

New England Reliability and Transmission Planning – The Need for Reform

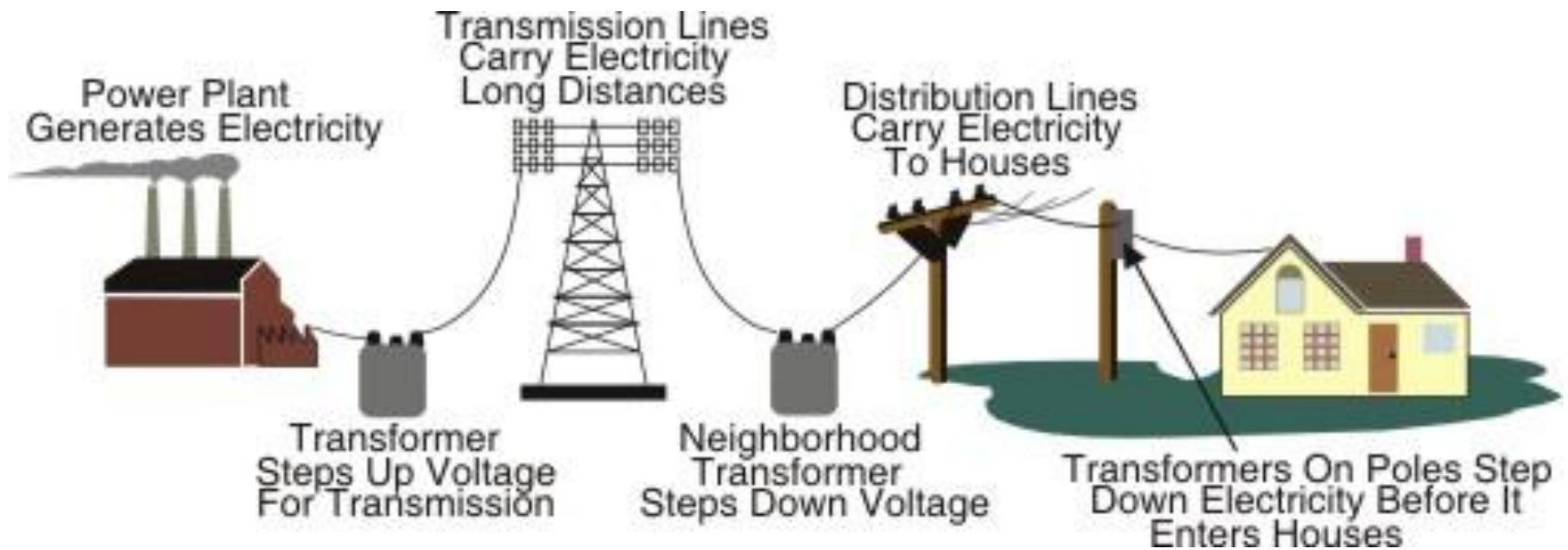
A Presentation for The Metcalf Institute's
Peter B. Lord Seminars on the Environment
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What is transmission?



