ISO-New England

Consumer Liaison Group

Electric Rates and Market Drivers

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Northeast Utilities

New England Power & Gas Market Overview

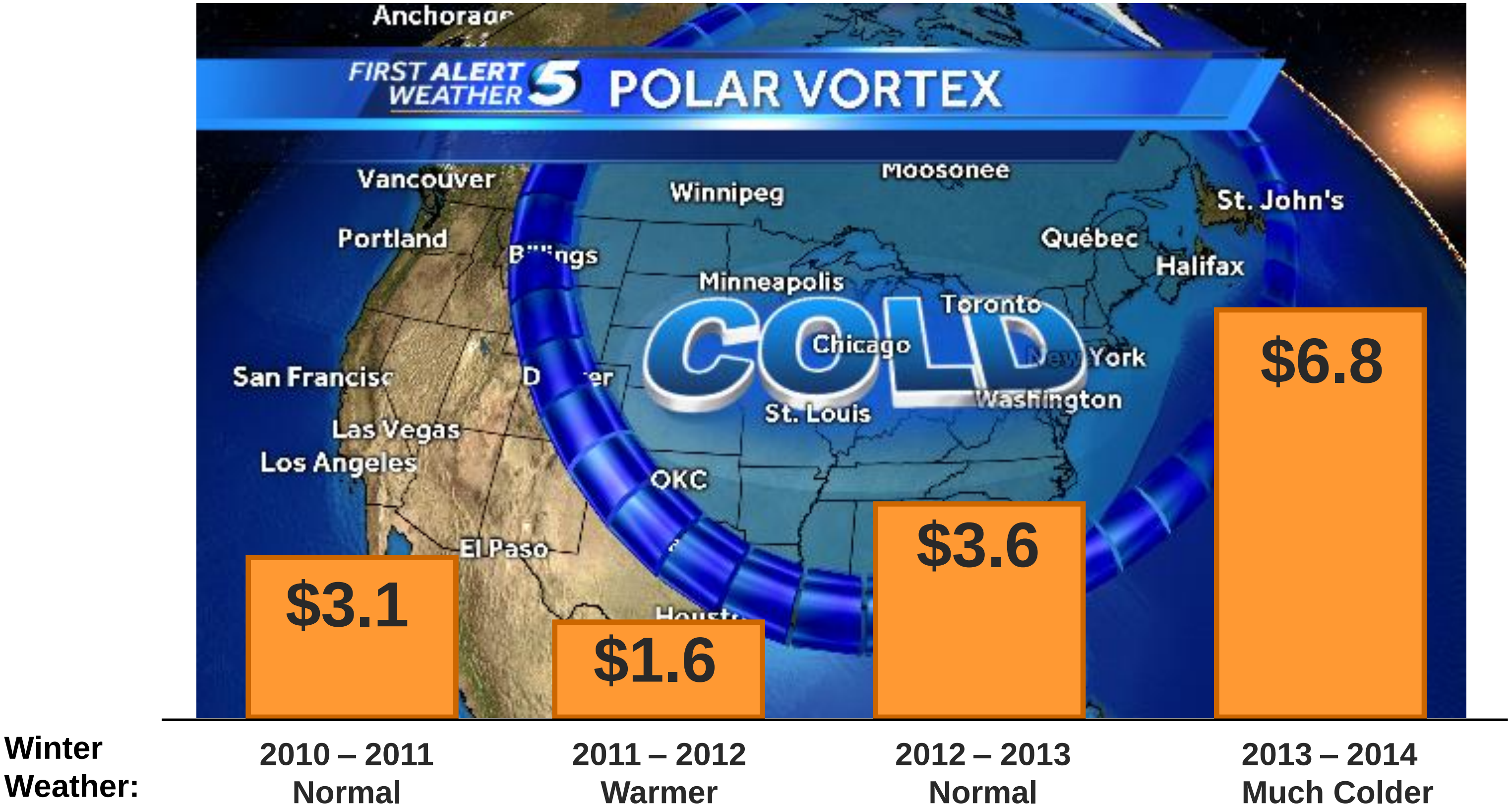
New England electric markets are approaching a crisis point:

- Retail power prices are increasing significantly this winter
- Winter reliability concerns have been raised by ISO-NE
- Problems will continue until new natural gas pipeline and electric transmission added

$3 Billion Increase in Wholesale Costs Last Winter

The cold weather last winter exposed vulnerabilities in electric and gas infrastructure

