



Clean Energy Policy & Procurement- Regional v. Go-It-Alone Approach

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Northeast Clean Energy Council

- ▶ **NECEC's mission is to create a world-class clean energy hub in the Northeast delivering global impact with economic, energy and environmental solutions.**
- ▶ **NECEC helps clean energy companies start, scale and succeed with our unique business, innovation and policy leadership.**

Federal Elections

What does this mean for our regional efforts?

► 1. Trump Governing Style

Dogmatic or Pragmatic?

Who does he appoint to agencies?

Transition team: Mike McKenna- Energy Lobbyist

Myron Ebell- Climate Change

Skeptic

► 2. Statements during campaign

A. Energy Not a Top Priority

B. Called for Withdrawal from Paris Agreement

**C. Called for Assistance for Coal Industry and for
More Drilling**

However, There is Good News

- ▶ Regardless of Policy or Politics,
The Clean Energy Industry is Poised for Success
- ▶ A. **Paris Agreement** is now part of International Law. It will be hard to fully walk back
- ▶ B. **Clean Power Plan**- This is now before the courts and even if the new administration is not in favor, regulations to reduce Carbon are in place and it would take years to reverse policy.
- ▶ C. **Business, Utilities and PUC's** nation wide are all looking at the future of energy, including clean energy.



New England Region Clean Energy Growth

Clean Energy is Spreading Faster Than We Realize

**Massachusetts: Home to the Clean Tech Movement
10% Renewable Electric Generation**

**Rhode Island: Second lowest Carbon Emitter in the US
Block Island Off Shore Wind leads nation**

Vermont: First in Nation law, Act 56: 75% Renewables by 2032

New Hampshire: 17% Renewable: 25% by 2025

Connecticut: Working on a Three Year Clean Energy Plan: First Green Bank in Nation

**Maine: Poised to use wind and forest land for renewable energy
University of Maine proposes unique floating wind platforms**

What Drives New England Clean Energy?

