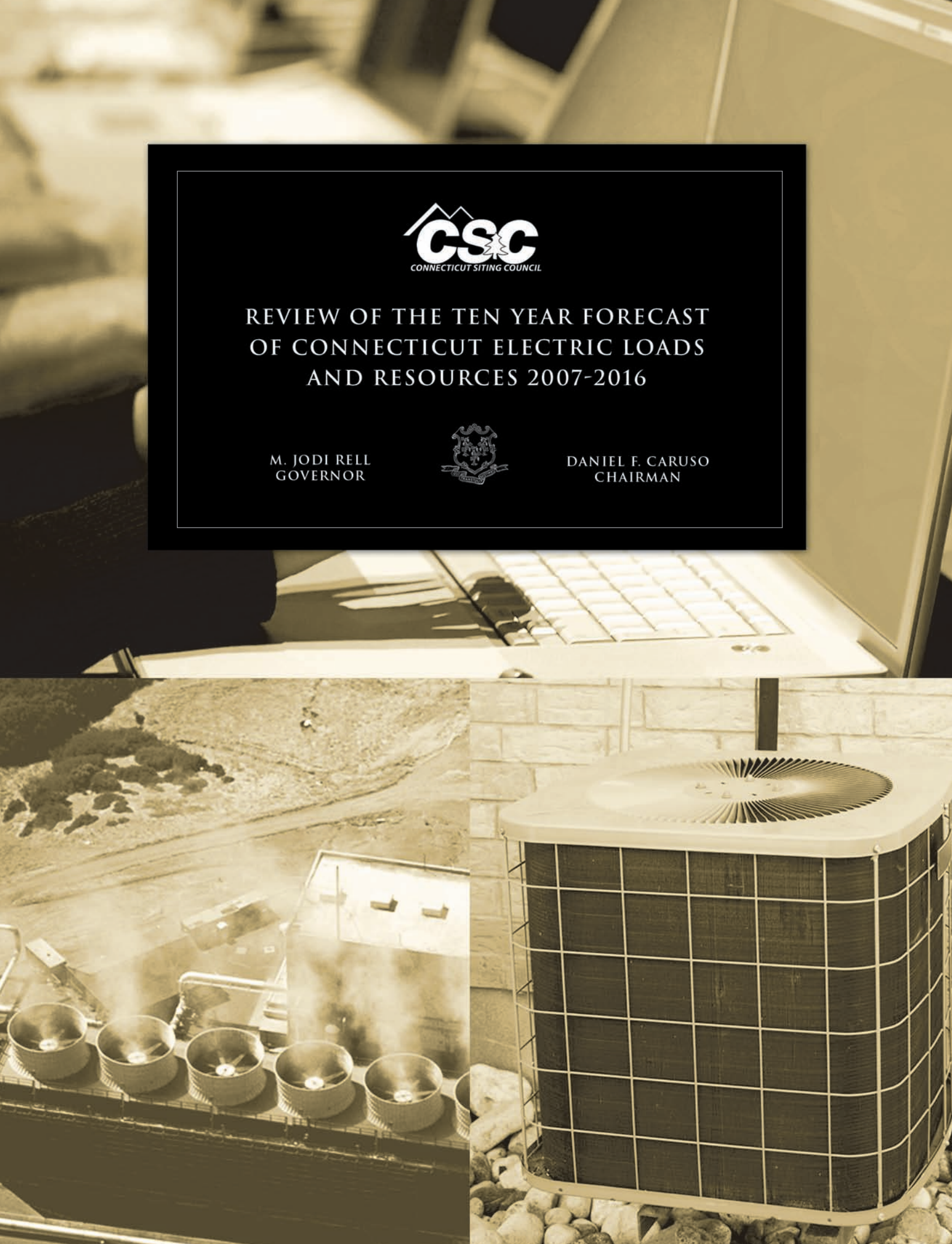

CONNECTICUT SITING COUNCIL

REVIEW OF THE TEN YEAR FORECAST OF CONNECTICUT ELECTRIC LOADS AND RESOURCES 2007-2016

M. JODI RELL
GOVERNOR

DANIEL F. CARUSO
CHAIRMAN

The Connecticut Siting Council (Council), formerly known as the Power Facility Evaluation Council, was established in 1971 to balance the need for adequate and reliable public services at the lowest reasonable cost to consumers while protecting the environment and the ecology of Connecticut. The Council is part of the executive branch of the State of Connecticut and derives its operating revenues from application fees and assessments charged to the applicants. The Council meets most often to review energy and telecommunications matters, typically every two to four weeks.

Pursuant to CGS § 16-50i, electric facilities subject to Council review include electric transmission lines of a design capacity of sixty-nine kilovolts or more, including associated equipment but not including a transmission line tap, as defined in subsection (e) of this section; any electric generating or storage facility using any fuel, including nuclear materials, including associated equipment for furnishing electricity but not including an emergency generating device, as defined in subsection (f) of this section or a facility (i) owned and operated by a private power producer, as defined in section 16-243b, (ii) which is a qualifying small power production facility or a qualifying cogeneration facility under the Public Utility Regulatory Policies Act of 1978, as amended, or a facility determined by the council to be primarily for a producer's own use, and (iii) which has, in the case of a facility utilizing renewable energy sources, a generating capacity of one megawatt of electricity or less and, in the case of a facility utilizing cogeneration technology, a generating capacity of twenty-five megawatts of electricity or less; and any electric substation or switchyard designed to change or regulate the voltage of electricity at sixty-nine kilovolts or more or to connect two or more electric circuits at such voltage, which substation or switchyard may have a substantial adverse environmental effect, as determined by the council established under section 16-50j, and other facilities which may have a substantial adverse environmental effect as the council may, by regulation, prescribe.

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Introduction

Pursuant to Connecticut General Statutes (CGS) § 16-50r[1], the Connecticut Siting Council (Council) annually reviews the forecasts of electric loads and resources in the State of Connecticut.

By March 1 each year, all Connecticut electric transmission/distribution companies and electric generators with an output of greater than one megawatt[2] (MW) are required to provide a report to the Council, either estimated or actual, on energy use and peak loads for the five preceding years, and peak loads, resources, and margins for the ten upcoming years. Any current plans to build new generating plants or transmission/distribution lines, place new ones into service, upgrade existing ones (including plans to bury lines, as mandated by law), must also be stated.

In addition, the Council examines the load forecast from the Independent System Operator for New England[3] (ISO-NE) and has reviewed several other ISO-NE reports that address resource requirements in Connecticut. ISO-NE has released a report prepared by an independent entity, Benchmark Forecasts, Inc., that examined the methods by which ISO-NE's load forecasts have been prepared. ISO-NE is in the process of implementing recommended changes to its forecast methodology, some of which may have a bearing on the forecast loads under review in this proceeding. Ultimately, it is ISO-NE's forecast that governs the planning of utility projects in New England.

By statute, the Council must hold a public hearing on its forecast, including one session for public comment after 6:30 p.m. Accordingly, the Council held a public hearing on this matter on June 12, 2007 beginning at 10:00 a.m. and including a public comment session at 7:00 p.m. After gathering this information, the Council issues this final report.

November 14, 2007

Fellow Citizens of Connecticut:

It is with great pleasure that the Connecticut Siting Council provides you with our 2007 Review of the Ten-Year Forecast of Electric Loads and Resources. This report compiles and analyzes load growth forecasts of the state's electric utilities and plans to meet the demand for energy through the year 2016 in the hope that by better matching supply to demand we may ensure reliable and diverse sources for our ever growing economy at the lowest cost to consumers.

This analysis, undertaken pursuant to Connecticut General Statutes § 16-50r (a), requires

- a tabulation of estimated peak loads, resources and margins for each year;
- data on energy use and peak loads for the five preceding calendar years;
- a list of existing generating facilities in service;
- a list of scheduled generating facilities for which property has been acquired, for which certificates have been issued and for which certificate applications have been filed;
- a list of planned generating units at plant locations for which property has been acquired, or at plant locations not yet acquired, that will be needed to provide estimated additional electrical requirements, and the location of such facilities;
- a list of planned transmission lines on which proposed route reviews are being undertaken or for which certificate applications have already been filed;
- a description of the steps taken to upgrade existing facilities and to eliminate overhead transmission and distribution lines in accordance with the regulations of standards described in section 16-50t; and
- for each private power producer having a facility generating more than one megawatt and from whom the person furnishing the report has purchased electricity during the preceding calendar year, a statement including the name, location, size and type of generating facility, the fuel consumed by the facility and the by-product of the consumption.

These subjects have been fully examined by the Council with full opportunity for public participation. The results of this process have been summarized in this report, which we hope you will find to useful and informative.

I invite you to review this public report and comment on the analyses contained herein. With your help, I am confident that Connecticut can accurately determine its energy future while safeguarding the environment and ensuring the health and well-being of its citizens.

Please feel free to contact the Council's staff or me if you seek additional information. Thank you.

Very truly yours,

Daniel F. Caruso
Chairman

Forecasting is a tool used to shed light on the level of generation, transmission, and conservation and load management resources that will be necessary in order to meet consumer demands for power. An integrated forecast of loads and resources helps to identify when electric demand is projected to exceed supply in the ability to deliver resources to load areas. The demand for electricity can be affected by weather, economic conditions, customers' usage patterns, and improvements in efficiency, including conservation. The supply of electricity can be affected by private entities' interest in constructing new generation, the operating condition of older generating plants, scheduled or unscheduled shutdowns of generating plants, and limitations in the transmission system, including the ability to import electricity into the state and its sub-areas.

There are inherent risks in both under and over-forecasting electric demand. Under-forecasting demand for electricity could result in insufficient generation, transmission, and distribution facilities, which could result in blackouts, brownouts, and other service problems. Alternatively, over-forecasting could result in excessive generation, over-designed transmission, and the like, which could lead to unnecessary expeditures. However, the risk of under-forecasting electric demand generally results in a greater penalty since an overloaded electric system can result in outages that can affect businesses, homes, and can hurt our local economy. Thus, even with its uncertainty and risk, forecasting is still a necessary and indispensable tool for guiding the development of the electric power system.

Historically, Connecticut's increasing electricity consumption over the long term is largely attributable to the number of new and larger homes, an active economy, the growing use of electric appliances and/or office machines, computers, and especially air conditioning.

Air conditioning is often one of the largest electrical loads in homes and businesses. As a result of this, the state's highest electrical load for the year typically occurs on a summer day. For this reason, this report will focus on the summer peak loads, as it usually represents the worst-case scenario for the electric system. This is because winter peaks are generally significantly less than summer peaks and delivery systems have greater capacity in the winter.

Connecticut has three entities that deliver electricity (transmission/distribution companies) to customers and prepare forecasts for their service areas: The Connecticut Light and Power Company (CL&P), The United Illuminating Company (UI), and the Connecticut Municipal Electric Energy Cooperative (CMEEC).

In the 2007 CL&P Forecast Report, CL&P notes an interesting phenomenon. Although customers are conserving electricity during most of the year in reaction to higher energy prices, they appear to be less concerned about high prices during the summer heat waves when they increase their use of air conditioning, resulting in higher growth in peak demand. This results in less annual electric energy consumption, but summer peak loads that continue to grow. CMEEC's experience has been similar.

CL&P notes an interesting phenomenon. Although customers are conserving electricity during most of the year in reaction to higher energy prices, they appear to be less concerned about high prices during the summer heat waves when they increase their use of air conditioning, resulting in higher growth in peak demand.

UI has a different experience regarding electric consumption. While UI's fully bundled prices were relatively flat in 2003 through 2005 and into 2006, actual sales in calendar year 2006 went down as compared to sales in 2005. Then, through the first quarter of 2007, following UI's January 2007 price increase, sales remained relatively stable compared to first quarter 2006 sales.

Figure 1b depicts the actual and projected peak electric loads for Connecticut from year 2002 through 2016[4]. In 2006, the peak electric load for the state was approximately 7,367 MW, which is a 5.1 percent increase from the previous high in 2005 of 7,012 MW, and a 16 percent increase from the year 2004 peak load of 6,357 MW.

Connecticut's electric utilities estimate that the total peak load, under normal weather conditions, will be 7,035 MW in 2007. Looking ahead, this number is expected to grow to 8,059 MW in 2016. This results in an average annual compound growth rate of 1.5 percent for the state. This data takes into account the resulting decrease in load from conservation and load management programs by the utilities and is depicted on Figure 1b as "CT Utilities Peak w/conservation." Figure 1b also shows the projected peak loads if conservation measures were not included.

The majority of Connecticut's peak load is attributed to CL&P customers, since CL&P has the largest service area of the three utilities and approximately 75 percent of the state's peak load. The CL&P peak load data provided in Figure 1b are based on a 50/50 scenario, which means that the peak load has a 50 percent chance of being exceeded in a given year. The Connecticut utilities' projections (except for the extreme weather scenario) are weather-normalized. This means that the data are based on average historical weather conditions over a 30-year time period. For example, CL&P's forecast model assumes a mean daily temperature[5] of 83 degrees Fahrenheit (F) for a summer peak day, based on average peak temperatures from 1972-2001. For the extreme weather scenario (i.e. one that has a two percent chance of being exceeded), CL&P's projected loads are based on a mean daily temperature of 88 degrees F on a peak day. Both projections assume the same economic and other non-weather factors.

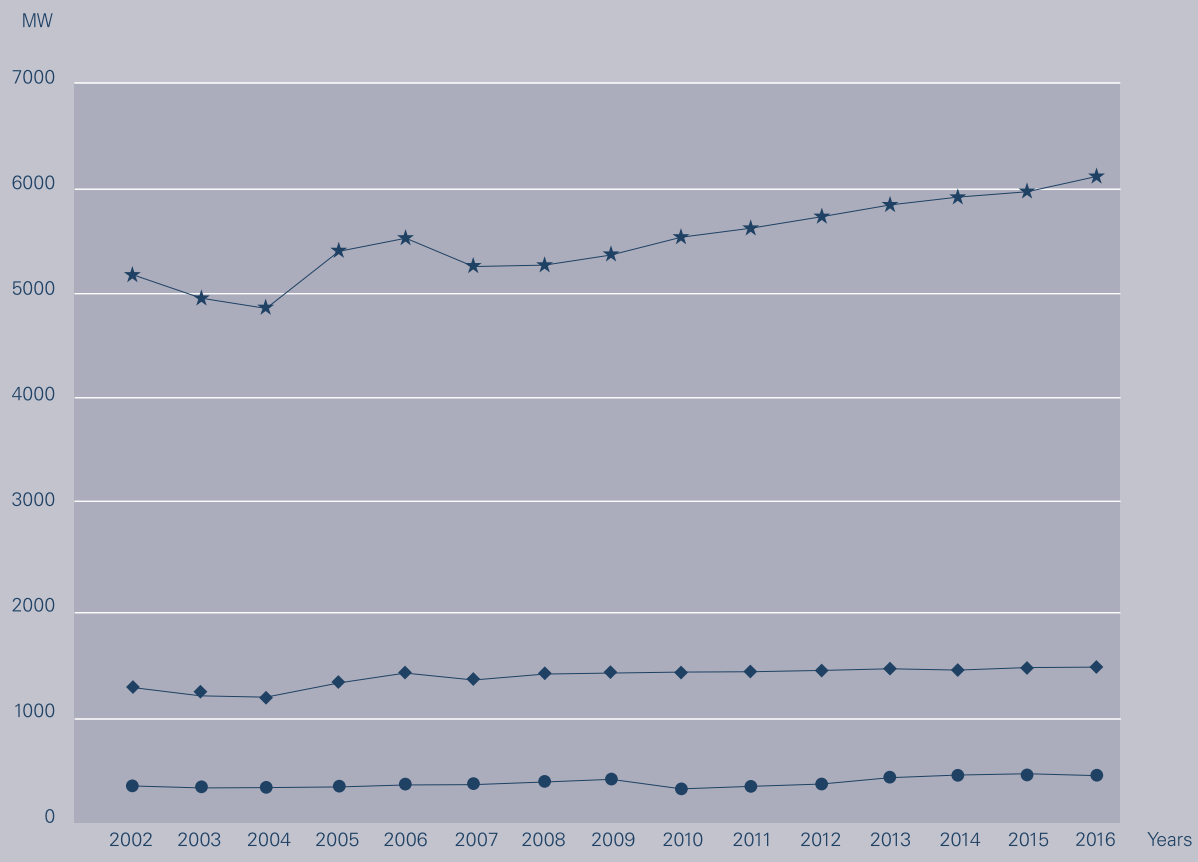
In addition to compiling the Connecticut utilities' electric load forecasts, the Council also reviews and considers the forecast produced by ISO-NE. ISO-NE prepares its own forecasts for Connecticut, the other New England States, and the region as a whole. It is important to note that the three state utility forecasts and the ISO-NE forecast serve different purposes. The utility forecasts are used primarily for internal financial planning purposes[6]. The ISO-NE forecast is used for utility infrastructure planning. The ISO-NE forecast is a stand-alone forecast and is not reconciled with the state utility forecasts.

Using its own 50/50 analysis, ISO-NE predicts that the total Connecticut peak load will grow from a projected 7,320 MW in 2007 to 8,475 MW in 2016. This results in an average annual compound growth rate of 1.6 percent for the state. As shown in Figure 1b, the ISO-NE 50/50 forecast load for Connecticut is higher than the utilities' projections for every year of the forecast period, by an average of 351 MW. Some of this discrepancy is due to different forecasters working with different forecast models and different input data sets. However, the majority of the discrepancy resides in the fact that the utilities' forecasts include savings from their demand-side programs (i.e. programs that can reduce customer load), while ISO-NE's forecast does not. In other words, ISO-NE treats demand-side programs as a supply resource like generation, whereas the Connecticut utilities treat demand-side programs as a reduction in load. The bottom line is that the ISO-NE forecast is higher than the utilities forecast by an amount roughly equal to the demand-side program.

