/1/1998
Devon #11	NRG	Milford	Gas/Oil	29.30	38.82	10/1/1996
Devon #12	NRG	Milford	Gas/Oil	29.23	38.44	10/1/1996
Devon #13	NRG	Milford	Gas/Oil	29.97	38.97	10/1/1996
Devon #14	NRG	Milford	Gas/Oil	29.70	40.27	10/1/1996
Dexter	Alstom	Windsor Locks	Gas	38.00	39.00	5/1/1990
Kimb Rocky River	Kimberly Clark Corporation	New Milford	Gas	14.00	21.50	unknown
PPL Wallingford Unit #1	PPL EnergyPlus, LLC	Wallingford	Gas	42.70	48.41	8/1/2001
PPL Wallingford Unit #2	PPL EnergyPlus, LLC	Wallingford	Gas	38.16	49.16	8/1/2001
PPL Wallingford Unit #3	PPL EnergyPlus, LLC	Wallingford	Gas	42.94	47.84	8/1/2001
PPL Wallingford Unit #4	PPL EnergyPlus, LLC	Wallingford	Gas	41.91	47.19	8/1/2001
PPL Wallingford Unit #5	PPL EnergyPlus, LLC	Wallingford	Gas	40.72	51.72	8/1/2001
Lake Road #1	Lake Road Generating Co., L.P.	Killingly	Gas/Oil	232.75	268.37	7/1/2001
Lake Road #2	Lake Road Generating Co., L.P.	Killingly	Gas/Oil	251.33	286.95	11/1/2001
Lake Road #3	Lake Road Generating Co., L.P.	Killingly	Gas/Oil	254.90	283.67	5/1/2002
Milford Power #1	Milford Power Company, LLC	Milford	Gas/Oil	257.18	285.42	2/12/2004
Milford Power #2	Milford Power Company, LLC	Milford	Gas/Oil	253.09	287.63	6/1/2004
Bantam #1	FirstLight Hydro Generating Co.	Litchfield	Hydro (Run of River)	0.20	0.32	1/1/1905
Bulls Bridge #1- #6	FirstLight Hydro Generating Co.	New Milford	Hydro (Pondage)	4.72	8.40	1/1/1903
Colebrook	MDC	Colebrook	Hydro (Pondage)	1.55	1.55	3/1/1988
Dayville Pond	Summit Hydro Power	Killingly	Hydro (Run of River)	0.00	0.10	3/1/1995
Derby Dam	McCallum Enterprises	Shelton	Hydro (Run of River)	7.05	7.05	3/1/1989
Falls Village #1- #3	FirstLight Hydro Generating Co.	Canaan	Hydro (Pondage)	4.32	10.20	1/1/1914
Glen Falls	Summit Hydro Power	Plainfield	Hydro (Run of River)	0.00	0.00	3/1/1998
Goodwin Dam	MDC	Hartland	Hydro (Run of River)	3.00	3.00	2/1/1986
Kinneytown A	Kinneytown Hydro Co.	Ansonia	Hydro (Run of River)	0.00	0.29	3/1/1988
Kinneytown B	Kinneytown Hydro Co.	Seymour	Hydro (Run of River)	0.62	1.51	11/1/1986
Mechanicsville	Saywatt Hydro Associates	Thompson	Hydro (Run of River)	0.07	0.23	9/1/1995
Norwich 2nd St./Greenville Dam	CMEEC	Norwich	Hydro	0.00	0.00	10/1/1998

Appendix A
Existing Generation
(listed by fuel type)