Winter Season Wholesale Electricity Costs
December thru March; ISO-NE region ($ billions)

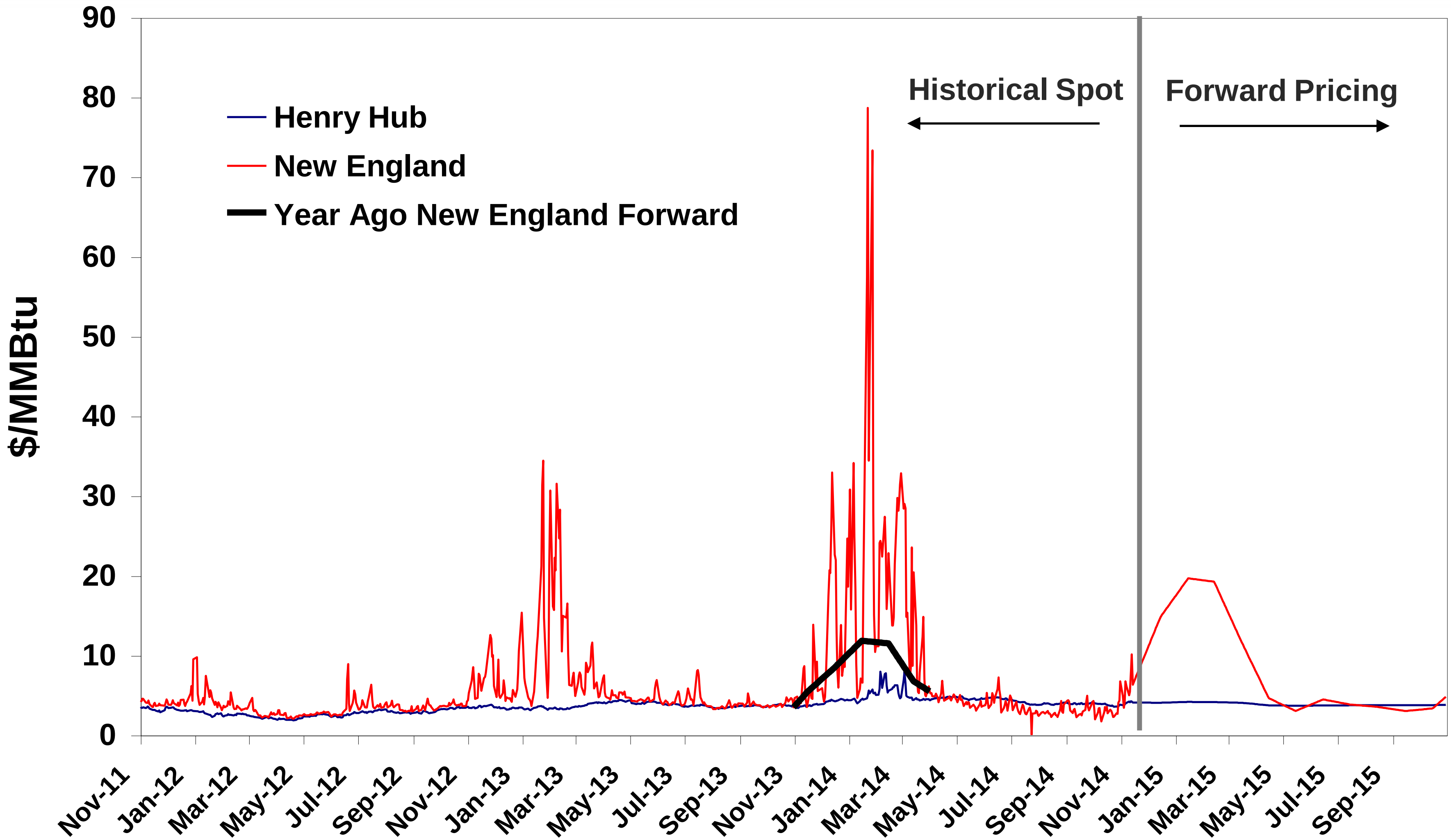


Retail Rate Increases – Energy Only

Residential Rates	Energy Rate (c/kWh)		% Change	Upcoming Period
	Current Rate	**Upcoming Rate**		
Connecticut				
CL&P	10.0	12.5	25%	Jan '15 - Jun '15
United Illuminating	8.7	13.3	53%	Jan '15 - Jun '15
Massachusetts				
NSTAR	9.4	15.0	60%	Jan '15 - Jun '15
WMECO	8.8	14.0	58%	Jan '15 - Jun '15
National Grid	8.3	16.2	96%	Nov '14 - Apr '15
Fitchburg	8.5	14.1	66%	Dec '15 - May '15
New Hampshire				
PSNH	9.9	*9.6**	*(3%)*	Jan '15 - Dec '15
Unitil	8.4	15.5	85%	Dec '14 - May '15
Liberty	7.7	15.5	100%	Nov '14 - Apr '15
NH Elec Coop	9.0	11.6	29%	Oct '14 - Apr '15