In its 90/10 scenario (meaning the peak load has only a 10 percent chance of being exceeded), ISO-NE predicts that the summer peak load will grow from 7,810 MW in 2007 to 9,080 MW in 2016. Thus, the ISO-NE 90/10 forecast results in an average annual compound growth rate of 1.7 percent for the state.

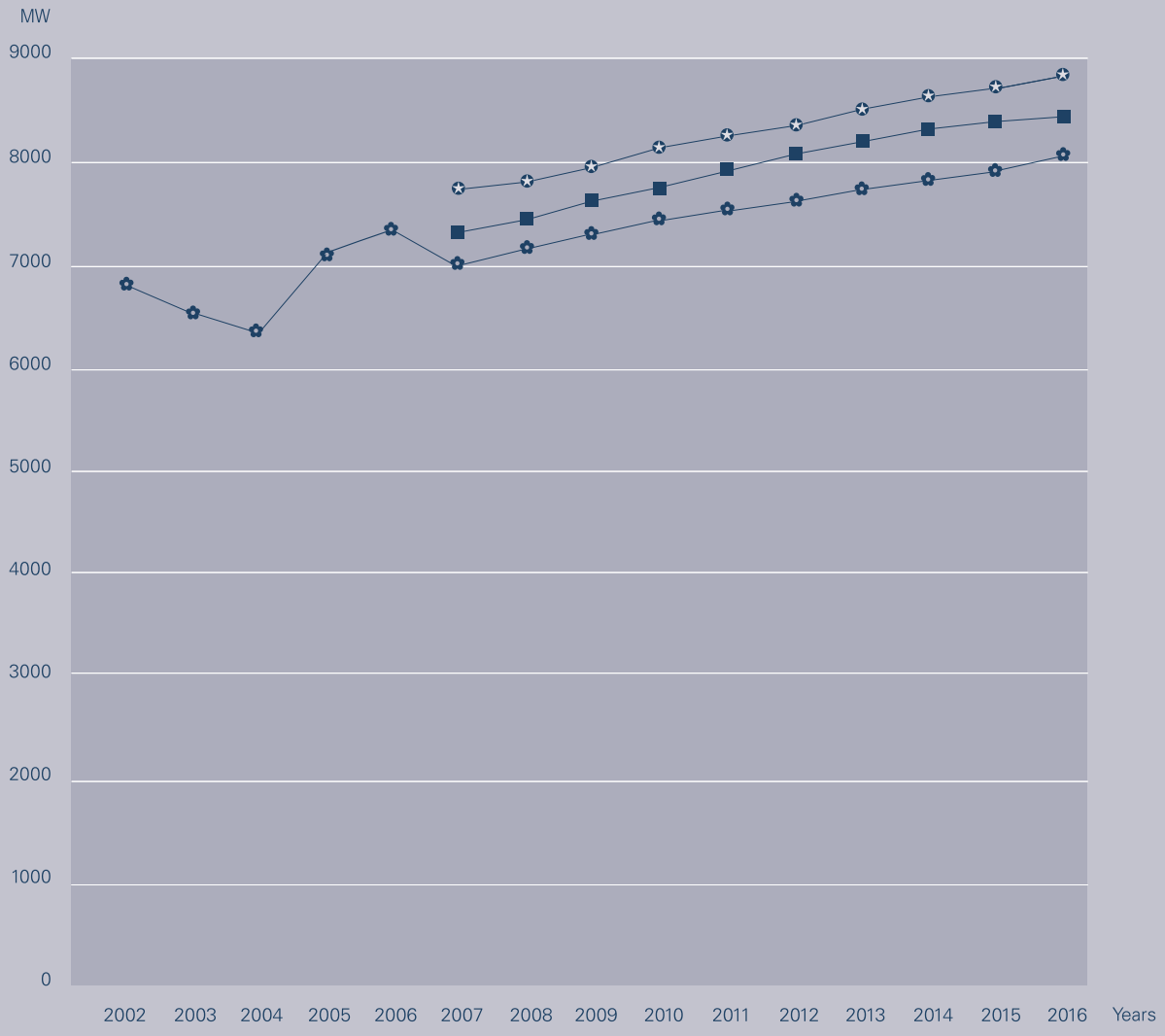
As depicted in Figure 1c, the ISO-NE 90/10 forecast is the top curve, obtained from ISO-NE's 2007 Forecast of Capacity, Energy, Loads and Transmission (CELT) Report. This forecast is used for transmission grid planning to ensure that the electric system is designed to handle unusually high peak loads. For example, in the summer of 2006, Connecticut set a peak load record of 7,367 MW: this greatly exceeded the utilities' 2006 normal weather forecast of 6,855 MW and ISO-NE's 50/50 forecast peak of 7,250 MW at that time. However, this peak did not exceed ISO-NE's 90/10 forecast peak of 7,730 MW. Accordingly, in Table 3 of this report (see page 13), the Council has included the ISO-NE 90/10 peak load forecast to provide the most conservative comparison of resources versus load[7].

Figure 1a. Utility Peal Loads in MW - Actual (historical) and Projected (weather-normalized)



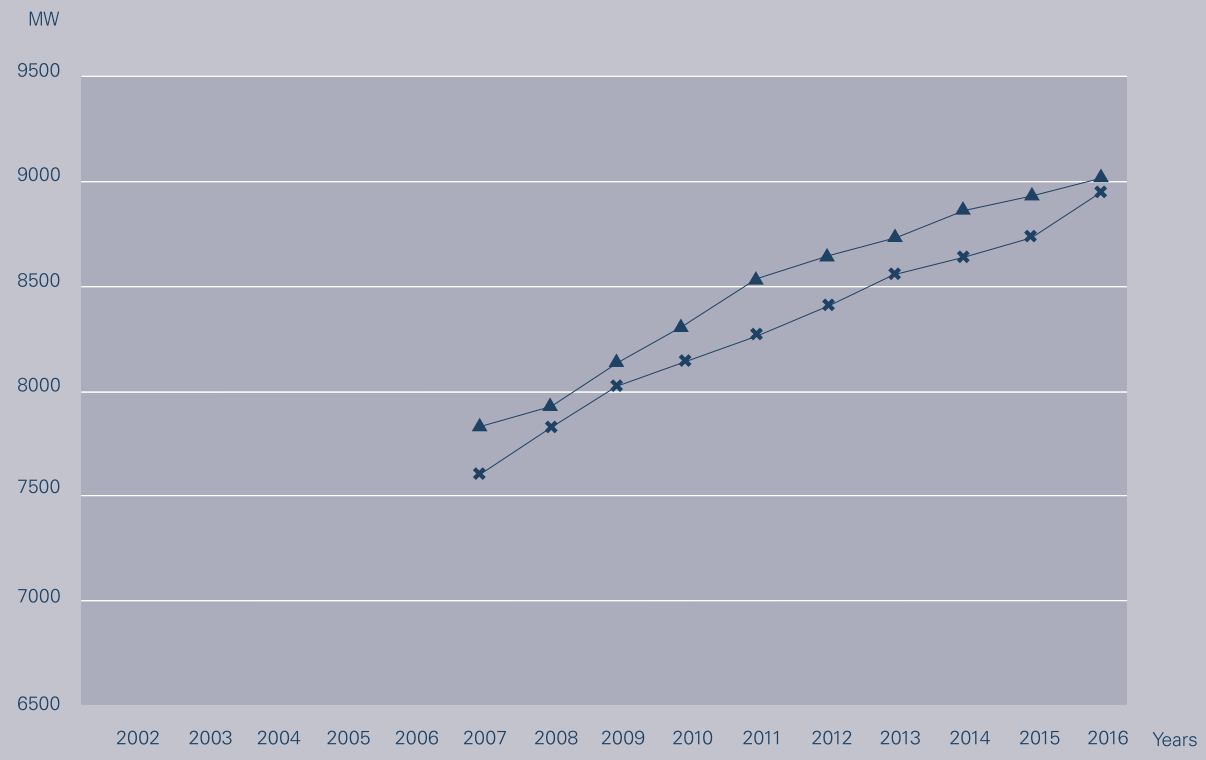
★ CL&P Peak	5183	4980	4818	5402	5512	5257	5359	5443	5541	5630	5728	5853	5916	5988	6111
◆ UI Peak	1300	1274	1201	1346	1456	1384	1421	1443	1463	1475	1480	1485	1490	1495	1501
● CMEEC Peak	368	350	345	372	398	394	401	414	421	426	429	432	441	444	447

Figure 1b: 50/50 Forecasts of Load in MW



✪ CT Utilities Peak w/o Conservation						7735	7854	7993	8149	8272	8387	8531	8633	8711	8856
■ ISO-NE 50/50 Forecast Peak						7320	7450	7625	7790	7955	8090	8200	8300	8390	8475
✿ CT Utilities Peak w/Conservation	6835	6571	6357	7012	7367	7035	7181	7300	7425	7531	7637	7770	7847	7927	8059

Figure 1c. Extreme Weather and 90/10 Forecast of Load in MW

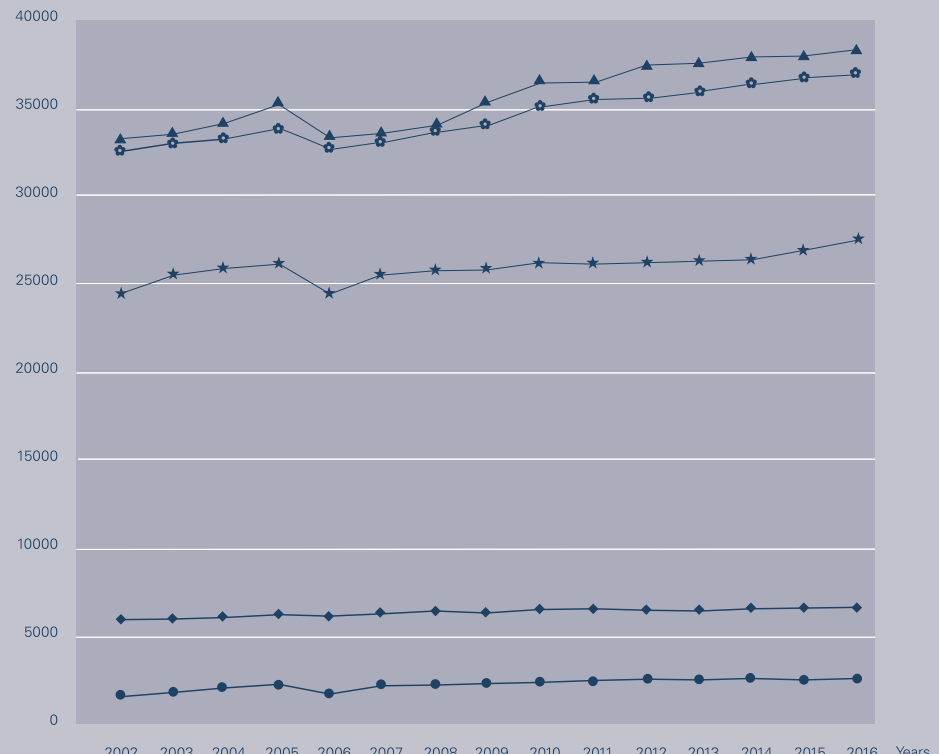


▲ ISO-NE 90/10 Forecast Peak	7810	7950	8145	8330	8510	8655	8780	8890	8985	9080
✖ CT Utilities Peak Extreme Weather	7663	7850	8002	8163	8293	8417	8570	8665	8764	8914

The state's electric transmission/distribution utilities: CL&P, UI, and CMEEC predict the total annual electric energy requirements for the state throughout the forecast period to grow from 33,711 GWh[8] in 2007 to 36,812 GWh during 2016. CL&P projects an average annual compound growth rate of 0.84 percent throughout the forecast period. CMEEC projects a 2.6 percent average annual compound growth rate, and UI projects a 1.0 percent average annual compound growth rate. This results in a statewide (weighted) average annual compound growth rate of 0.98 percent. ISO-NE predicts a statewide average annual compound growth rate of 1.3 percent. The forecasts of the state's electrical energy requirements are depicted in Figure 2.

The state's electric transmission/distribution utilities: CL&P, UI, and CMEEC predict the total annual electric energy requirements for the state throughout the forecast period to grow from 33,711 GWh[8] in 2007 to 36,812 GWh during 2016.

Figure 2. State and Utility Energy Requirements in GWh



	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016
▲ ISO-NE CT Utilities Energy	33192	33647	34171	35202	33653	33930	34430	35025	35585	36165	36625	37010	37370	37715	38060
✿ CT Energy	32850	33217	33706	34520	33005	33711	34125	34693	35022	35335	35725	35900	36221	36475	36812
★ CL&P Energy	24880	25190	25496	26119	24871	25320	25613	25847	26090	26322	26580	26694	26874	27049	27290
◆ UI Energy	6051	6071	6205	6360	6149	6344	6424	6471	6537	6601	6683	6732	6801	6869	6954
● CMEEC Peak	1919	1956	2005	2041	1985	2047	2088	2375	2395	2412	2462	2474	2546	2557	2568

In 1998, the Connecticut Legislature created the Energy Conservation and Management Board (ECMB) to guide CL&P and UI in the development and implementation of an annual plan, which is submitted to the Department of Public Utility Control (DPUC) for approval, for cost-effective energy conservation programs pursuant to CGS § 16-245m. This legislation also created the Connecticut Conservation and Load Management Fund, now named the Connecticut Energy Efficiency Fund (CEEF). The CEEF supports energy efficiency and increased productivity; it also helps to reduce the peak electric demand in the state, especially in southwest Connecticut.

Until recently, the CEEF has applied to investor-owned electric distribution companies only. However, with the passage of Public Act 05-01, CEEF has been recently expanded to include CMEEC, which represents the state's municipal electric utilities.

According to the ECMB's annual report to the legislature (March 1, 2007), in 2006, CL&P and UI customers contributed a total of approximately $71 million to the CEEF Fund via a per kWh surcharge on their electric bills. The energy savings resulting from CEEF programs in 2006 is projected to be 328 GWh, a 3 percent increase from the year 2005 actual savings of 318 GWh. Assuming an average electric price of 18.3 cents per kWh, the 2006 CEEF measures are expected to result in approximately $60 million in annual savings and $843 million in lifetime projected energy savings.

By reducing the demand for electric generation, CEEF programs indirectly reduce air pollution. The ECMB estimates that carbon dioxide emissions were reduced by 180,789 tons in 2006 due to CEEF measures. Carbon dioxide is considered a "greenhouse gas" associated with global warming and is emitted by all fossil fuel burning power plants. In addition, during 2006 the CEEF reduced emissions of pollutants such as sulfur oxides and nitrogen oxides by 333 tons and 89 tons, respectively. Table 1 depicts the actual annual and lifetime projected reduction in air pollution due to the CEEF.

Table 1: Air Pollution Reductions Due to Current CEEF Programs (in tons)

	2006 Annual Actual Savings	2006 Lifetime Actual Savings	2007 Annual Projected Savings	2007 Lifetime Projected Savings
Sulfur Oxides	333	4,673	232	2,733
Nitrogen Oxides	89	1,243	62	727
Carbon Dioxide	180,789	2,536,814	125,841	1,483,452

Source: ECMB Report dated March 1, 2007

CL&P's CEEF contributions are projected to reduce the peak summer demand by approximately 689 MW in 2007 and 656 MW in 2016 in CL&P's service area. To put this number in perspective, this is comparable to the combined power output (670 MW) of the Milford Power plant (489 MW) and the AES Thames power plant (181 MW). Similarly, UI's CEEF contributions are projected to reduce the peak summer demand by approximately 9 MW in 2007 and as much as 114 MW by 2016. CMEEC projects 1.5 MW of load reduction in 2007, and 3 MW by 2016. Assuming that the CEEF programs will continue through the 10-year forecast period, this results in a statewide total projected peak load reduction of approximately 700 MW in 2007 and 773 MW in 2016. This is roughly equivalent to the power output of the Lake Road power plant (720 MW).

Figure 1b depicts the Connecticut utilities' peak load with these conservation measures considered[9] and also depicts what the projected peak loads would be without CEEF measures. Absent CEEF, even under normal weather conditions, Connecticut's peak load would be significantly higher, roughly matching the utilities' extreme weather load projections.

The Council believes that energy efficiency and programs like 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 the additional pollution caused by new generating facilities. Reductions in peak load due to increased efficiency can also increase the life of existing utility infrastructure, such as transmission lines and substation equipment (transformers, distribution feeders, etc.) to the extent that it would take longer for the equipment to reach its maximum capacity. Energy efficiency also reduces federally mandated congestion costs and the costs of new generation. However, the Council cautions that energy efficiency measures alone cannot meet all of state's growing electric demand. The supply side of the equation will be examined next.

RESOURCE FORECAST

Supply Resources

The Council anticipates that the state's supply resources will be adequate to meet demand in the near term under normal weather conditions (using either the utilities' normal weather forecast or ISO-NE's 50/50 forecast) assuming no loss of existing generation due to retirement. However, taking into account the most conservative forecast (ISO-NE's 90/10 estimate), Connecticut faces a significant generation capacity shortage beyond 2008. (See Table 3, page 13.)

Milford Power generating plant was activated in 2004. It is fueled with natural gas, and has a summer power output[10] of approximately 489 MW. In 2001, a natural gas-fired generating plant in Wallingford was activated which has a summer power output of approximately 212 MW. In 2002, the Lake Road Power Station in Killingly was activated. The Lake Road facility is natural gas-fired, and it has a summer power output of approximately 720 MW. (Lake Road is not counted towards Connecticut's generation capacity due to its location on the transmission system. See later section titled "Electric Transmission in Northeast Connecticut.") Three additional generation facilities: NRG in Meriden (544 MW); Towantic Energy in Oxford (512 MW); and Kleen Energy in Middletown (620 MW) have been approved, but have not yet materialized due to financial constraints. Their in-service dates are not certain and thus have been estimated on Table 3 (page 13), assuming a three-year lead time.