Facility	Owner	Town	Fuel	Summer Rating	Winter Rating	In-Service Date
Norwich 10th St.	CMEEC	Norwich	Hydro	0.00	0.00	1/1/1966
Putnam	Putnam Hydropower, Inc.	Putnam	Hydro (Run of River)	0.25	0.58	10/1/1987
Quinebaug	Quinebaug Associates LLC	Killingly	Hydro (Run of River)	0.46	1.30	9/1/1990
Rainbow Dam	Farmington River Power Co.	Windsor	Hydro (Run of River)	8.20	8.20	1/1/1980
Robertsville #1- #2	FirstLight Hydro Generating Co.	Colebrook	Hydro (Run of River)	0.33	0.62	1/1/1924
Rocky Glen/Sandy Hook Hydro	Rocky Glen Hydro LP	Newtown	Hydro (Run of River)	0.11	0.11	4/1/1989
Rocky River	FirstLight Hydro Generating Co.	New Milford	Hydro (Pump Storage)	29.35	29.00	1/1/1928
Scotland #1	FirstLight Hydro Generating Co.	Windham	Hydro (Run of River)	1.82	2.20	1/1/1937
Shepaug #1	FirstLight Hydro Generating Co.	Southbury	Hydro (Reservoir)	41.51	42.56	1/1/1955
Stevenson #1- #4	FirstLight Hydro Generating Co.	Monroe	Hydro (Reservoir)	28.31	28.90	1/1/1919
Taftville #1- #5	FirstLight Hydro Generating Co.	Norwich	Hydro (Run of River)	2.03	2.03	1/1/1906
Toutant	Toutant Hydro Power, Inc.	Putnam	Hydro	0.40	0.40	2/1/1994
Tunnel #1- #2	FirstLight Hydro Generating Co.	Preston	Hydro	1.48	2.10	1/1/1919
Willimantic #1	Willimantic Power Corp.	Willimantic	Hydro	0.30	0.77	6/1/1990
Willimantic #2	Willimantic Power Corp.	Willimantic	Hydro	0.30	0.77	6/1/1990
Wyre Wynd	Summit Hydro Power	Griswold	Hydro	1.40	2.78	4/1/1997
Hartford Landfill	CRRA	Hartford	Landfill Gas (Methane)	1.89	1.89	8/1/1998
Millstone #2	Dominion Nuclear CT, Inc.	Waterford	Nuclear	869.11	871.22	12/1/1975
Millstone #3	Dominion Nuclear CT, Inc.	Waterford	Nuclear	1233.40	1237.20	4/1/1986
Branford #10	NRG	Branford	Oil (Jet Fuel)	15.84	20.95	1/1/1969
Bridgeport Harbor #2	PSEG Power, LLC	Bridgeport	Oil	130.50	146.15	8/1/1961
Bridgeport Harbor #4	PSEG Power, LLC	Bridgeport	Oil (Jet Fuel)	15.41	20.21	10/1/1967
Cos Cob #10	NRG	Greenwich	Oil (Jet Fuel)	19.50	24.40	9/1/1969
Cos Cob #11	NRG	Greenwich	Oil (Jet Fuel)	18.72	23.63	1/1/1969
Cos Cob #12	NRG	Greenwich	Oil (Jet Fuel)	19.08	23.99	1/1/1969
Cos Cob #13	NRG	Greenwich	Oil (Jet Fuel)	19.20	24.20	unknown
Cos Cob #14	NRG	Greenwich	Oil (Jet Fuel)	19.61	23.48	unknown
Cytec #1	CMEEC	Wallingford	Oil (Diesel)	1.93	1.92	5/15/2008
Cytec #2	CMEEC	Wallingford	Oil (Diesel)	1.95	1.92	5/15/2008
Cytec #3	CMEEC	Wallingford	Oil (Diesel)	1.94	1.94	5/15/2008
Devon #10 (reactivated)	NRG	Milford	Oil (Jet Fuel)	14.41	19.19	4/1/1988
Franklin Drive #10	NRG	Torrington	Oil (Jet Fuel)	15.42	20.53	1/1/1968

Appendix A
Existing Generation
(listed by fuel type)

