

# KEEP RHODE ISLAND

# Beautiful

## NO NEW BURRILLVILLE POWER PLANT!

In addition to thousands of citizens who have signed the petition against the Clear River Energy Center power plant proposed for Burrillville, RI a growing number of major organizations, groups, towns, and leaders from Rhode Island and surrounding states have joined in expressing their opposition and concern through various forums. We will work to keep this running list up to date. Visit [www.keeprhodeislandbeautiful.com](http://www.keeprhodeislandbeautiful.com) for more info.

### Opposition to the proposed Clear River Energy Center

1. Alan Shawn Feinstein Foundation
2. Audubon Society of Rhode Island
3. Blackstone River Valley National Heritage Corridor
4. Blackstone Valley Tourism Council
5. Burrillville Conservation Commission
6. Burrillville Democratic Party
7. Burrillville Historical Society
8. Burrillville Land Trust
9. Burrillville Planning Board
10. Burrillville Zoning Board
11. Clean Water Action – Rhode Island
12. Conservation Law Foundation
13. Environmental Council of Rhode Island
14. Keep Rhode Island Beautiful
15. Representative Cale Keable
16. Rhode Island Association of Conservation Commissions
17. Save the Bay
18. Senator Paul Fogarty
19. Sierra Club – Rhode Island Chapter
20. South Kingstown Conservation Commission
21. The Blackstone River Watershed Council/Friends of the Blackstone
22. The Nature Conservancy in Rhode Island
23. Town of Thompson, CT Board of Selectman
24. West Greenwich Conservation Commission

APRIL 15, 2016 | BOSTON, MA



# The Ongoing Transformation of New England's Power System

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*US Department of Energy  
2016 Quadrennial Energy Review*

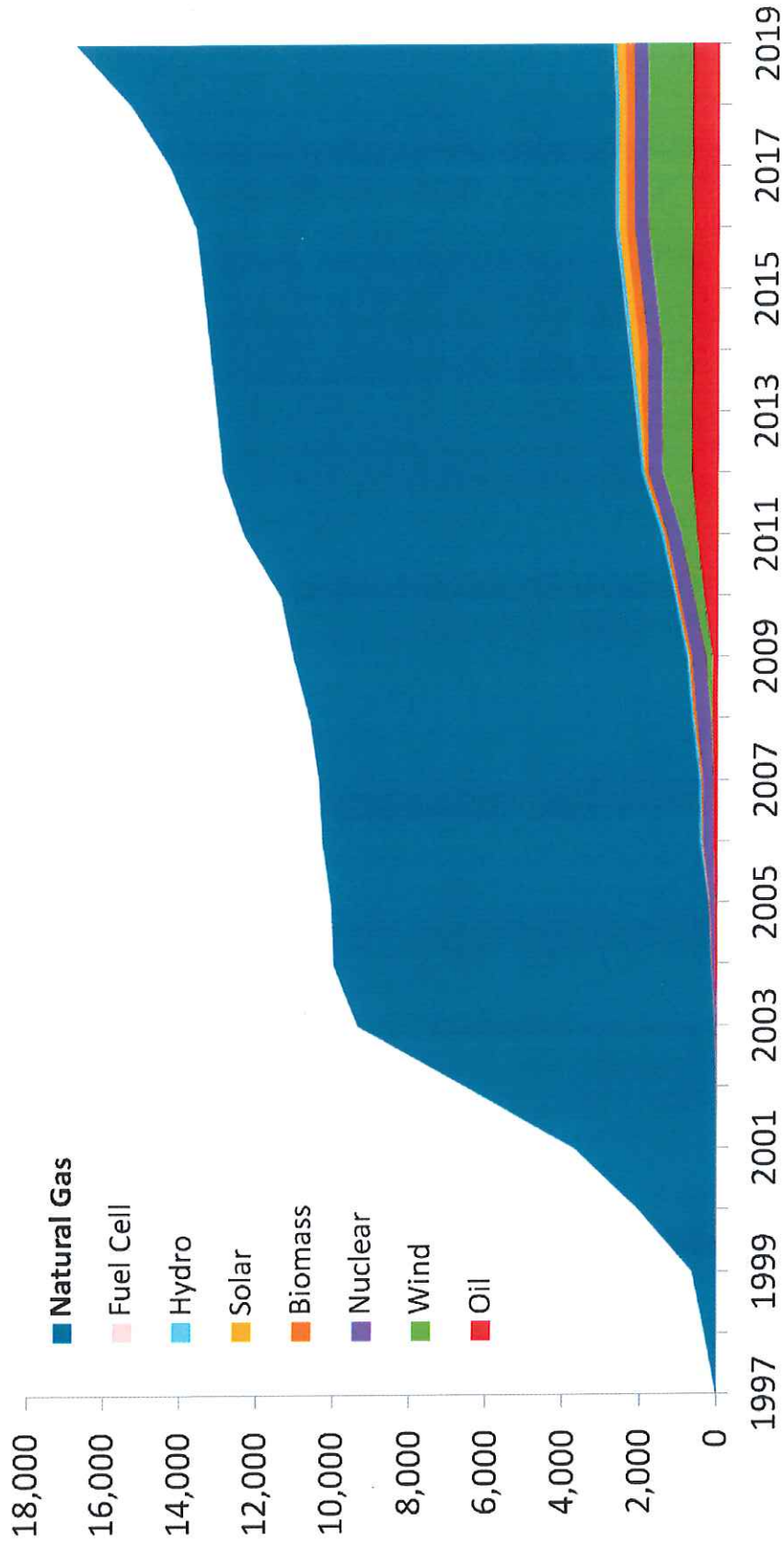
**Stephen J. Rourke**

VICE PRESIDENT, SYSTEM PLANNING



# Natural Gas Is the Dominant Fuel Source for New Generating Capacity in New England

Cumulative New Generating Capacity in New England (MW)