In addition, some subregions such as southwest Connecticut have supply deficiencies and operating problems due to insufficient transmission and inadequate resources within the region. To address the transmission deficiencies in southwest Connecticut, two large transmission projects, Docket No. 217 Bethel – Norwalk 345-kV line and Docket 272 Middletown – Norwalk 345-kV line have been approved by the Council. The Bethel – Norwalk line was activated in 2006 and the Middletown – Norwalk line is expected to be in service by 2009. These two projects will create a 345-kV loop that will fully integrate southwest Connecticut with the rest of the state and relieve the transmission constraints in this area.

NRG Plan for Connecticut

On June 21, 2006, NRG unveiled a comprehensive plan for its generating fleet in the State of Connecticut called "Powering Connecticut with NRG." (See Table 2.) Specifically, NRG proposes to increase capacity at the Cos Cob generating plant with 40 MW of dual-fuel, quick-start generation. This project was reviewed by the Council as Petition No. 812.

NRG is also considering the possibility of retiring 492 MW of its 497 MW of existing generation at the Montville facility and installing a 630 MW natural gas-fired generating facility. This facility would also have the capability to be upgraded to a clean coal facility. (See section on Coal Powered Generation).

Boiler renovations for the Norwalk Harbor Station are proposed by NRG. These renovations would not change the power output, but would decrease the oxides of nitrogen emissions. Later, the Devon units 7 and 8 would be retired and replaced with four new peaking units. At the Middletown site, NRG proposes to replace two older oil-fired units with 300 MW of new peaking units. The projected power outputs and changes to existing power outputs are outlined below. The Cos Cob proposal has been approved by the Council. This project will add 40 MW of generation to Connecticut. See Section Titled "Connecticut Jet Power, LLC – Cos Cob, Greenwich." The remaining projects could add an additional 84 MW of generation to Connecticut.

Table 2: Powering Connecticut with NRG Proposal

Location	Existing MW	Retire MW	New MW	Total MW	Net +/-MW
Cos Cob	60	0	40	100	40
Montville	497	492	630	635	138
Norwalk	353	0	0	353	0
Devon	378	218	217	377	-1
Middletown	770	353	300	717	-53
Totals	2058	1063	1187	2182	124

Source: NRG Comments dated July 5, 2006

Project 100

In Public Act 03-135, the legislation requires that electric distribution companies enter into minimum 10-year contracts for not less than 100 MW of Class I renewable electric capacity. These long-term power purchase contracts must be filed by July 1, 2008 and be for projects that: receive funding from the Connecticut Clean Energy Fund; began operation after July 1, 2003; and are at least 1 MW in capacity. The Project 100 solicitation focuses on projects that: are beyond the pre-development stage; use commercially available technologies; have already achieved substantial progress in permitting and site control; and are ready for deployment. Project 100 is included in Table 3, as the 100 MW of capacity must be realized to meet a statutory requirement.

Wallingford Pierce Plant Re-Powering

The Alfred L. Pierce Generation Station was the former site of approximately 22.5 MW of coal-fired electric generation. The plant was decommissioned in July 2000. On July 11, 2006, CMEEC submitted a petition (Petition No. 778) for a declaratory ruling that no Certificate of Environmental Compatibility and Public Need is required for the proposed re-powering of the plant.

In the Petition, CMEEC proposed a new single unit combustion turbine with an average electric output of approximately 84 MW, which would be connected to the existing Wallingford East Street Substation via underground 115-kV cable. The proposed unit would be fueled (primarily) by natural gas and would also have approximately a 24-hour oil fuel supply.

The Council approved this petition on September 28, 2006. This project is expected to provide additional generation to Southwest Connecticut and the state as a whole. CMEEC anticipates that the plant will be fully available by October 2007. Accordingly, this plant is listed in Table 3 beginning in 2008.

Waterside Power

On June 20, 2006, Waterside Power, LLC (Waterside) submitted a petition (Petition No. 772) to the Council for a declaratory ruling that no Certificate of Environmental Compatibility and Public Need is required for the proposed modifications to the existing temporary 69.2 MW oil-fired peaking project located at 17 Amelia Place in Stamford, CT. Waterside sought permission from the Council to participate in the ISO-New England's Locational Forward Reserve Market (LFRM) from October 1, 2006 through May 31, 2009 or in the alternative through May 31, 2007, and if such authorization is provided, to make modifications to the existing peaking plant that are necessary to facilitate such operations. On July 27, 2006, the Council approved the Petition. This facility is listed in ISO-NE's October 2007 Seasonal Claimed Capability report and is reflected in Appendix A and Table 3. Waterside was also selected as part of an RFP issued by the DPUC. See the section titled "An Act Concerning Energy Independence."

Plainfield Renewable Energy

On August 14, 2006, Plainfield Renewable Energy LLC submitted a petition (Petition No. 784) to the Council for a declaratory ruling that no Certificate of Environmental Compatibility and Public Need (Certificate) is required for the proposed construction, maintenance, and operation of a 37.5 MW wood biomass fueled electric generating facility in the Town of Plainfield. This project was approved on June 7, 2007. This power plant will be a Class I renewable resource, will provide additional generation to Connecticut, and will help meet part of the statutory requirement that a certain percentage of our power come from renewable resources. See the later section titled "Renewable Portfolio Standards."

Kimberly Clark Corporation – New Milford

On May 15, 2007, the Kimberly Clark Corporation (KCC) submitted a petition (Petition No. 813) to the Council for a declaratory ruling that no Certificate is required for the proposed construction, maintenance, and operation of a 34 MW natural gas-fired generating facility in New Milford. Approximately 17 MW output would be consumed by KCC, and the remaining 17 MW would be fed into the electric grid. This project was approved by the Council on June 12, 2007.

CMEEC – Wallingford

On June 5, 2007, CMEEC submitted a petition (Petition No. 817) to the Council for a declaratory ruling that no Certificate is required for the proposed installation of a 2 MW diesel generator in Wallingford. The full 2 MW output would be available for use by the electric grid. This project was approved by the Council on July 6, 2007.

Connecticut Jet Power, LLC – Cos Cob, Greenwich

On May 15, 2007, Connecticut Jet Power, LLC submitted a petition (Petition No. 812) to the Council for a declaratory ruling that no Certificate is required for the proposed construction, maintenance, and operation of two 20 MW oil-fired combustion turbines in Greenwich. There is currently approximately 60 MW of existing generating capacity at this site. With this project, an additional 40 MW would be available for use by the electric grid. This project was approved by the Council on July 26, 2007.

Table 3: Connecticut Resource Balance

(based on ISO-NE's 2007 90/10 CELT Forecast and Table 4.8 of ISO-NE's 2005 RSP)
(units are in megawatts)

Capacity Situation	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016
ISO-NE 90/10 Load	7810	7950	8145	8330	8510	8655	8780	8890	8985	9080
Reserves (largest unit - Millstone #3)	1200	1200	1200	1200	1200	1200	1200	1200	1200	1200
Total Capacity Req'd	9010	9150	9345	9530	9710	9855	9980	10090	10185	10280
Existing Capacity* (See Appendix A)	6825	6825	6825	6825	6825	6825	6825	6825	6825	6825
Assumed Unavailable Capacity	501	501	501	501	501	501	501	501	501	501
Total Net Capacity	6324	6324	6324	6324	6324	6324	6324	6324	6324	6324
Import Limit	2500	2500	2500	2500	2500	2500	2500	2500	2500	2500
Total Available Resources	8824	8824	8824	8824	8824	8824	8824	8824	8824	8824
Available Surplus/Deficiency	-186	-326	-521	-706	-886	-1031	-1156	-1266	-1361	-1456
SWCT RFP Awards	260	260	0	0	0	0	0	0	0	0
Project 100			100	100	100	100	100	100	100	100
Wallingford Pierce Plant		84	84	84	84	84	84	84	84	84
Plainfield Renewable Energy		38	38	38	38	38	38	38	38	38
Kimberly Clark Corporation		17	17	17	17	17	17	17	17	17
CMEEC Wallingford		2	2	2	2	2	2	2	2	2
CT Jet Power Cos Cob Greenwich		40	40	40	40	40	40	40	40	40
Available Surplus/Deficiency	74	115	-240	-425	-605	-750	-875	-985	-1080	-1175
NEEWS Project	0	0	0	0	0	1100	1100	1100	1100	1100
DPUC RFP Results:										
Kleen Energy Plant in Middletown				620	620	620	620	620	620	620
Peaking Peaking Facility Waterbury			96	96	96	96	96	96	96	96
Energy Efficiency Project by Ameresco		5	5	5	5	5	5	5	5	5
*Waterside Power in Stamford										
(Waterside Power is already included in existing capacity from Appendix A.)										
Available Surplus/Deficiency	74	120	-139	296	116	1071	946	836	741	646
Connecticut Siting Council Assumptions:										
Hypothetical Retirement of Oil Fired	N/A	-958	-1049	-1197	-1605	-1616	-2020	-2020	-2468	-2468
Generation 40 years old or older										
Approved Generation not completed										
Meriden				544	544	544	544	544	544	544
Middletown (Already included above.)										
Oxford				512	512	512	512	512	512	512
Total Available Surplus/Deficiency	74	-838	-1188	155	-433	511	-18	-128	-671	-766

Nuclear Powered Generation

Nuclear plants use nuclear fission (a reaction in which uranium atoms split apart) to produce heat, which in turn generates steam, and the steam pressure operates the turbines that spin the generators. Since no step in the process involves combustion (burning), nuclear plants essentially produce electricity with "zero-air emissions." Pollutants commonly emitted from fossil-fueled plants are avoided, such as sulfur dioxide, nitrogen oxides, mercury, and carbon monoxide. Nuclear plants also do not emit carbon dioxide, which is termed a "greenhouse gas." Another advantage to nuclear power is that it runs on domestic fuel, reducing dependence on foreign oil. However, issues remain with regard to security, the short and long-term storage of nuclear waste, and cost.

Connecticut currently has two operational nuclear electric generating units (Millstone Unit 2 and Unit 3) contributing a total of 2,021 MW of summer capacity, approximately 30 percent of the state's generating capacity. (The Millstone facility is the largest generating facility in Connecticut by power output.) Previously, nuclear power supplied approximately 45 percent of Connecticut's electricity. However, this capacity has been reduced by the retirement of the Connecticut Yankee plant in Haddam Neck (December 1996) and Millstone Unit 1 (July 1998).

Dominion Nuclear Connecticut Inc. (Dominion), Millstone's owner, submitted its license renewal applications to the United States Nuclear Regulatory Commission (NRC) on January 22, 2004. On November 28, 2005, the NRC announced that it had renewed the operating licenses of Unit 2 and Unit 3 for an additional 20 years. With this renewal, the operating license for Unit 2 is extended to July 31, 2035 and the operating license for Unit 3 is extended to November 25, 2045.

Dominion recently increased the power outputs of Units 2 and 3 via an upgrade to the low pressure turbine rotors, so that the nominal design electric rating for Unit 2 went from 870 MW to 883.5 MW, and Unit 3 went from 1153.6 MW to 1156.5 MW. Thus, the total power output for these units increased by 16.4 MW without any rise in fuel consumption.

Most recently, on July 16, 2007, Dominion filed an application with the U.S. Nuclear Regulatory Commission for a capacity up-rate of approximately 80 megawatts on Millstone Unit 3. The increase in output could be delivered as early as the end of 2008. This will provide more capacity to Connecticut and the region.

Coal Powered Generation

Connecticut currently has two coal-fired electric generating facilities contributing 553 MW, or approximately 8.1 percent of the state's current capacity. The AES Thames facility, located in Montville, currently burns domestic coal and generates approximately 181 MW. The AES Thames facility is technically a cogeneration facility because, besides generating electricity for the grid, it also provides process steam to the Jefferson Smurfit-Stone Container Corporation.

The other coal-fired generating facility in Connecticut is the Bridgeport Harbor #3 facility located in Bridgeport. This facility burns imported coal and has a power output of approximately 372 MW.

While both of these facilities are listed as coal/oil in Appendix A, the Council notes that these are not dual-fuel facilities and cannot operate on oil alone. Oil is used to help ignite the coal initially to start the plant and to stabilize the flame.

In general, using coal as fuel has the advantages of an abundant domestic supply (US reserves are projected to last more than 250 years), and an existing rail infrastructure to transport the coal. However, despite the advantages of domestic coal, generators sometimes find imported coal more economical to use. Cost savings are realized by using low sulfur imported coal versus indigenous coal requiring more emissions control efforts.

In conventional coal-fired plants, coal is pulverized into a dust and burned to heat steam for operating the turbines. However, burning coal to make electricity causes air pollution. Pollutants emitted include sulfur dioxide, carbon monoxide, and mercury. Coal-fired power plants have a relatively high carbon dioxide emissions level in relation to other generation fuel supplies. Carbon dioxide emissions are believed to contribute to global warming. In response to these concerns, Connecticut has committed to reduce carbon dioxide emissions through the Regional Greenhouse Gas Initiative.

One alternative to conventional coal-fired generation is "clean coal technology." This is a complex process in which gaseous fuel (such as carbon monoxide) is extracted from coal and then burned in a gas turbine engine. The result is higher efficiency and significantly lower air pollution than conventional coal-fired power plants.

In particular, NRG is considering a natural gas-fired generating facility at existing Montville site. This facility could be later upgraded to clean coal technology.

Petroleum Powered Generation

Connecticut currently has 27 oil-fired electric generating facilities contributing 2,567 MW, or 37.6 percent of the state's current capacity. This takes into account the reactivation of Devon 10 (14 MW) on June 29, 2006.

Both Devon 7 and 8 are considered deactivated reserve. On March 16, 2007, NRG submitted to ISO-NE proposed plans for the reactivation of Devon 7 and 8. By letter dated April 17, 2007, ISO-NE approved the proposed plan for the reactivation of the Devon 7 unit with the condition that the unit enters commercial service without material modification prior to October 5, 2007. The reactivation of Devon 8 was also approved with the condition that the unit enters commercial service without material modification by June 7, 2007. Neither unit was returned to service by their respective deadlines. However, NRG testified that it is interested in repowering both Devon 7 and 8 into fast start peaking units.

However, because the industry generally rates the service life of oil-fired units to be 40 years, some older oil-fired units may face retirement during the forecast period. This could further reduce the already tight generation capacity in Connecticut, unless the loss is replaced by a sufficient number of new generating units. Figures 3A and 3B depict the existing and projected generation fuel mix for Connecticut, assuming the effects of possible retirements.

The 2016 fuel mix includes, as an assumption, all three approved natural gas-fired units that currently have not been constructed and/or completed. (See page 21.) In addition, Table 3 (see page 13) includes the hypothetical loss of Connecticut's resource capacity due to the retirement of oil-fired units 40 years of age or older.

New oil-fired generation is not expected in the near future, due to market volatility and mounting oil prices. In particular, the price of crude oil has recently exceeded $90 per barrel. With approximately 60 percent of the nation's oil being imported, petroleum supply and prices are highly vulnerable to disruptions and instabilities in supplier countries. In addition, natural disasters such as hurricanes can disrupt oil production and refining and drive fuel prices higher.

Moreover, oil-fired generation presents environmental problems, particularly related to the sulfur content of the oil, and may face tighter air-emissions standards in the near-term, such as regulation of carbon dioxide emissions. Some of the oil-fired generating facilities in Connecticut are dual-fueled, meaning that they can switch to natural gas if necessary. Currently, four active plants in Connecticut (Middletown #2 and #3; Montville #5; and New Haven Harbor #1) totaling approximately 882 MW have the ability to change from oil to gas. The Council believes that dual-fuel capability is an important part of diversifying the fuel mix for electric generation and avoiding overdependence on one particular fuel.

Figure 3A. 2007 Fuel Mix

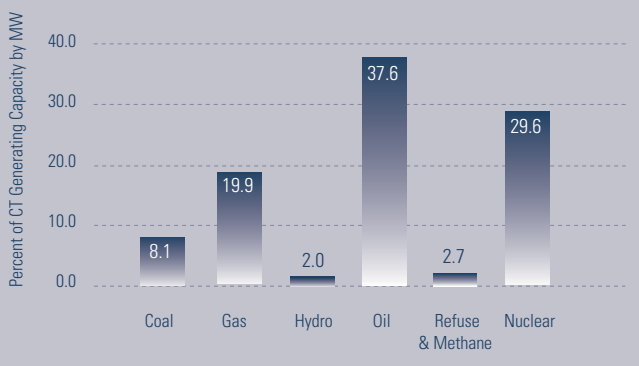
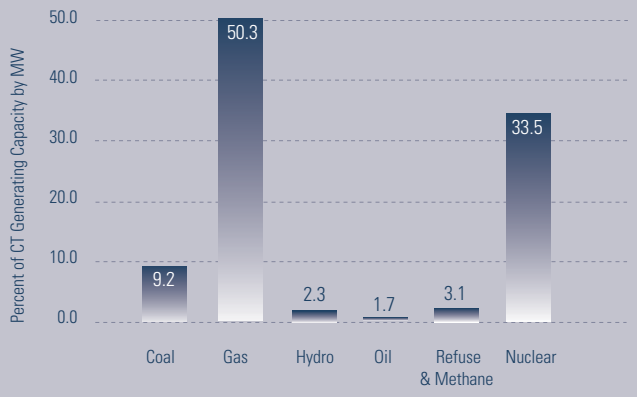


Figure 3B. 2016 Projected Fuel Mix



* Lake Road generating plant is not included this figure. See page 23 for an explanation.

