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50 Leavenworth Street P.O. Box 1110 Waterbury, CT 06702

November 24, 2015

VIA E-MAIL and DELIVERY

Attorney Melanie Bachman Acting Executive Director Connecticut Siting Council Ten Franklin Square New Britain, CT 06051

Re: DOCKET NO. 461 - Eversource Energy Application for a Certificate of Environmental Compatibility and Public Need for the construction, maintenance, and operation of a 115-kilovolt (kV) bulk substation located at 290 Railroad Avenue, Greenwich, Connecticut, and two 115-kV underground transmission circuits extending approximately 2.3 miles between the proposed substation and the existing Cos Cob Substation, Greenwich, Connecticut, and related substation improvements.

Dear Attorney Bachman:

In connection with the above-referenced Docket No. 461, enclosed please find the original and 15 copies of the Supplemental Direct Testimony of Kenneth B. Bowes, Raymond Gagnon and Jacqueline Gardell, on behalf of The Connecticut Light and Power Company Doing Business as Eversource Energy Concerning the Greenwich Substation and Line Project.

Very truly yours,

Marianne Barbino Dubuque

MBD/mkw Enclosures

cc: Service List dated October 2, 2015 attached (with enclosure)

{W2613711}

Date: October 2, 2015

Docket No. 461 Page 1 of 3

LIST OF PARTIES AND INTERVENORS SERVICE LIST

Status Granted	Document Service	Status Holder	Representative
Applicant	Service E-Mail	(name, address & phone number) Eversource Energy	Jacqueline Gardell Project Manager Eversource Energy 56 Prospect Street Hartford, CT 06103 jacqueline.gardell@eversource.com John Morissette Project Manager-Transmission Siting-CT Eversource Energy 56 Prospect Street Hartford, CT 06103 john.morissette@eversource.com Jeffery Cochran, Esq. Senior Counsel, Legal Department Eversource Energy 107 Selden Street Berlin, CT 06037 jeffery.cochran@eversource.com Marianne Barbino Dubuque Carmody Torrance Sandak & Hennessey LLP 50 Leavenworth Street Waterbury, CT 06702 mdubuque@carmodylaw.com
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STATE OF CONNECTICUT CONNECTICUT SITING COUNCIL

ı	Eversource Energy Application for a
ı	Certificate of Environmental Compatibility
ı	and Public Need for the construction,
	maintenance, and operation of a 115-
	kilovolt (kV) bulk substation located at 290
	Railroad Avenue, Greenwich, Connecticut,
	and two 115-kV underground transmission
	circuits extending approximately 2.3 miles
	between the proposed substation and the
	existing Cos Cob Substation, Greenwich,
	Connecticut, and related substation
	improvements.

DOCKET NO. 461

November 24, 2015

SUPPLEMENTAL DIRECT TESTIMONY OF KENNETH B. BOWES, RAYMOND GAGNON AND JACQUELINE GARDELL, ON BEHALF OF THE CONNECTICUT LIGHT AND POWER COMPANY DOING BUSINESS AS EVERSOURCE ENERGY CONCERNING THE GREENWICH SUBSTATION AND LINE PROJECT

- Q. What is the purpose of this supplemental testimony?
- A. The purpose of this supplemental testimony is to provide additional background information on the Project.

NEED

- Q. Please summarize the key reasons that this Project is needed.
- A. On June 13, 2011, following a string of cascading outages on the 27.6-kV system supplying the distribution substations in Greenwich, Eversource announced its plans to build a new substation in Greenwich to serve the customer load in the Town and provide additional resiliency beyond the existing Cos Cob Substation. Significantly, the Project addresses the need for capacity to avoid transformer overloads at Cos Cob Substation, eliminates potential

distribution feeder overloads supplying power to Prospect Substation from Cos Cob Substation and addresses the need for capacity to reduce the risk of transformer overloads at Prospect Substation.

- Q. Would it be fair to say that this Project is an important step in maintaining critical energy infrastructure in Greenwich? If so, please explain why.
- A. Yes. Since 2010, Eversource has spent over \$35 million on almost a dozen system improvements to increase the reliability of Greenwich's electric distribution system. However, with those improvements, Eversource has exhausted the efficiency of interim fixes at the distribution level. Accordingly, a permanent long-term solution is needed now to increase the capacity of Greenwich's current electric delivery system to reliably meet forecasted customer demand.
- Q. Would the proposed transmission lines from Cos Cob Substation to the new Greenwich Substation and the new Greenwich Substation provide the necessary capacity and resolve the rate of system overload conditions in a timely and cost-effective manner?
 - A. Yes, it would.
- Q. With the proposed modifications at Cos Cob Substation and Greenwich Substation in service, would the area electric infrastructure be strengthened such that the growing needs of residents and businesses in the Town of Greenwich could be met as well as the future economic development needs?
 - A. Yes.
- Q. If the projected growth in customer demand places the system beyond its rated maximum capacity in 2017 under certain operating conditions, such as an extended heat wave with high power demand, what would happen?

- A. The system in Greenwich could experience overloads, requiring targeted outages to avoid broader, more sustained equipment failures.
- Q. What could be the consequence if Cos Cob Substation experiences a contingency event?
- A. Under certain contingency events, a high percentage of customers in Greenwich could be without power if Cos Cob Substation experiences such a contingency event.
 - Q. Can the Project be postponed?
- A. No, this Project cannot be postponed. The proposed Project is a critical infrastructure project to meet an essential public need. It is not a discretionary private project that can be safely, or responsibly, postponed.
- Q. What alternatives did Eversource evaluate before concluding that the only viable, available and cost-effective approach would be the construction of a new substation located near the highest level of customer usage?
- A. Eversource thoroughly evaluated a broad range of alternative solutions, including solar, distributed generation, demand response, energy efficiency, and microgrids, finding that alone, or in combination, these studied alternatives could not cost-effectively provide the capacity and reliability benefits that the Project would provide.
- Q. Are there any Energy Efficiency programs sponsored by Eversource that encourage electric customers to switch to natural gas for heating, cooking, or hot water?
- A. Yes, as part of its Energize CT program in the areas served by Eversource,

 Eversource continues expanding its natural gas system across Connecticut to offer customers

 another energy-efficient fuel choice; qualified, new gas customers can take advantage of the

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Energize CT Heating Loan when purchasing select ENERGY STAR® natural gas boilers and furnaces.