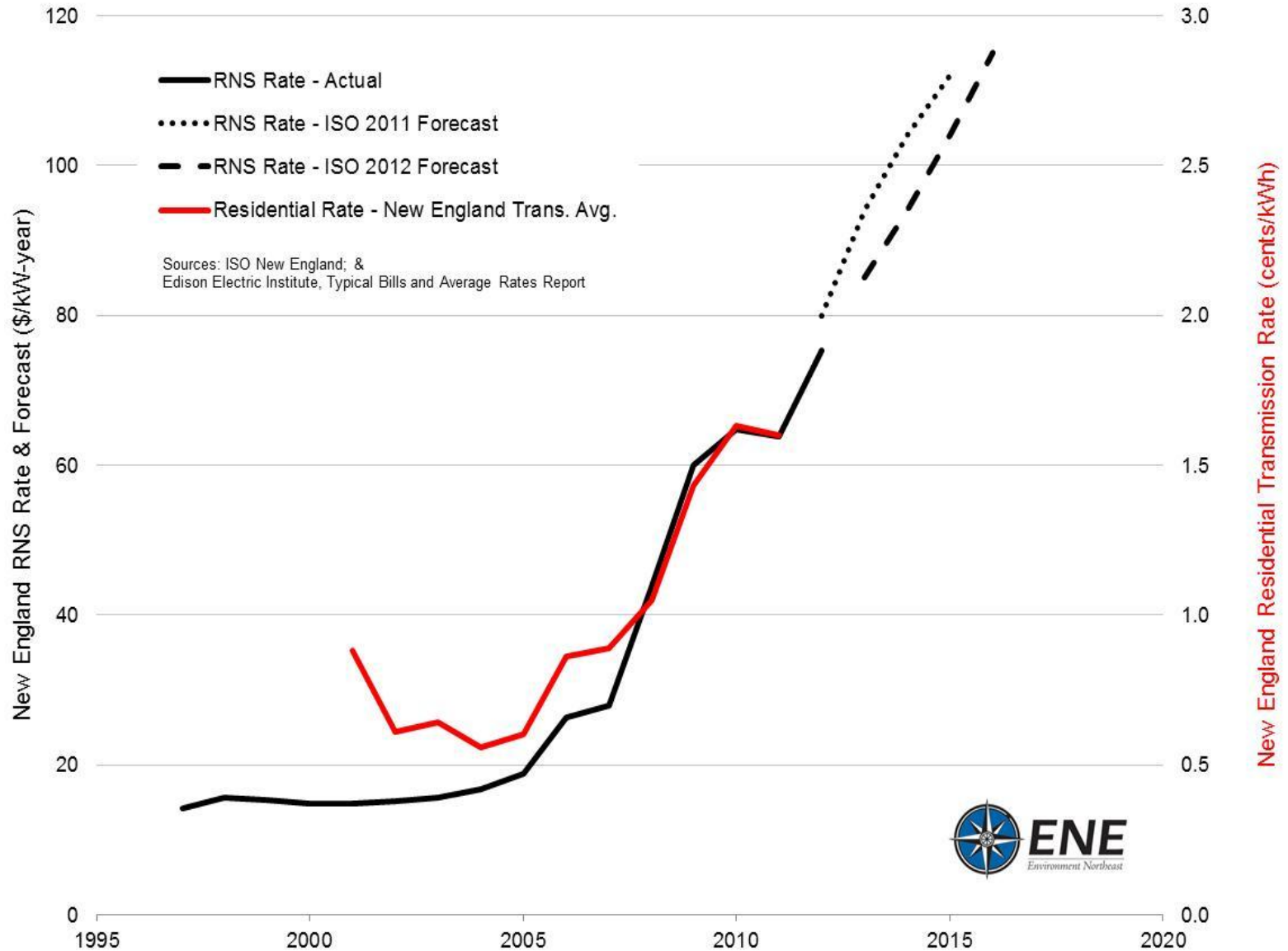
Source: National Energy Education Development Project (Public Domain)

Transmission in retail rates (e.g., in RI)