Natural Gas Powered Generation

Connecticut currently has 14 natural gas-fired generating units (not including Lake Road) contributing a total of 1,358 MW, or 19.9 percent of the state's generating capacity. This includes recent additions such as the Milford Power facility, with a total summer seasonal claimed capability (SCC) rating of 489 MW.

Natural gas-fired electric generating facilities are preferred over those burning coal or oil primarily because of higher efficiency, lower initial cost per kW, and lower air pollution. Natural gas-fired generating facilities also have the advantage of being linked directly to their fuel source via a pipeline.

Some natural gas generating plants, such as Bridgeport Energy, Milford Power and Lake Road, are combined-cycle. Added to the primary cycle, in which gas turbines turn the generators to make electricity, is a second cycle, in which waste heat from the first process is used to generate steam: steam pressure then drives another turbine that generates even more electricity. Thus, a combined-cycle plant is highly efficient. However, the tradeoffs are higher initial costs and increased space requirements for the extra generating equipment.

In the event of severely cold weather, unusually high demand for natural gas to heat buildings and homes can coincide with high demand for natural gas to generate electricity. At such times, some generating plants may experience either a forced outage due to pipeline capacity limitations, or an "economic curtailment", a situation in which it is not economical to generate electricity, given the higher natural gas fuel costs at that time. During economic curtailments, some units have the ability to switch to oil. Connecticut currently has 8 natural gas-fired generating plants that can switch to oil, totaling approximately 701 MW.

In a recent regional planning document (the 2006 ISO-NE Regional System Plan, or 2006 RSP), ISO-NE has recognized the problems with natural gas generation during unusually cold weather, and has taken steps to address it. For example, ISO-NE encouraged gas-only generation to convert to dual-fuel oil capability prior to winter. Approximately 1,400 MW of existing capacity, those stations with existing air permits to burn oil, responded, installing the necessary hardware and performing the commissioning tests. Another aspect of the Winter 2005/2006 Action Plan was to enroll more demand response to be available for interruption, if needed, during the winter period. Approximately 330 MW of incremental demand response was enrolled for winter 2005/2006. Additional measures, as follows, were developed and implemented to support reliable winter operations:

- Reviewing all regional natural gas pipeline-capacity contracts for gas-fired generators.
- Assessing the availability of gas-fired resources on the basis of regional temperatures and the likelihood that the gas transportation for the resource would be interrupted because higher priority contract entitlements would be exercised.
- Revising communication and contact information within the ISO-NE's Natural Gas Emergency Information Package.
- Obtaining real-time information from the electronic bulletin board (EBBs) systems of the region's natural gas pipeline operating companies.
- Hosting a workshop to reinforce the coordination of winter operations and communications among ISO-NE and key regional stakeholders.
- Proactively coordinating winter operations with both the New York Independent System Operator (NYISO) and PJM to improve the reliability of the interconnected system overall.

Hydroelectric Power Generation

Connecticut's hydroelectric generation consists of 28 facilities contributing approximately 138 MW, or 2.0 percent of the state's current generating capacity. Hydroelectric generating facilities use a domestic, renewable energy source, emit zero air pollutants, and have a long operating life. Also, some hydro units have black start capability[11]. However, hydroelectric units may divert river flows from worthwhile public uses, such as recreation and irrigation, and can disrupt fish and wildlife. The main obstacle to the development of additional hydroelectric generation in Connecticut is a lack of suitable sites.

First Light Hydro Generating Company (FLHGC) f/k/a Northeast Generation Company, Connecticut's largest provider of hydroelectric power, owns the following hydroelectric facilities: Bantam, Bulls Bridge, Falls Village, Roberstville, Scotland, Stevenson, Taftville, Tunnel 1-2, Rocky River, and Tunnel 10. Table 4 shows the status of the Federal Energy Regulatory Commission (FERC) licenses for FLHGC's facilities.

Table 4

Hydroelectric Generating Facility	Status of FERC License
Bantam 1	Not subject to FERC jurisdiction
Bulls Bridge 1-6	40 year license issued on June 23, 2004
Falls Village 1-3	40 year license issued on June 23, 2004
Robertsville 1-2	Not subject to FERC jurisdiction
Scotland 1	License expires August 31, 2012. Re-licensing to begin in 2007.
Shepaug 1	40 year license issued on June 23, 2004
Stevenson 1-4	40 year license issued on June 23, 2004
Taftville 1-5	Not subject to FERC jurisdiction
Tunnel 1-2	Not subject to FERC jurisdiction
Rocky River	40 year license issued on June 23, 2004

Source: Docket F-2007 Record

Solid Waste Power Generation

Connecticut currently has approximately 184 MW of solid waste-fueled generation, approximately 2.7 percent of the state's generation capacity. The Exeter generating plant in Sterling burns used tires, and has a summer rating of approximately 24 MW. The remaining 160 MW of solid waste-fueled generation includes: Bridgeport Resco; Bristol Resource Recovery Facility (RRF); Lisbon RRF; Preston RRF; Wallingford RRF; and the Connecticut Resource Recovery Agency South Meadows 5 and 6 facilities. Solid waste has the advantage of being a renewable, locally supplied fuel and it contributes to Connecticut's fuel diversity. It is not affected by market price volatility, nor supply disruptions—significant advantages over fossil fuels. In addition, the combustion of solid waste reduces the amount of space needed for landfills.

Recently passed federal energy legislation includes certain incentives to support the development and expansion of waste-to-energy facilities. Specifically, Title XIII of the Energy Tax Incentives Act of 2005 extends desirable tax-credit provisions until December 31, 2007. Also, an ongoing state policy initiative being administered by the Connecticut Clean Energy Fund and the DPUC—"Project 100"—already has sparked interest among developers of innovative biomass facilities fueled at least in part by waste wood from construction.

Miscellaneous Small Generation

Approximately 133 MW of electricity is generated by 66 independent entities in Connecticut such as schools, businesses, homes, etc. This portion of generation is not credited to the state's capability to meet demand because ISO-NE does not control its dispatch. However, these privately-owned units do serve to reduce the net load on the grid, particularly during periods of peak demand. They range from 5 kW to 32.5 MW in size and are fueled primarily by natural gas, with several others using oil, solid waste, hydro, solar, wind, landfill gas (essentially methane), and propane. The newest significant addition to this category is the 24.9 MW cogeneration facility at the University of Connecticut. This unit was put into service in August 2005.

Under Public Act 05-01, An Act Concerning Energy Independence, financial and other incentive mechanisms were put in place to encourage the amount of installed distributed generation and combined heat and power in Connecticut. The Department of Public Utility Control has approved numerous grant applications for distributed generation projects. So while more small distributed generation is expected, it is not clear at this time how many of these projects will actually be constructed.

Fuel Cells

A fuel cell uses separate inputs of hydrogen and oxygen in an electrochemical process that produces electricity, with water as a waste product. Fuel cells can be designed to run on natural gas. (Natural gas is mostly methane, so hydrogen can be extracted.) They have the advantages of negligible air emissions, low noise, and reliable operation. Their waste heat can be used for other purposes to further increase overall efficiency. For example, they can pre-heat domestic hot water, provide hydronic (hot water) heating, or operate an absorption air conditioning system.

Fuel cells generate direct current (DC) electricity. However, inverters can be added that convert DC current to alternating current (AC), the main type of current that flows through the transmission and distribution system.

Pursuant to CGS §16-50k(a), the Council has the legislative charge to review fuel cell proposals. As such, the Council has reviewed and approved several fuel cell installations for various uses throughout Connecticut. For example, the Council recently approved Petition No. 810 which is a 200-kW fuel cell in Middletown.

Fuel cells are limited in size; hence, they cost more on a per kW basis. Nevertheless, fuel cells are well suited for backup generation, supplemental base-load generation for buildings, and distributed generation. The Council strongly encourages the use of fuel cell technology, particularly from in-state companies.

OTHER RESOURCES THAT SUPPORT CONNECTICUT'S DEMAND

Import Capability

As noted in Table 3 (page 13), Connecticut has the ability to import a total of approximately 2,500 MW of electricity from outside the state without compromising grid voltage and system operating stability. In ISO-NE's 2005 RSP, Connecticut's import capacity was reported to be 2,300 MW. However, studies performed for the 2006 RSP have raised import limit to 2,500 MW. As such, the updated import limit is reflected in Table 3. However, of all the New England states, Connecticut is the least able to import power to supplement its internal supply resources and to access lower-cost supplies located in other states. For example, New Hampshire, Vermont, and Rhode Island have enough import capacity to support 100 percent of their peak load. Massachusetts and Maine each can import slightly less than 50 percent of their peak load. Currently, Connecticut can only import approximately 30 percent of its peak load. Having sufficient import capability is especially important during periods of peak demand or when a large base-load generating facility, such as Millstone, is unavailable.

High levels of east-to-west power flows in Connecticut stress the existing transmission system. To adequately address Connecticut's growing electric demand over the next ten years, Connecticut must expand its transmission infrastructure to increase its import capability and the ability to move imported power within the state. The upgrades are being considered as part of the New England East-West Solution (NEEWS) project. This project is projected to increase import capacity to nearly 45 percent of the state's peak load. The NEEWS Project is discussed further in the transmission section.

New Hampshire, Vermont, and Rhode Island have enough import capacity to support 100% of their peak load. Massachusetts and Maine each can import slightly less than 50% of their peak load. Currently, Connecticut can only import approximately 30% of its peak load.

FORWARD CAPACITY MARKET

Pursuant to a settlement agreement filed with FERC on March 6, 2006, an ISO-NE press release noted it would introduce a new Forward Capacity Market (FCM) under which ISO-NE would project the needs of the power system three years in advance, then hold an annual auction to purchase power resources to satisfy those needs. New generating plants would be allowed to bid in on the same basis as existing ones, a rule that would favor alternative fuels, and, for the first time, demand response resources could bid in a form of capacity supply. Various supplemental rules would provide penalties for generators who fail to fulfill their auction commitments, and also ensure that both large and small generators are treated on par.

FERC accepted the settlement agreement and approved the FCM. ISO-NE anticipates that the first forward capacity market auction would be held as early as February 2008, with resources being paid roughly 2.5 years later, in 2010. Meanwhile, a system of transition payments for capacity is in place to smooth the way as steps towards the new market begin. It is too early to tell how well the FCM will do at bringing new, more diverse generation into Connecticut and fostering growth in demand response resources, but signs have been encouraging so far.

LEGISLATION AFFECTING ELECTRIC SUPPLY

An Act Concerning Energy Independence

On July 21, 2005, Public Act 05-1 (PA 05-1), "An Act Concerning Energy Independence", was approved. Its purpose is to boost electric supply through a combination of innovative means, with the incentive being relief from congestion charges, that is, charges imposed by FERC on Connecticut rate-payers in locations where demand is especially high and supply is especially low. PA 05-1 provisions that are most relevant to the Council's forecast review are discussed below.

PA 05-1 requires the DPUC to solicit proposals for reducing congestion costs during 2006-2010. Proposals can be submitted for customer-side distributed resources[12], grid-side distributed resources[13], new generation facilities, including expanded or repowered generation, and conservation or energy efficiency agreements. Successful proposals will receive contracts for no more than 15 years for the purchase of electric capacity rights. DPUC is instructed to prefer proposals that cause the greatest aggregate reduction in federally mandated congestion charges[14]; make efficient use of existing sites and supply infrastructure; and serve the long-term interests of ratepayers.

PA 05-1 also required the DPUC to issue an RFP soliciting new or additional generation or conservation to mitigate electric demand and rates in the state. In response to the RFP issued on September 15, 2006, 80 project bid registration packages from 45 different entities were received, representing more than 8,000 MW of capacity from a full spectrum of resources, including generation, demand-side reduction, conservation and energy efficiency technologies. On April 23, 2007, the DPUC announced that it had selected four winning bidders whose projects total 787 MW. The portfolio of projects consists of: a 620 MW gas-fired combined cycle baseload plant in Middletown offered by Kleen Energy; a 66 MW oil-fired peaking facility located in Stamford offered by Waterside Power; a 96 MW gas-fired peaking facility in Waterbury offered by Waterbury Power; and a 5 MW statewide energy efficiency project offered by Ameresco. These upcoming projects are reflected in Table 3.

To facilitate the siting of electric generation, PA 05-1 permits the Council to approve by declaratory ruling:

- the construction of a facility solely for the purpose of generating electricity, other than an electric generating facility that uses nuclear materials or coal as a fuel, at a site where an electric generating facility operated prior to July 1, 2004;

- the construction or location of any fuel cell—unless the Council finds a substantial environmental effect—or of any customer-side distributed resources project or facility or grid-side distributed resources project or facility with a capacity of not more than 65 megawatts, so long as such the project meets the air quality standards of the Department of Environmental Protection;

- the siting of temporary generation solicited by DPUC pursuant to section 16-19ss of this act.

PA 05-1 further requires the electric utilities to submit Time-of-Use (TOU) rate plans to the DPUC, by October 2005, that provide for a combination of mandatory and voluntary rates, including peak, shoulder, off-peak and seasonal rates, and additionally, optional interruptible/ load response rates for certain C&I customers.

PA 05-1 also creates a new municipal conservation and load management program in 2006, requiring municipal electric utilities to assess a 1.0 mill per kilowatt-hour sold, with the charge increasing to 2.5 mills by January 1, 2011. The money goes into a special non-lapsing fund held by CMEEC, which must develop an annual conservation plan for member utilities.

An Act Concerning Electricity and Energy Efficiency

On June 4, 2007, Public Act 07-242, An Act Concerning Electricity and Energy Efficiency (PA 07-242) became effective. PA 07-242 requires development of electric utility planning for procuring energy efficiency and other clean energy resources such as renewables. PA 07-242 also creates a first time home heating oil conservation program managed by a board of home heating oil dealers, and environmental and consumer interests reporting annually to the Energy Conservation Management Board. Energy efficiency standards for appliances are also created in the PA 07-242. PA 07-242 requires that the state auction 100 percent of allowances from the RGGI program and use most of the proceeds to fund cost-effective energy efficiency, demand response, and renewables, with a small percentage of the proceeds being used to support administration of the program and climate policy development.

Renewable Portfolio Standards

PA 07-242 also revised Public Act 03-135 regarding the Connecticut Renewable Portfolio Standards (RPS) and required retail electric suppliers to ensure that a certain minimum percentage of their electricity comes from renewable energy sources. Legislation has divided renewable fuels into two classes, depending roughly how much pollution they cause, and their sustainability. Under PA 07-242, these percentages have been revised with a target of 20 percent renewable energy sources by 2020. See Figure 4.

Figure 4 depicts the required percentages for Class I[15] and Class II[16] renewable energy sources through 2020.

Figure 4. Renewable Portfolio Standards

Effective Date	Minimum Class I Percentage	Addt'l Percentage of Class I or II
1/1/2006	2 percent	3 percent
1/1/2007	3.5 percent	3 percent
1/1/2008	5 percent	3 percent
1/1/2009	6 percent	3 percent
1/1/2010	7 percent	3 percent
1/1/2011	8 percent	3 percent
1/1/2012	9 percent	3 percent
1/1/2013	10 percent	3 percent
1/1/2014	11 percent	3 percent
1/1/2015	12.5 percent	3 percent
1/1/2016	14 percent	3 percent
1/1/2017	15.5 percent	3 percent
1/1/2018	17 percent	3 percent
1/1/2019	19.5 percent	3 percent
1/1/2020	20 percent	3 percent

Source: PA 07-242

Power Pool Generation Information System provided the certificates that are for Class I or Class II renewables generated within ISO-NE's territory (i.e. New England) or energy imported into ISO-NE's territory. For those renewable energy certificates under contract to serve end-use customers in the state on or before October 1, 2006, the electric supplier or distribution company may participate in a renewable trading program within said jurisdictions by the Department of Public Utility Control or purchase eligible renewable electricity and associated attributes from residential customers who are net producers.

PA 07-242 requires electric distribution companies and electric suppliers, on or after January 1, 2007, to demonstrate that no less than one percent of the total output of the suppliers or the standard service of an electric distribution company is obtained from Class III sources[17], a newly-defined group of resources focusing on combined heat and power systems[18] and C&LM. On January 1, 2008, this percentage increases to 2 percent. For January 1 of years 2009 and 2010, the percentages are 3 and 4 percent, respectively.

PA 07-242 also restructures the Connecticut Energy Advisory Board (Board) and requires that the Board work with the electric distribution companies to review and approve a resource assessment and procurement plan. The Board will also be required to conduct studies on how to integrate and coordinate the state's energy entities and achieve the state's greenhouse gas goals as well as evaluate the efficacy of the state's efficiency program delivery.

PA 07-242 is expected to benefit Connecticut by resulting in increased energy efficiency, reduced pollution, and additional electric generation powered by renewable energy sources. However, it is not clear at this time how many megawatts of this renewable-fueled electricity (under RPS) will be generated in Connecticut and how many will be imported in order to meet these requirements.

NEW GENERATION APPROVED UNDER RESTRUCTURING

New Natural Gas-fired Generation

Under Connecticut's restructured electric system, the Council has approved seven natural gas-fired electric generating facilities of 250 MW and above. These are listed below in Figure 5 with their respective nominal power outputs[19] and operating status:

As depicted in Figure 5, the total nominal capacity of these plants is 3,782 MW. However, currently, only 2,106 MW or 56 percent of the approved capacity is now operating. Most of the delays are project-specific, but all the projects are experiencing financial vulnerability due to uncertain market conditions.