- Q. Has the Company provided any information to Greenwich customers concerning energy efficiency and natural gas?
- A. Yes. A joint letter was sent to customers in Greenwich during August of 2015 from the Company and Connecticut Natural Gas, the local gas distribution company serving Greenwich customers. A copy of that letter is attached hereto as Attachment 1.
- Q. Has the Company engaged Town officials to promote energy efficiency in Greenwich?
- A. Yes, Eversource representatives work with Greenwich's conservation committee to promote energy efficiency campaigns and workshops. However, on the whole, there is limited participation by Greenwich customers. Only about 5% of homeowners have participated in residential programs from January 2010 to July 2015.
- Q. Is the Company aware of any independent analyses of energy efficiency efforts in Connecticut?
- A. Yes. The American Council for an Energy-Efficient Economy released its 2015

 State Energy Efficiency Scorecard. Connecticut ranked 6th highest among the 50 States and

 District of Columbia in energy efficiency. Of particular note, Connecticut's utility-administered energy efficiency programs were found to demonstrate excellent national performance, earning

 Connecticut the fourth highest number of points, with only Massachusetts, Rhode Island and

 Vermont earning higher points for their programs. The Executive Summary of the Scorecard is attached hereto as Attachment 2. The Company has requested that the Council take administrative notice of the entire report in its request dated November 24, 2015.

HEARING ISSUES

- Q. How does the site at 290 Railroad Avenue satisfy Eversource's system design needs and siting objectives?
- A. The site at 290 Railroad Avenue satisfies Eversource's system design needs by developing a new power supply that is practicable from an engineering and construction perspective and by locating this supply in close proximity to the center of customer demand and to existing distribution feeders. It primarily satisfies Eversource's siting objectives by being situated within the identified load pocket and by avoiding sensitive environmental resources, or mitigating impacts. Significantly, the site is the least impactful to residential properties.
- Q. Does the Company have existing substations that are located in developed commercial or residential areas?
- A. The Company has many substations that are located in developed commercial areas, such as South End Substation in Stamford, and in residential areas, such as Sherwood Substation in Westport.
- Q. How does Eversource plan to protect Bruce Park from any adverse impacts from the proposed Project facilities?
- A. Eversource recognizes that Bruce Park is a valued asset for the Town of Greenwich and that members of the community are concerned about the potential harm to soil, ground water or wildlife that might result from having HPFF lines in Bruce Park. Accordingly, Eversource's plans include important features to avoid any adverse impacts. Those features include:
 - A cable insulating fluid that is not a hazardous substance;
 - Contiguous steel pipe sections welded and tested for voids:
 - Low strength thermal concrete filled around the pipes within the trench;

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- High strength thermal concrete cap; and
- 24/7 continuous monitoring of the cables, including fluid level alarms.

Q. What efforts has Eversource undertaken to inform the Town and its residents?

A. Eversource has endeavored to work closely with the Town and residents of Greenwich by actively seeking community input on the proposed Project and listening to suggestions and concerns. Suggested design changes were received through:

- several meetings, field walk-throughs and presentations with the First Selectman and Town department heads;
- conversations and correspondence with local property owners;
- two public presentations before the Planning and Zoning Commission;
- two presentations before the Architectural Review Committee;
- two Project Open Houses; and
- field review and testimony before the Siting Council.

Q. What changes to the Project have been made as a result of such efforts?

- A. Based on the feedback from many meetings and consultations with Town officials and the community, Eversource:
 - modified the exterior design of the Greenwich Substation so that it would better approximate the existing service center building at 330 Railroad Avenue and blend in with the neighborhood;
 - moved the proposed GIS building away from the sidewalk to create a setback area that would allow plantings; and
 - developed three route variations of the Preferred Route for the transmission lines, each aimed at reducing the impact on residents of Kinsman Lane and Bruce Park.
- Q. Will Eversource be attentive to the further input and suggestions and continue to work closely with the Town on all aspects of the Project, including an effective traffic management plan to further limit community impacts?
 - A. Yes.

- Q. In your responses to a number of interrogatories submitted by Pet Pantry Super Discount Stores, LLC ("Pet Pantry"), Eversource indicates that certain studies were not performed, can you explain why?
- A. Eversource's application complies with the requirements set forth in the Siting Council's Application Guides for Electric Substations and for Electric Fuel Transmission Facilities. The studies that Pet Pantry refers to were not required or even necessary. Following an iterative process, as set forth in the Application, a Preferred Site and an Alternate Site for the proposed substation and the Preferred Route and Alternatives, as well as variations through Bruce Park were selected. However, the selection of the site for the new substation and the route for the transmission lines is ultimately up to the Siting Council. Performing additional studies on various other potential sites and other routes would be expensive and an unnecessary burden on Eversource's customers who ultimately pay for the Project costs.
 - Q. Have you investigated the status of Kinsman Lane?
- A. Yes. According to the Town Road List, Listing of Locally Maintained Roads by Town as of December 31, 2014 compiled by the Connecticut Department of Transportation, Kinsman Lane is a publicly maintained road for 0.16. Kinsman Lane is, in its entirety, 0.16 miles. The relevant excerpts from that list are attached hereto as Attachment 3. The Company has requested that the Council take administrative notice of the entire report in its request dated November 24, 2015.
- Q. Do you have any data to support the economic development activities that are occurring in Greenwich?
- A. Yes. The Town's Annual Report, July 1, 2013 June 30, 2014, provides useful data to evidence the economic development activities that are occurring in Greenwich. The

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Company has requested that the Council take administrative notice of the entire report in its request dated November 24, 2015.

- O. Please summarize that data.
- A. The data from the 2013/2014 Annual Report are as follows:
 - 102 special permit applications (increase of 30 over prior fiscal year)
 - 19 new subdivision applications (increase by 2 over prior fiscal year)
 - 966 site plans (increase by 8% over prior fiscal year and 60% increase from Fiscal Year 2011/2012).