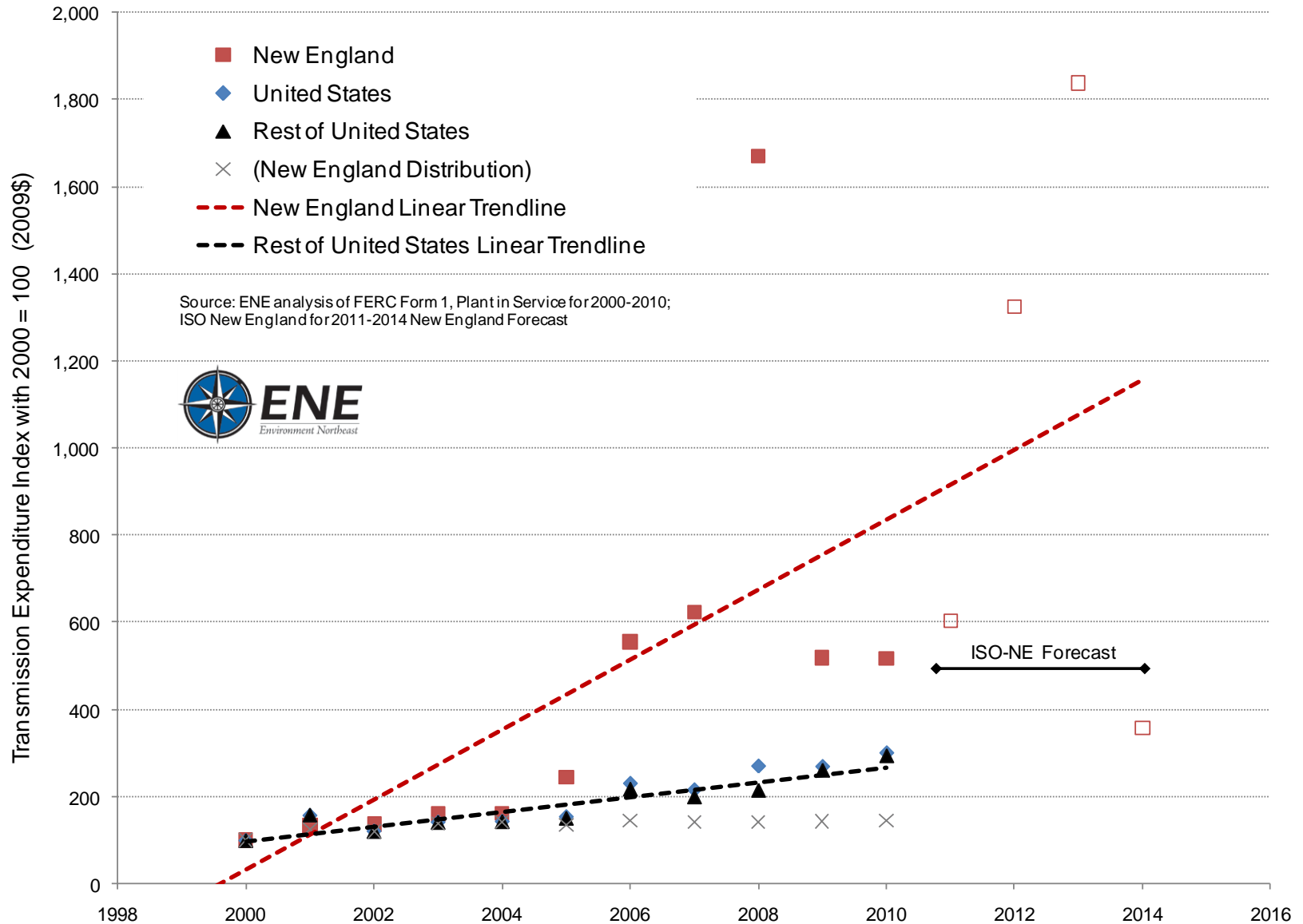
National Grid, Rhode Island, Basic Residential : This is the standard rate for the majority of residential customers.			
		500 kWh/month bill	
Customer Charge	\$5.00/month	5	6.49%
Distribution Charge	3.811¢/kWh	19.055	24.73%
Renewable Energy Distribution Charge	0.0019¢/kWh	0.095	0.12%
Transmission Charge	1.942¢/kWh	9.71	12.60%
Transition Charge	0.063¢/kWh	3.15	4.09%
LIHEAP Charge	\$0.83/month	0.83	1.08%
Energy Efficiency Programs	0.906¢/kWh	4.53	5.88%
Supply	6.935/kWh	34.675	45.01%
	Total bill	\$ 77.045	100.00%

Source: National Grid, http://www.nationalgridus.com/narragansett/home/rates/4_a16.asp

