

May 8, 2019
Concord, NH

Fuel Security & Natural Gas

***NASEO's 2019 Northeast Regional
State Energy Officials Meeting***



Stephen Leahy
Northeast Gas Association

About NGA

- ◆ Non-profit trade association
- ◆ Local gas utilities (LDCs) serving New England, New York, New Jersey, Pennsylvania
- ◆ Several interstate pipeline companies
- ◆ LNG & CNG importers, suppliers and trucking companies
- ◆ Over 350 “associate member” companies, from industry suppliers and contractors to electric grid operators
- ◆ www.northeastgas.org



NGA'S ANTITRUST COMPLIANCE PROCEDURES

Adopted by the NGA Board of Directors on June 20, 2018

Objective

The Northeast Gas Association (NGA) and its member companies are committed to full compliance with all laws and regulations, and to maintaining the highest ethical standards in the way we conduct our operations and activities. Our commitment includes strict compliance with federal and state antitrust laws, which are designed to protect this country's free competitive economy.

Responsibility for Antitrust Compliance

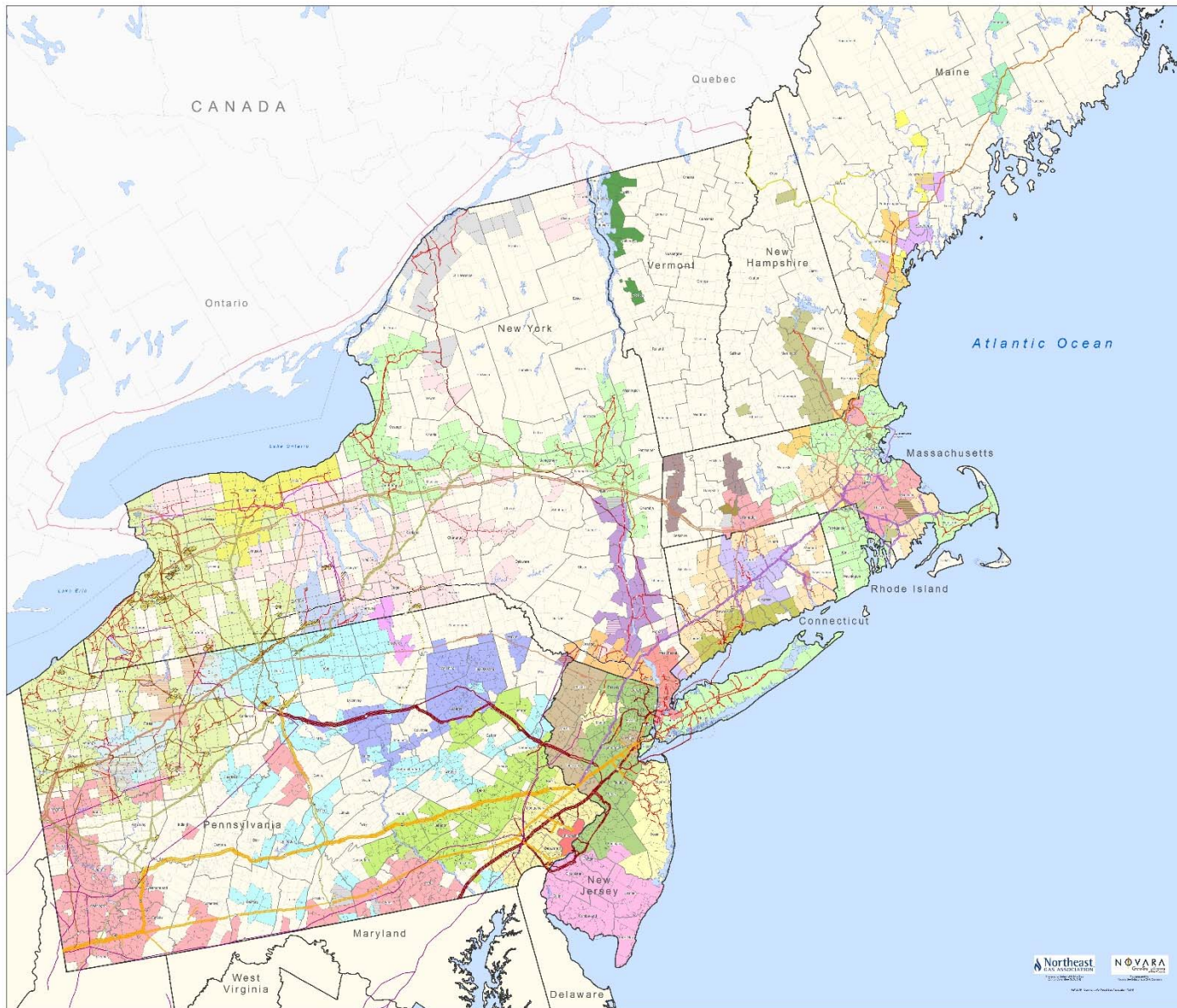
Compliance with the antitrust laws is a serious business. Antitrust violations may result in heavy fines for corporations, and in fines and even imprisonment for individuals. While NGA's attorneys provide guidance on antitrust matters, you bear the ultimate responsibility for assuring that your actions and the actions of any of those under your direction comply with the antitrust laws.