Relevant excerpts from the Town's Annual Report are attached hereto as Attachment 4.

- Q. Does the Annual Report contemplate a new Greenwich Substation, and if so, in what manner?
- A The Annual Report contemplates and encourages a new substation in Greenwich as follows:

The major areas on which the First Selectman focused during the past year were:

- ...7. Working with Connecticut Light and Power Company to reinforce the importance of reliable energy to Greenwich residents and businesses and encouraging the implementation of an aggressive five year CL&P capital improvement plan as well as a new substation for the Town.
- Q. Is there any data compiled by agencies of the State of Connecticut that demonstrates economic activity occurring in Greenwich?
- A. The October 2015 Connecticut Economic Digest, published by the Connecticut

 Department of Labor and the Connecticut Department of Economic and Community

Development ranked Greenwich among all Connecticut towns:

• #1 in the top five towns with the highest annual average wage, 2014 at \$130,268, which represented a 4.6% increase from 2013; and

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• #2 in the total number of business establishments in 2014.

In addition, the Connecticut Department of Labor, as of September 2015, reported Greenwich's unemployment rate is 3.7% (labor force of 28,708 with 1,050 unemployed), as compared with the State's unemployment rate at 5.1%) (http://www1.ctdol.state.ct.us/lmi/laus/lmi123.asp).

ROW WIDTH

- Q. ROW width is determined by a number of factors. Are there design measures that can reduce ROW width?
- A. Yes, design measures such as restrained insulation, reduction of span lengths and using rigid post installation set off from the center pole, can reduce the necessary ROW width.
- Q. Explain how the use of restrained insulation can reduce the amount of ROW required.
- A. Restrained insulation, such as rigid post, strain insulation or V-String insulation can reduce or eliminate the insulator swing.
 - Q. Are there any disadvantages to using restrained insulation?
- A. Yes. Use of restrained insulation creates a more rigid system that is less able to respond to dynamic events, such as broken conductors.
- Q. Explain the reduction of maximum span lengths as a tool to reduce ROW width.
- A. Because maximum span length plays a significant role in overall calculation of conductor blowout, reduction of span lengths can reduce the necessary ROW width.
- Q. —What are the disadvantages of reducing span lengths to reduce the necessary ROW width?

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- A. Reducing the span lengths means adding more structures, closer together, so that the cost of the structures is increased and the visual effects can be perceived as increased.
- Q. Explain the use of rigid post installation set off from the center pole as a tool to reduce ROW width.
- A. A rigid post installation set off from the center pole is shorter than the typical arm used for suspension swinging insulation.
- Q. What are the disadvantages of using rigid post installation set off from the center pole as a tool to reduce ROW width?
- A. Using rigid post installation in this manner limits the ability to perform live line maintenance by eliminating the climbing corridor up the center of the pole.

RAILROAD CONSTRUCTION CHALLENGES

- Q. Please describe the construction challenges to build the transmission line on structures near an active railroad.
- A. Work on railroad ROWs must satisfy the criteria established by the Federal Railroad Administration. Such criteria specify worker safety requirements (e.g., training, flagging), permitting, and the performance of activities within the confines of the railroad schedule and operations. Moreover, extensive coordination efforts between Eversource, MNRR and ConnDOT would be required. As a practical matter, MNRR and ConnDOT can dictate the conditions under which the line can be constructed. The constraints that Eversource would encounter, most of which have significant cost and construction schedule implications, include:
 - a) Because a track must be taken out of service for construction activities to take place,

 MNRR would limit Eversource to a construction window of only a few hours per day,

 which allows a very narrow time period for mobilization, performance of work and

- demobilization. However, the construction crews would be paid for a full day of work each day (likely for a minimum of 10 hours), thereby significantly increasing the labor costs.
- b) During such night-time hours, the work site, which abuts the rear of residential properties, would be brightly illuminated for the safety of construction crews.
- c) Even with the near track out of service, the space available for the construction effort is constrained, so that the amount of work that can be safely accomplished in a few hours is much less than can be accomplished in an equivalent period of time on a typical, unconstrained ROW.
- d) Even though the track nearest the line under construction would be taken out of service, there may be trains on other tracks for MNRR testing or maintenance purposes. Certain types of work must be suspended when MNRR decides to operate a train on any of the other tracks and work could not be resumed until it has passed.
- e) MNRR may cancel the scheduled track outages on short notice due to their own overriding priorities, thereby further affecting the longer than usual construction schedule.
- f) The equipment, construction procedures and protection measures employed by Eversource's contractor would be subject to approval by MNRR, and the approval process is time-consuming and can cause construction delays.
- also pay for MNRR safety personnel such as signalmen or watchmen. Nevertheless, the schedule of work would be subject to the limited availability of MNRR personnel (i.e. groundmen, flagmen, etc.) to implement track outages and the personnel (i.e.

conductor, brakeman, engineer, pilot) needed to remove the track from service prior to track outages.

- Q. Do you recall any recent experiences with MNRR similar to what would be required here?
- A. Yes, the Pequonnock-Ely Avenue project in the early 1990s was very challenging; many of the limitations and requirements explained above were imposed by MNRR. In addition, MNRR only allowed structure work on Friday and Saturday between 10:00 PM and 5:00 AM, a significantly larger window of time for construction, but still resulted in requiring an approximately two year construction period. Without warning, during the Thanksgiving and Christmas holiday season, MNRR recalled the rail being used for the work, which necessitated use of off rail access. As a result, the mobilization/demobilization costs were higher than originally anticipated.
- Q. Are there any corrections or clarifications to Eversource's testimony at the Siting Council's October 6, 2015 hearing?
- A. The 2017 forecasted summer peak is calculated based on the actual peak in 2013, and thus is not weather normalized, and then that actual peak is escalated by 1% per year.