Progressive Legislation and Regulation
Encouraging Growth

Climate Change

Innovative Economies

Aging Infrastructure Demands Change

Cost of Fossil Fuels

All of This Adds Up to Opportunity

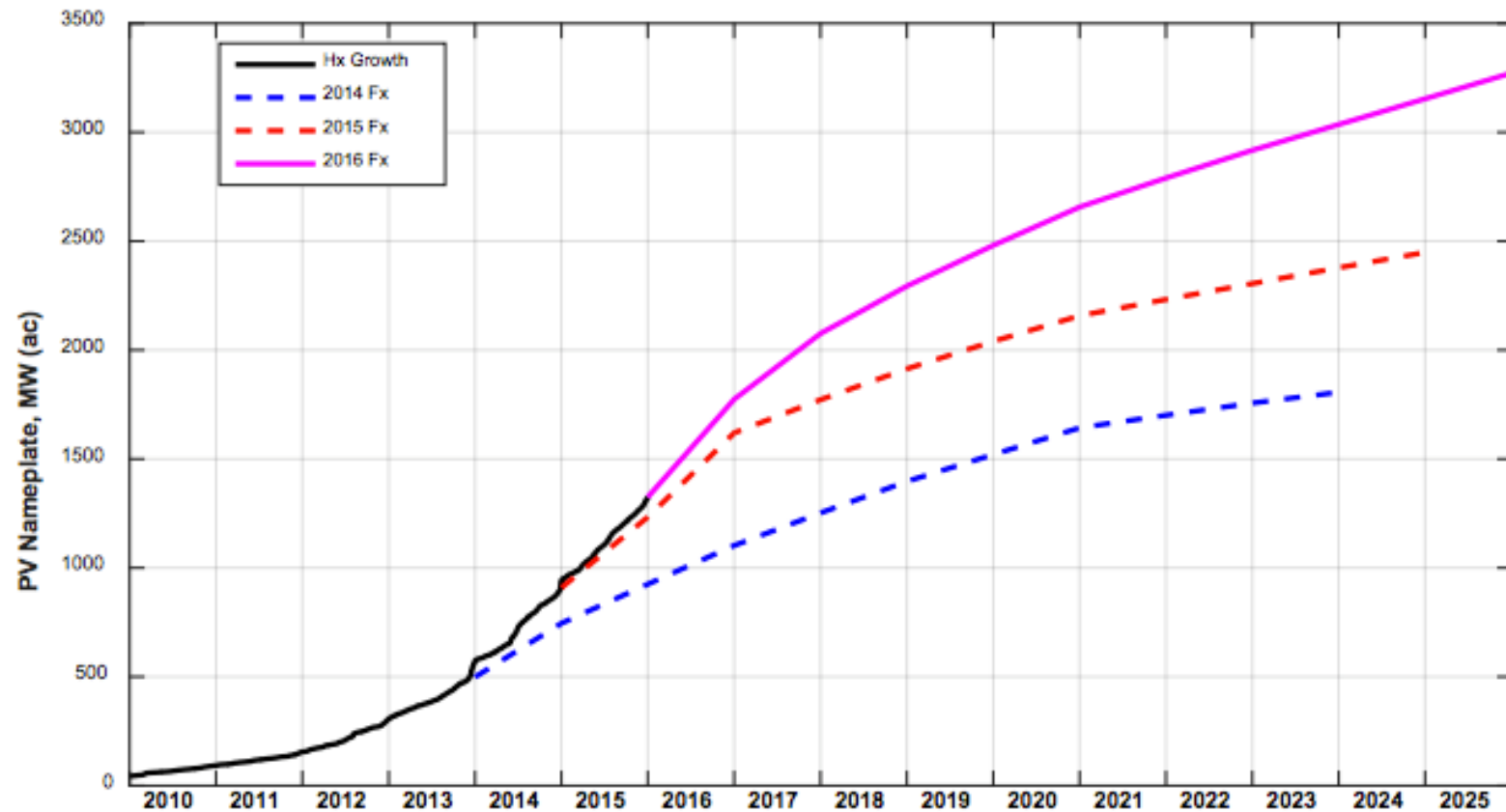


Installed NE Solar (MW)

	Dec 2013	Apr 2014	Aug 2014	Dec 2014	Apr 2015	Aug 2015	Dec 2015
Connecticut	73.75	78.416	98.02	118.80	133.83	158.73	188.01
Maine	8.12	8.512	8.16	10.38	11.04	12.43	15.34
Mass.	361.55	434.39	550.54	656.73	739.48	855.03	947.11
New Hampshire	8.22	9.35	10.17	12.74	13.93	18.37	26.36
Rhode Island	10.9	15.29	15.52	18.21	19.08	21.51	23.59
Vermont	36.13	29.40	66.55	81.85	90.76	108.27	124.57
Total	498.67	575.37	748.95	898.71	1,008.11	1,174.34	1,325.00