**Estimate*

NE Gas Pricing: Locking in Shortages



Source: Bloomberg

Policy Costs Growing

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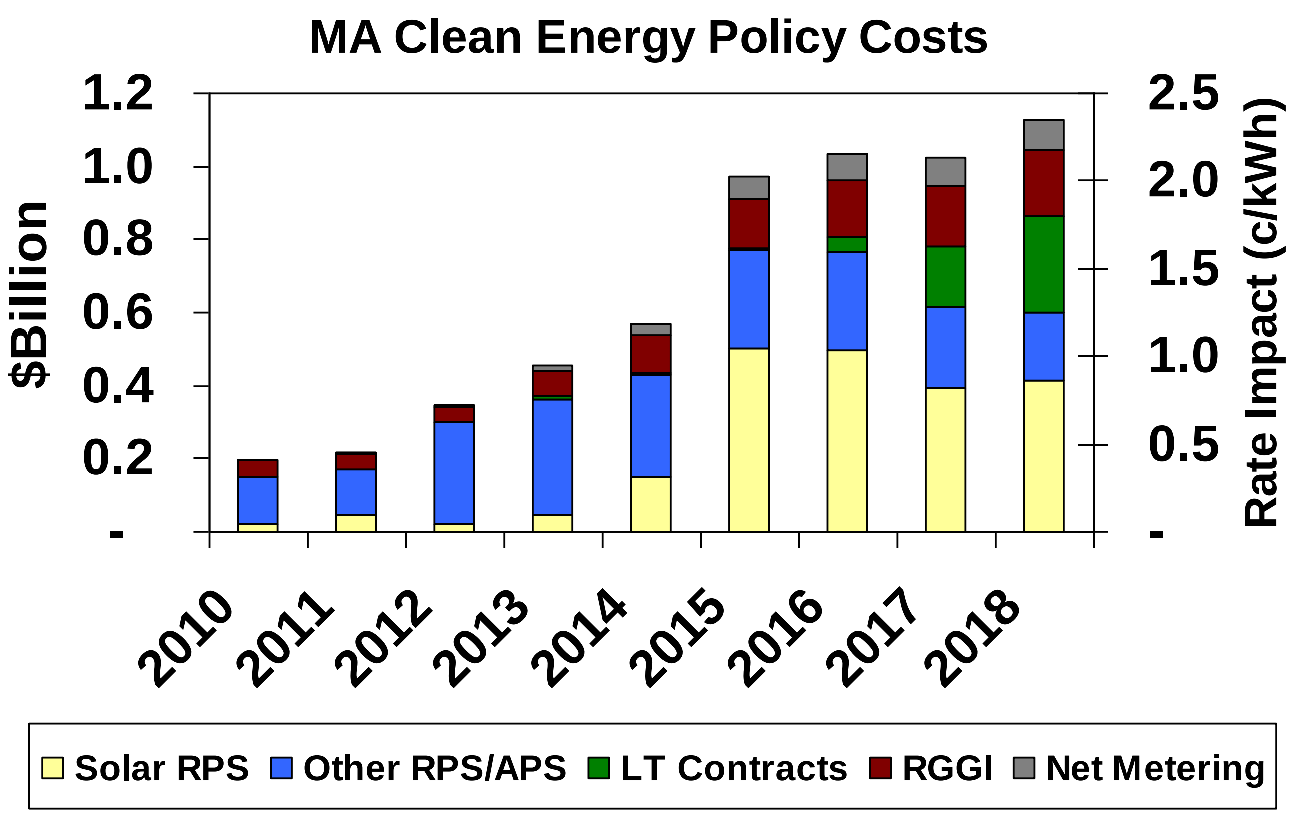
- Incremental costs of clean energy policies is material portion of rates
- RPS requirements continue to grow in all states