Facility	Owner	Town	Fuel	Summer Rating	Winter Rating	In-Service Date
John Street #1	CMEEC	Wallingford	Oil (Diesel)	2.00	2.00	unknown
John Street #3	CMEEC	Wallingford	Oil (Diesel)	2.00	2.00	9/26/2007
John Street #4	CMEEC	Wallingford	Oil (Diesel)	2.00	2.00	9/26/2007
John Street #5	CMEEC	Wallingford	Oil (Diesel)	2.01	2.00	11/1/2007
Middletown #4	NRG	Middletown	Oil	400.00	402.00	6/1/1973
Middletown #10	NRG	Middletown	Oil (Jet Fuel)	17.12	22.02	1/1/1966
Montville #6	NRG	Montville	Oil	407.40	409.91	7/1/1971
Montville #10 & #11	NRG	Montville	Oil (Diesel)	5.30	5.35	1/1/1967
Norwalk Harbor #1	NRG	Norwalk	Oil	162.00	164.00	1/1/1960
Norwalk Harbor #2	NRG	Norwalk	Oil	168.00	172.00	1/1/1963
Norwalk Harbor #10 (3)	NRG	Norwalk	Oil (Diesel)	11.93	17.13	10/1/1996
Norwich Jet	CMEEC	Norwich	Oil	15.26	18.80	9/1/1972
Norwich Wastewater Treatment	CMEEC	Norwich	Oil (Diesel)	2.00	2.00	unknown
South Meadow #11	CRRA	Hartford	Oil (Jet Fuel)	35.78	46.92	8/1/1970
South Meadow #12	CRRA	Hartford	Oil (Jet Fuel)	37.70	47.87	8/1/1970
South Meadow #13	CRRA	Hartford	Oil (Jet Fuel)	38.32	47.92	8/1/1970
South Meadow #14	CRRA	Hartford	Oil (Jet Fuel)	36.75	46.35	8/1/1970
Torrington Terminal #10	NRG	Torrington	Oil (Jet Fuel)	15.64	20.75	8/1/1967
Tunnel #10	FirstLight Hydro Generating Co.	Preston	Oil (Jet Fuel)	17.00	22.10	1/1/1969
Waterside Power	Waterside Power	Stamford	Oil	73.42	74.96	10/1/2006
Middletown #2	NRG	Middletown	Oil/Gas	117.00	120.00	1/1/1958
Middletown #3	NRG	Middletown	Oil/Gas	236.00	245.00	1/1/1964
Montville #5	NRG	Montville	Oil/Gas	81.00	81.59	1/1/1954
New Haven Harbor #1	PSEG Power, LLC	New Haven	Oil/Gas	447.89	453.38	8/1/1975
Pierce	CMEEC	Wallingford	Oil/Gas	75.44	94.94	unknown
Bridgeport Resco	CRRA	Bridgeport	Refuse	58.52	58.74	4/1/1988
New Milford Landfill	Vermont Electric Power Co.	New Milford	Refuse	2.22	2.22	8/1/1991
South Meadow #5	CRRA	Hartford	Refuse	25.60	29.21	11/1/1987
South Meadow #6	CRRA	Hartford	Refuse	27.11	28.12	11/1/1987
Bristol RRF	Ogden Martin Systems-CT	Bristol	Refuse/Oil	13.20	12.74	5/1/1988
Wallingford RRF	CRRA	Wallingford	Refuse/Oil	6.35	6.90	3/1/1989
Exeter	Oxford Energy, Inc.	Sterling	Refuse (Tires)	24.17	25.66	12/1/1991
Lisbon Resource Recovery	Riley Energy Systems	Lisbon	Wood/Refuse	12.96	13.04	1/1/1996
Preston RRF	SCRRF	Preston	Wood/Refuse	16.01	16.51	1/1/1992
Pinchbeck	William Pinchbeck, Inc.	Guilford	Wood/Refuse	0.00	0.00	7/1/1987

Appendix A
Existing Generation
(listed by fuel type)