Future Growth of NE Solar

PV Growth: Reported Historical vs. Forecast



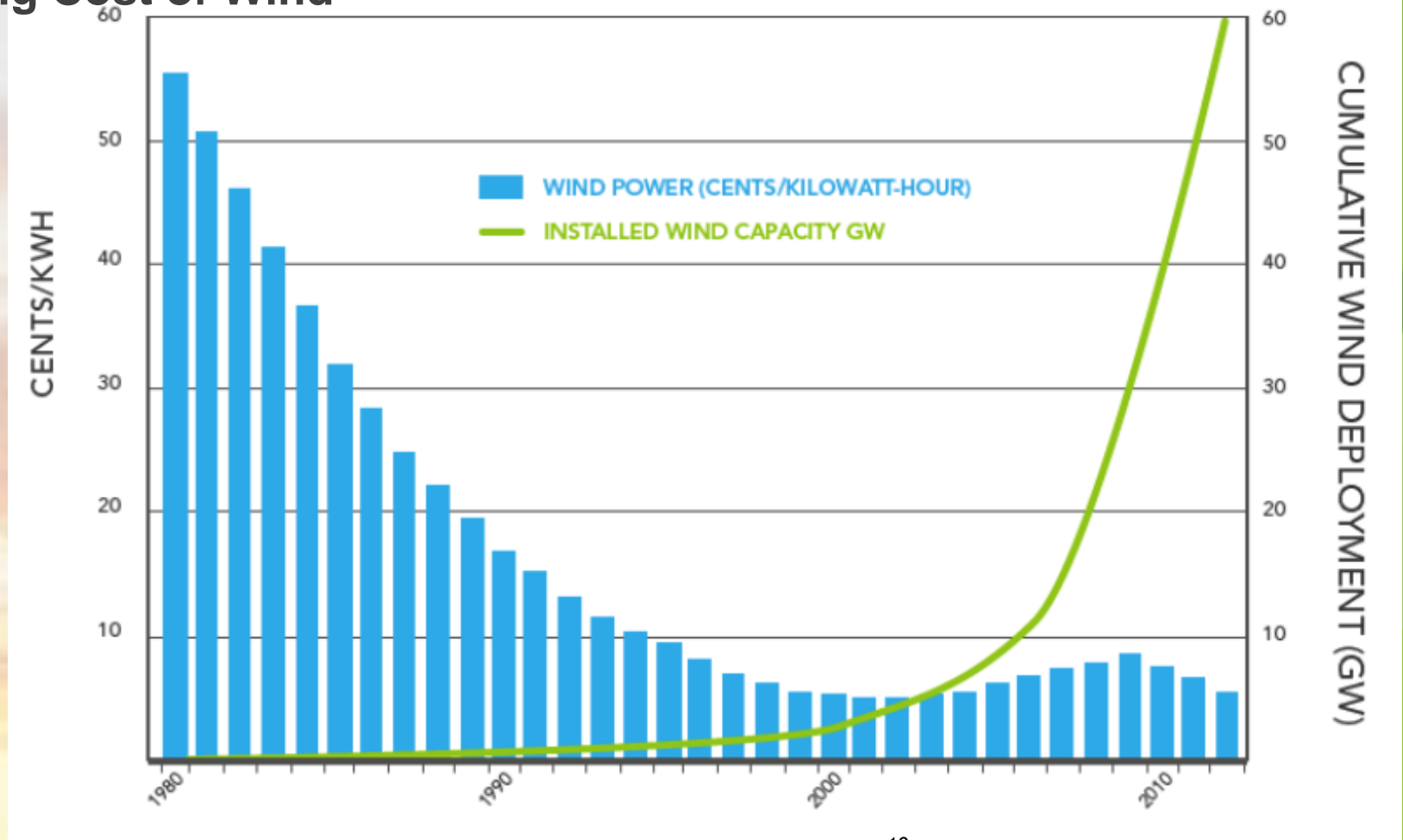
Source: ISO-NE's Final 2016 PV Forecast

Installed NE Wind (MW)

State	Current Installed Wind Capacity (MW)	Wind Capacity Under Construction (MW)
Connecticut	5	0
Maine	613	284
Massachusetts	107	8
New Hampshire	185	0
Rhode Island	9	45
Vermont	119	0
Total:	1,038	337

