



24th Annual U.S. - Canada Energy Trade & Technology Conference

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**STABLE.
DISCIPLINED.
RELIABLE.**

Reliability and Supply Concerns



ISO New England is focused on developing solutions to the region's top reliability risks
Ensuring Resource Adequacy

- New England will need sufficient replacement resources to replace retiring resources. These resources must be able to perform under adverse weather conditions

Inadequate Natural Gas Infrastructure

- New England is challenged to meet electricity demands with existing natural gas infrastructure – currently during the winter, but in the future this may also become a summer problem

Renewable Resource Integration

- Maintaining reliability as increasing levels of distributed generation and intermittent resources come online

“Our operating situation is **precarious** during the winter time and we are concerned that beyond 2019 it may become **unsustainable** during extreme cold conditions”

*-Gordon van Welie,
President & CEO ISO-NE*

Source: New England Council Regional Energy Discussion, September 2016

Achieving Emission Targets with Reliability Must Include Natural Gas



- **New England states targeting increased renewable energy use over the next decade**
 - Targeting 75-80% reduction in greenhouse gas emissions below 1990 levels by 2050
- **Regional Greenhouse Gas Initiative (RGGI)**
 - 2016 regional emissions cap – 86.5 million tons of CO₂; cap will decline by 2.5% per year through 2020
 - RGGI states have reduced power sector CO₂ pollution over 45% since 2005
- **Natural gas will remain a vital source of power generation for decades to come**

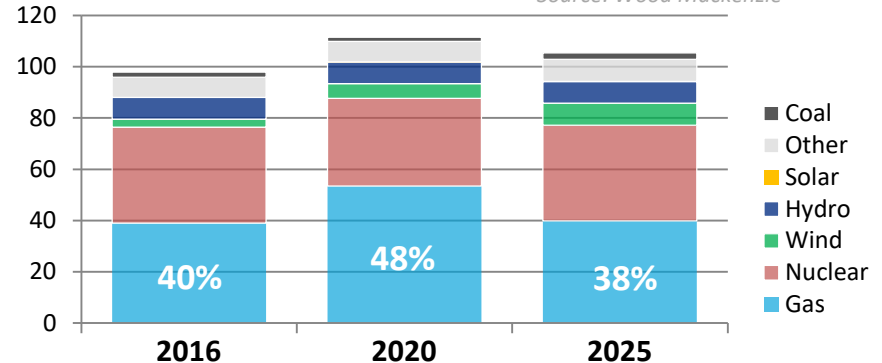
Renewable Portfolio Targets in New England

Integrating Markets and Public Policy (IMAPP)

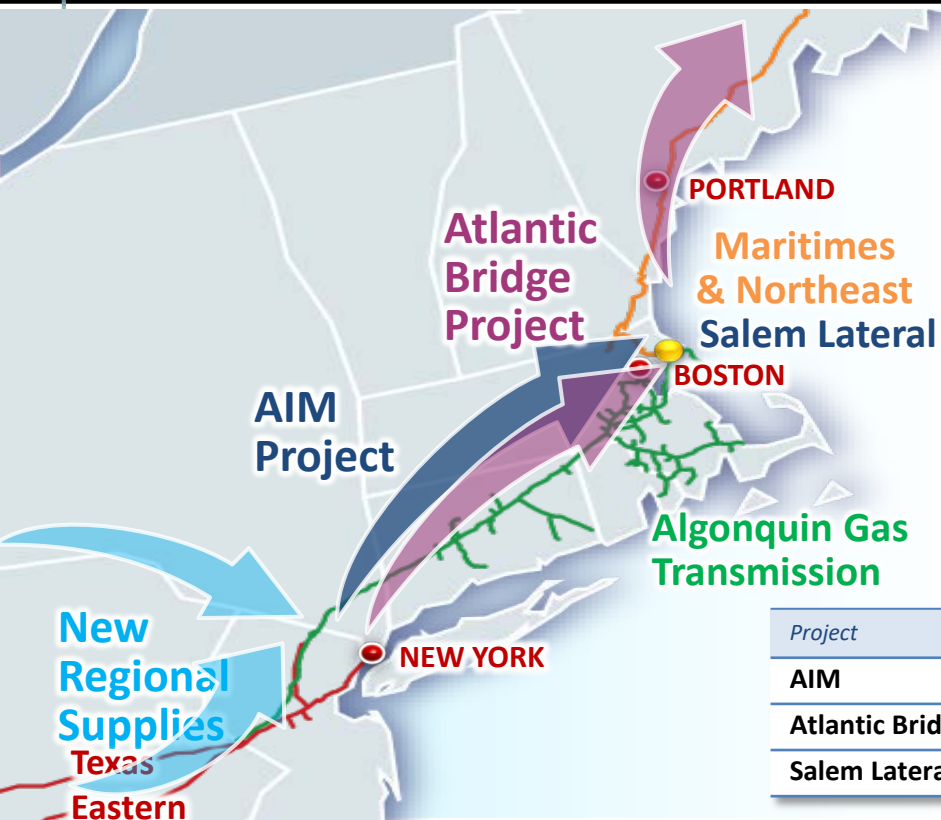
	2016	2020	2025
CT	21%	27%	27%
ME	39%	40%	40%
MA	17%	21%	26%
NH	9%	20%	26%
RI	10%	15%	15%
VT	NA	59%	63%