Estimated 2015 RPS Rate Impacts

	RPS Component <u>(c/kWh)</u>
MA	1.6
CT	0.75
NH	0.60

Emerging Challenges
Capacity Costs to Increase

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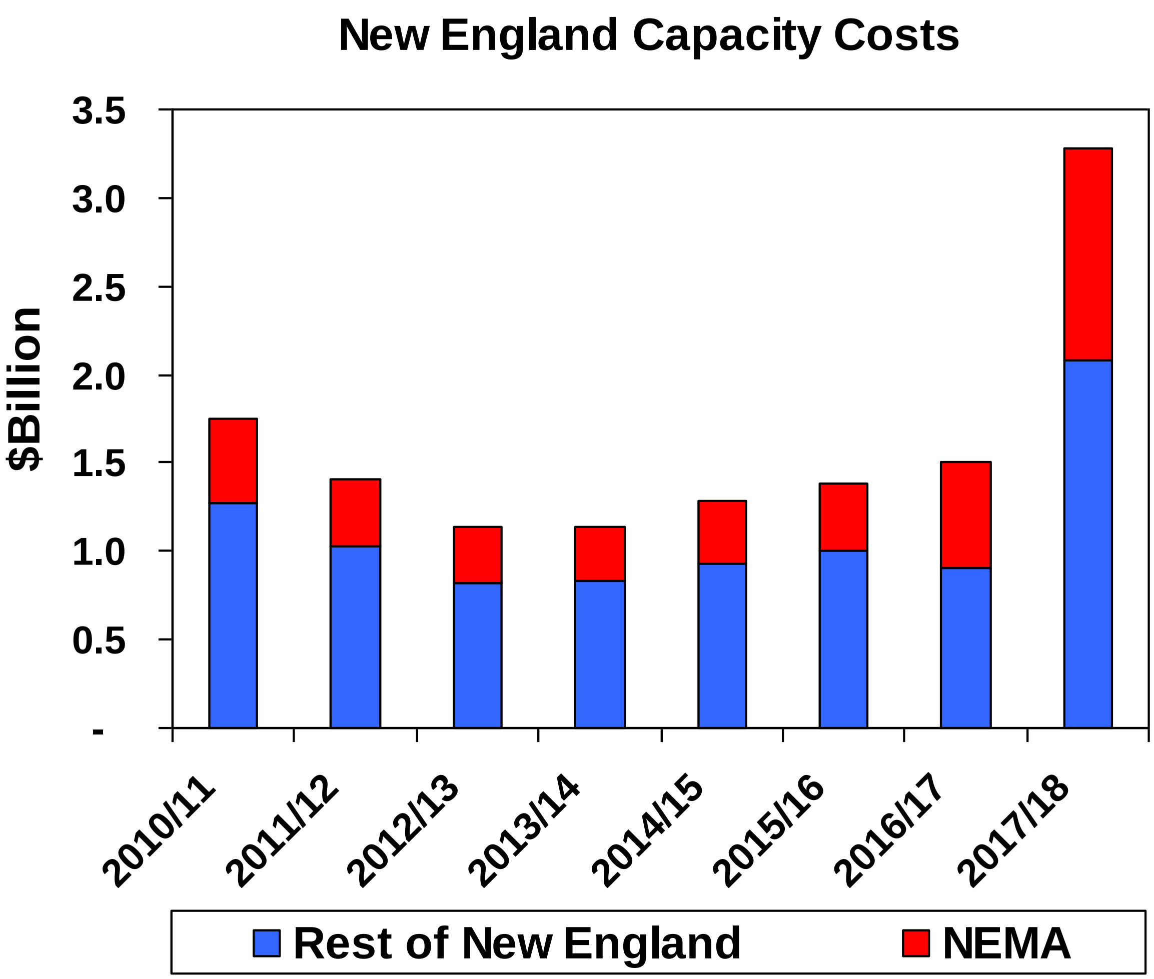