Attachments

Attachment 1 –	Letter to customers in Greenwich from Eversource Energy and CNG
Attachment 2 –	American Council for an Energy-Efficient Economy, Executive Summary, The 2015 State Energy Efficiency Scorecard
Attachment 3 –	Town Road List, List of Locally Maintained Roads by Town, As of December 31, 2014, Town of Greenwich
Attachment 4 –	Annual Report, July 1, 2013 – June 30, 2014, Town of Greenwich, Connecticut (Excerpts)

Attachment 1



Empowering you to make smart energy choices

Dear Energy Customer,

Save energy and money with Home Energy SolutionsSM, an Energize Connecticut program brought to you by Eversource and Connecticut Natural Gas. In an effort to reduce the amount of energy you use and to improve the comfort of your home, certified Home Energy Solutions professionals will evaluate your home's energy performance and provide energy-saving products and services such as:

- Energy-efficient compact fluorescent and LED light bulbs;
- Water-saving devices including low-flow, high-pressure showerheads and faucet aerators;
- The latest technology to seal air leaks, including attic and basement air sealing, door sweeps, weather stripping and caulking around windows and doors;
- Rebates for additional home improvements such as insulation, heating and cooling systems and water heaters.

These services add up to an average of \$1,000 but they are available to our customers for a co-pay of just \$99*.

These services save participants an average of \$200 a year, each year, in energy costs.

The Home Energy Solutions program is funded by a small charge on electric and natural gas bills. It's your money, so take advantage and start saving! Call 877-WISE-USE (877-947-3873) to schedule your appointment or visit EnergizeCT.com/HES to complete an online application.

* \$99 fee for Eversource customers. Program availability and price is subject to change. Fee may be waived for income eligible residents.

Sincerely,

The Energy Efficiency Teams at Eversource and CNG





A UIL HOLDINGS COMPANY

Attachment 2



EXECUTIVE SUMMARY The 2015 State Energy Efficiency Scorecard

The year 2015 marks a tipping point for energy efficiency. State policies are increasingly encouraging utilities to invest in cost-effective efficiency, prompting them to adopt new business models that align their interests with those of customers and policymakers. Utilities across the United States invested more than \$7 billion in energy efficiency over the past year. States are also spurring energy efficiency investments through advancements in building energy codes, transportation planning, and leading by example in their own buildings. These investments in energy efficiency reap huge benefits, giving businesses, governments, and consumers more control over how and when they use energy. Efficiency saves money, drives investment across all sectors of the economy, creates jobs, and reduces the environmental impact of energy use. This summer's release of the Clean Power Plan by the US Environmental Protection Agency (EPA) further motivates states to invest in cost-effective energy efficiency as a compliance option.

Governors, legislators, regulators, and citizens are increasingly recognizing that energy efficiency is a crucially important state resource. As a result, many innovative policies and programs that promote energy efficiency originate at the state level. *The 2015 State Energy Efficiency Scorecard* reflects these successes through a comprehensive analysis of state efforts to support energy efficiency.

In this ninth edition of our *State Energy Efficiency Scorecard*, the American Council for an Energy-Efficient Economy (ACEEE) ranks states on their policy and program efforts and recommends ways that states can improve their energy efficiency performance in various policy areas. The *State Scorecard* provides an annual benchmark of the progress of state energy efficiency policies and programs. It encourages states to continue strengthening their efficiency commitments in order to promote economic growth, secure environmental benefits, and increase their communities' resilience in the face of the uncertain cost and supply of the energy resources on which they depend.

The 2015 State Energy Efficiency Scorecard assesses state policies and programs that improve energy efficiency in our homes, businesses, industries, and transportation systems. It considers the six policy areas in which states typically pursue energy efficiency:

- Utility and public benefits programs and policies
- Transportation policies
- Building energy codes and compliance
- Combined heat and power (CHP) policies
- State government-led initiatives around energy efficiency
- Appliance and equipment standards

KEY FINDINGS

Figure ES1 shows states' rankings in *The 2015 State Energy Efficiency Scorecard*, dividing them into five tiers for ease of comparison. Later in this section, table ES1 provides details of the scores for each state. An identical ranking for two or more states indicates a tie.

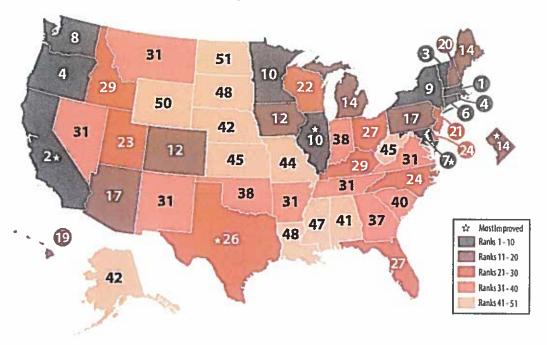


Figure ES1. 2015 State Scorecard rankings

Massachusetts retained the top spot in the *State Energy Efficiency Scorecard* rankings for the fifth year in a row, having overtaken California in 2011. The state's achievement is based on its continued commitment to energy efficiency under its Green Communities Act of 2008. Among other things, the legislation has spurred greater investment in energy efficiency programs by requiring utilities to save a large and growing percentage of energy every year through efficiency measures. Massachusetts achieved incremental electricity savings of over 2.4% of statewide retail sales in 2014.

Joining Massachusetts in the top five are California, Vermont, Rhode Island, and Oregon. All of these states have appeared in the top five in the past, demonstrating the continuing commitment and progress of the states in the top tier.

Connecticut, Maryland, Washington, New York, Minnesota, and Illinois rounded out the top tier. These states have well-established energy efficiency programs but also continue to push the boundaries by redefining the ways in which policies and regulations can enable energy efficiency.

States Rising and Falling

This year's most improved states were Maryland, Illinois, the District of Columbia, California, and Texas. Most-improved states showed the largest increases in points over last year's totals. Maryland has been a top-performing state for several years and in 2015 increased its commitment to energy efficiency by establishing new, more aggressive energy savings targets for utilities. Illinois is well along the path toward adoption of the most recent building energy codes, and procurement agreements with the Illinois Power Agency have allowed utilities to achieve energy savings beyond the constraints of a spending cap placed on programs run under the state's energy efficiency resource standard (EERS). The District of Columbia is among the most improved for the second year in a row, due to its progress across a number of policy areas and the ramping up of DC Sustainable Energy Utility programs. California's major efforts to achieve energy efficiency in schools, in addition to its implementation of a cap-and-trade program, earned the state several more points this year. Texas installed the most new CHP capacity of any state in 2014 and also prioritized building energy code compliance efforts through a partnership with the US Department of Energy.