Figure 5. Council Approved Generating Plants 250 MW and above

Company	Municipality	Operating Status	Deadline to Construct	Megawatts
Bridgeport Energy, LLC	Bridgeport	Operational	N/A	520
Milford Power Company, LLC	Milford	Operational	N/A	544
NRG Northeast Generating, LLC	Meriden	Not completed	12/31/2011	544
Lake Road Generating Company, L.P.	Killingly	Operational	N/A	792
Towantic Energy, LLC	Oxford	Not completed	1/24/2011	512
PPL Wallingford Energy, LLC	Wallingford	Operational	N/A	250
Kleen Energy Systems, LLC	Middletown	Not completed	11/21/2009	620
			Total Nominal Capacity	3782
			Total Capacity in Operation	2106
			Percent Capacity in Operation	55.7

SOURCE: CONNECTICUT SITING COUNCIL RECORDS

Transmission is the "backbone" of the electric system as it transports large amounts of electricity long distances efficiently by using high voltage[20]. High voltages are used to minimize power loss. Since the losses are proportional to the square of the current[21], and since, in general, the higher the voltage, the lesser current required, high voltages lead to more efficient power delivery.

In Connecticut, electric lines with a voltage of 69 kilovolts (kV) or more are considered transmission lines. Distribution lines are those below 69-kV. They are the lines that come down our streets to connect[22] with even lower-voltage lines feeding each residence or business.

The state's electric transmission system contains approximately: 413.1 circuit miles of 345-kV transmission; 1,300 circuit miles of 115-kV transmission; 5.8 miles of 138-kV transmission; and 99.5 circuit miles of 69-kV transmission. (These figures refer to AC transmission. The Cross Sound Cable is not counted because it is DC [see below].) Connecticut's electric transmission system is depicted in the infrastructure map. Appendix B shows planned new transmission, reconductoring, or upgrading of existing lines to meet load growth and/or system operability needs.

The majority of Connecticut's electric transmission, as noted above, is 115-kV. CL&P's remaining AC transmission is rated between 69-kV and 138-kV. The 138-kV transmission line connects Norwalk, Connecticut to Long Island via an underwater cable. In addition, CL&P has 13 ties (connections) with CMEEC, twenty with UI, and nine interstate connections. Of these interstate connections, one tie is with National Grid in Rhode Island; one tie is with Central Hudson in New York state; and five ties are with the Western Massachusetts Electric Company (WMECO) in Massachusetts.

The CL&P 345-kV transmission system transmits power from large central generating stations such as Millstone, Lake Road, and Middletown #4 to neighboring utilities. This includes one tie with UI, as well as three ties that cross the state line to connect with: National Grid in Rhode Island, WMECO in Massachusetts, and Consolidated Edison in New York State.

ELECTRIC TRANSMISSION IN SOUTHWEST CONNECTICUT

The most critical and constrained transmission area in the state, as well as New England, is a 54 town region referred to as Southwest Connecticut (SWCT), including all of UI's service territory. This area is essentially west of Interstate 91 and south of Interstate 84. It accounts for approximately one-half the state's peak load, and is one of the fastest growing and economically vital areas of the state. The 115-kV lines that serve SWCT have reached the limit of their ability to support the area's current and projected loads reliably and economically.

Within SWCT, a critical sub-area is called the Norwalk-Stamford Sub-Area. Historically, Norwalk and Stamford have relied on local generation. Since generation has become less predictable, given electric restructuring, and given the advanced age of generating plants around Norwalk and Stamford, the Norwalk-Stamford Sub-Area has had to look at transmission, rather than generation, to meet its needs.

ISO-NE, CL&P, and UI devised a plan to supplement the existing 115-kV transmission lines with a new 345-kV "loop" though SWCT that would integrate the area better with the 345-kV system in the rest of the state and New England, and provide electricity more efficiently.

The first phase of this proposed upgrade (known as "Phase One"), involves the construction of a 345-kV transmission line from Plumtree Substation in Bethel to the Norwalk Substation in Norwalk. The Phase One proposal was the subject of Council Docket No. 217, approved by the Council on July 14, 2003. Construction is complete, and the line was activated in October 2006.

The second phase of the upgrade (known as "Phase Two") was the subject of Council Docket No. 272. This proposal includes the construction of a 345-kV transmission line from Middletown to Norwalk. This project was approved by the Council on April 7, 2005. Construction began in 2006 and is expected to finish by year-end 2009.

Glenbrook-Norwalk Cable Project

In Docket No. 292, the Council approved the construction of two new 115-kV underground transmission cables between the Norwalk Substation in Norwalk and the Glenbrook Substation in Stamford. This project will effectively bring the reliability benefits of the new 345-kV transmission loop to the large load center in Stamford. The project is presently under construction and is scheduled to be in service in 2008.

ISO-NE Gap RFP

To help address the needs of SWCT before transmission solutions are complete, ISO-NE has issued RFP awards for several temporary emergency generators, and has instituted demand response programs to reduce load. As depicted in Table 3 (see page 13), the ISO-NE RFP award measures are assumed to remain in place through approximately 2008. Figure 6 depicts ISO-NE's emergency resources schedule for SWCT pursuant to its RFP awards.

Figure 6. ISO-NE Emergency Resources for SWCT

Technology	2004 Summer MW	2005 Summer MW	2006 Summer MW	2007 Summer MW
On-Peak Conservation	1	4	5	5
Emergency Generation	94	153	154	154
Load Reduction	21	53	74	74
Combined Energy and Load Reduction	3	12	22	27
Total	119	222	255	260

Source: Council Docket F-2004

ELECTRIC TRANSMISSION IN NORTHEAST CONNECTICUT

Lake Road Generating Facility

Currently, the three-unit Lake Road Generating Facility (Lake Road) in Killingly (which is approximately 720 MW summer output) is not counted towards Connecticut's generation capacity. Lake Road has one 345-kV transmission line (#330 circuit) connecting it to Card Substation in Lebanon and another 345-kV transmission line (#347 circuit) connecting it to Sherman Road Substation in Rhode Island. Transmission lines can be out of service for several reasons such as a fault (i.e. short circuit) or a lighting strike. The loss of a line can have significant consequences. Specifically, under the original configuration, the loss of #330 circuit would completely isolate Lake Road from Connecticut. For that reason, Lake Road has not been considered a Connecticut resource.

The opening (disconnecting) and closing (re-connecting) of transmission lines due to the loss and restoration of service can also damage generating plant equipment. This can occur if the two lines being re-connected (closed) are not synchronized electrically. The farther the two lines are out of synchronization (i.e. greater "phase angle") electrically, the more stress or "shock" that the generating shafts can experience.

As a result a Special Protection System (SPS) was installed on the Lake Road generating units that would trip (i.e. quickly disconnect) each unit in the event that the #347 or the #330 circuit is opened. This would protect the units. However, under this contingency condition, no power from Lake Road could be sent to Connecticut.

In 2006, CL&P completed the construction of the Killingly Substation. (See Substations and Switching Stations Section). This substation is located between the Lake Road Substation and the Sherman Road Substation. As a result, the Killingly Substation separates the #347 circuit into two lines. The line from Lake Road to Killingly Substation is now called the #3348 circuit and the line from Lake Road to Sherman Road is called the #347 circuit.

The SPS was then modified to protect the Lake Road units by tripping them off in the event of the loss and restoration of the #3348 and #347 circuit. Tripping the Lake Road units following a fault of the #330 circuit is no longer required due to the system configuration.

The Killingly Substation connects the 345-kV system to the 115-kV system. Therefore, some power generated by Lake Road can flow through the #3348 circuit to Killingly Substation and then enter Connecticut via the 115-kV system. However, given that the Lake Road units would trip in the event of the loss of the #3348 and #347 circuits, Lake Road is still not considered a Connecticut resource. This is because while the connection to the 115-kV system may still exist, tripped units provide no power to the grid. Even under normal operating conditions with all transmission lines in

service, the system cannot support all of Lake Road's capacity being fed into the 115-kV system via Killingly Substation.

A study was performed which determined that Unit 2 of Lake Road may be counted as Connecticut capacity, if certain system upgrades and modifications are made. The SPS would have to be removed for Unit 2. Terminal equipment upgrades would be necessary on existing 115-kV tie lines between Massachusetts and Connecticut due to the interdependencies that exist between the major tie lines in Connecticut. A new SPS would be needed to trip all Lake Road units following the loss of both the #347 and #330 circuits.

Finally, the construction of an additional 345-kV transmission line between Sherman Road and Card Substation could allow all of Lake Road's capacity to become Connecticut's capacity. This is being studied as part of the New England East – West Solution which will be discussed next.

NEW ENGLAND EAST – WEST SOLUTION

In 2006, National Grid and CL&P identified a transmission upgrade project known as the New England East – West Solution (NEEWS). NEEWS would include a new 345-kV transmission line connecting National Grid's service territory in Massachusetts and Rhode Island with CL&P's service territory to increase the east-west power transfer capability across New England. This new line is expected to tie National Grid's Milbury Substation in Massachusetts to CL&P's Card Street Substation in Lebanon.

NEEWS also includes new and modified 115-kV and new 345-kV transmission facilities, including a new 345-kV transmission line connecting Connecticut and western Massachusetts to address reliability problems in the Springfield, Massachusetts area. The new 345-kV facilities are expected to connect the Western Massachusetts Electric Company's (WMECO) Agawam Substation with CL&P's North Bloomfield Substation in Bloomfield.

New and modified 115-kV and new 345-kV transmission facilities would address reliability problems associated with the transfer of power from eastern Connecticut to western and southern Connecticut also as part of the NEEWS project. The currently planned connection points for a new 345-kV transmission line are North Bloomfield Substation in Bloomfield and Frost Bridge Substation in Watertown.

New and modified 115-kV and new 345-kV transmission facilities would address reliability problems associated with Rhode Island's limited access to the 345-kV transmission system and over-dependence on local generation. This portion of the NEEWS project would be located inside Rhode Island and would be constructed by National Grid.

The ISO-NE technical approval process is scheduled to be completed in 2007. CL&P expects the aggregate of the Southern New England transmission reinforcements to significantly increase the import capacity into Connecticut, with estimates ranging from 1,100 MW to 1,700 MW. (Table 3 on page 13 assumes 1,100 MW to be conservative.) It is anticipated that the application(s) for this project will be submitted to the Council later in 2008.

SYSTEM CONTENGENCIES AND RESERVE REQUIREMENTS

Planners estimate the electric system's emergency needs for reserve power by hypothesizing the loss of a major transmission line or generator. To ensure system reliability, the loss, called a "contingency", must be replaced by another line or other generation in a relatively short period of time. (Generation that can be brought online in 30 minutes or less is called quick-start generation.)

The single largest contingency currently in Connecticut is the Millstone 3 generating facility, with a summer output of 1,155 MW. Thus, in its 2006 RSP (with rounding to the nearest 100 MW), ISO-NE estimates 1,200 MW as the reserve requirement. This forecast's Table 3 (see page 13) uses the same requirement.

Contingency planning is also done for each region of the state - for example, SWCT. Both the Phase One and Phase Two projects increase the import capacity into SWCT. By the time the Phase Two transmission project is complete and placed into service in approximately late 2009, it will become the region's largest contingency. Thus, significant quick-start generation will be needed in SWCT.

According to the 2006 RSP, approximately 75 MW to 175 MW of additional resources will be required to meet the summer operating-reserve requirement for SWCT for 2007. ISO-NE also projects that up to 540 MW of additional quick-start resources could be needed for Connecticut as a whole to meet the current 1,200 MW requirement for operating reserves.

An electric substation is a group of equipment containing switches, circuit breakers, buses, and transformers for switching power circuits and to transform power from one voltage to another or from one system to another. For example, to connect the 345-kV transmission system with the 115-kV transmission system, a substation containing transformer(s) that convert 345-kV to 115-kV is required. An example is the Killingly 2G Substation, which is discussed below.

On May 11, 2005, the Council approved the Northeast Connecticut Reliability Project as Docket No. 302. This project includes the construction of a new 345-kV/115-kV substation (known as the Killingly 2G Substation) on CL&P property straddling the Killingly/Putnam town line. The new substation will connect to an existing overhead 345-kV transmission line, then use that source to feed into two existing overhead 115-kV transmission lines. This project is expected to alleviate transmission capacity constraints and improve electric system reliability in this region of the state. This project is currently in service.

Another type of substation that is very common is one that connects to the transmission system and supplies the distribution system. For example, the input might be 115-kV transmission and the output might be 13.8-kV distribution. The Council approved this type of substation in the Town of Wilton in Docket No. 311.

Another type of substation would be used to connect a generator to the grid. Generators often have an output voltage that is less than the transmission voltage. Thus, the generator's output voltage has to be raised to the transmission voltage before the power generated can be fed into the grid. Lastly, a switching station is a facility where transmission lines are connected without any voltage transformation.

As depicted in Figure 7, as many as nine new substations are planned for the next four years to address high load areas within the state. Some of the substations are associated with the 345-kV transmission projects in SWCT. Others are associated with local load growth. Other additional substations are being considered, with the estimated in-service dates to be determined.

To ensure system reliability, the loss, called a "contingency", must be replaced by another line or other generation in a relatively short period of time. (Generation that can be brought online in 30 minutes or less is called quick-start generation.)

Figure 7: Planned Substation Projects	Est. In-Service Date	Company
Install the new 345-kV Kleen Substation in Middletown	TBD[23]	CL&P
Modify the existing 115-kV Barbour Hill Substation in South Windsor	2007	CL&P
Modify the existing 115-kV Triangle Substation in Danbury	2007	CL&P
Modify the existing 115-kV Middle River Substation in Danbury	2007	CL&P
Modify the existing 115-kV Plumtree Substation in Bethel	2007	CL&P
Install the new 115-kV Trumbull Substation in Trumbull	2008	UI
Install the new 115-kV Wilton Substation in Wilton	2008	CL&P
Modify the existing 115-kV Norwalk Substation in Norwalk	2008	CL&P
Modify the existing 115-kV Glenbrook Substation in Stamford	2008	CL&P
Modify the existing 138-kV / 115-kV Norwalk Harbor Substation in Norwalk	2008	CL&P
Modify the existing 115-kV Flax Hill Substation in Norwalk	2008	CL&P
Install the new 115-kV Oxford Substation in Oxford	2008	CL&P
Modify the existing 115-kV Cedar Heights Substation in Stamford	2008	CL&P
Modify the existing 345-kV / 115-kV Barbour Hill Substation in South Windsor	2008	CL&P
Modify the existing 115-kV Enfield Substation in Enfield	2008	CL&P
Modify the existing 115-kV Cos Cob Substation in Stamford	2009	CL&P
Modify the existing 115-kV Devon Substation in Milford	2009	CL&P
Install the new 345-kV / 115-kV East Devon Substation in Milford	2009	CL&P
Modify the existing 345-kV Norwalk Substation in Norwalk	2009	CL&P
Modify the existing 345-kV Beseck Switching Substation in Wallingford	2009	CL&P
Modify the existing 345-kV Card Substation in Lebanon	2009	CL&P
Modify the existing 345-kV Millstone Substation in Waterford	2009	CL&P
Install the new 115-kV Stepstone Substation in Guilford	2009	CL&P
Install the new 115-kV Windsor Substation in Windsor	2009	CL&P
Modify the existing 115-kV North Bloomfield Substation in Bloomfield	2009	CL&P
Install the new 345-kV Singer Substation in Bridgeport	2009	UI
Modify the existing 115-kV Pequonnock Substation in Bridgeport	2009	UI
Install the new 115-kV Waterford Substation in Waterford	2010	CL&P
Install a new 115-kV substation in Shelton	2010	UI
Install the Pequonnock 115-kV Duty Mitigation Project	2011	UI
Install a new 115-kV substation in Fairfield	2012	UI
Install the Naugatuck Valley 115-kV Reliability Improvement Project	2012	UI
Install the Grand Avenue 115-kV Rebuild Project	2012	UI
Install a new 115-kV substation in Orange	2013	UI
Install a new 115-kV substation in Hamden	2014	UI
Install a new 115-kV substation in North Branford	2016	UI
Modify the existing 345-kV / 115-kV Haddam Substation	TBD	CL&P
Modify the existing 345-kV Millstone Substation in Waterford	TBD	CL&P
Modify the existing 345-kV Card Substation in Lebanon	TBD	CL&P
Modify the existing 345-kV Lake Road Substation in Killingly	TBD	CL&P
Install the new 345-kV Willimantic Road Switching Substation	TBD	CL&P
Modify the existing 345-kV Killingly Substation in Killingly	TBD	CL&P
Modify the existing 115-kV Glenbrook Substation in Stamford	TBD	CL&P
Modify the existing 115-kV Norwalk Harbor Substation in Norwalk	TBD	CL&P
Modify the existing 345-kV Frost Bridge Substation in Watertown	TBD	CL&P
Modify the existing 345-kV North Bloomfield Substation in Bloomfield	TBD	CL&P
Modify the existing 115-kV East Hartford Substation in East Hartford	TBD	CL&P
Modify the existing 115-kV Northwest Hartford Substation in Hartford	TBD	CL&P
Modify the existing 115-kV Southwest Hartford Substation in Hartford	TBD	CL&P
Modify the existing 115-kV South Meadow Substation in Hartford	TBD	CL&P
Modify the existing 115-kV Riverside Drive Substation in East Hartford	TBD	CL&P
Modify the existing 345-kV Manchester Substation in Manchester	TBD	CL&P
Install the existing 115-kV Westport Substation in Westport	TBD	CL&P
Install the existing 115-kV Goshen Substation in Goshen	TBD	CL&P
Modify the existing 115-kV Bunker Hill Substation in Waterbury	TBD	CL&P

RESOURCE PLANNING

The Council fully endorses and participates in initiatives to maintain electric reliability, including programs such as the CEEF, resource modeling, and transmission planning. The need to coordinate these efforts has substantially increased as growing demand has stressed existing resources; at the same time, because of electric restructuring, the overall task of matching supply to demand has become more complex. Rate pressures, congestion management, targeted demand side programs, regional transfers, and scarce locations for siting facilities are only a few of the issues that are making the Council's decisions difficult and critical.