Facility	Owner	Town	Fuel	Summer Rating	Winter Rating	In-Service Date
	Seasonal Claimed Capability of coal fired plants			564.43	567.13	
	Seasonal Claimed Capability of natural gas fired plants			1404.52	1637.31	
	Seasonal Claimed Capability of oil fired plants			2702.47	2875.50	
	Seasonal Claimed Capability of hydroelectric plants			137.78	154.97	
	Seasonal Claimed Capability of methane fired plants			1.89	1.89	
	Seasonal Claimed Capability of nuclear plants			2102.51	2108.42	
	Seasonal Claimed Capability of refuse-fueled plants (inc. wood and tires)			186.14	193.14	
	Total Seasonal Claimed Capability available for dispatch to the grid.			7099.74	7538.36	
	(Lake Road is excluded from the total.)					
Facility (self generation)	**Owner**	**Town**	**Fuel**	**Summer Rating**	**Winter Rating**	**In-Service Date**
Loctite	Loctite	Rocky Hill	Gas	1.18	1.18	4/1/1994
Norwalk Hospital	Norwalk Hospital	Norwalk	Gas	2.36	2.36	1/1/1992
Pratt & Whitney	UTC	E. Hartford	Gas	23.80	23.80	4/1/1992
Connecticut Valley Hospital	State of Connecticut	Middletown	Oil	2.05	2.05	5/9/1999
Fairfield Hills Hospital	Fairfield Hills Hospital	Newtown	Oil	3.95	3.95	5/9/1999
Federal Paper Board	Federal Paper Board	Sprague	Oil	9.00	9.00	5/9/1999
Norwich State Hospital	Norwich State Hospital	Norwich	Oil	2.00	2.00	5/9/1999
Pfizer #1	Pfizer	Groton	Oil	32.50	32.50	1/1/1948
Pratt & Whitney	UTC	Middletown	Oil	1.00	1.00	5/9/1999
Southbury Training School	State of Connecticut	Southbury	Oil	1.50	1.50	5/9/1999
Groton Sub Base	U.S. Navy	Groton	Oil/Gas	18.50	18.50	1/1/1966
Smurfit-Stone Container Co.	Smurfit-Stone Container Co.	Montville	Refuse	2.00	2.00	9/1/1989
University of Conn. COGEN	State of Connecticut	Mansfield	Gas/Oil	24.90	24.90	8/1/2005
	Total Natural Gas Fired Generation less than 1 MW each			4.42	4.42	
	Total Propane Fired Generation less than 1 MW each			0.03	0.03	
	Total Hydroelectric Generation less than 1 MW each			3.33	3.33	
	Total Methane Fueled Generation less than 1 MW each			0.13	0.13	
	Total Solar (photovoltaic) Generation less than 1 MW each			0.15	0.15	
	Total Wind Powered Generation less than 1 MW each			0.04	0.04	
	Total Oil Powered Generation less than 1 MW each			0.01	0.01	
	Generation retained by facility			132.85	132.85	
	Total MWs of generation in Connecticut.			7232.59	7671.21	