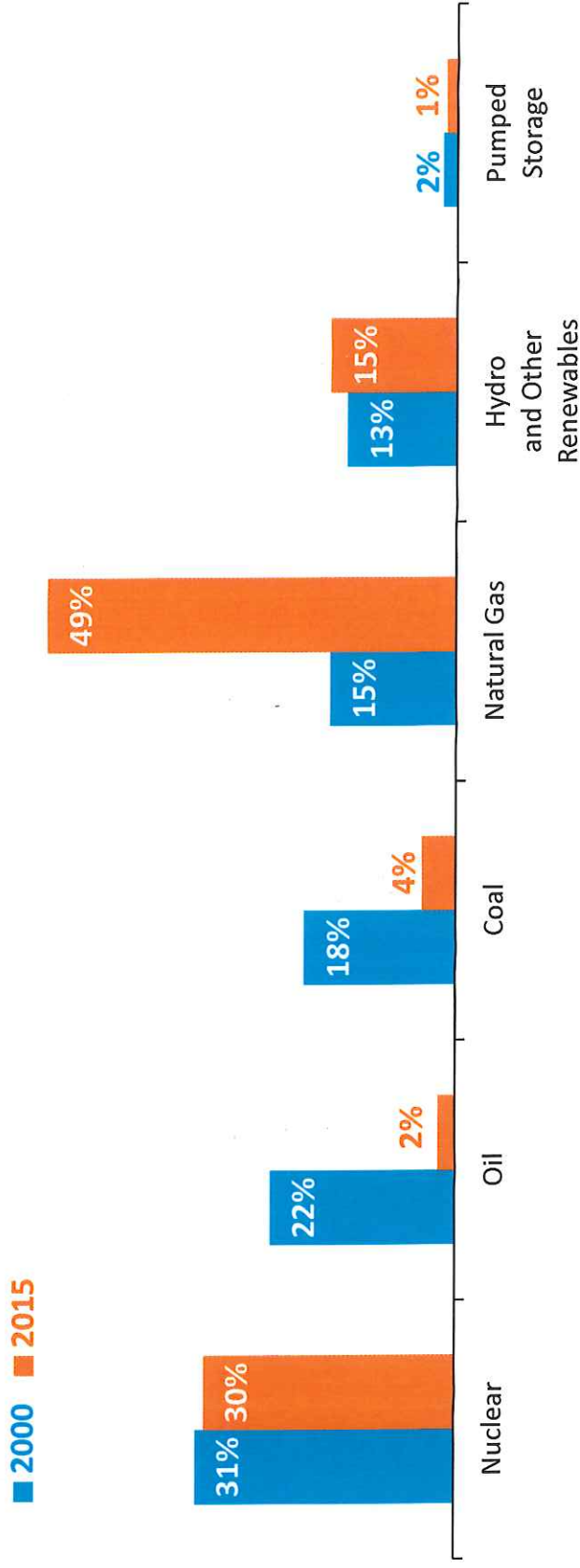


Note: New generating capacity for years 2016 – 2019 includes resources clearing in recent Forward Capacity Auctions



# New England Has Seen Dramatic Changes in the Energy Mix: From Coal and Oil to Natural Gas

Percent of Total Electric Energy Production by Fuel Type  
(2000 vs. 2015)

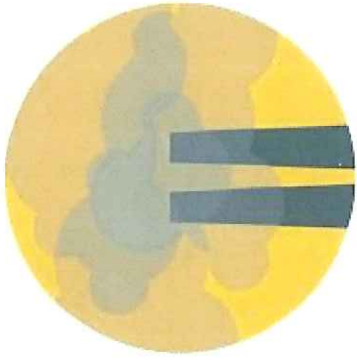


Source: ISO New England [Net Energy and Peak Load by Source](#)

Other renewables include landfill gas, biomass, other biomass gas, wind, solar, municipal solid waste, and miscellaneous fuels