As depicted in Appendix B, the Council continues to assess the existing electric system to maintain and improve reliability. Further, the Council notes the CEAB's legislated mandate for stimulating alternatives to proposed electric facilities that come before the Council. Such alternatives may include new transmission technologies, generation using renewable fuels, distributed generation, wholesale and retail market strategies, CEEF, and combinations thereof. The Council encourages innovation. In order for regulators to work well, they must look at multiple scenarios, and consider diverse solutions. The future never sits still.

CONCLUSION

This forecast review has considered Connecticut's electric energy future for the next ten years and concludes that supplies are expected to meet demand in the near term under normal weather conditions assuming no losses of generation due to retirement. However, under the more stringent ISO-NE "90/10" forecast, Connecticut faces a significant shortage of supply, even including the three approved generating facilities not yet constructed and/or completed.

Accordingly, steps are being taken to address the electric system's issues. The Phase I 345-kV transmission upgrade is complete, and Phase II is under construction. The NEEWS project, under review by utility planners, also addresses regional reliability needs and would increase electric supply in Connecticut through additional import capacity. Additional generation fueled by renewable resources as well as increased efficiency in homes and businesses are expected to result from the Act Concerning Electricity and Energy Efficiency.

Issues that warrant attention in the future include:

- maintain sufficient emergency generation and demand response in SWCT until the Phase II transmission upgrade is completed;
- facilitate the addition of new generation in Connecticut, and address delays in construction of approved generation;
- continue to explore options to allow all of Lake Road Generating Station's capacity to be considered Connecticut capacity;
- consider additional interstate transmission resources that will allow additional transfer capability into Connecticut;
- consider clarity, transparency and a longer forecast period in relation to operating reserve requirements;
- be proactive regarding the deactivation/retirement of older generating facilities in the context of electric system needs;
- encourage conservation and demand response;
- avoid excessive reliance on any one fossil fuel for generation; and
- encourage innovations.

1. CGS §16-50r states, "(a) Every person engaged in electric transmission services, as defined in section 16-1, electric generation services, as defined in said section, or electric distribution services, as defined in said section generating electric power in the state utilizing a generating facility with a capacity greater than one megawatt, shall, annually, on or before March first, file a report on a forecast of loads and resources which may consist of an update of the previous year's report with the council for its review. The report shall cover the ten-year forecast period beginning with the year of the report. Upon request, the report shall be made available to the public. The report shall include, as applicable: (1) A tabulation of estimated peak loads, resources and margins for each year; (2) data on energy use and peak loads for the five preceding calendar years; (3) a list of existing generating facilities in service; (4) a list of scheduled generating facilities for which property has been acquired, for which certificates have been issued and for which certificate applications have been filed; (5) a list of planned generating units at plant locations for which property has been acquired, or at plant locations not yet acquired, that will be needed to provide estimated additional electrical requirements, and the location of such facilities; (6) a list of planned transmission lines on which proposed route reviews are being undertaken or for which certificate applications have already been filed; (7) a description of the steps taken to upgrade existing facilities and to eliminate overhead transmission and distribution lines in accordance with the regulations and standards described in section 16-50t; and (8) for each private power producer having a facility generating more than one megawatt and from whom the person furnishing the report has purchased electricity during the preceding calendar year, a statement including the name, location, size and type of generating facility, the fuel consumed by the facility and the by-product of the consumption. Confidential, proprietary or trade secret information provided under this section may be submitted under a duly granted protective order. The council may adopt regulations, in accordance with the provisions of chapter 54, that specify the expected filing requirements for persons that transmit electric power in the state, electric distribution companies, and persons that generate electric power in the state utilizing a generating facility with a capacity of greater than one megawatt. Until such regulations are adopted, persons that transmit electric power in the state shall file reports pursuant to this section that include the information requested in subdivisions (6) and (7) of this subsection; electric distribution companies in the state shall file reports pursuant to this section that include the information requested in subdivisions (1), (2), (7) and (8) of this subsection; persons that generate electric power in the state utilizing a generating facility with a capacity greater than one megawatt shall file reports pursuant to this section that include the information requested in subdivisions (3), (4), (5) and (8) of this subsection. The council shall hold a public hearing on such filed forecast reports annually. The council shall conduct a review in an executive session of any confidential, proprietary or trade secret information submitted under a protective order during such a hearing. At least one session of such hearing shall be held after six-thirty p.m. Upon reviewing such forecast reports, the council may issue its own report assessing the overall status of loads and resources in the state. If the council issues such a report, it shall be made available to the public and shall be furnished to each member of the joint standing committee of the General Assembly having cognizance of matters relating to energy and technology, any other member of the General Assembly making a written request to the council for the report and such other state and municipal bodies as the council may designate."

2. Electric load can be thought of as the rate at which electricity is consumed usually in a hour. In utility forecasting and planning, electric loads are generally rated in megawatts. One megawatt (MW) represents an electric load of one million watts. This is the electric load equivalent of operating 10,000 light bulbs of 100 watts each simultaneously. Electric loads vary with time depending on demand. Utility forecasting considers the peak load, which is the highest load experienced during the year in any given hour.

3. ISO New England is the regional electric grid operator for New England. ISO New England is responsible for ensuring the day to day reliable operation of New England's bulk electric power generation and transmission system, overseeing and ensuring the fair administration of the region's wholesale electricity markets, and managing comprehensive regional planning processes.

4. The ten-year forecast period is from 2007 through 2016. However, Figure 1b includes past peak loads from the year 2002 to give the reader a longer term picture of the past electric loads. In addition, the statute requires five years of historical data, as well as ten years of projected data.

5. The historical temperatures data for CL&P's forecast are measured at Bradley International Airport in Windsor Locks.

6. Notwithstanding, UI notes that it has modified its forecast so it may be used to properly plan for infrastructure modifications and to ensure that the required capacity is in place to safely and reliably meet the demands of its customers.

7. Even though CL&P's extreme weather forecast is based on a 98/2 scenario, the sum of the utilities' forecasts is lower than the ISO-NE 90/10 forecast, in part, because the other two utilities do not use a 98/2 forecast. UI's extreme weather forecast uses a different model and cannot be assigned a probability of being exceeded. CMEEC does not prepare an extreme weather forecast, so CMEEC's normal weather forecast is used. Given the magnitude of CMEEC's load relative to the state's load, the effect on the sum of the utilities' extreme weather forecasts would be small.

8. Electric energy consumption is the total work done by the electricity. Household electric energy consumption is generally stated in kilowatt-hours, which is the equivalent of operating a one-thousand watt load (ten light bulbs of 100 watts each, for example) for one hour. On a statewide scale, a larger unit called a gigawatt-hour is used. One gigawatt-hour (GWh) is the equivalent of operating a one billion watt load for an hour.

9. This forecast assumes that the CEEF program would continue throughout the ten-year forecast period.

10. The electric power outputs for generating plants have both a summer and winter rating, referred to as seasonal claimed capability (SCC). SCC ratings are the maximum dependable load-carrying ability, expressed in megawatts, of a generating unit or units, excluding the capacity required for the power station's own use. SCC ratings are computed per ISO-NE's rule "M-20" for installed capacity and correspond to the power generating capacities at 20 degrees F and 90 degrees F ambient temperatures for the winter and summer ratings, respectively. The SCC for a given generating facility that may be claimed by the New England Power Pool must be verified by conducting a claimed capacity audit. Generally, fossil-fueled plants have a higher SCC rating in the winter than the summer.

11. Black start capability (BSC) is the ability of a generating station to start and commence generating without any outside source of electricity. (For example, a power plant with BSC may have its own on-site diesel generators that can start under battery power and then produce electricity in order to start the main generating units.) ISO-NE audits BSC and determines which plants would have this capability. Certain hydroelectric plants inherently have this capability due to the natural water flow and their design. In the event of a major blackout, units without BSC that have been shut down are dependent on restoration of outside grid power to restart.

12. Customer-side distributed resources are defined under PA 05-1 as "the generation of electricity from a unit with a rating of not more than sixty-five megawatts on the premises of a retail end user within the transmission and distribution system including, but not limited to, fuel cells, photovoltaic systems or small wind turbines, or a reduction in demand for electricity on the premises of a retail end user in the distribution system through methods of conservation and load management, including, but not limited to, peak reduction systems and demand response systems."

13. Grid-side distributed resources are defined under PA 05-1 as "the generation of electricity from a unit with a rating of not more than sixty-five megawatts that is connected to the transmission or distribution system, which units may include, but are not limited to, units used primarily to generate electricity to meet peak demand."

14. Federally mandated congestion charges are defined under PA 05-1 as "any cost approved by the Federal Energy Regulatory Commission as part of New England Standard Market Design including, but not limited to, locational marginal pricing, locational installed capacity payments, any cost approved by the Department of Public Utility Control to reduce federally mandated congestion charges in accordance with this section, sections 16-99ss, 16-32f, 16-50i, 16-50k, 16-50x, 16-244c, 16-244e, 16-245m, and 16-245n, as amended by this act, and sections 8 to 17, inclusive, and 20 and 21 of this act and reliability must run contracts."

15. Class I renewable energy sources are defined under PA 03-135 as: "(A) energy derived from solar power, wind power, a fuel cell, methane gas from landfills, ocean thermal power, wave or tidal power, low emission advanced renewable energy conversion technologies, a run-of-the-river hydropower facility provided such facility has a generating capacity of not more than five megawatts, does not cause an appreciable change in the river flow, and began operation after the effective date of this section, or a biomass facility, including, but not limited to, a biomass gasification plant that utilizes land clearing debris, tree stumps or other biomass that regenerates or the use of which will not result in a depletion of resources, provided such biomass is cultivated and harvested in a sustainable manner and the average emission rate for such facility is equal to or less than .075 pounds of nitrogen oxides per million BTU of heat input for the previous calendar quarter except that energy derived from a biomass facility with a capacity of less than five hundred kilowatts that began construction before July 1, 2003, may be considered a Class I renewable energy source, provided such biomass is cultivated and harvested in a sustainable manner, or (B) any electrical generation, including distributed generation, generated from a Class I renewable energy source."

16. Class II renewable energy sources are defined under PA 03-135 as "energy derived from a trash-to-energy facility, a biomass facility that began operation before July 1, 1998, provided the average emission rate for such facility is equal to or less than 0.2 pounds of nitrogen oxides per million BTU of heat input for the previous calendar quarter, or a run-of-the-river hydropower facility provided such facility has a generating capacity of not more than five megawatts, does not cause an appreciable change in the riverflow, and began operation prior to the effective date of this section."

17. Class III sources are defined under PA 07-242 as "the electricity output from combined heat and power systems with an operating efficiency level of no less than fifty percent that are part of customer-side distributed resources developed at commercial and industrial facilities in this state on or after January 1, 2006, a waste heat recovery system installed on or after April 1, 2007, that produces electrical or thermal energy by capturing preexisting waste heat or pressure from industrial or commercial processes, or the electricity savings created in this state from conservation."

18. Combined heat and power systems are defined under PA 05-1 as "a system that produces, from a single source, both electric power and thermal energy used in any process that results in an aggregate reduction in energy use."

19. The nominal power outputs are those reported in their respective applications to the Council. The actual power outputs of active plants vary seasonally.

20. Voltage can be thought of as electrical "pressure."

21. Electric current can be though of, by analogy to water, as "flow." In a water system, the rate of flow ("flow rate") of water through a pipe is measured in gallons per minute. In an electric system, the flow rate of electrons through a wire is measured in amperes.

22. The distribution lines connect to the wires supplying a home or business via a transformer. The transformer drops the voltage from the distribution level to that required by the end user.

23. The Kleen Energy substation associated with the proposed Kleen Energy Plant has been delayed because construction of the plant is not yet complete.

The members of the Council for energy and telecommunications matters are the following:

• Daniel F. Caruso, Esq. is the chair of the agency and is appointed by the Governor. The Chairman is the judge of probate for the Fairfield Probate District (since January 1995); Vice-President and a member of the Executive Committee of the Connecticut Probate Assembly; former State Representative for the Towns of Fairfield and Trumbull (1988-1994); former Assistant Minority Leader (1991-1994); former member of the environmental, judiciary, general law, and regulations review committees; former member of Board of Finance, and the Representative Town Meeting, and Treasurer for the Town of Fairfield; member of the Kiwanis Club, the Red Cross, Caroline House, and the Community Theatre Foundation.

• Colin C. Tait, Esq., is the vice-chair of the agency and is appointed by the Governor. Professor Tait is a retired law professor at the University of Connecticut Law School; member of the Connecticut Forest and Park Association Board of Directors; past President of Norfolk Land Trust; past Chairman, Planning and Zoning Commissions, Towns of New Hartford and Colebrook; and past member of the Appalachian Trail Conference Board of Managers.

• Gerald J. Heffernan is the designee for Chairman Donald W. Downes of the Department of Public Utility Control. Mr. Heffernan is the Chairman of the Naugatuck Valley Revolving Loan Committee; member of the Board of Directors of Catholic Family Services; former supervisor of the Department of Public Utility Control's Management Audit Unit (for approximately 20 years); and former tax commissioner (1975-1979).

• Brian Emerick is the designee for the Commissioner of the Department of Environmental Protection (DEP). Mr. Emerick is a Supervising Environmental Analyst at DEP. Mr. Emerick has been employed by DEP for approximately 32 years.

•Dr. Barbara Currier Bell is appointed by the speaker of the House. Dr. Bell is a member of the Milford Inland Wetlands Commission; member of the Mayor's Clean Energy Task Force in Milford; environmental columnist for the Milford Mirror; former Board member, Woodlands Coalition; former professor (English and Humanities) at Wesleyan University, Middletown, CT; former referee for Environmental Ethics; past President and co-founder, National Coalition of Independent Scholars.

• Daniel P. Lynch, Jr., is the designee of the president pro tempore of the Senate. Mr. Lynch is a managing member of Carpe Diem Enterprises, LLC (turnaround management); Partner DLD Agency (insurance); consultant and board member of Resorts Holding International Limited (Glastonbury, CT and London, UK); marketing consultant to the Nutmeg State Games; member of the Connecticut Siting Council, 1988 to 1995 (first term); and advisory board member for United States Veterans.

• Philip T. Ashton is a member with utility experience appointed by the Governor. Mr. Ashton is a retired Chairman, President and CEO of Yankee Energy System; former Vice President, Transmission and Distribution, Northeast Utilities; Professional Engineer (Massachusetts and formerly Connecticut); Chairman, Meriden Flood Control Implementation Agency; Director and past Chapter Chairman, American Red Cross-Greater Hartford Chapter; former Chairman, Meriden Planning Commission; Advisor on Energy to the U.S. Trade Representative; former Chairman, New England Gas Association; former Director, American Gas Association; and former Vice President, Power Engineering Society of the Institute of Electrical and Electronic Engineers (IEEE).

• Edward J. Wilensky is a member appointed by the Governor with experience in ecology. Mr. Wilensky is a former mayor of the Town of Wolcott (1983-1999); past Chairman of Bristol Resource Recovery Authority; past Chairman of Central Naugatuck Valley Council of Governments; past Vice Chairman of Connecticut Conference of Municipalities; former member of Governor's Task Force on Aquifer Management; former member of Board of Directors for Tunxis Recycling Operating Committee; former Chairman of Wolcott Planning and Zoning Commission; and former member of Board of Directors for Connecticut Interlocal Risk Management Agency (CIRMA).

• James J. Murphy, Jr. is appointed by the Governor. Attorney Murphy is retired from the law firm Berberick, Murphy & Whitty, P.C.; former State Senator, 19th District; former State Assistant Prosecutor, 10th Circuit Court; former State of Connecticut Criminal Justice Commission Chairman; former Board of Directors member, Eastern Connecticut Chamber of Commerce; former Chairman, Stonington Board of Education; Exalted Ruler of the Norwich Lodge of Elks; and W.W. Backus Hospital Incorporator.