Appendix B
Planned Transmission Lines in Connecticut

Planned Transmission Lines in Connecticut	Utility	Length (miles)	Voltage (kV)	Estimated In Service Date
Rebuild 318 and 324 Lines from PoquonnockRiver Substaton in Groton to Groton Long Point Substation	CMEEC			2009
Rebuild underground 308 Line from Poquonnock Substation in Groton to Eastern Point Road Substation in Groton	CMEEC			2009
Manchester S/S, Manchester - Millstone S/S, Waterford	CL&P	Portion of line	345	2010
Manchester S/S, Manchester - Card S/S, Lebanon	CL&P	Portion of line	345	2010
Manchester S/S, Manchester - Hopewell S/S, Glastonbury	CL&P	Portion of line	115	2010
Manchester S/S, Manchester - Meekville Jct., Manchester	CL&P	Portion of line	345	2011
Manchester S/S, Manchester - Meekville Jct., Manchester	CL&P	Portion of line	115	2011
Card S/S, Lebanon - Lake Road S/S, Killingly (2)	CL&P	29.3	345	2013
Lake Road S/S, Killingly - CT/RI Border, Thompson (2)	CL&P	7.6	345	2013
Manchester S/S, Manchester - Scovill Rock S/S, Middletown	CL&P	0.9	345	2012
North Bloomfield S/S, Bloomfield - CT/MA Border, East Granby (1)	CL&P	11.5	345	2013
North Bloomfield S/S, Bloomfield - CT/MA Border, East Granby (remove) (1)	CL&P		115	2013
North Bloomfield S/S, Bloomfield - CT/MA Border, East Granby (remove) (1)	CL&P		115	2013
North Bloomfield S/S, Bloomfield - CT/MA Border, East Granby modify (1)	CL&P		115	2013
Manchester S/S, Manchester - East Hartford S/S, East Hartford	CL&P	3.2	115	TBD
Frost Bridge S/S, Watertown - North Bloomfield, Bloomfield (3)	CL&P	35.4	345	2013
Naugatuck Valley 115 dV Reliability Improvement Project (Shelton and Derby)	UI		115	2013
Pequonnock 115 kV Fault Duty Mitigation Project (Bridgeport)	UI		115	2013
(1) Related to Greater Springfield Reliability NEEWS Project				
(2) Related to Insterstate Reliability NEEWS project				
(3) Related to Central Connecticut Reliability NEEWS project				

Appendix C
Planned Substations

Appendix C: Planned Substation Projects	Est. In-Service Date	Company
Modify the existing 115 kV Cos Cob Substation in Greenwich	2009	CL&P
Modify the existing 115 kV Flax Hill Substation in Norwalk	2009	CL&P
Install the new 115 kV Waterford Substation in Waterford	2009	CL&P
Modify the existing 115 kV Mystic Substation in Stonington	2009	CL&P
Install the new 115 kV Stepstone Substation in Guilford	2009	CL&P
Modify the existing 115 kV North Bloomfield Substation in Bloomfield	2009	CL&P
Install the new 115 kV Rood Avenue Substation in Windsor	2009	CL&P
Modify the existing 115 kV North Wallingford Substation	2009	CMEEC
Modify the existing Stockhouse Road Substation in Bozrah	2009	CMEEC
Modify the existing Buddington Substation in Groton		CMEEC
Modify the existing 115 kV Waterside Substation in Stamford	2010	CL&P
Install the new 345 kV Kleen Substation in Middletown	2010	CL&P
Expand the existing Broadway 115/13.8 Substation in New Haven	2010	UI
Modify the existing Union Avenue-Metro North 115/26/4 kV Substation in New Haven	2010	UI
Install the new 115 kV Sherwood Substation in Westport	2011	CL&P
Modify the existing Grand Avenue 115 kV Switching Station in New Haven	2012	UI
Modify the existing 345 kV Frost Bridge Substation in Watertown (2)	2013	CL&P
Modify the existing 345 kV Montville Substation in Montville (1)	2013	CL&P
Modify the existing 345 kV Card Substation in Lebanon (1)	2013	CL&P
Modify the existing 345 kV Lake Road Substation in Killingly (1)	2013	CL&P
Modify the existing 345 kV North Bloomfield Substation in Bloomfield (1) & (2)	2013	CL&P
Install a new 115/13.8 kV Substation in Shelton	2013	UI
Modify the existing 115 kV Pequonnock Substation in Bridgeport	2013	UI
Rebuild existing 115/13.8 kV Baird Substation in Stratford	2013	UI
Rebuild existing 115/13.8 kV Sackett Substation in North Haven	2014	UI
(1) Related to Insterstate Reliability NEEWS project		
(2) Related to Central Connecticut Reliability NEEWS project		