# Power Plant Emissions Have Declined with Changes in the Fuel Mix



*Reduction in Aggregate Emissions (ktons/yr)*

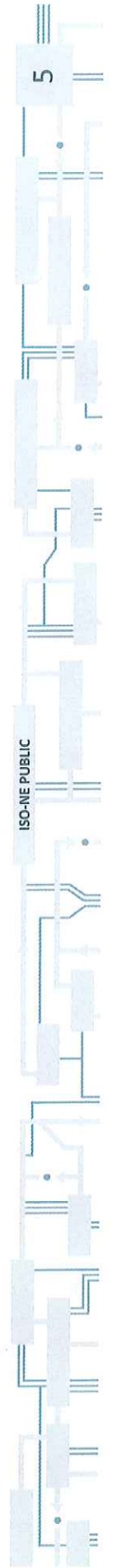
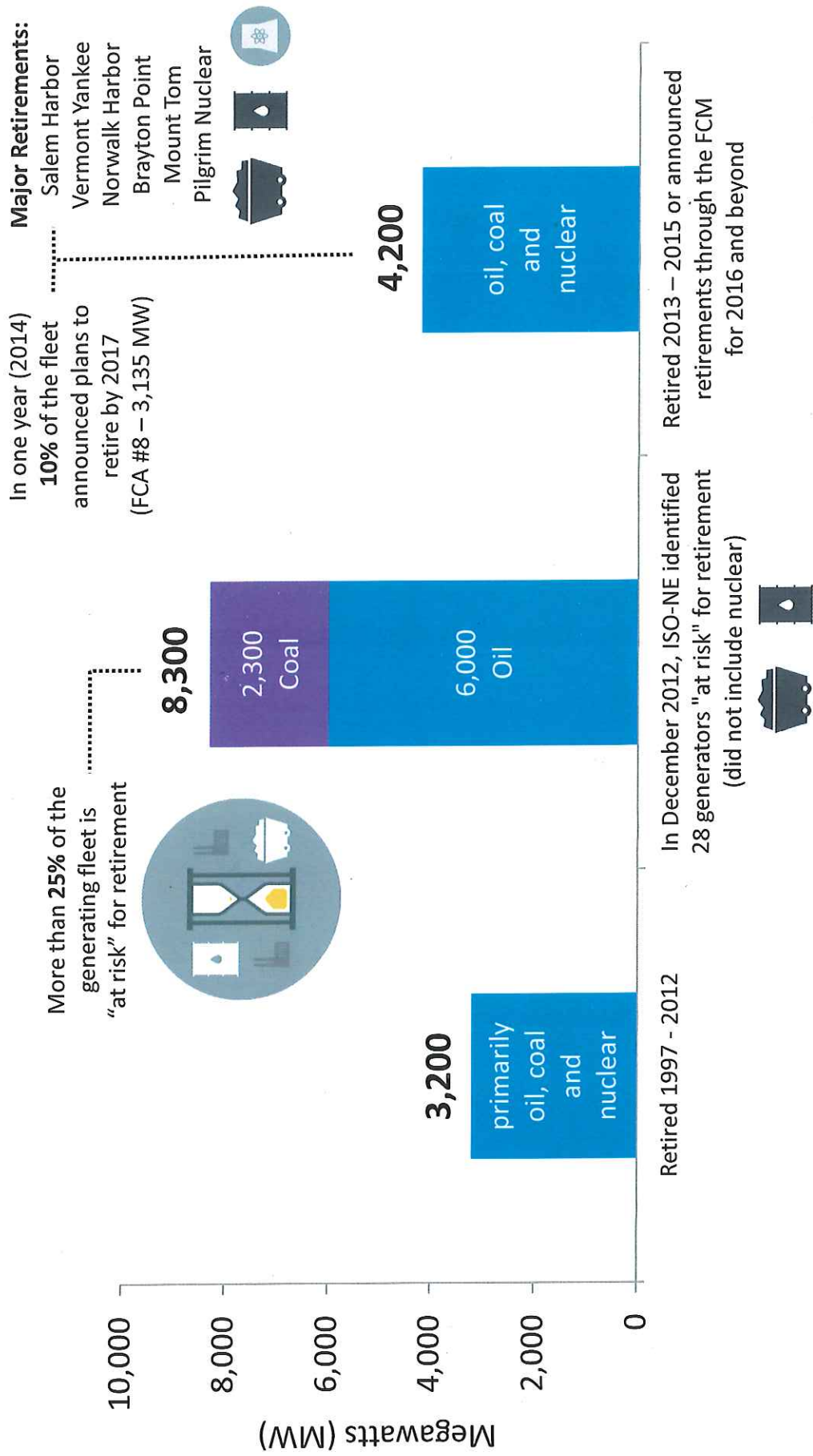
Year	NO <sub>x</sub>	SO <sub>2</sub>	CO <sub>2</sub>
2001	59.73	200.01	52,991
2014	20.49	11.68	39,317
<b>% Reduction, 2001–2014</b>	<b>↓ 66%</b>	<b>↓ 94%</b>	<b>↓ 26%</b>

*Reduction in Average Emission Rates (lb/MWh)*

Year	NO <sub>x</sub>	SO <sub>2</sub>	CO <sub>2</sub>
1999	1.36	4.52	1,009
2014	0.38	0.22	726
<b>% Reduction, 1999–2014</b>	<b>↓ 72%</b>	<b>↓ 95%</b>	<b>↓ 28%</b>

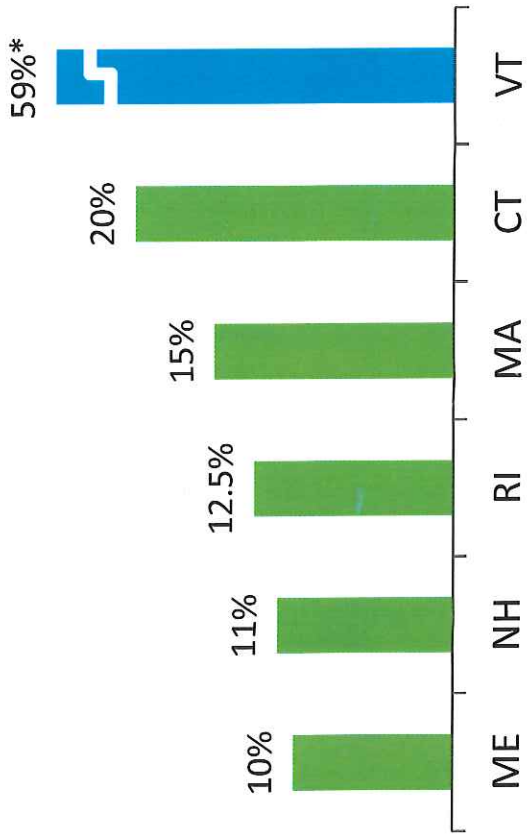
Source: [2014 ISO New England Electric Generator Air Emissions Report](#), January 2016