Appendix A. Existing Generation facilities as of October, 2007

Facilility	Owner	Town	Fuel	Summer Rating	Winter Rating	In-Service Date
AES Thames	AES Thames, Inc.	Montville	Coal/Oil	181.00	182.15	12/1/1989
Aetna Capitol District	Capitol District Energy Ctr.	Hartford	Gas/Oil	55.25	61.33	11/1/1988
Bantam #1	FirstLight Hydro Generating Co.	Litchfield	Hydro	0.07	0.28	1/1/1905
Branford #10	NRG	Branford	Oil	15.84	20.95	1/1/1969
Bridgeport Energy	Bridgeport Energy LLC	Bridgeport	Gas	444.27	523.51	8/1/1998
Bridgeport Harbor #2	PSEG Power, LLC	Bridgeport	Oil	130.50	147.51	8/1/1961
Bridgeport Harbor #3	PSEG Power, LLC	Bridgeport	Coal/Oil	372.21	370.37	8/1/1968
Bridgeport Harbor #4	PSEG Power, LLC	Bridgeport	Oil	9.92	14.72	10/1/1967
Bridgeport Resco	CRRA	Bridgeport	Refuse	58.52	58.74	4/1/1988
Bristol RRF	Ogden Martin Systems-CT	Bristol	Refuse/Oil	13.20	12.74	5/1/1988
Bulls Bridge #1- #6	FirstLight Hydro Generating Co.	New Milford	Hydro	4.45	5.96	1/1/1903
Dexter	Alstom	Windsor Locks	Gas/Oil	38.00	39.00	5/1/1990
Colebrook	MDC	Colebrook	Hydro	1.55	1.55	3/1/1988
Cos Cob #10	NRG	Greenwich	Oil	18.78	23.68	9/1/1969
Cos Cob #11	NRG	Greenwich	Oil	21.84	16.94	1/1/1969
Cos Cob #12	NRG	Greenwich	Oil	18.44	23.34	1/1/1969
Dayville Pond	Summit Hydro Power	Killingly	Hydro	0.00	0.04	3/1/1995
Derby Dam	McCallum Enterprises	Shelton	Hydro	7.05	7.05	3/1/1989
Devon #7	NRG	Milford	Oil/Gas	0.00	0.00	1/1/1956
Devon #10 (reactivated)	NRG	Milford	Oil	15.27	19.21	4/1/1988
Devon #11	NRG	Milford	Gas/Oil	29.58	39.10	10/1/1996
Devon #12	NRG	Milford	Gas/Oil	29.23	38.45	10/1/1996
Devon #13	NRG	Milford	Gas/Oil	30.76	39.76	10/1/1996
Devon #14	NRG	Milford	Gas/Oil	29.75	40.33	10/1/1996
Exeter	Oxford Energy, Inc.	Sterling	Tires/Oil	24.17	25.66	12/1/1991
Falls Village #1- #3	FirstLight Hydro Generating Co.	Canaan	Hydro	3.96	5.36	1/1/1914
Franklin Drive #10	NRG	Torrington	Oil	15.42	20.53	11/1/1968
Glen Falls	Summit Hydro Power	Plainfield	Hydro	0.00	0.00	3/1/1998
Goodwin Dam	MDC	Hartland	Hydro	3.00	3.00	2/1/1986
Hartford Landfill	CRRA	Hartford	Methane	1.90	1.90	8/1/1998
Kinneytown A	Kinneytown Hydro Co.	Ansonia	Hydro	0.00	0.00	3/1/1988
Kinneytown B	Kinneytown Hydro Co.	Seymour	Hydro	0.65	0.91	11/1/1986
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	232.80	268.43	11/1/2001
Lake Road #3	Lake Road Generating Co., L.P.	Killingly	Gas/Oil	254.90	283.67	5/1/2002
Lisbon RRF	Riley Energy Systems	Lisbon	Refuse	12.96	13.04	1/1/1996
Mechanicsville	Saywatt Hydro Associates	Thompson	Hydro	0.00	0.11	9/1/1995
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
Middletown #4	NRG	Middletown	Oil	400.00	402.00	6/1/1973
Middletown #10	NRG	Middletown	Oil	17.12	22.02	1/1/1966
Milford Power #1	Milford Power Company, LLC	Milford	Gas/Oil	239.00	267.24	2/12/2004
Milford Power #2	Milford Power Company, LLC	Milford	Gas/Oil	249.71	284.25	6/1/2004
Millstone #2	Dominion Nuclear CT, Inc.	Waterford	Nuclear	876.92	881.96	12/1/1975

Facilility	Owner	Town	Fuel	Summer Rating	Winter Rating	In-Service Date
Millstone #3	Dominion Nuclear CT, Inc.	Waterford	Nuclear	1144.24	1155.48	4/1/1986
Montville #5	NRG	Montville	Oil/Gas	81.00	81.59	1/1/1954
Montville #6	NRG	Montville	Oil	407.40	409.91	7/1/1971
Montville #10 & #11	NRG	Montville	Oil	5.30	5.35	1/1/1967
New Haven Harbor #1	PSEG Power, LLC	New Haven	Oil/Gas	447.89	454.64	8/1/1975
New Milford Landfill	Vermont Electric Power Co.	New Milford	Methane/Oil	1.61	1.61	8/1/1991
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	11.93	17.13	10/1/1996
Norwich 2nd St./Greenville Dam	CMEEC	Norwich	Hydro	0.80	0.80	10/1/1998
Norwich 10th St.	CMEEC	Norwich	Hydro	0.98	1.06	1/1/1966
Norwich Jet	CMEEC	Norwich	Oil	15.26	18.8	9/1/1972
Pinchbeck	William Pinchbeck, Inc.	Guilford	Wood	0.01	0.01	7/1/1987
PPL Wallingford Unit #1	PPL EnergyPlus, LLC	Wallingford	Gas	42.92	48.87	8/1/2001
PPL Wallingford Unit #2	PPL EnergyPlus, LLC	Wallingford	Gas	41.37	52.37	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	42.50	47.78	8/1/2001
PPL Wallingford Unit #5	PPL EnergyPlus, LLC	Wallingford	Gas	42.57	53.57	8/1/2001
Preston RRF	SCRRF	Preston	Refuse/Oil	16.01	16.51	1/1/1992
Putnam	Putnam Hydropower, Inc.	Putnam	Hydro	0.16	0.30	10/1/1987
Quinebaug	Quinebaug Associates LLC	Killingly	Hydro	0.31	0.56	9/1/1990
Rainbow Dam	Farmington River Power Co.	Windsor	Hydro	8.20	8.20	1/1/1980
Robertsville #1- #2	FirstLight Hydro Generating Co.	Colebrook	Hydro	0.33	0.62	1/1/1924
Rocky Glen/Sandy Hook Hydro	Rocky Glen Hydro LP	Newtown	Hydro	0.07	0.10	4/1/1989
Rocky River	FirstLight Hydro Generating Co.	New Milford	Hydro-pump strg.	29.35	29.00	1/1/1928
Scotland #1	FirstLight Hydro Generating Co.	Windham	Hydro	1.69	2.20	1/1/1937
Shepaug #1	FirstLight Hydro Generating Co.	Southbury	Hydro	41.51	42.56	1/1/1955
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
South Meadow #11	CRRA	Hartford	Oil	35.78	46.92	8/1/1970
South Meadow #12	CRRA	Hartford	Oil	37.70	47.87	8/1/1970
South Meadow #13	CRRA	Hartford	Oil	38.32	47.92	8/1/1970
South Meadow #14	CRRA	Hartford	Oil	36.75	46.35	8/1/1970
Stevenson #1- #4	FirstLight Hydro Generating Co.	Monroe	Hydro	28.31	28.90	1/1/1919
Taftville #1- #5	FirstLight Hydro Generating Co.	Norwich	Hydro	2.03	2.03	1/1/2006
Torrington Terminal #10	NRG	Torrington	Oil	15.64	20.75	8/1/1967
Toutant	Toutant Hydro Power, Inc.	Putnam	Hydro	0.40	0.40	2/1/1994
Tunnel #1- #2	FirstLight Hydro Generating Co.	Preston	Hydro	1.36	2.10	1/1/1919
Tunnel #10	FirstLight Hydro Generating Co.	Preston	Oil	15.89	20.76	1/1/1969
Wallingford RRF	CRRA	Wallingford	Refuse/Oil	6.35	6.90	3/1/1989
Waterside Power	Waterside Power	Stamford	Oil	72.00	72.00	10/1/2006
Willimantic #1	Willimantic Power Corp.	Willimantic	Hydro	0.24	0.40	6/1/1990
Willimantic #2	Willimantic Power Corp.	Willimantic	Hydro	0.24	0.40	6/1/1990
Wyre Wynd	Summit Hydro Power	Griswold	Hydro	1.30	2.30	4/1/1997

Facilility	Owner	Town	Fuel	Summer Rating	Winter Rating	In-Service Date
	Seasonal Claimed Capability of coal fired plants			553.21	552.52	
	Seasonal Claimed Capability of natural gas fired plants			1357.85	1583.40	
	Seasonal Claimed Capability of oil fired plants			2566.99	2629.90	
	Seasonal Claimed Capability of hydroelectric plants			138.01	146.19	
	Seasonal Claimed Capability of methane fired plants			3.51	3.51	
	Seasonal Claimed Capability of nuclear plants			2021.16	2037.44	
	Seasonal Claimed Capability of refuse fueled plants (inc. tires)			183.92	190.92	
	Seasonal Claimed Capability of wood fired plants			0.01	0.01	
	Total Seasonal Claimed Capability available for dispatch to the grid.			6824.66	7215.89	
	(Lake Road is excluded from the total.)					
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
Groton Sub Base	U.S. Navy	Groton	Oil/Gas	18.50	18.50	1/1/1966
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
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	E. Hartford	Gas	23.80	23.80	4/1/1992
Pratt & Whitney	UTC	Middletown	Oil	1.00	1.00	5/9/1999
Smurfit-Stone Container Co.	Smurfit-Stone Container Co.	Montville	Refuse	2.00	2.00	9/1/1989
Southbury Training School	State of Connecticut	Southbury	Oil	1.50	1.50	5/9/1999
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 Fired Generation less than 1 MW each			0.01	0.01	
	Generation retained by facility			132.85	132.85	
	Total MWs of generation in Connecticut.			6957.51	7348.74	

Appendix A. Existing Generation facilities as of October, 2007, by Fuel type

Facilility	Owner	Town	Fuel	Summer Rating	Winter Rating	In-Service Date
AES Thames	AES Thames, Inc.	Montville	Coal/Oil	181.00	182.15	12/1/1989
Bridgeport Harbor #3	PSEG Power, LLC	Bridgeport	Coal/Oil	372.21	370.37	8/1/1968
Bridgeport Energy	Bridgeport Energy LLC	Bridgeport	Gas	444.27	523.51	8/1/1998
PPL Wallingford Unit #1	PPL EnergyPlus, LLC	Wallingford	Gas	42.92	48.87	8/1/2001
PPL Wallingford Unit #2	PPL EnergyPlus, LLC	Wallingford	Gas	41.37	52.37	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	42.50	47.78	8/1/2001
PPL Wallingford Unit #5	PPL EnergyPlus, LLC	Wallingford	Gas	42.57	53.57	8/1/2001
Aetna Capitol District	Capitol District Energy Ctr.	Hartford	Gas/Oil	55.25	61.33	11/1/1988
Dexter	Alstom	Windsor Locks	Gas/Oil	38.00	39.00	5/1/1990
Devon #11	NRG	Milford	Gas/Oil	29.58	39.10	10/1/1996
Devon #12	NRG	Milford	Gas/Oil	29.23	38.45	10/1/1996
Devon #13	NRG	Milford	Gas/Oil	30.76	39.76	10/1/1996
Devon #14	NRG	Milford	Gas/Oil	29.75	40.33	10/1/1996
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	232.80	268.43	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	239.00	267.24	2/12/2004
Milford Power #2	Milford Power Company, LLC	Milford	Gas/Oil	249.71	284.25	6/1/2004
Bantam #1	FirstLight Hydro Generating Co.	Litchfield	Hydro	0.07	0.28	1/1/2005
Bulls Bridge #1- #6	FirstLight Hydro Generating Co.	New Milford	Hydro	4.45	5.96	1/1/2003
Colebrook	MDC	Colebrook	Hydro	1.55	1.55	3/1/1988
Dayville Pond	Summit Hydro Power	Killingly	Hydro	0.00	0.04	3/1/1995
Derby Dam	McCallum Enterprises	Shelton	Hydro	7.05	7.05	3/1/1989
Falls Village #1- #3	FirstLight Hydro Generating Co.	Canaan	Hydro	3.96	5.36	1/1/1914
Glen Falls	Summit Hydro Power	Plainfield	Hydro	0.00	0.00	3/1/1998
Goodwin Dam	MDC	Hartland	Hydro	3.00	3.00	2/1/1986
Kinneytown A	Kinneytown Hydro Co.	Ansonia	Hydro	0.00	0.00	3/1/1988
Kinneytown B	Kinneytown Hydro Co.	Seymour	Hydro	0.65	0.91	11/1/1986
Mechanicsville	Saywatt Hydro Associates	Thompson	Hydro	0.00	0.11	9/1/1995
Norwich 2nd St./Greenville Dam	CMEEC	Norwich	Hydro	0.80	0.80	10/1/1998
Norwich 10th St.	CMEEC	Norwich	Hydro	0.98	1.06	1/1/1966
Putnam	Putnam Hydropower, Inc.	Putnam	Hydro	0.16	0.30	10/1/1987
Quinebaug	Quinebaug Associates LLC	Killingly	Hydro	0.31	0.56	9/1/1990
Rainbow Dam	Farmington River Power Co.	Windsor	Hydro	8.20	8.20	1/1/1980
Robertsville #1- #2	FirstLight Hydro Generating Co.	Colebrook	Hydro	0.33	0.62	1/1/1924
Rocky Glen/Sandy Hook Hydro	Rocky Glen Hydro LP	Newtown	Hydro	0.07	0.10	4/1/1989
Rocky River	FirstLight Hydro Generating Co.	New Milford	Hydro-pump strg.	29.35	29.00	1/1/1928
Scotland #1	FirstLight Hydro Generating Co.	Windham	Hydro	1.69	2.20	1/1/1937
Shepaug #1	FirstLight Hydro Generating Co.	Southbury	Hydro	41.51	42.56	1/1/1955
Stevenson #1- #4	FirstLight Hydro Generating Co.	Monroe	Hydro	28.31	28.90	1/1/1919
Taftville #1- #5	FirstLight Hydro Generating Co.	Norwich	Hydro	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	1.36	2.10	1/1/1919

Appendix A. Existing Generation facilities as of October, 2007, by Fuel type

Facilility	Owner	Town	Fuel	Summer Rating	Winter Rating	In-Service Date
Willimantic #1	Willimantic Power Corp.	Willimantic	Hydro	0.24	0.40	6/1/1990
Willimantic #2	Willimantic Power Corp.	Willimantic	Hydro	0.24	0.40	6/1/1990
Wyre Wynd	Summit Hydro Power	Griswold	Hydro	1.30	2.30	4/1/1997
Hartford Landfill	CRRA	Hartford	Methane	1.90	1.90	8/1/1998
New Milford Landfill	Vermont Electric Power Co.	New Milford	Methane/Oil	1.61	1.61	8/1/1991
Millstone #2	Dominion Nuclear CT, Inc.	Waterford	Nuclear	876.92	881.96	12/1/1975
Millstone #3	Dominion Nuclear CT, Inc.	Waterford	Nuclear	1144.24	1155.48	4/1/1986
Branford #10	NRG	Branford	Oil	15.84	20.95	1/1/1969
Bridgeport Harbor #2	PSEG Power, LLC	Bridgeport	Oil	130.50	147.51	8/1/1961
Bridgeport Harbor #4	PSEG Power, LLC	Bridgeport	Oil	9.92	14.72	10/1/1967
Cos Cob #10	NRG	Greenwich	Oil	18.78	23.68	9/1/1969
Cos Cob #11	NRG	Greenwich	Oil	21.84	16.94	1/1/1969
Cos Cob #12	NRG	Greenwich	Oil	18.44	23.34	1/1/1969
Devon #10 (reactivated)	NRG	Milford	Oil	15.27	19.21	4/1/1988
Franklin Drive #10	NRG	Torrington	Oil	15.42	20.53	1/1/1968
Middletown #4	NRG	Middletown	Oil	400.00	402.00	6/1/1973
Middletown #10	NRG	Middletown	Oil	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	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	11.93	17.13	10/1/1996
Norwich Jet	CMEEC	Norwich	Oil	15.26	18.80	9/1/1972
South Meadow #11	CRRA	Hartford	Oil	35.78	46.92	8/1/1970
South Meadow #12	CRRA	Hartford	Oil	37.70	47.87	8/1/1970
South Meadow #13	CRRA	Hartford	Oil	38.32	47.92	8/1/1970
South Meadow #14	CRRA	Hartford	Oil	36.75	46.35	8/1/1970
Torrington Terminal #10	NRG	Torrington	Oil	15.64	20.75	8/1/1967
Tunnel #10	FirstLight Hydro Generating Co.	Preston	Oil	15.89	20.76	1/1/1969
Waterside Power	Waterside Power	Stamford	Oil	72.00	72.00	10/1/2006
Devon #7	NRG	Milford	Oil/Gas	0.00	0.00	1/1/1956
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	454.64	8/1/1975
Bridgeport Resco	CRRA	Bridgeport	Refuse	58.52	58.74	4/1/1988
Bristol RRF	Ogden Martin Systems-CT	Bristol	Refuse/Oil	13.20	12.74	5/1/1988
Lisbon RRF	Riley Energy Systems	Lisbon	Refuse	12.96	13.04	1/1/1996
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
Preston RRF	SCRRF	Preston	Refuse/Oil	16.01	16.51	1/1/1992
Wallingford RRF	CRRA	Wallingford	Refuse/Oil	6.35	6.90	3/1/1989
Exeter	Oxford Energy, Inc.	Sterling	Tires/Oil	24.17	25.66	12/1/1991
Pinchbeck	William Pinchbeck, Inc.	Guilford	Wood	0.01	0.01	7/1/1987

Facilility	Owner	Town	Fuel	Summer Rating	Winter Rating	In-Service Date
	Seasonal Claimed Capability of coal fired plants			553.21	552.52	
	Seasonal Claimed Capability of natural gas fired plants			1357.85	1583.40	
	Seasonal Claimed Capability of oil fired plants			2566.99	2701.90	
	Seasonal Claimed Capability of hydroelectric plants			138.01	146.19	
	Seasonal Claimed Capability of methane fired plants			3.51	3.51	
	Seasonal Claimed Capability of nuclear plants			2021.16	2037.44	
	Seasonal Claimed Capability of refuse fueled plants (inc. tires)			183.92	190.92	
	Seasonal Claimed Capability of wood fired plants			0.01	0.01	
	Total Seasonal Claimed Capability available for dispatch to the grid. (Lake Road is excluded from the total.)			6824.66	7215.89	
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.			6957.51	7348.74	