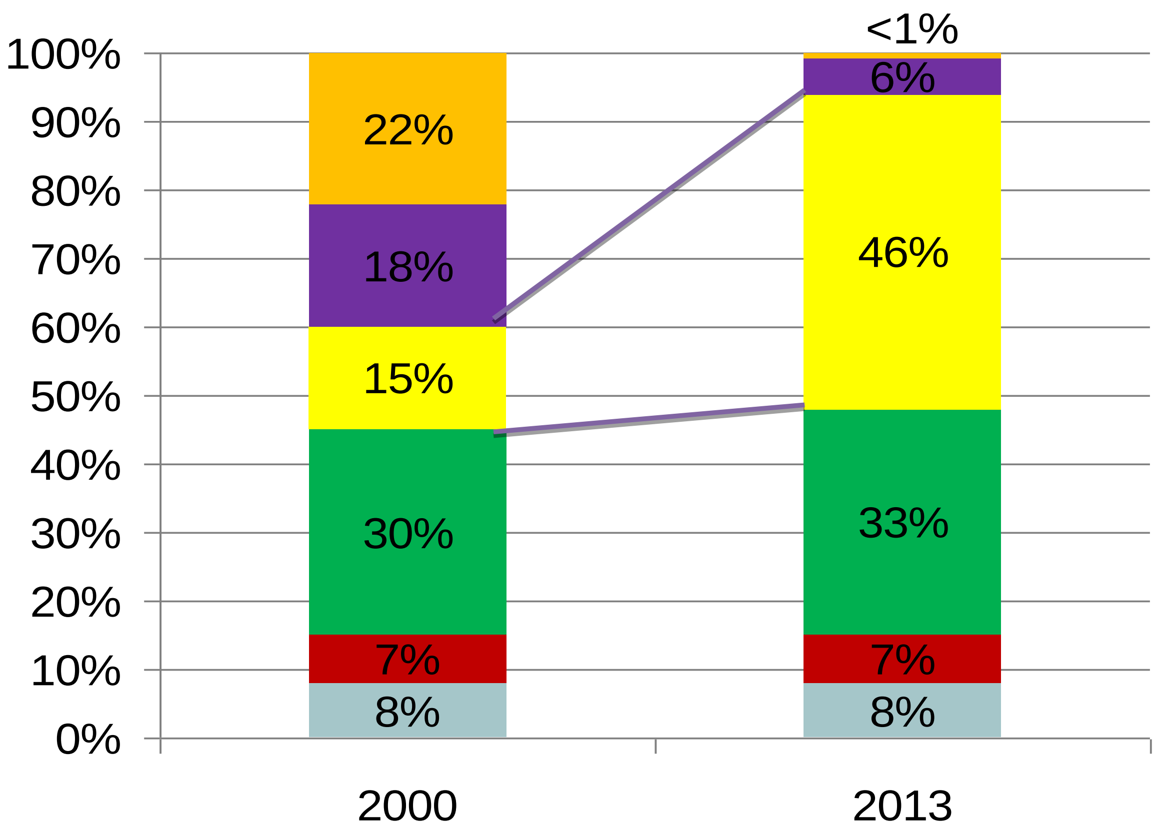
Capacity Rate Impact (c/kWh)

	2014	2018
NEMA	0.96	3.30
Rest of NE	0.96	2.13

Market Drivers

Natural Gas Generation Reliance

Annual Energy Output



Generating Capability

Oil:	5,273 MW
Coal:	2,300 MW
Nat Gas:	17,850 MW
Nuclear:	4,656 MW
Hydro:	3,335 MW
Renewable:	1,079 MW

Emerging Challenges
Natural Gas Reliance to Grow

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Upcoming Retirements

Announced (3,230 MW)

- Salem Harbor Station (749 MW)
  - 4 units (coal & oil)
- Norwalk Harbor Station (342 MW)
  - 3 units (oil)
- Brayton Point Station (1,535 MW)
  - 4 units (coal & oil)
- Vermont Yankee Station (604 MW)
  - 1 unit (nuclear)

Potential

Up to **8,000 MW** at risk of retirement

New Generation – ISO Queue

Fuel Type	Capacity (MW)
Biomass/Wood Waste	138
Hydro	62
Landfill Gas	0
Natural Gas	**1,847**
Natural Gas/Oil	**2,497**
Oil	245
Solar: ISO/States	**2,016**
Wind	**2,110**
Total	**8,915**

Solving These Challenges

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- **NE Governors Initiative makes sense for the region:**
  - Electric transmission to clean renewable energy
  - Natural gas infrastructure to address power market disruptions
  - New England States Committee (NESCOE) tasked to implement

- **NU support the use of regional tariffs to expedite construction of electric and gas infrastructure**
  - Precedent exists to lean on regulated utilities to address energy policy objectives
  - Electric Distribution Companies (EDC) proposal to NESCOE: EDC would contracting for gas transportation capacity