# More Than 4,200 MW of Non-Gas Generation Have Recently Retired or Announced Plans to Retire



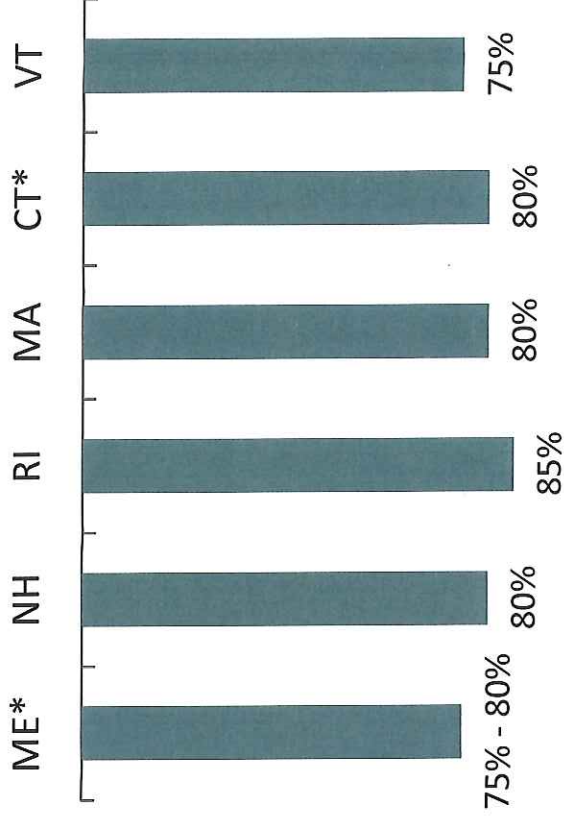
ISO-NE PUBLIC

# States Have Set Goals to Increase Renewable Energy and Reduce Greenhouse Gas Emissions



State Renewable Portfolio Standard (RPS) for Class I or New Renewable Energy by 2020

Percent Reduction of Greenhouse Gas (GHG) Emissions Below 1990 Levels\* by 2050 (economy wide)



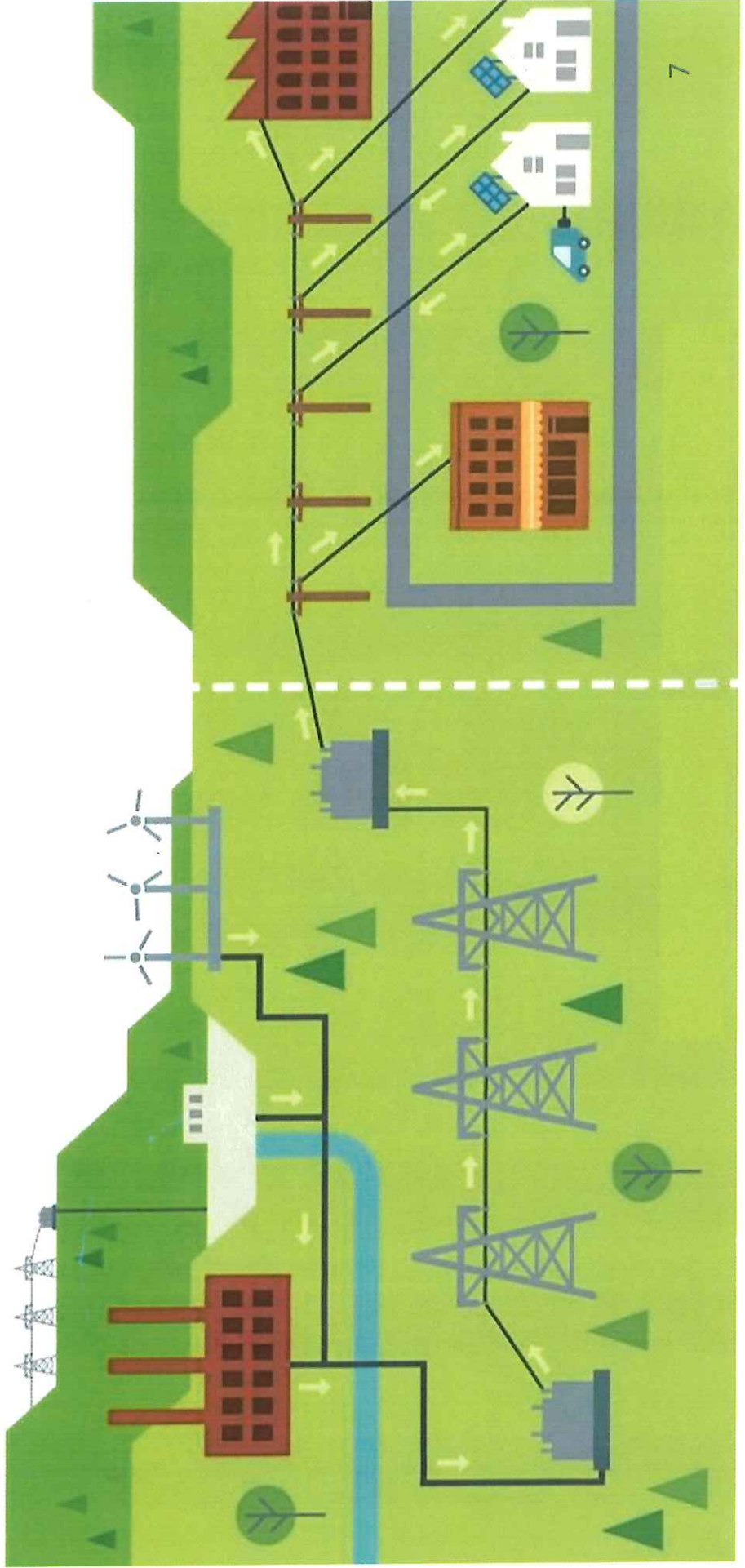
\* Vermont's standard recognizes all forms of renewable energy, and is unique in classifying large-scale hydro as renewable.

\* Connecticut's goal is tied to 2001 levels. Maine's goal is tied to 2003 levels.