Appendix B. Planned Transmission Lines in Connecticut

Planned Transmission Lines in Connecticut	Length (miles)	Voltage (kV)	Expected Date to be In Service
Manchester S/S, Manchester - Hopewell S/S, Glastonbury (reconductor) (overhead)	7.0	115	2007
Plumtree S/S, Bethel - Triangle S/S, Danbury (rebuild circuit #1) (overhead)	1.8	115	2007
Plumtree S/S, Bethel - Triangle S/S, Danbury (rebuild circuit #2) (overhead)	1.8	115	2007
Norwalk Harbor Station, Norwalk - Northport Station, Northport, NY (replace cable) (underwater)	5.8	138	2008
Norwalk S/S, Norwalk - Glenbrook S/S, Stamford (new cable - circuit #1) (underground)	8.7	115	2008
Norwalk S/S, Norwalk - Glenbrook S/S, Stamford (new cable - circuit #2) (underground)	8.7	115	2008
East Devon S/S, Milford - Singer S/S, Bridgeport (new cable - circuit #1) (underground)	2.4	345	2009
East Devon S/S, Milford - Singer S/S, Bridgeport (new cable - circuit #2) (underground)	2.4	345	2009
Norwalk S/S, Norwalk - Singer S/S, Bridgeport (new cable - circuit #1) (underground)	15.4	345	2009
Norwalk S/S, Norwalk - Singer S/S, Bridgeport (new cable - circuit #2) (underground)	15.4	345	2009
Singer S/S, Bridgeport - Splicing Chamber just west of Housatonic River, Stratford (new cable) (underground)	5.7	345	2009
Devon S/S, Milford - Wallingford S/S, Wallingford (rebuild a portion of #1640 circuit) (overhead)	24.1	115	2009
Devon S/S, Milford - June Street S/S, Woodbridge (rebuild a portion of #1685 circuit) (overhead)	13.4	115	2009
North Haven S/S, North Haven - Branford S/S, Branford (rebuild a portion of #1655 circuit) (overhead)	1.2	115	2009
East Devon S/S, Milford - Devon S/S, Milford (new circuit #1) (overhead)	1.3	115	2009
East Devon S/S, Milford - Devon S/S, Milford (new circuit #2) (overhead)	1.3	115	2009
East Meriden S/S, Meriden - North Wallingford S/S, Wallingford (rebuild a portion of the #1466 circuit) (overhead)	2.0	115	2009
Southington S/S, Southington - June Street S/S, Woodbridge (rebuild a portion of the #1610 circuit) (overhead)	11.5	115	2009
Devon S/S, Milford - Devon Switching Station, Milford (rebuild a portion of #1780 circuit) (overhead)	0.1	115	2009
Devon S/S, Milford - Devon Switching Station, Milford (rebuild a portion of #1790 circuit) (overhead)	0.1	115	2009
Devon S/S, Milford - Beacon Falls Substation, Beacon Falls (rebuild a portion of #1570 circuit) (overhead)	3.8	115	2009
Bunker Hill S/S, Waterbury - Beacon Falls Substation, Beacon Falls (rebuild a portion of #1575 circuit) (overhead)	3.8	115	2009
Devon S/S, Milford - Southington S/S, Southington (remove a portion of #1690 circuit) (overhead)	22.5	115	2009
Scovill Rock S/S, Middletown - Chestnut Junction, Middletown (new line) (overhead)	2.6	345	2009
Oxbow Junction, Haddam - Beseck Switching Station, Wallingford (new line) (overhead)	8.0	345	2009
Black Pond Junction, Middlefield - Beseck Switching Station, Wallingford (new circuit #1) (overhead)	2.8	345	2009
Black Pond Junction, Middlefield - Beseck Switching Station, Wallingford (new circuit #2) (overhead)	2.8	345	2009
Beseck Switching Station, Wallingford - East Devon Substation, Milford (new line) (overhead)	33.4	345	2009
Haddam Subsation, Haddam - East Meriden Substation, Meriden (rebuild a portion of #1975 circuit)	8.4	345	2009

Other Planned Transmission Lines in Connecticut	Length (miles)	Voltage (kV)	Expected Date to be In Service
Naugatuck Valley 115-kV Reliability Improvement Project	TBD	115	2012
Card S/S, Lebanon - Lake Road S/S, Killingly (new line)	TBD	345	TBD
Lake Road S/S, Killingly - West Farnum S/S, Rhode Island (new line)	TBD	345	TBD
Millstone S/S, Waterford - Manchester S/S, Manchester (upgrade a portion of the #310 circuit)	TBD	345	TBD
Card S/S, Lebanon - Manchester S/S, Manchester (upgrade a portion of the #368 circuit)	TBD	345	TBD
Lake Road S/S, Killingly - Killingly S/S, Killingly (new circuit #1)	1.0	115	TBD
Lake Road S/S, Killingly - Killingly S/S, Killingly (new circuit #2)	1.0	115	TBD
Card S/S, Lebanon - Wawecus Junction, Bozrah (rebuild line)	12.7	115	TBD
Tunnel S/S, Lisbon - Ledyard Junction, Ledyard (rebuild to 115-kV)	8.5	69	TBD
Ledyard Junction, Ledyard - Gales Ferry S/S, Ledyard (rebuild to 115-kV)	1.6	69	TBD
Gales Ferry S/S, Ledyard - Montville S/S, Montville (rebuild to 115-kV)	2.4	69	TBD
Ledyard Junction, Ledyard - Buddington S/S, Groton (rebuild to 115-kV)	4.7	69	TBD
Oxbow Junction, Haddam - Beseck Junction, Wallingford (upgrade line)	14.7	115	TBD
Colony S/S, Wallingford - North Wallingford S/S, Wallingford (upgrade line)	2.4	115	TBD
Frost Bridge S/S, Watertown - Bunker Hill S/S, Waterbury (rebuild line)	3.9	115	TBD
Frost Bridge S/S, Watertown - Walnut Junction, Thomaston (new line)	6.4	115	TBD
Frost Bridge S/S, Watertown - Campville S/S, Harwinton (rebuild line)	10.3	115	TBD
North Bloomfield S/S, Bloomfield - Agawam S/S, Massachusetts (new line)	TBD	345	TBD
North Bloomfield S/S, Bloomfield - Frost Bridge S/S, Watertown (new line)	TBD	345	TBD
East Hartford S/S, East Hartford - South Meadow S/S, Hartford (reconductor a portion of the #1786 circuit)	TBD	115	TBD
Manchester S/S, Manchester - East Hartford S/S, East Hartford (new cable) (underground)	TBD	115	TBD
Northwest Hartford S/S, Hartford - Southwest Hartford S/S, Hartford (new cable) (underground)	TBD	115	TBD
Southwest Hartford S/S, Hartford - South Meadow S/S, Hartford (new cable) (underground)	TBD	115	TBD
North Bloomfield S/S, Bloomfield - Southwick S/S, Massachusetts (modify line)	TBD	115	TBD
North Bloomfield S/S, Bloomfield - South Agawam S/S, Massachusetts (modify #1821 circuit)	TBD	115	TBD
North Bloomfield S/S, Bloomfield - South Agawam S/S, Massachusetts (modify #1836 circuit)	TBD	115	TBD
Manchester S/S, Manchester - Scovill Rock S/S, Middletown (rebuild a portion of the #353 circuit)	TBD	345	TBD
East Meriden S/S, Meriden - North Wallingford S/S, Wallingford (reconductor remaining portion of the #1466 circuit)	TBD	115	TBD
Schwab Junction, Wallingford - Colony S/S, Wallingford (upgrade line)	TBD	115	TBD
Manchester S/S, Manchester - Barbour Hill S/S, South Windsor (upgrade line)	TBD	115	TBD
Norwalk Harbor Station, Norwalk - Glenbrook S/S, Stamford (new cable) (underground)	TBD	115	TBD

Appendix C. Hypothetical Retirement of Oil-Fired Generation 40 Years Old or Older

Year	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016
Minimum In-Service Date to Reach 40 Years Old	1967	1968	1969	1970	1971	1972	1973	1974	1975	1976
Branford #10			15.84	15.84	15.84	15.84	15.84	15.84	15.84	15.84
Bridgeport Harbor #2	130.5	130.5	130.5	130.5	130.5	130.5	130.5	130.5	130.5	130.5
Bridgeport Harbor #4	9.92	9.92	9.92	9.92	9.92	9.92	9.92	9.92	9.92	9.92
Cos Cob #10			18.78	18.78	18.78	18.78	18.78	18.78	18.78	18.78
Cos Cob #11			21.84	21.84	21.84	21.84	21.84	21.84	21.84	21.84
Cos Cob #12			18.44	18.44	18.44	18.44	18.44	18.44	18.44	18.44
Franklin Drive #10		15.42	15.42	15.42	15.42	15.42	15.42	15.42	15.42	15.42
Middletown #4							400	400	400	400
Middletown #10	17.12	17.12	17.12	17.12	17.12	17.12	17.12	17.12	17.12	17.12
Montville #6					407.4	407.4	407.4	407.4	407.4	407.4
Montville #10 & #11	5.3	5.3	5.3	5.3	5.3	5.3	5.3	5.3	5.3	5.3
Norwalk Harbor #1	162	162	162	162	162	162	162	162	162	162
Norwalk Harbor #2	168	168	168	168	168	168	168	168	168	168
Norwich Jet						15.26	15.26	15.26	15.26	15.26
South Meadow #11				35.78	35.78	35.78	35.78	35.78	35.78	35.78
South Meadow #12				37.7	37.7	37.7	37.7	37.7	37.7	37.7
South Meadow #13				38.32	38.32	38.32	38.32	38.32	38.32	38.32
South Meadow #14				36.75	36.75	36.75	36.75	36.75	36.75	36.75
Torrington Terminal #10	15.64	15.64	15.64	15.64	15.64	15.64	15.64	15.64	15.64	15.64
Tunnel #10			15.89	15.89	15.89	15.89	15.89	15.89	15.89	15.89
Middletown #2	117	117	117	117	117	117	117	117	117	117
Middletown #3	236	236	236	236	236	236	236	236	236	236
Montville #5	81	81	81	81	81	81	81	81	81	81
New Haven Harbor #1									447.89	447.89
Total (MW)	942	958	1049	1197	1605	1616	2020	2020	2468	2468

Appendix D: Demographic and Economic Statistics

Year	Population	U.S.	CT
2006	Total Population (July Estimate)	299,398,484	3,504,809
2000	Total Population (April Census)	281,424,602	3,405,602
2000-2006	Population Change	6.4%	2.9%
2005	People per Square Mile	84.0	724.0
	Financial		
2005	GSP ($ Current Millions)	$11,035,627	$173,058
2005	GSP per Capita	$37,063	$49,300
2005	Productivity (GSP/# Workers)	$72,235	$92,827
2005	Employees (# of Workers)	152,775,000	1,864,300
	Labor		
2007	Minimum Wage	$5.15	$7.65
2007	Employed Labor Force	151,785,400	1,857,800
2005	Average Annual Income	$40,671	$52,963
2005-2006	Per Capita Personal Income Growth (%)	5.20%	5.20%
2006	Average Hourly Earnings	$16.81	$19.85
2005	Average Annual Manufacturing Pay	$49,286	$63,035
2005	Average Annual Retailing Pay	$24,930	$28,751
	Labor as a Percent of Total Employment:		
2006	Government Employment	16.3%	14.7%
2006	Manufacturing Employment	10.4%	11.5%
2006	Unemployment Rate	4.6%	4.7%
	Exports		
2006	Total Exports by State (Thousands)	982,192,498	12,238,324
2005-2006	Change in Exports (%)	15.0	26.3
	Tourism		
2004	Total Tourism Spending ($ Millions)	$532,355	$7,132
2004	Tourism Spending Share of U.S. Total	100.0%	1.3%
2004	Tourism Spending per Capita	$1,813	$2,038
	Environmental Conditions		
2002	Air Pollution (1000s Short Tons)	178,071	1,292
2002	Air Pollution Emissions (per Capita)	0.6	0.4
	Cost of Living		
2002-2006	Change in Price of Homes	55.5%	60.3%
2005	Energy Cost (cents/kilowatt hour)	Not available	12.02
2006	Cost of Living Index	100.0	127.3

SOURCE: CONNECTICUT ENERGY RESOURCE CENTER, INC.

Prices		U.S. Average	CT
Aug-07	No. 2 Heating Oil, Residential	$2.507/gal	$2.508/gal
Aug-07	Natural Gas, Residential	$16.85/thousand cubic feet	$20.71/thousand cubic feet
Aug-07	Electricity, Residential	$0.1105/kWh	$0.1865/kWh
Aug-07	Electricity, Commercial	$0.1005/kWh	$0.1496/kWh
Aug-07	Electricity, Industrial	$0.0684/kWh	$0.1207/kWh
Electricity Generation		**Share of U.S.**	**CT**
Dec-06	Petroleum-fired Generation	3.0%	89 GWh or 3.1%
Dec-06	Natural Gas-fired Generation	1.3%	735 GWh or 25.8%
Dec-06	Coal-fired Generation	0.2%	404 GWh or 14.2%
Dec-06	Nuclear-powered Generation	2.1%	1,513 GWh or 53.2%
Dec-06	Hydroelectric-powered Generation	0.2%	40 GWh or 1.4%
Dec-06	Other Renewable Generation	0.7%	63 GWh or 2.2%
Stocks		**Share of U.S.**	**CT**
Aug-07	Distillate Fuel Oil (excluding pipelines)	5.0%	4,836,000 barrels
Energy Consumption		**U.S. Rank**	**CT**
2004	Per Capita Energy Consumption	42 out of 50	264 million Btu/person
Energy for Electricity Generation		**Share of U.S.**	**CT**
Dec-06	Petroleum	3.2%	171,000 barrels
Dec-06	Natural Gas	1.2%	5,419 million cubic feet
Dec-06	Coal	0.2%	210,000 short tons
Home Heating (share of households)		**U.S. Average**	**CT**
2000	Natural Gas	51.2%	29%
2000	Fuel Oil	9.0%	52%
2000	Electricity	30.3%	15%
2000	Liquified Petroleum Gases	6.5%	2%
2000	Other/None	1.8%	2%
Electric Power Industry Emissions		**Share of U.S.**	**CT**
2006	Carbon Dioxide	0.4%	11,056,606 metric tons
2006	Sulfur Dioxide	0.1%	5,404 metric tons
2006	Nitrogen Oxide	0.2%	8,953 metric tons

SOURCE: DEPARTMENT OF ENERGY WEBSITE, ENERGY INFORMATION ADMINISTRATION, STATE ENERGY PROFILE, 2007

The members of the Council staff are as follows:

S. Derek Phelps is executive director of the Council. He has served for the past five years. Mr. Phelps holds a bachelor's degree in public administration from the University of Connecticut and a master's degree in e-media communications from Quinnipiac University. He is a former deputy commissioner and also worked in the private sector in various matters involving public utilities.

Fred O. Cunliffe (Supervisor Siting Analyst) has been employed by the Council for approximately 19 years. Mr. Cunliffe holds a bachelor of science degree in wildlife biology from the University of Massachusetts, Amherst. He previously served as a research assistant with the Department of Environmental Protection.

Christina M. Lepage (Siting Analyst II) has been employed by the Council for seven years. Ms. Lepage holds a bachelor of science degree in environmental science from Marist College and a master of science degree in environmental science from the University of New Haven.

Robert D. Mercier (Siting Analyst II) has been employed by the Council for six years. Mr. Mercier holds a bachelor of arts degree with a concentration in environmental science from Central Connecticut State University. Prior to employment with the Council, he was employed as an environmental consultant specializing in hazardous materials assessment and remediation.

C. David Martin, Jr. (Siting Analyst I) has been employed by the Council for five years. He holds a bachelor of arts degree from Bates College and a masters in urban planning from Michigan State University. Mr. Martin has previously worked for the Central Connecticut Regional Planning Agency, as a town planner for a Connecticut municipality, and the Connecticut Resources Recovery Authority.

Michael A. Perrone (Siting Analyst I) has been employed by the Council for four years. Mr. Perrone holds a bachelor of science degree in mechanical engineering from the University of New Haven. He was previously employed as an engineer at the Connecticut Department of Public Utility Control.

Lisa A. Fontaine (administrative assistant) has been employed by the Council for seven years. Mrs. Fontaine holds an associate of science degree.

Carriann Mulcahy (secretary) has been employed by the Council for four years. Ms. Mulcahy was previously employed by Central Connecticut State University. Her past experience also includes employment at the federal and municipal level.

Jessica Brito (office assistant) is a recent addition to the Council staff. Miss Brito was previously employed by the State of Connecticut Department of Developmental Services.

Environmentally Printed

In 2006, Governor Rell introduced Connecticut's Energy Vision for a Cleaner, Greener State. A key part of this Vision was a plan to promote energy efficient behavior among all residents and businesses. This plan is embraced and promoted through a communications campaign that asks Connecticut's resident's to take one small step, every day, to conserve energy and help protect the environment. In keeping with the spirit of Governor Rell's vision, this report is printed on Green Seal certified paper that is manufactured with non-polluting, wind-generated energy. By selecting paper that is 100 percent postconsumer waste fiber, the Council was able to achieve the following benefits to the environment:

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851 lbs	solid waste not generated
1,676 lbs	net greenhouse gases prevented
12,831,600 BTUs	energy not consumed

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Displaces this amount of fossil fuel:

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Source: EPA Government

The Council is proud to take this small but significant step. Please visit onethingct.com and help spread the word about Governor Rell's OneThing Energy Vision.

NOTES

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In keeping with the spirit of Governor Rell's Energy Vision, this report is printed with vegetable oil-based ink on Green Seal certified paper that is manufactured with non-polluting, wind-generated energy. Please visit onethingct.com and help spread the word about Governor Rell's OneThing Energy Vision.