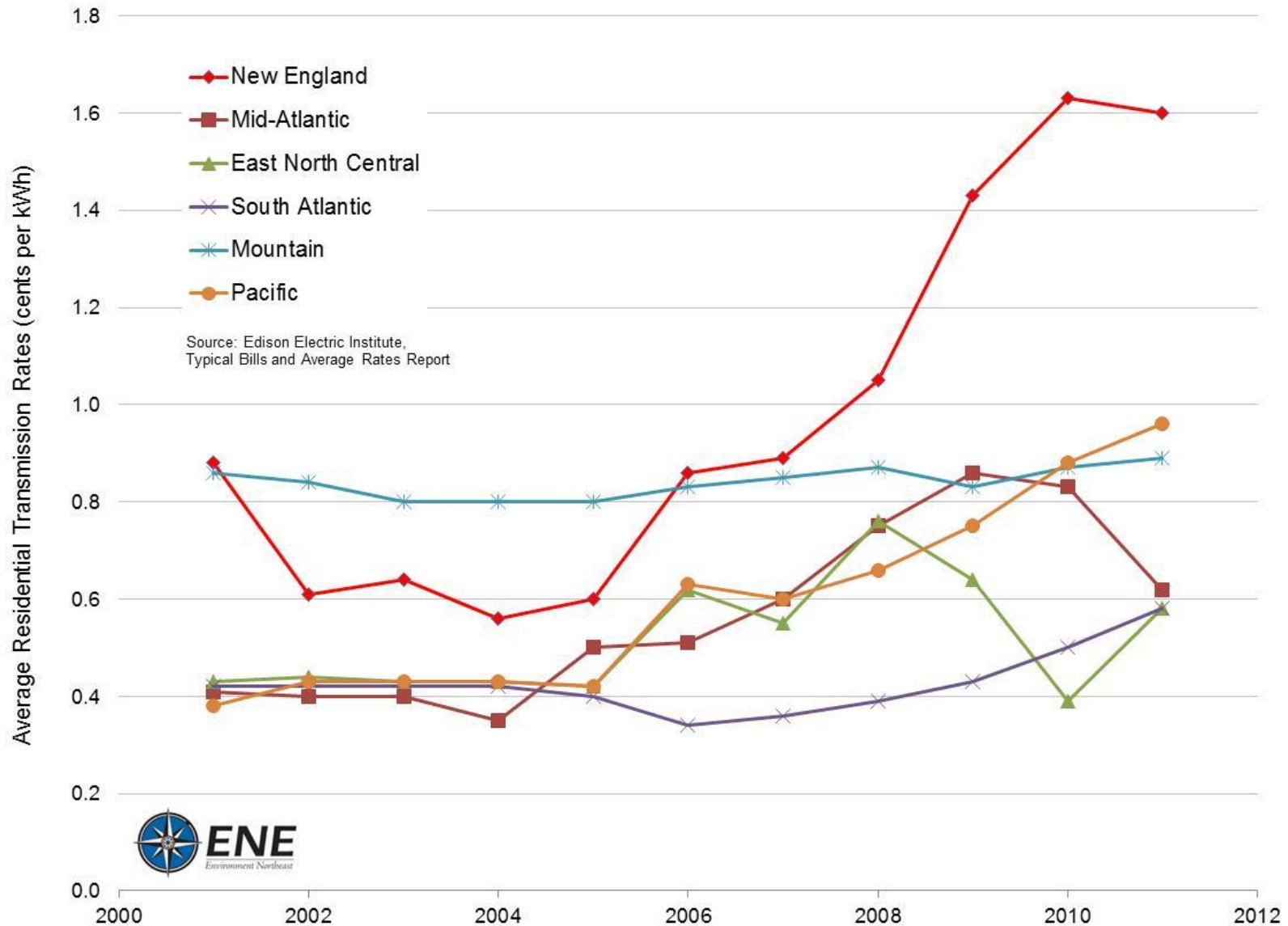
Skyrocketing Transmission Costs in New England: Regional Rates