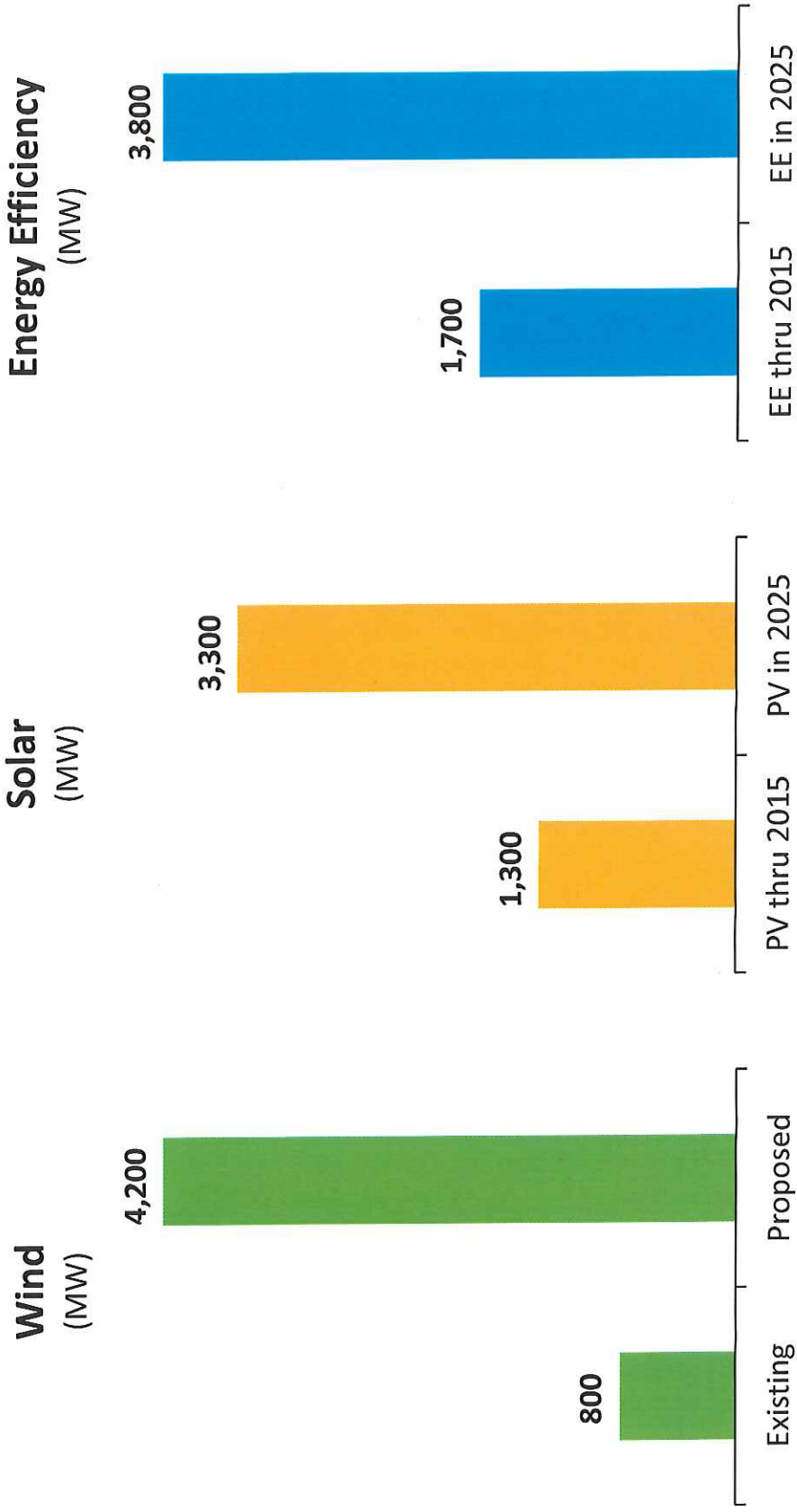
# Electric Grid Will Look Very Different in 5 to 10 Years

*“Hybrid” grid with grid-connected and distributed resources, and a continued shift toward natural gas and renewable energy*





# Renewable and EE Resources Are Trending Up



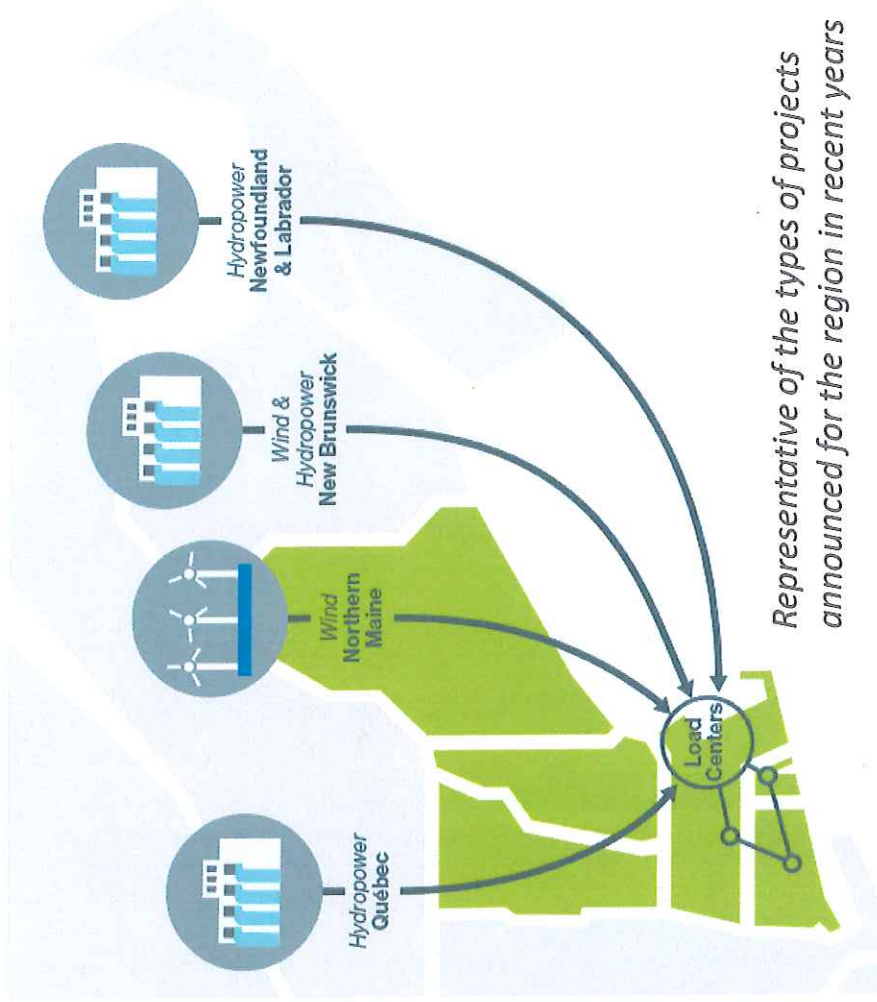
Nameplate capacity of existing wind resources and proposals in the ISO-NE Generator Interconnection Queue; megawatts (MW).