Other states have also made recent progress in energy efficiency. Delaware actively convened stakeholder groups over the past year to develop energy savings targets for utilities and the Delaware Sustainable Energy Utility. Pennsylvania established new energy efficiency targets for electric utilities for the next five years.

Sixteen states fell in the rankings this year, and 27 states and two territories lost points because of substantive changes in their performance as well as changes in our methodology. New Mexico fell the farthest, losing four points and falling six positions in the rankings. This drop is indicative of the need to consistently update and improve policy. Although New Mexico has energy savings targets in place, other states have ramped up energy savings in recent years and adopted more recent (and more stringent) versions of building energy codes.

Results by Policy Area

The leading states in utility-sector energy efficiency programs and policies (covered in Chapter 2) were Massachusetts, Rhode Island, and Vermont. These are the same three states that topped this category in 2014. With long records of success, all three continued to raise the bar on cost-effective programs and policies. Massachusetts and Rhode Island both earned maximum points in this category for the second year in a row, with Rhode Island achieving incremental electricity savings of well over 3% of retail sales.

Total spending for electricity efficiency programs in 2014 reached \$5.9 billion. Adding this to natural gas program spending of \$1.4 billion, we estimate total efficiency program spending of more than \$7.3 billion in 2014. Reported state budgets were again slightly higher than actual spending. In 2014 budgets totaled \$8.2 billion, a significant increase over the \$7.7 billion we reported last year.

Savings from electricity efficiency programs in 2014 totaled approximately 25.7million megawatt-hours (MWh), a 5.8% increase over last year. These savings are equivalent to

about 0.7% of total retail electricity sales across the nation in 2014. Gas savings for 2014 were reported at 374 million therms (MMTherms), a 35% increase over 2013.

Twenty-five states continue to enforce and adequately fund energy savings targets to drive investments in utility-sector energy efficiency programs. The states with the most aggressive savings targets included Arizona, Massachusetts, and Rhode Island. This year Maryland also finalized strong energy savings goals. New York is making major changes to its utility regulatory structure as part of the state's ongoing Reforming the Energy Vision (REV) process, but multiyear savings targets remain an important measure of performance. In Maine, legislators and regulators made back-and-forth decisions about funding limits, but as of the time of publication Efficiency Maine was fully funded to implement the state's all-cost-effective efficiency mandate. Doubt remains as to the future of energy savings targets in Ohio, but most utilities in the state continue to meet targets despite a freeze put in place by legislation passed last year.

California, Massachusetts, and New York led the way in energy-efficient transportation policies (covered in Chapter 3). California's requirements for reductions in greenhouse gas (GHG) emissions have led it to identify several strategies for smart growth, and Massachusetts promoted smart growth development in cities and municipalities through state-delivered financial incentives. New York is one of the few states in the nation to have a vehicle-miles-traveled reduction target.

The leading states in building energy codes and compliance (Chapter 4) were California and Illinois. Only four states—California, Illinois, Maryland, and New Jersey—have adopted the latest commercial *and* residential building energy codes without significant weakening amendments.

Massachusetts, Maryland, and California took top points for their combined heat and power policies (Chapter 5), while California, Illinois, Minnesota, and New York led the way in state government initiatives (Chapter 6). All of these states offer financial incentives to consumers and state and local governments, and also invest in research and development programs focused on energy efficiency.

California continues to lead the nation in its setting of appliance standards (Chapter 7). This year, to address its drought conditions, California adopted new standards for plumbing products that will lead to both energy and water savings.

Table ES1 gives an overview of how the states fared in each scoring category.

Table ES1. Summary of state scores in the 2015 State Scorecard

Rank	State	public benefits programs & policies (20 pts.)	Transportation policies (10 pts.)	Building energy codes (7 pts.)	Combined heat & power (4 pts.)	State government initiatives (7 pts.)	Appliance efficiency standards (2 pts.)	TOTAL SCORE (50 pts.)	Change in rank from 2014	Change in score from 2014
1	Massachusetts	20	8.5	6	4	5.5	0	44	0	2
2	California	14	10	7	4	6.5	2	43.5	0	3
3	Vermont	19	7	6.5	2	5	0	39.5	0	2
4	Oregon	13	8	6.5	2.5	5.5	1	36.5	-1	-1
4	Rhode Island	20	5	5	3	3	0.5	36.5	-1	-1
6	Connecticut	15	6	5	3	5.5	1	35.5	0	0
7	Maryland	12	7	6.5	4	5	0.5	35	2	5
8	Washington	11	8	6.5	2.5	5	0.5	33.5	0	0
9	New York	10	8.5	5	3	6	0	32.5	-2	-2.5
10	Illinois	10	6	7	2	6	0	31	1	4
10	Minnesota	13.5	4	5.5	2	6	0	31	0	2
12	Colorado	8.5	5	4.5	1	5	0.5	24!5	1	0
12	lowa	1:1.	2.5	6	1.5	3.5	0	2415	2	0.5
14	District of Columbia	6	6.5	6	1.	3.5	0.5	23.5	7	3.5
14	Maine	8	6	2	2.5	5	0	23.5	2	1
14	Michigan	14.5	4.5	4	1	2.5	0	23.5	-2	-2.5
17	Arizona	44.5	3.5	2	4.5	3	0.5	22	-2	-1.5
17	Pennsylvania	4	6	4.5	2.5	5	0	22	3	1.5
19	Haweil	12	4	2	1	2.5	0	21.5	-2	0
20	New Hampshire	9	2	4	1	3	0.5	19.5	2	1
21	New Jersey	5	6	4	1.5	2.5	0	19	-2	-2
22	Wisconsin	7.5	2	2.5	2	4	0	18	-5	-3.5
23	Utah	6.5	2	3.5	1	4	0	17	0	-1
24	Delaware	0	6	4.5	1.5	4.5	0	16.5	1	-0.5
24	North Carolina	2	4	4	2	4.5	0	16.5	0	-1
26	Texas	0.5	3	6	2	4	0.5	16	8	3
27	Florida	1.5 7	5	5.5	11	2.5	0	15.5	1	-1
27	Ohio Idaho		0.5	3	1.5	3.5	0	15.5	-2	-1.5
29 29		4	0.5	5.5	0.5	3.5	0	14	1	-0.5
31	Kentucky Arkansas	2.5 7	1	5	0.5	5	0	14	4	0.5
31	Montana	3.5	1	3.5	0	1.5	0	13	0	d.
31	Nevade	3	0	5	1	3.5	0	13	0	-1.
31	New Mexico	4.5	1			4	0	13	2	-3
31.	Tennessee	1.5	4.5	3 1.5	0.5	3.5	0	13	6	-4
31	Virginia	-0.5	5	4	0.5	5 4.5	0	13	7	1
37	Georgia	15	4.5	3.5	0	2.5	0	13 12.5	4	0.5
38	Indiana	4	2.5	2	0.5	2.5	0.5		- 2	0
38	Oklahoma	3	1	3	0.5	THE RESERVE AND ADDRESS OF THE PERSON NAMED IN	0	11	2	0.5
40	South Carolina	1	3	3	0.5	3.5	0	11 10	-3	-1.5
41	Alabama	0	0.5	4.5	0	4.5	0	9.5	2 -2	0
42	Alaska	0	2	1.5	1	4.5	0	9.5	5	-1.5 1
42	Nebraska	0,5	0.5	5	0	3	0	9	0	-1
44	Missouri	1.5	1	1.5	0.5	4	0	8.5	0	-1 -0.5
45	Kansas	0	1	2	0.5	4.5	0	8	<u></u> 5	-2.5
45	West Virginia	-0.5	3	4.5	0.5	0.5	0	8	1	-0.5
47	Mississippi	0.5	1	2.5	0.5	3	0	7.5	0	-0.5
48	Louisiana	0.5	1.5	2	0.5	1.5	0	6	-4	÷3
48	South Dakota	3	0.5	0.5	0.5	1.5	0	6	1	-1.5
50	Wyoming	1	1	2	0	1.5	0	5.5	0	-1
50										