The Northern Pass: Diversifying Electric Supplies

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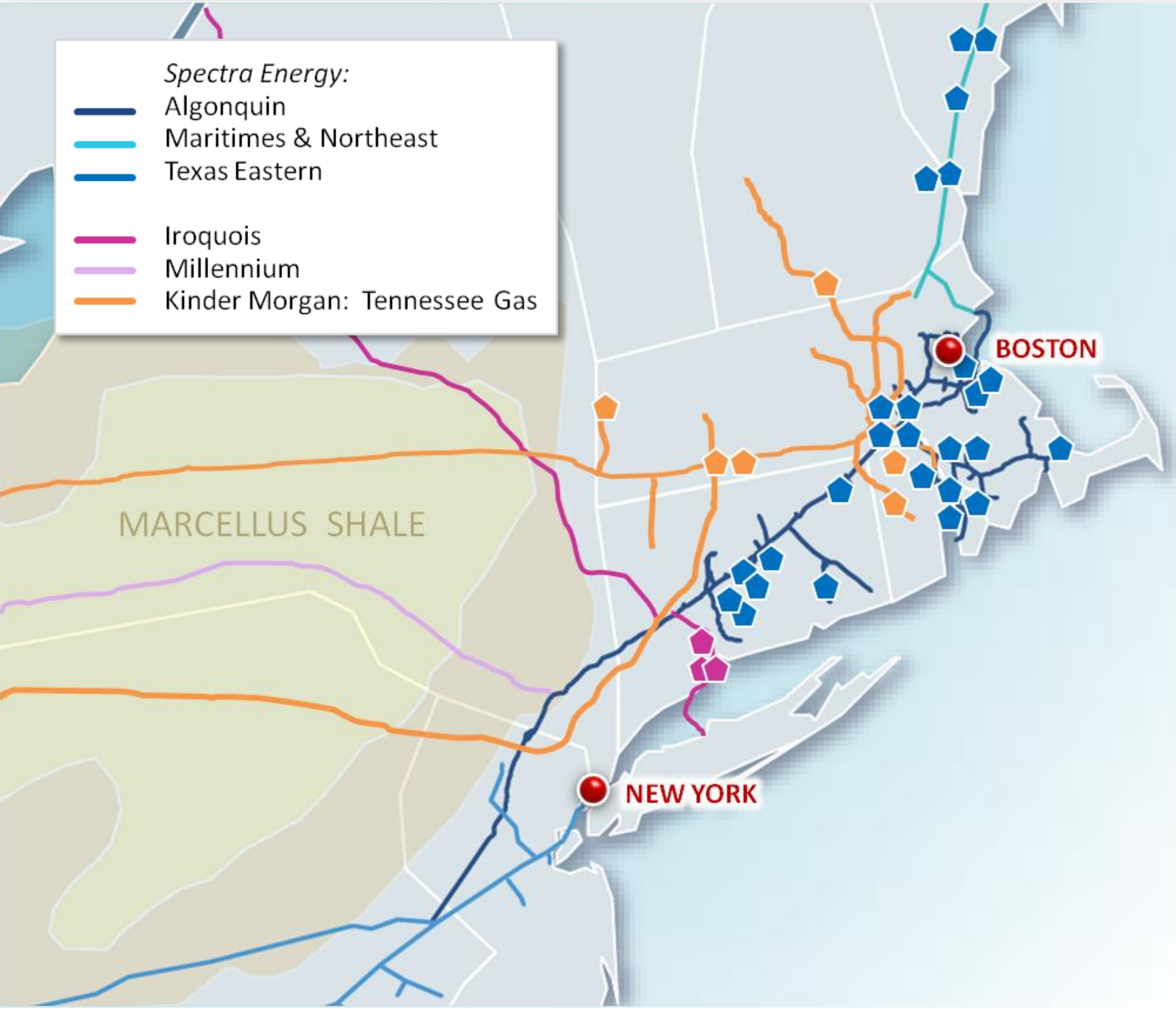
- **Benefits all of New England**
- **A partnership between NU and Hydro-Québec**
- **Imports 1,200 MWs of clean hydro electricity into New England**
  - Enough to power 1 million homes
  - Equal to about four natural gas plants
- **New 187-mile transmission line from Quebec to Deerfield, NH**
  - 147 miles of existing utility owned right of ways
  - Plus new ROW including 8 miles of underground along public roads
- **Targeted completion: 2017**

Access Northeast



Access Northeast
announced September 16

- NU / Spectra Energy partnership to deliver over 1 BCF/day to power plants and LDC customers
- Utilizes existing pipeline right of ways
- Expands existing infrastructure
- Connects to 60% of NE gas generation capacity
- In Service 2018/19

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