2016 ISO-NE Solar PV Forecast, nameplate capacity, based on state policies.

2016 CELT Report (preliminary), EE through 2015 includes EE resources participating in the Forward Capacity Market (FCM). EE in 2025 includes an ISO-NE forecast of incremental EE beyond the FCM.



# Transmission Developers Are Proposing to Move Renewable Energy to New England Load Centers



*Representative of the types of projects announced for the region in recent years*

- As of **January 1, 2016**, eleven elective transmission projects had been proposed in the ISO Interconnection Queue, totaling more than **7,000 MW** of potential transfer capability
  - Primarily large-scale **hydro** resources from eastern Canada and **wind** resources from northern New England and New York
- Some of these projects are participating in the CT, MA, RI Clean Energy RFP
- These projects seek to address public policy goals, not reliability needs; but could be a factor in planning for public policy under FERC Order 1000

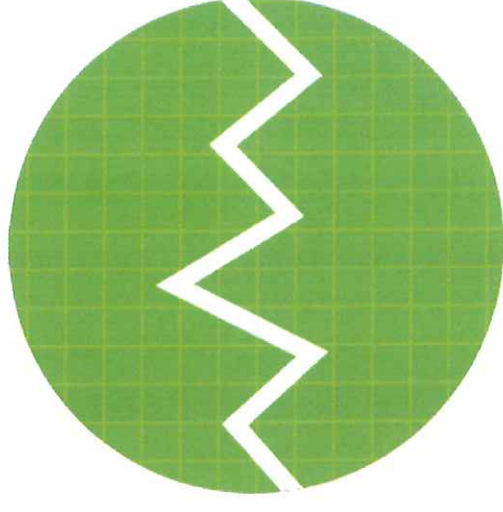
Source: ISO Interconnection Queue (January 2016)

<http://www.iso-ne.com/system-planning/transmission-planning/interconnection-request-queue>

ISO-NE PUBLIC

# The ISO Is Improving the Ability of Intermittent Resources to Participate in the Wholesale Markets

- ✓ **Flexibility to Offer Negative Prices**
  - Allows generators, like wind, the opportunity to operate during low-load conditions when they otherwise might be curtailed
- ✓ **Updated Elective Transmission Upgrade (ETU) Rules**
  - Improve the interconnection study process for ETUs and ensure these resources are able to deliver capacity and energy into the wholesale electricity markets
- **Flexibility to Operate Up to a Certain Level**
  - Allows the ISO to better manage transmission congestion in a way that will maximize the use of low-cost renewable resources and alleviate the need for curtailments (effective May 2016)
  - Known as “Do-not-Exceed Dispatch Order”