We also included three US territories in our research this year: Puerto Rico, Guam, and the US Virgin Islands. While we did score these territories, we did not include them in our general rankings. All of them have taken some steps toward ensuring that building energy codes meet the requirements of the American Recovery and Reinvestment Act, but they have not yet invested heavily in energy efficiency in other sectors. The best-performing of these, Puerto Rico, would rank 48th if it were a state. Table ES2 shows their scores.

Table ES2. Summary of scores for territories in the 2015 State Scorecard

Territory	Utility & public benefits programs & policies (20 pts.)	Transportation policies (10 pts.)	Building energy codes (7 pts.)	Combined heat & power (4 pts.)	State government Initiatives (7 pts.)	Appliance efficiency standards (2 pts.)	TOTAL SCORE (50 pts.)	Change In score from 2014
Puerto Rico	0	2.5	2.5	0	2	0	7	0
Guam	0	0	3	0	0.5	0	3.5	-1
US Virgin Islands	0	0	2.5	0	0.5	0	3	-1

STRATEGIES FOR IMPROVING ENERGY EFFICIENCY

Put in place and adequately fund an EERS or similar energy savings target. EERS policies establish specific energy savings targets that utilities or independent statewide program administrators must meet through customer energy efficiency programs. They serve as an enabling framework for cost-effective investment, savings, and program activity. EERS policies can catalyze increased energy efficiency and its associated economic and environmental benefits.

Examples: Massachusetts, Arizona, Hawaii, Rhode Island

Adopt updated, more stringent building energy codes, improve code compliance, and involve efficiency program administrators in code support. Buildings use more than 40% of the total energy consumed in the United States, making them an essential target for energy savings. Mandatory building energy codes are one way to ensure a minimum level of energy efficiency for new residential and commercial buildings.

Examples: California, Maryland, Illinois, Mississippi

Set quantitative targets for reducing vehicle miles traveled, and integrate land use and transportation planning. Like buildings, transportation consumes a substantial portion of the total energy used in the United States. Although the recent federal fuel economy standards will go a long way in helping to reduce fuel consumption, states will realize even greater energy savings by codifying targets for reducing vehicle miles traveled (VMT) as well as integrating land use and transportation planning to create sustainable communities with access to multiple modes of transportation.

Examples: California, New York, Massachusetts, Oregon

Treat cost-effective and efficient CHP as an energy efficiency resource equivalent to other forms of energy efficiency. Many states list CHP as an eligible technology within their

EERS or renewable portfolio standard (RPS), but they relegate it to a bottom tier. ACEEE recommends that states give CHP savings equal footing, and this requires that they develop a specific methodology for counting energy savings attributed to its utilization. If CHP is allowed as an eligible resource, EERS target levels should be increased to take into account the CHP potential and ensure that CHP does not displace traditional energy efficiency measures.

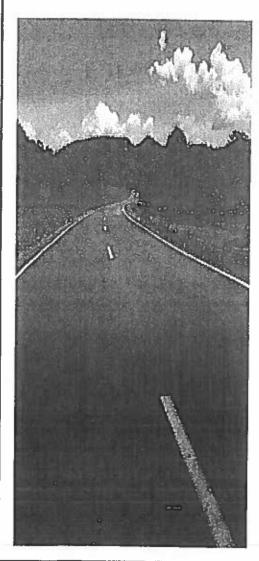
Example: Massachusetts

Expand state-led efforts—and make them visible. Initiatives may include putting in place sustainable funding sources for energy efficiency incentive programs; investing in energy efficiency-related research, development, and demonstration centers; and leading by example by incorporating energy efficiency into government operations. States have many opportunities to lead by example, including reducing energy use in public buildings and fleets, demonstrating the market for energy service companies that finance and deliver energy-saving projects, and funding research centers that focus on breakthroughs in energy-efficient technologies.