Wind Cost Trends

Declining Cost of Wind

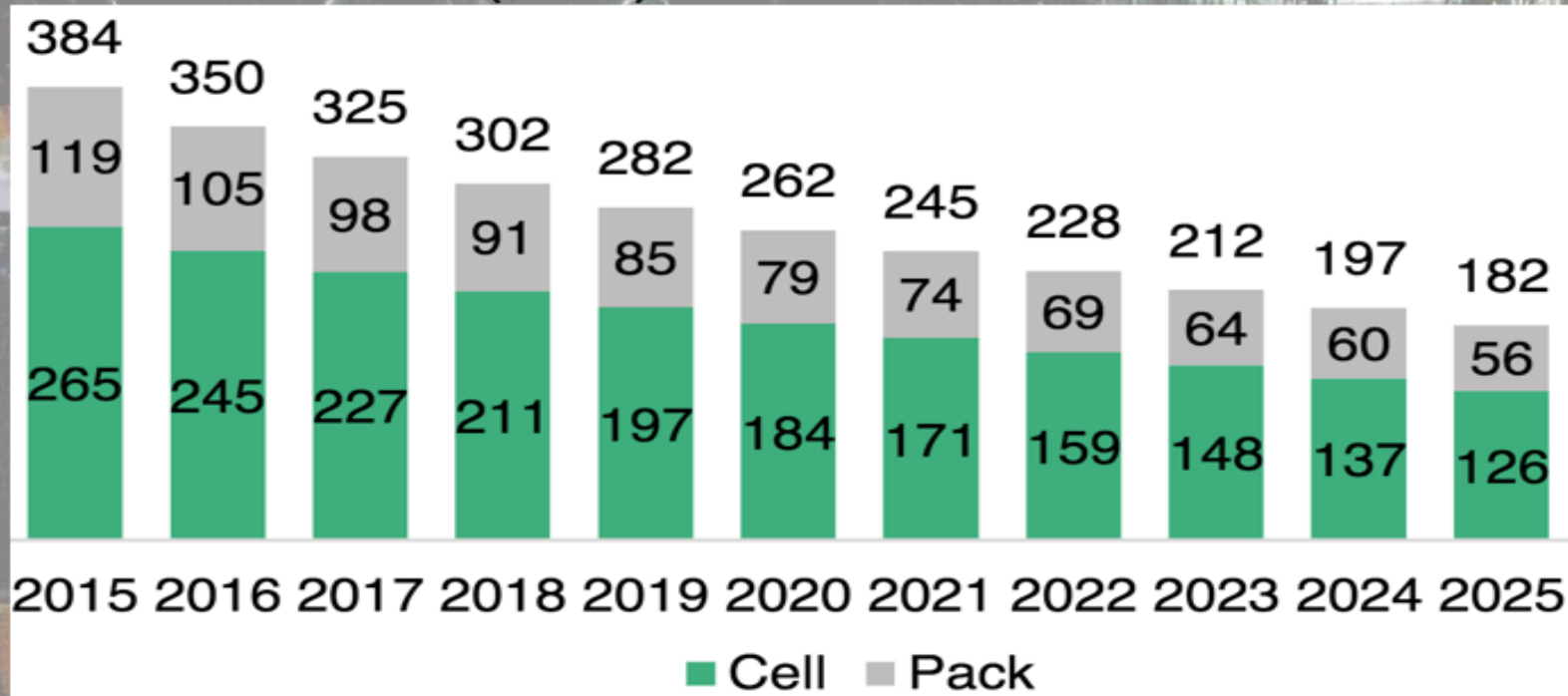


Source: DOE – “Revolution Now: The Future Arrives for Four Clean Energy Technologies.” September, 2013.

Storage Cost Trends

Battery Prices Keep Tumbling

Lithium Ion Forecast (\$/kWh)



Source: Bloomberg News

Policy Example:

2016 Rhode Island Legislation

- ▶ Renewable Energy Standard expanded and extended from 2019 to 2035 (1.5%/year)
- ▶ Omnibus Rhode Island Energy Bill (S2450 B)
 - ▶ Extends the Renewable Energy Fund until December 2022
 - ▶ Renewable Energy Growth Program expanded to allow multi-family homes that share the same roof to participate in REG
 - ▶ Community solar was also allowed to participate in REG as 'Community Remote Distributed Generation (CRDG), which allows projects to allocate kWh-revenues to offtakers.
 - ▶ Clean energy property tax provisions
 - ▶ Net Metering eligible project size increased from 5-10 MW
 - ▶ Virtual Net Metering 30 MW Pilot Program
 - ▶ 3rd Party Financing

Policy Example:

2016 Massachusetts Legislation

H4173: An Act Relative to Solar Energy Legislation

- ▶ **Increases Caps by 3%**
 - ▶ **7% Private**
 - ▶ **8% Public**
- ▶ **Modifies Reimbursement Rate**
 - ▶ **Keeps full retail Net Metering credit for under 25kw and public projects**
 - ▶ **Lowers credit to 60% for non-governmental projects**
 - ▶ **Grandfathers existing projects in for 25 years**
- ▶ **Directs DOER to craft new solar incentive program to replace SREC II**
- ▶ **Allows utilities to propose a minimum monthly reliability contribution (MMRC)**