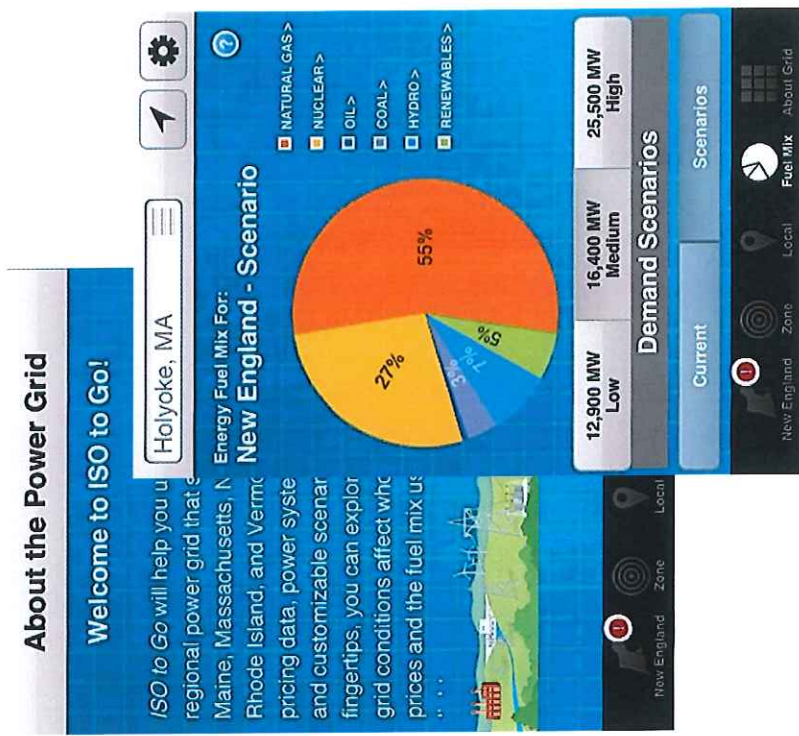


## Conclusions

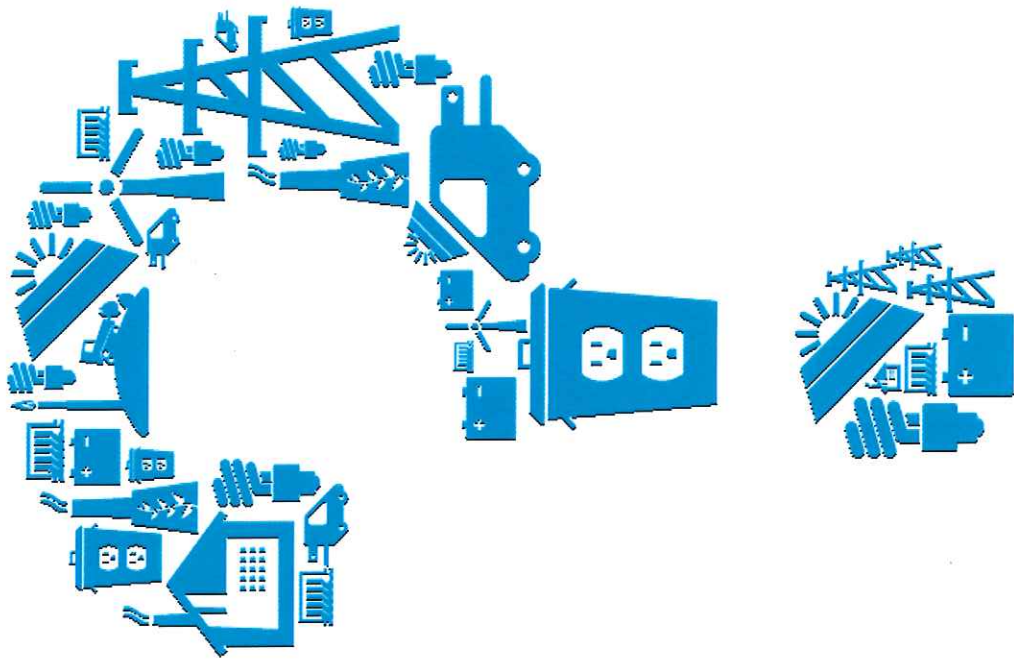
- New England is transitioning to a system with *decreasing* amounts of traditional resources (coal, oil, nuclear) and *increasing* amounts of renewable energy
- In the coming years, New England’s “hybrid” electric grid will include growing levels of wind, solar, and energy efficiency resources
  - New England policymakers continue to encourage investment in low- and non-carbon energy
- Transmission investment will be required to incorporate large amounts of remote renewable resources
- The ISO is working with stakeholders to enable the successful integration of variable energy resources

## For More Information...

- Subscribe to the **ISO Newswire**
  - [ISO Newswire](#) is your source for regular news about ISO New England and the wholesale electricity industry within the six-state region
- Log on to **ISO Express**
  - [ISO Express](#) provides real-time data on New England's wholesale electricity markets and power system operations
- Follow the ISO on **Twitter**
  - [@isonewengland](#)
- Download the **ISO to Go App**
  - [ISO to Go](#) is a free mobile application that puts real-time wholesale electricity pricing and power grid information in the palm of your hand



# Questions



Prepared Statement for Stephen J. Rourke  
Vice President, System Planning, ISO New England  
**US Department of Energy -- Quadrennial Energy Review Meeting**  
Marriott Long Wharf, Boston, MA  
April 15, 2016

Good Morning. My name is Steve Rourke, and I am the Vice President for System Planning for ISO New England.

First, I want to welcome and thank Secretary Moniz, Dr. Holdren, and all of the US Department of Energy staff involved in the QER effort. I know that Secretary Moniz took the time to speak at a QER stakeholder meeting in New England in 2014 as well. We very much appreciate the attention DOE is giving to our region and the discussion of the natural gas pipeline constraints that DOE included in the first version of the QER released in 2015.

The ISO has three primary responsibilities: Reliable operation of the bulk power system, administering New England's wholesale energy markets, and long-term planning for a rapidly evolving regional power system.

In New England, we have been operating organized wholesale markets since the late 1990s, and most of the new generators that have been built are natural gas-fired power plants. Nearly 13,000 MW of new natural gas fired resources have been installed across the region.

The domestic shale gas revolution has certainly had a tremendous impact on our region. However, New England's investment in natural gas infrastructure has not kept pace with power generation and we experience significant reliability, economic and environmental risks because of the constraints on the pipelines. As I mentioned, DOE highlighted the reliability and economic impacts of these constraints in the 2015 QER. New England is going to need additional infrastructure to meet increasing demand for natural gas.

Consequently, New England has experienced a major transformation in how electricity is produced and delivered in the region. As this chart indicates, our power plant fleet is experiencing rapid change. In 2000, coal- and oil-fired resources represented 40% of the electricity generated in New England. Last year,

those two resource types (combined) produced 6%. We have seen one nuclear plant already retire with another nuclear facility set to retire in the coming years. During that same period, our reliance on natural gas has grown substantially – nearly half of our electricity is produced by natural gas-fired power plants.

As my next slide illustrates, that shift in generation resources from oil and coal to natural gas has resulted in significant reductions in NO<sub>x</sub>, SO<sub>2</sub>, and carbon dioxide during a similar time period.

Since 2013, New England has seen the retirement of approximately 4,200 MW of nuclear, coal, and oil resources. This is only part of a number of “at-risk” plants that the ISO highlighted in 2012 as likely to retire in the next decade given their age and fuel type. To offset those retirements, since 2013 our Forward Capacity Market has incentivized 4,700 MW of new capacity resources to come forward. However, we anticipate that New England could experience an additional 6,000 MW of retirements that have yet to be announced, so we are very much in the midst of this regional transition.

So when these retirements occur, what takes their place? As we are seeing this change through our wholesale markets, policymakers are setting aggressive statutory goals to increase the amount of renewable and low-carbon energy on the system as well as mandating reductions in greenhouse gas emissions.

This is moving New England to a “hybrid grid” that will combine large power-system resources supplying the regional system with smaller ones supplying consumers directly.

As Slide 8 demonstrates, the ISO forecasts a dramatic growth in weather-dependent, renewable power-system resources (like wind and solar) and energy-efficiency measures. Our preliminary 2016 forecasts estimate a growth in solar from 1,300 MW to 3,300 MW in the next decade and over a doubling of energy efficiency resources from 1,700 MW to 3,800 MW. There are over 4,000 MW of wind projects in our study queue.

In order to meet these goals, New England will need an investment in transmission to bring remote hydro and wind resources closer to load centers. Our interconnection queue includes a number of elective, merchant projects to



address this need, and additional transmission investment will be important to meeting renewable energy goals in New England.