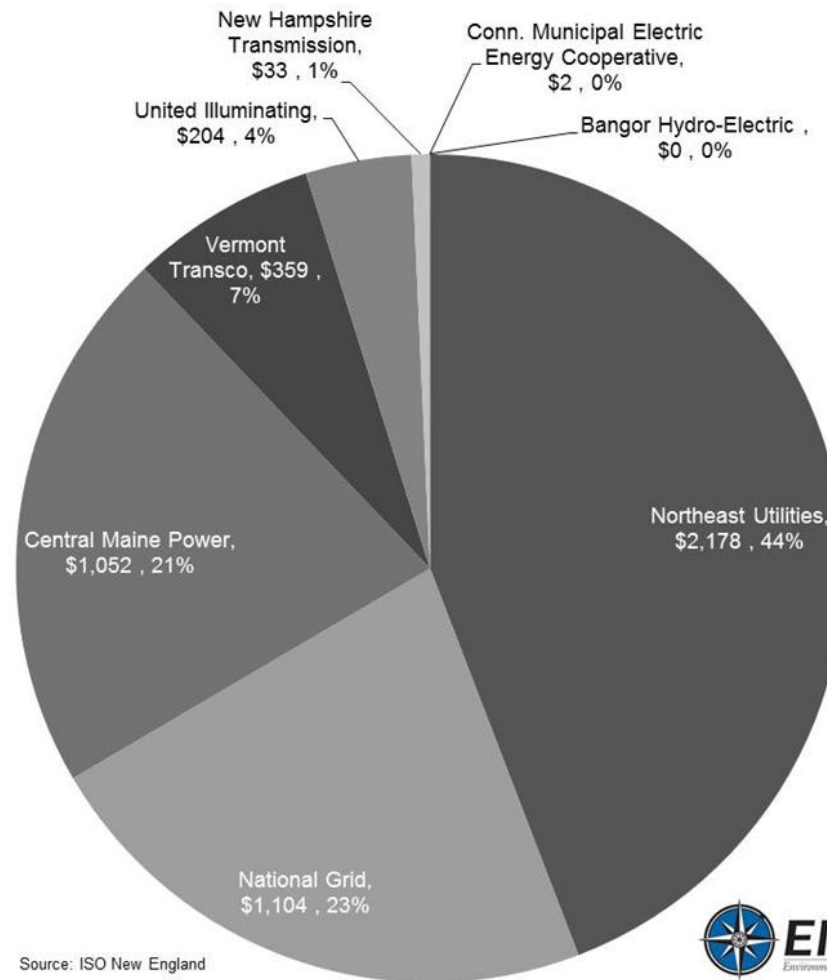
Skyrocketing Transmission Costs in New England vs. Rest of U.S. Since 2000



Residential Average Transmission Rates by Region



New England Forecast of Transmission Additions for 2013 to 2016 – Total \$5 Billion