Policy Example: 2016 Massachusetts Legislation

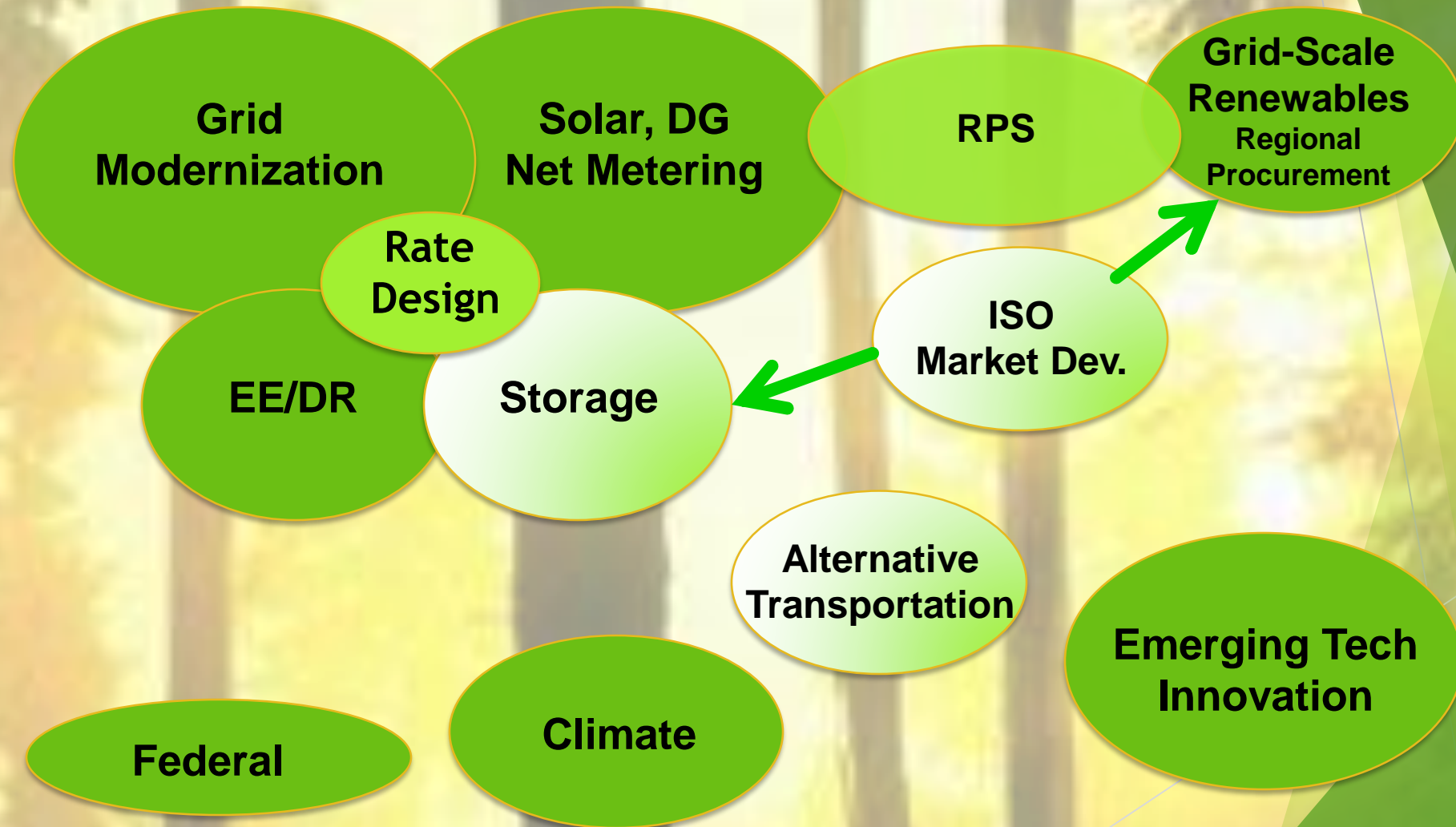
H4568: An Act to Promote Energy Diversity

- ▶ **Clean Energy Procurement**
 - ▶ **9.45 TWH for clean energy generation**
 - ▶ **Hydro, Hydro and Class I, Class I standalone**
 - ▶ **1600 MW for off shore wind**
 - ▶ **Staggered 400 MW solicitations**
 - ▶ **Guarantee for winter peak delivery**
 - ▶ **Independent Evaluator**
 - ▶ **Preference for combo of hydro + class I**
- ▶ **CPACE**
- ▶ **Fuel Cells**
- ▶ **Energy Storage**
- ▶ **Net Metering for small hydro**

2017 Energy Considerations Around NE

- ▶ RPS increase – MA and CT; protection - ME
- ▶ Solar/DG incentives – CT, ME, MA, RI, NH, VT, NY
 - ▶ MA Successor Solar Incentive program
 - ▶ CT LREC/ZREC/VNM/SCEF (CSS)
 - ▶ Interconnection issues
- ▶ Net metering
 - ▶ NH, ME, MA, VT, RI (VNM), NY
- ▶ Storage – MA DOER recommendations, procurement target
- ▶ Grid Modernization – MA, NH, RI, CT, NY
- ▶ Energy efficiency, Demand Response – MA, NH, ME
- ▶ RPACE, CPACE – federal and state
- ▶ Wholesale electricity markets –public policy, nuclear LTC

2017 Preliminary Policy Priorities



Size of bubble indicates level of NECEC activity/priority.

Advantages to a Regional Approach

NE Operates Under One Regional System, the ISO

States are all working on the same issues

Energy Infrastructure Throughout New England Needs Upgrades

There is a Template for Working Regionally Through the Three State RFP

Businesses and Utilities Cross State lines and Need Consistent Policy to Grow

Economies of Scale

Uncertainty over Federal Policy Under New Administration

Questions

Thank You

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