We have also worked with New England states and stakeholders to make it easier for variable resources to participate in wholesale markets. We are engaged in an ongoing dialogue with our stakeholders about how markets can work to accomplish the New England states' policy requirements.

In some ways we are the vanguard of change in the electric industry. New England is experiencing change at a significant depth and pace. And we appreciate the US Department of Energy shining a light on these critical regional issues.

Thank you.

Throughout the past several months we have heard many voice their opinions regarding the Clear River Energy Center proposal. While there have been many different topics discussed, at the highest level these can all be summarized into three main categories:

- Job Creation
- Electricity Demand
- Environmental Impact

**Job Creation** – Those who have spoken in favor of this proposal speak to the jobs that will be created. It is noted that this project will help address a shortage in local jobs. While this may be true it is important to note that job creation is simply a side effect of this project. In fact, job creation is a side effect of any project. This is not a responsible or logical rationale to use to approve or deny any project. For example, the act of installing a new roof on your house will create jobs in the community, however you would never move forward with such a project if you had just replaced your roof last year. Job creation is simply not part of the decision making process. Any logical person would assess the condition of their roof and use this information to determine if the project is warranted and justified. It is simply a given that jobs will be created as a result.

**Electricity Demand** – We recently received the advisory opinion from the PUC regarding the need for new power generation. The opinion states that there is in fact a need for additional power. They support their stance due to the fact that Invenergy was awarded 485 MW of power generation starting in 2019. This is only ½ of what was requested. Many point out the fact that there are nuclear plants scheduled to close in the upcoming years and we must offset this production somehow. This may be true; however, the creation of an antiquated fracked gas power plant is not the answer. In fact, ISO-NE is currently projecting the addition of 3,200MW to the grid from solar alone by 2025. ([https://www.iso-ne.com/static-assets/documents/2016/03/clg\\_meeting\\_sedlacek\\_panel\\_presentation\\_march\\_10\\_2016.pdf](https://www.iso-ne.com/static-assets/documents/2016/03/clg_meeting_sedlacek_panel_presentation_march_10_2016.pdf)) We are seeing many states take a hard stance on the expansion of the gas pipelines as more is learned regarding the impacts of fracking. Let's get ahead of this now and find a better way rather than lock RI into outdated technology for the foreseeable future.

**Environmental Impact** - This has been one of the biggest talking points for the entire project. While it has generated a lot of discussion there has not been any argument against the fact that this project will have a huge environmental impact to our state. This is something that has yet to be disputed. In fact, as time passes, more and more organizations take a formal stance against this project. The common theme is that should this project move forward we will be taking a major step backwards in a region that millions of dollars has been invested to protect. At the time of this meeting 23 organizations, the town of Thompson, CT, and the advisory opinions from DEM, DOH, and the Burrillville Planning Board have all taken an official stance against this project.

As members of the EFSB you have a tremendous responsibility. You will make a decision on a project that will impact the region, the state of RI, and the town of Burrillville. Your decision will have a long lasting impact on the lives of many people both in the present and in the future. This impact is not limited to the decision on this project however.

As members of the EFSB you must adhere to the Energy Facility Siting Act. This process must be followed as written in law to ensure a fair and proper evaluation of future projects. If sections of this process are overlooked it could become the start of a precedent for future projects. After review of the application, data responses, advisory opinions, etc it seems evident that there are major issues with this project proposal. Some of the obvious include:

- **SECTION 42-98-2 (3)** – *The energy shall be produced at the least possible cost to the consumer consistent with the objective of ensuring that the construction, operation, and decommissioning of the facility shall produce the fewest possible adverse effects on the quality of the state’s environment; most particularly, its land and its wildlife and resources, the health and safety of its citizens, the purity of its air and water, its aquatic and marine life, and its esthetic and recreational value to the public; -*

There are 23 environmental organizations who agree that clear cutting 200 acres in the last continuous forest in New England is not an effective method to mitigate adverse effects from this project. They are able to reach this conclusion even with the lack of an Environmental Impact Assessment.

- **SECTION 42-98-8 (2)** – *Detailed description of the proposed facility, including its function and operating characteristics, and complete plans as to all structures, including any underground construction and transmission facilities, underground or aerial, associated with the proposed facility.*

Many of the advisory opinions include statements suggesting the application is incomplete preventing their ability to provide a complete opinion. In fact, the current application does not even provide details as to where they will obtain water for this project.

- **SECTION 42-98-8 (3)** – *A detailed description and analysis of the impact of the proposed facility on its physical and social environment together with a detailed description of all environmental characteristics of the proposed site, and a summary of all studies prepared and relied upon in connection therewith.*

There was never any type of Environmental Impact Assessment completed on this project. No agency was asked to complete a biological review of the area. These criteria were simply overlooked.

- **SECTION 42-98-8 (7)** – *A study of alternatives to the proposed facility, including alternatives as to energy sources, methods of energy production, and sites for the facility, together with reasons for the applicant’s rejection of these alternatives. The study shall include estimates of facility cost and unit energy costs of alternatives considered.*

There was never any study completed to find alternative locations for this project. This step was simply not completed.

This project has many problems. It isn't the right solution. It is time to find a better way to produce electricity to allow our state, region, country and world the ability to reduce carbon emissions. We should be investing in the future; not the past. It isn't the right place. The list of reasons why this type of facility should not be located in the proposed location is so obvious that it is hard to believe that this is a real request. It was proven years ago with the Ocean State Power application that this location is not suitable for this type of facility. The importance of this area has only increased over time.

The integrity of the EFSB process needs to be upheld. There are many gaps in this application that are in clear violation of the Energy Facility Siting Act. This board must enforce this process to ensure a fair review on future projects. Turning a blind eye on these violations jeopardizes all future projects requests as the precedent will be set that a complete review of new projects is no longer required.

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