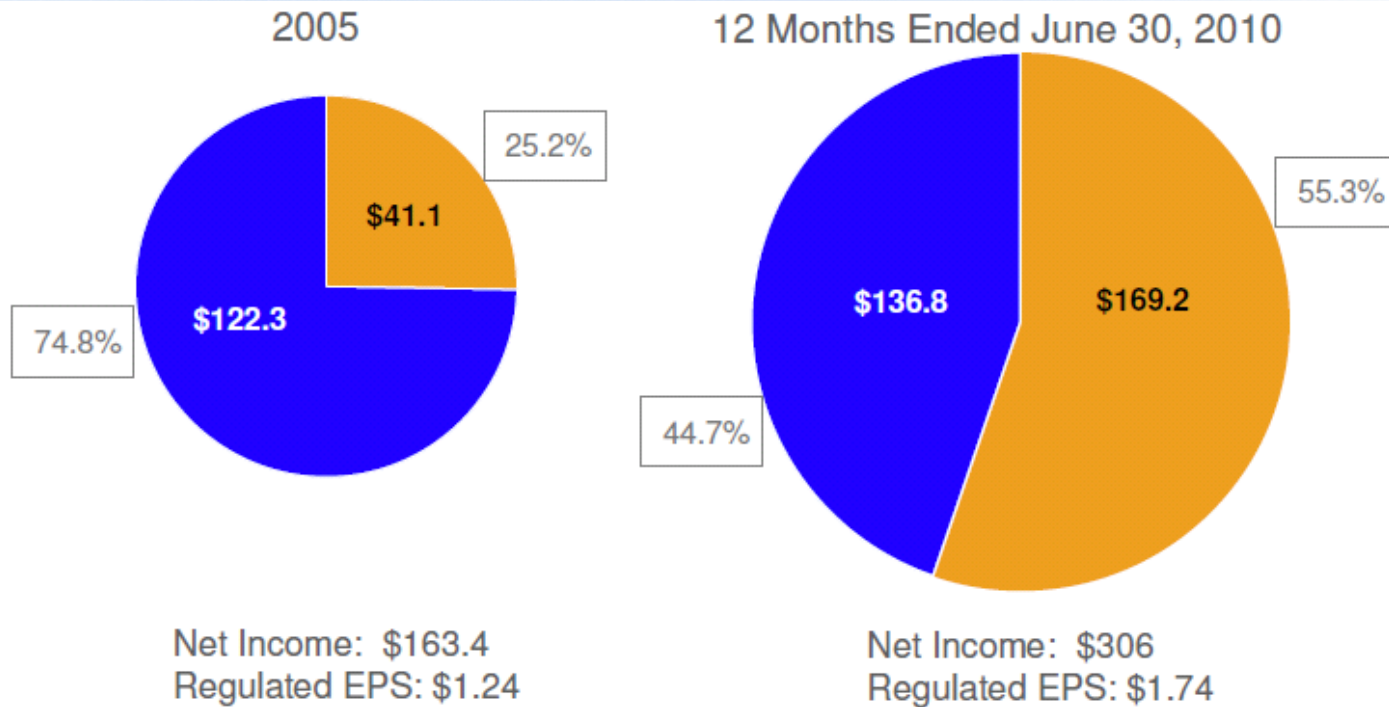


Source: ISO New England



Transmission Investment Drivers: ROE (13%!) & Utility Incentives

Transmission Now Represents More Than
50% of Regulated Earnings



Regulated Net Income and EPS
(In millions except EPS)

- Distribution/Generation
- Transmission

The Press is Starting to Notice



BUSINESS | January 2, 2013, 7:39 p.m. ET

U.S. Electricity Use on Wane

The slower pace of growth in electricity use . . . has power companies scrambling to trim spending or redirect capital investment, to improve their profits regardless of consumption patterns.

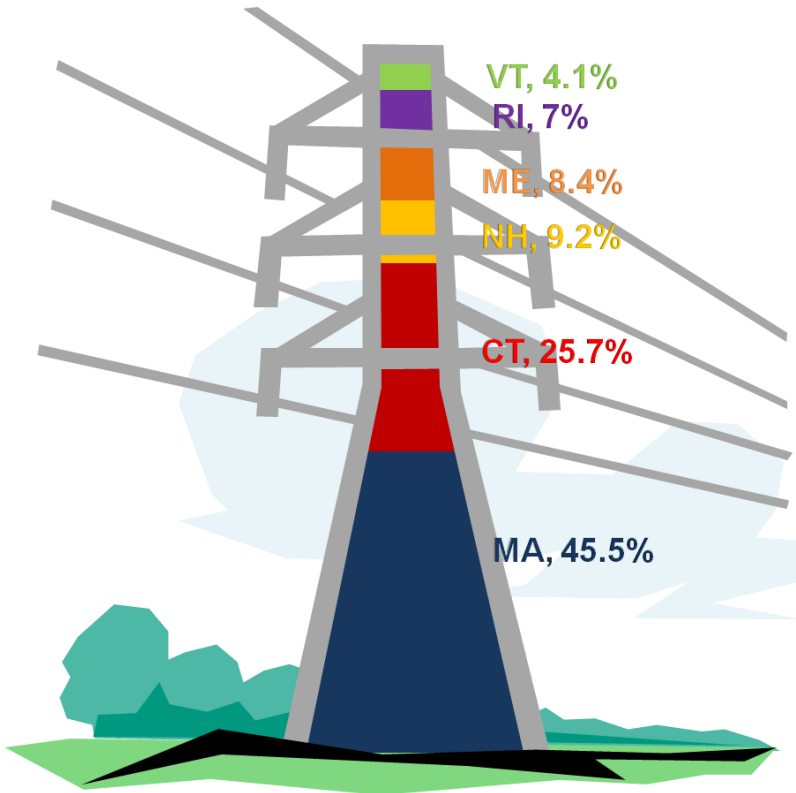
Some companies, including Public Service Enterprise Group Inc. and Northeast Utilities, are pouring money into high-voltage transmission lines—superhighways for electricity—because federal regulators are allowing them to collect above-average returns from customers on those outlays to encourage new investment in the nation's aging power networks. . . .

New England's biggest utility company, Northeast Utilities, expects to invest \$3.5 billion of shareholder equity in its transmission business by 2017, versus about \$2 billion today.