Examples: New York, Connecticut, Alaska

Attachment 3

TOWN ROAD LIST



LISTING OF LOCALLY MAINTAINED ROADS BY TOWN

AS OF DECEMBER 31, 2014



CONNECTICUT DEPARTMENT OF TRANSPORTATION

BUREAU OF POLICY AND PLANNING
OFFICE OF ROADWAY INFORMATION SYSTEMS
ROADWAY INVENTORY SECTION

TOWN OF GREENWICH

MILES OF LOCALLY MAINTAINED ROADS AS OF DECEMBER 31, 2014

NUM	DIR	STREET NAME		GRID	UNIMP, MILES	IMP.MILES	TOTAL
327	s	IVY ST	ы	17		00	00
328	w	JACKSON ST		111		.09 80.	.09
329	E	JAMES ST		18		.20	.00
330	N	JANET CT		13		.03	
331	S	JEFFREY RD		12		.30	.03 .30
332	E	JOFRAN LA		13		.11	
333	E	JOHN ST		07		2.17	.11 2.17
334	S	JONES PARK RD		15		.23	.23
678	S	JOSEPHINE EVARISTO AV		16		.20	.20
335	E	JOSHUA LA		10		.10	10
336	E	KEMONDO RD		11		.09	
337	w	KENILWORTH TER		12		.14	.09
806	W	KENSINGTON CT		14		.05	.14
338	E	KENT PL		13		.11	.05
339	E	KEOFFERAM RD		16		.31	₃ 11 .31
763	E	KERNAN PL		15		.08	
340	S	KING ST NO 1	В			2.63	.08 2.63
735	S	KING ST NO 2		12		.72	.72
¥ 341	E	KINSMAN LA		15		.16	
342	S	KIRBY ST		18		.08	.16 .08
343	E	KNOLL ST		15		.15	
344	N	KNOLLWOOD DR		12		.38	.15
799	E	KNOLLWOOD DR EAST		12		.05	.05
345	S	LADDINS ROCK RD				.75	.75
346	N	LAFAYETTE PL	•	14		.18	.18
347	N	LAKE AV		02		7.66	7.66
348	N	LAKE DR NO 1		15		.14	.14
770	5	LAKE DR NO 2		15		.12	.12
349	E	LAKE DR SOUTH		15		.25	.12
350	N	LAKEVIEW DR		12		.12	.12
748	N	LANCER RD NO 1		13		.09	.09
351	E	LANCER RD NO 2		12		.29	.29
727	N	LANGHORNE LA		06		.38	.38
352	E	LANTERN LA		14		.05	.05
353	N	LAUB POND RD	D			.15	.15
354	S	LAUREL LA		11		.23	.23
355	N	LAWRENCE ST		14		.07	.23
356	N	LE GRANDE AV		15		.17	.17
357	W	LE JEUNE CT		12		.07	.07
358	E	LENOX DR		14		.10	.10
359	E	LEONARD AV		13		.29	
360	N	LESLIE AV		13		.01	.29
361	E	LEWIS ST		15		.30	.01 .30
362	w	LEXINGTON AV		15		.19	
363	W	LICATA TER		11		.15	.19
364	E	LINCOLN AV NO 1		15			.15
365	E	LINCOLN AV NO 2		15		.14	.14
771	E	LINCOLN AV NO 3		15		.23	.23
366	E	LINDEN PL		14		.12	.12
367	w	LINDSAY DR		09		.08	.08
368	N	LINWOOD AV		13		.28 .18	.28 .18
			-	10		.10	.10

Attachment 4

ANNUAL REPORT

July 1, 2013 – June 30, 2014

TOWN OF GREENWICH CONNECTICUT



COAT OF ARMS
GREENWICH, CONNECTICUT
Adopted April 25, 1940

TOWN OF GREENWICH, CONNECTICUT

OFFICE OF THE FIRST SELECTMAN AND BOARD OF SELECTMEN

<u>2013-14</u>	<u>2012-13</u>	<u>2011-12</u>
8	8	8
\$927,805	\$986,339	\$971,382
\$0	\$0	\$0
	8 \$927,805	\$ 8 \$927,805 \$986,339

OFFICE OF THE FIRST SELECTMAN

The First Selectman is the Chief Executive Officer of the Town of Greenwich. He serves on a full time basis and also is an ex-officio member of all boards, commissions, and committees and a voting member of the Flood and Erosion Control Board. As the Chief Executive, the First Selectman directs the following departments and services: Community Development, Fire, Fleet, Human Resources, Information Technology, Labor Relations, Law, Parking Services, Parks and Recreation, Police, Public Works, Purchasing and Administrative Services. He is assisted by the Town Administrator, who serves as his representative as directed. Also associated with the Office of the First Selectman are committees such as the Affirmative Action Advisory Committee, Commission on Aging, and Historic District Commission. Section 7-47(a) of the Connecticut General Statutes designates the First Selectman as the collective bargaining representative of the municipality (except with regard to terms and conditions of employment of certified teachers).

The First Selectman appoints the Conservation Commission, and serves as an ex officio member on all Boards and Commissions within the Town of Greenwich.

The major areas on which the First Selectman focused during the past year were:

- 1. Continuing to keep the overall cost of Town services moderate by limiting annual budget increases and establishing strong expenditure controls.
- 2. Limiting the property tax rate increase for FY 2014-2015 to 2.75% in conformance with the budget guidelines.
- 3. Continuing to plan and fund the construction of the new Central Fire Station to protect Downtown Greenwich residents and businesses.
- 4. Commencing the implementation phase of the "Community First" Customer Service training initiative to upgrade the quality of service Town employees provide to the Greenwich Community.
- 5. Managing the Town's Worker's Compensation program to decrease costs and establish more effective claims management.
- 6. Reinvigorating the Town of Greenwich Safety and Health Committee to improve worker safety by raising awareness about safety policies and learning from accident investigations.
- 7. Working with Connecticut Light and Power to reinforce the importance of reliable energy to Greenwich residents and businesses and encouraging the implementation of an aggressive five year CL&P capital improvement plan as well as a new substation for the Town.
- 8. Continuing the process of nominating highly qualified Town residents to the Town's boards and commissions.
- 9. Continuing the Office of First Selectman internal studies of Town functions to streamline operations, decrease costs and increase efficiency and accountability.
- 10. Continued refinements of the Departmental Operational Plans to provide improved disclosure of Departmental goals, strategies and performance measurement statistics.