Northeast U.S. Power Generation by Supply (Annual TWh)

Source: Wood Mackenzie



Algonquin Expansions: New England Market-Driven Projects



AIM

Provides growing New England demand with access to abundant regional natural gas supplies

Atlantic Bridge

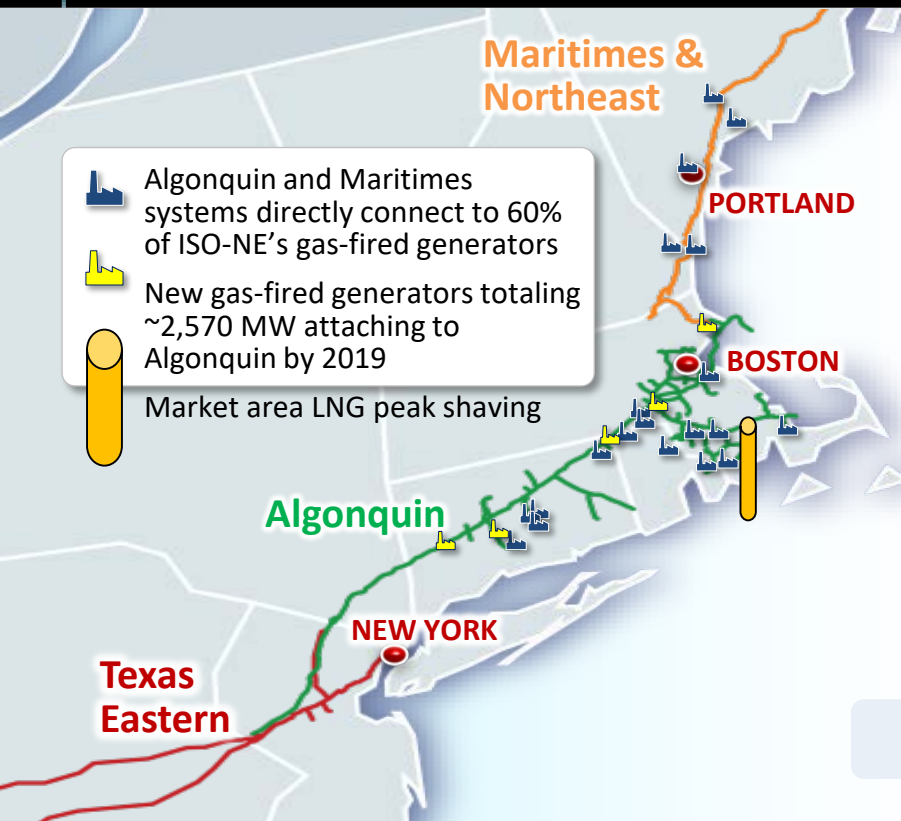
To allow abundant, economic supplies of natural gas from regional production to flow to the New England and Atlantic Canada markets

Salem Lateral

Provides natural gas service to a new power plant development on the site of an existing coal-fired plant

Project	CapEx	Volume (MMcf/d)	Target In-service
AIM	\$1.1B	342	4Q16
Atlantic Bridge	\$470MM	133	2H17
Salem Lateral	\$67MM	115	4Q16

Access Northeast – A Tangible Example



Project Scope:

- ~\$3 billion (100%); 900 MMcf/d
- Joint development with Eversource and National Grid

Project Need:

- New England electric power market continues to become more gas dependent
- Natural gas generation has increased from 15% to 50% market share since 2000
- Increased natural gas capacity will provide substantial savings for residential and commercial electric consumers – especially in extreme winters
 - \$1.4B in savings during normal winter weather
 - \$2.5B in savings during extreme winter weather

A solution for New England must be found

New England's Need for Natural Gas

Enhanced natural gas infrastructure is the critical link to achieve a balanced regional energy policy

- ISO New England has identified concerns over future system reliability due to facility retirements and the lack of natural gas infrastructure
- As states implement renewable initiatives, the region must balance itself with a strong, reliable back up of natural gas
- New England needs a cost effective and robust supply of energy to fuel economic growth
- The region still needs additional natural gas infrastructure to displace coal and oil, and to achieve climate goals