Transmission Investment Drivers: Socialization & State Oversight

Transmission Line Costs vs. Non-transmission Alternative

Most Paid for by All States Costs Are Borne Entirely by One State



Example: Maine Power Reliability Program

	Project cost	Approximate Cost to Maine	Approximate Cost to Mass.
MPRP (regionally allocated)	\$ 1.4 Billion	\$ 118M (8.4% of \$1.4B)	\$ 637M (45.5% of \$1.4B)
GridSolar non-wires alternative	\$ 800* Million	\$ 800M (100% of \$800M)	\$ 0 Million (0% of \$800M)
If GridSolar project had been regionally allocated	\$ 800* Million	\$ 67.2M (8.4% of \$800M)	\$364M (45.5% of \$800M)

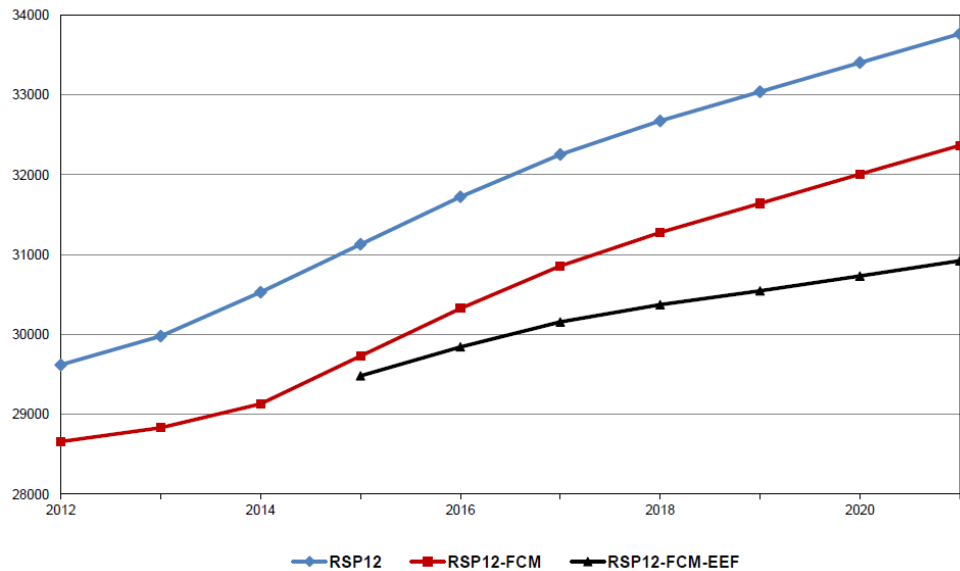
*The exact number was not publicly revealed, but GridSolar has explained that its costs were roughly half of the MPRP's costs. For comparison's sake, I have chosen a number greater than 50%.



Important Progress: ISO Efficiency Forecast

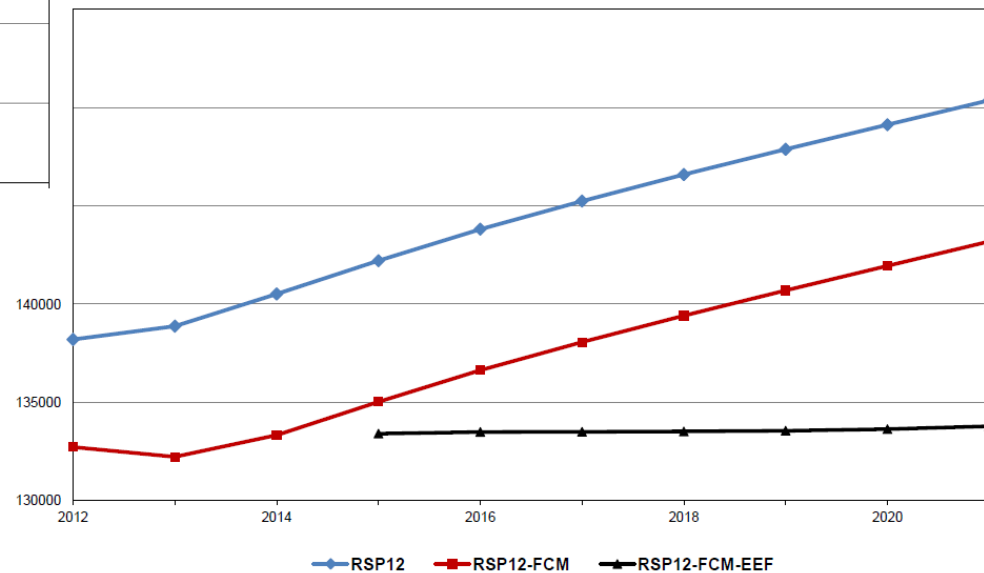
Reduced Energy Use = Less Need for Transmission