PLANNING AND ZONING COMMISSION/DEPARTMENT AND ZONING ENFORCEMENT

	2013-14	2012-13	2011-12
Budgeted Personnel:			
Full-Time	7	7	7
Permanent Part-Time:	3	3	3
Expenditures:			
Current	\$879,193	\$876,195	\$856,888
Capital	\$0	0	0
Total:	<u>\$879,193</u>	<u>\$876,195</u>	<u>\$859,888</u>
Revenue	\$401,904	\$308,661	\$301,185

The Planning and Zoning Commission is a regulatory body composed of five (5) regular members and three (3) alternates appointed by the Representative Town Meeting upon nomination by the Board of Selectmen. The powers and duties of the Commission are defined in Special Act 469 of 1951, which states in part, "Said Commission shall, in addition to the powers and duties conferred by this act, have all the powers and duties conferred upon Zoning Commissions under the General Statutes of this state." The Commission is charged with the task of preparing a plan for the development of the town, now known as the Plan of Conservation and Development, for adoption by the Representative Town Meeting. State Statutes and the Town Charter authorize the Commission to review Municipal Improvements and regulate subdivisions of land.

The Department has seven (7) full-time staff members, (Director Planning and Zoning/Zoning Enforcement Coordinator/Town Planner, Deputy Director Planning and Zoning/Assistant Town Planner, Senior Planner, Planner II, Planner I, Land Use Technician, and Administrative Assistant), two (2) permanent part-time Administrative Staff Assistants, one (1) permanent part-time Civil Engineer, and one (1) shared receptionist with Conservation Commission and Inland Wetland and Watercourse Agency. Other staff (under the 174 account) consists of two (2) full-time persons shared by P&Z, CC, and IWWCA, the Applications Coordinator and Accounting Clerk II.

In November 2010 the Zoning Enforcement Officer and Zoning Inspection staff were transferred from DPW/Building Division to the Planning and Zoning Commission and they now report to the Director of Planning and Zoning/Zoning Enforcement Coordinator/Town Planner. Zoning Enforcement staff consists of the Zoning Enforcement Officer (ZEO), two (2) full-time and one (1) part-time Zoning Inspectors, and two (2) part-time Administrative Staff Assistants.

In total, the Planning and Zoning Department along with Zoning Enforcement have ten (10) full-time staff members, two (2) permanent part-time professional staff members, and four (4) permanent part-time administrative staff members.

SPECIAL PERMIT - 102

The Commission reviewed one hundred and two (102) special permit applications. This was an increase of thirty (30) applications from the previous fiscal year. Of the one-hundred-and-two (102) special permit applications; twenty-five (25) of these applications were in the Coastal Area Management (CAM) Zone. Fifty-three (53) were approved, twenty-six (26) were withdrawn, twenty-two (22) were still pending as of June 30, 2014, and one (1) was denied.

SUBDIVISIONS - 19

During the past fiscal year the Planning and Zoning Commission processed a total of nineteen (19) new subdivisions applications as contrasted with seventeen (17) in the previous year. Ten (10) were submitted as final subdivision applications, one (1) was submitted as preliminary re-subdivision application and eight (8) were filed as final re-subdivision applications. Nine (9) proposed lot line revisions, four (4) proposed

TELECOMMUNICATIONS - 1

There was one (1) application processed in the past fiscal year, which is a reduction of two (2) from the last fiscal year where three were processed. It was an administrative application for an existing site to replace existing equipment.

STAFF SIGNOFFS

FOR BUILDING PERMITS, TCO, CO, AND DRAINAGE EXEMPTIONS - 559

Professional staff signed off on more than five hundred and fifty nine (559) applications for permits, temporary and final certificates of occupancies, and drainage exemptions plans.

NON-COASTAL SITE PLANS - 143

There were one hundred and forty three (143) non-coastal site plan applications handled and processed through the Department. This was an increase of twenty seven (27) applications from the previous fiscal year. The Commission reviewed one hundred (100) applications, eighty (80) were approved, thirteen (13) were pending as of June 30, 2014, and seven (7) were withdrawn.

Department staff reviewed forty three (43) through the administrative staff review and sign-off process. Of these, thirty eight (38) were approved, three (3) were withdrawn, and two (2) were denied.

COASTAL APPLICATIONS - 182

A total of one hundred and seventy three (173) coastal site plans and nine (9) coastal subdivision/re-subdivision applications were reviewed this fiscal year. This was an increase of thirty three (33) coastal applications from the previous fiscal year.

The Commission reviewed forty (40) coastal site plan applications, thirty one (31) were approved, eight (8) were pending as of June 30, 2014, and one (1) was withdrawn.

The Commission reviewed nine (9) coastal subdivision/re-subdivision applications, six (6) were approved, two (2) was pending as of June 30, 2014, and one (1) was withdrawn.

Planning and Zoning Staff, alone, handled one hundred and thirty two (132) applications administratively. Of those, one hundred and sixteen (116) were approved, eleven (11) were pending as of June 30, 2014, three (3) were denied, and two (2) were withdrawn.

SPECIAL EVENT APPLICATIONS (TENT ADMINISTRATIVE SITE PLANS) - 61

Staff reviewed sixty one (61) Tent/Special Event Permits. This represents a decrease of four (4) applications from the previous fiscal year. Of these sixty one (61) applications sixty (60) were approved and one (1) was withdrawn.

OUTDOOR DINING APPLICATIONS (ADMINISTRATIVE SITE PLANS) - 20

Staff reviewed twenty (20) Outdoor Dining Applications. This represents an increase of four (4) applications from the previous year. Of these twenty (20) applications; nineteen (19) were approved, and one (1) was still pending as of June 30, 2014.

TOTAL SITE PLANS - 966

There were a total of nine hundred and sixty six (966) site plans combined, which includes staff approvals and signoffs for drainage exemptions, building permits, TCO and CO's. This is an 8% increase over last fiscal year when there were 892 but a 60% increase from FY11/12 when there were 601. The Commission reviewed one hundred and forty (140) site plan applications as required by Charter or State Statutes. Eighty six percent (86%) were handled administratively by staff.