NEW ENGLAND Summer Peak: RSP12 90/10 Forecast (MW)



First Impact of New Forecast:
**\$259 Million of Transmission Investment
 Deferred in Vermont & New Hampshire**

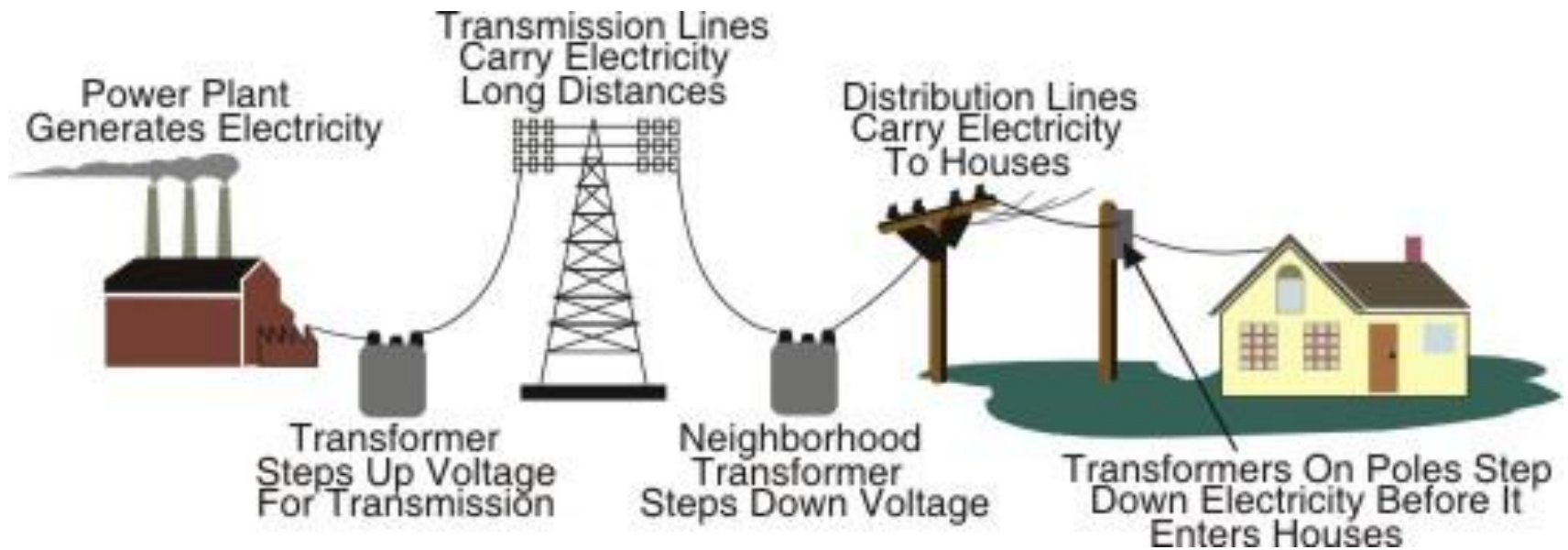
NEW ENGLAND Annual Energy: RSP12 Forecast (GWh)



Confluence of Transmission and Distribution

- Peak loads drive transmission needs.
- Energy efficiency, demand response, and distributed generation can address peak loads.
- Energy efficiency, demand response, and distributed generation are connected to distribution.
- EE, DR, and DG upend traditional transmission planning because usage is flat or decreasing.

What is transmission?



Source: National Energy Education Development Project (Public Domain)

Other issues to pursue

- Conflict between state policy goals and ISO-led markets and planning.
- Overly cautious planning assumptions that lead to excessive transmission build-out.
- Competing regulatory and market paradigms.
- Reliance on natural gas for generation and home heating.
- How will the region respond to the forecasted 8000 MW of gen retirements by 2020?

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