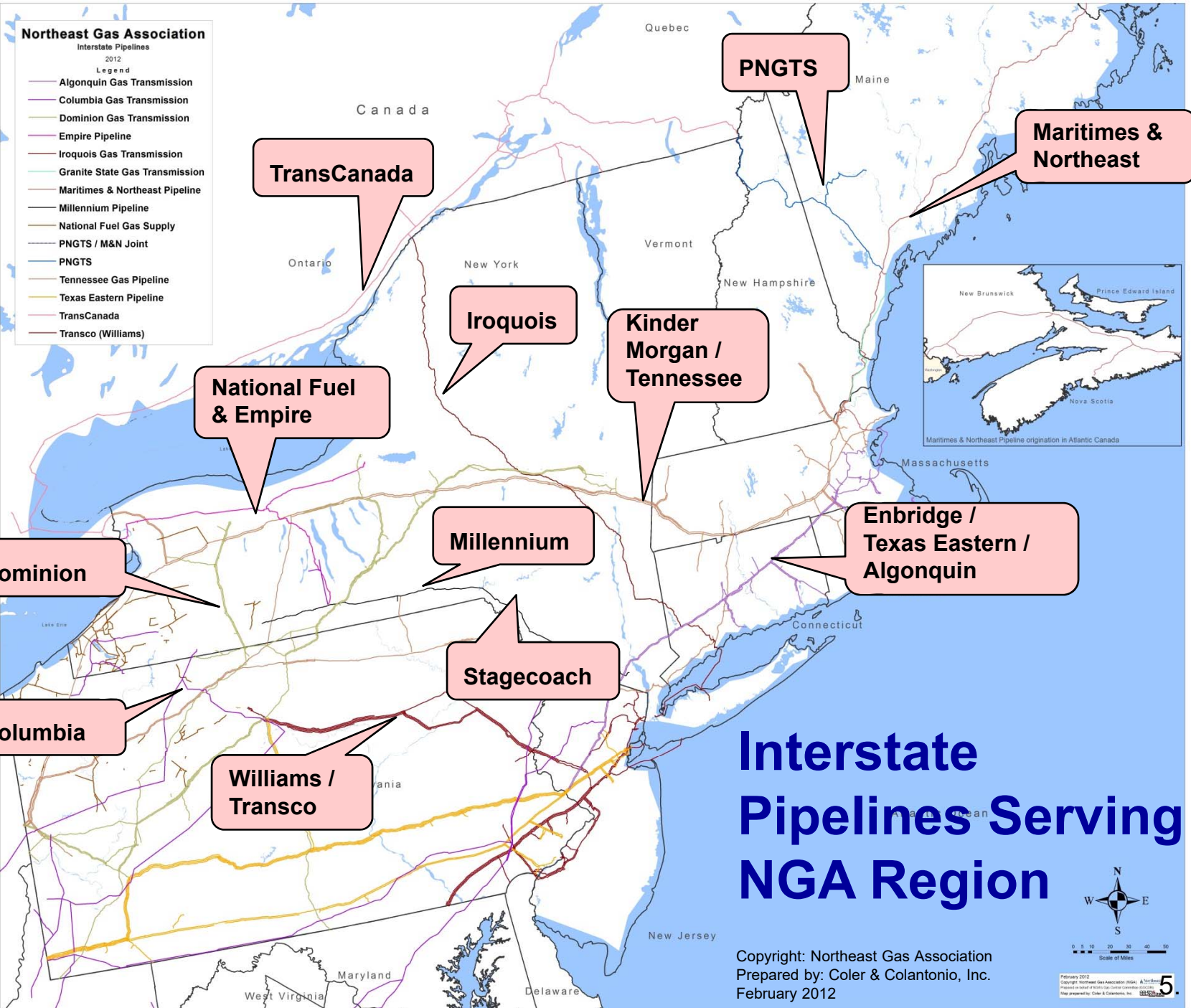
Antitrust Guidelines

In all NGA operations and activities, you must avoid any discussions or conduct that might violate the antitrust laws or even raise an appearance of impropriety. The following guidelines will help you do that:

- **Do** consult counsel about any documents that touch on sensitive antitrust subjects such as pricing, market allocations, anti-employee poaching practices, refusals to deal with any company, and the like.

Natural Gas Service Areas

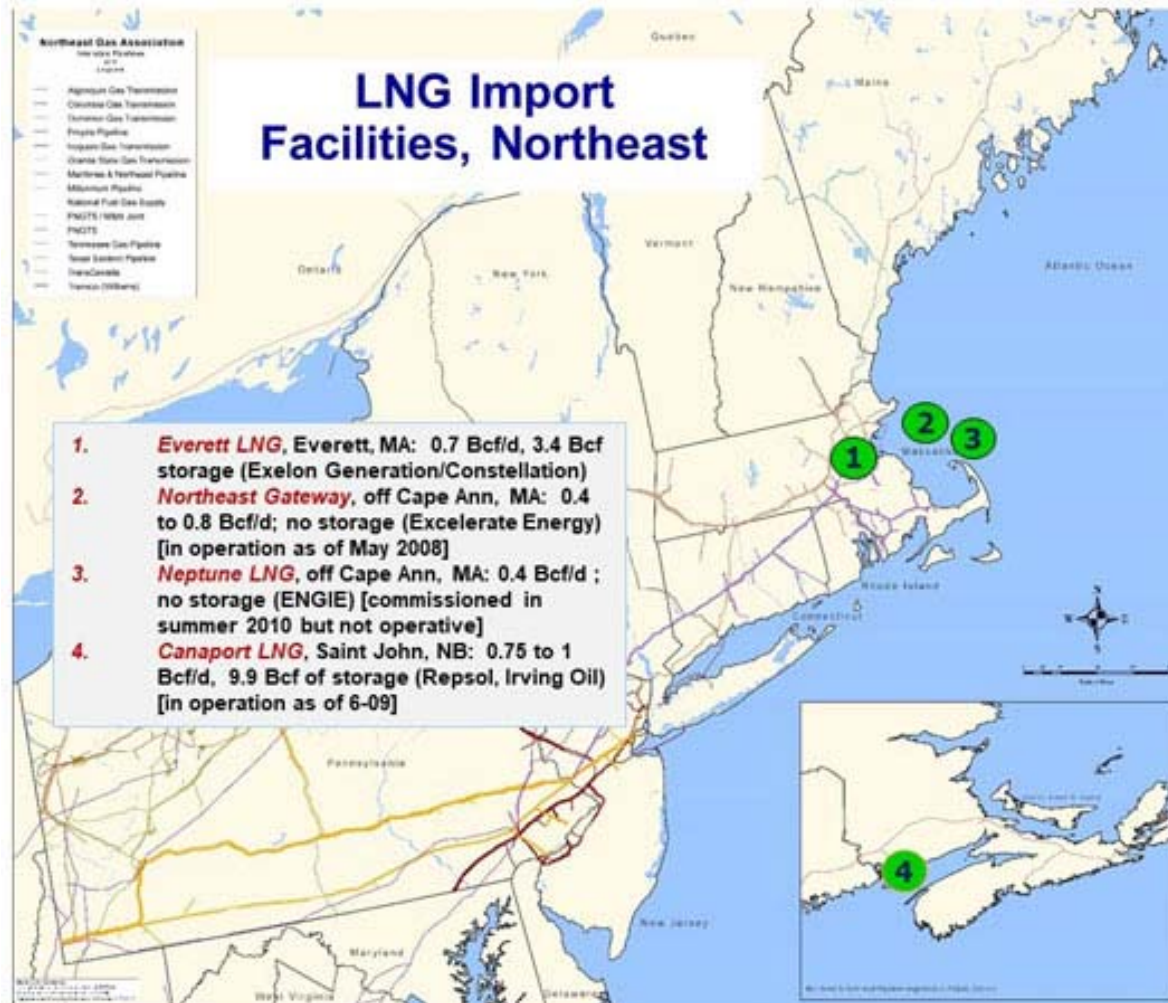




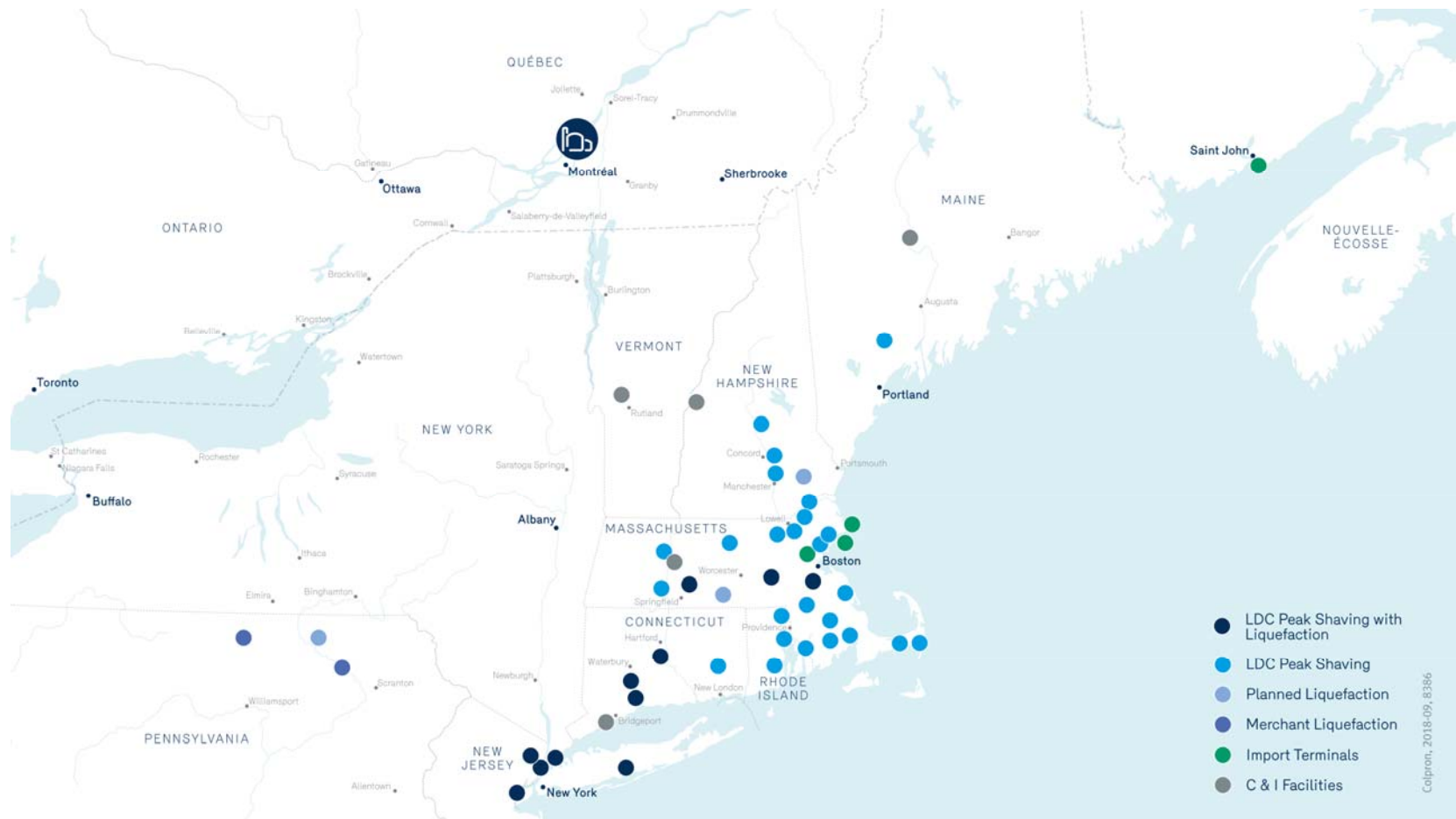
Interstate Pipelines Serving NGA Region

Copyright: Northeast Gas Association
Prepared by: Coler & Colantonio, Inc.
February 2012

LNG Import Terminals



LNG Facilities

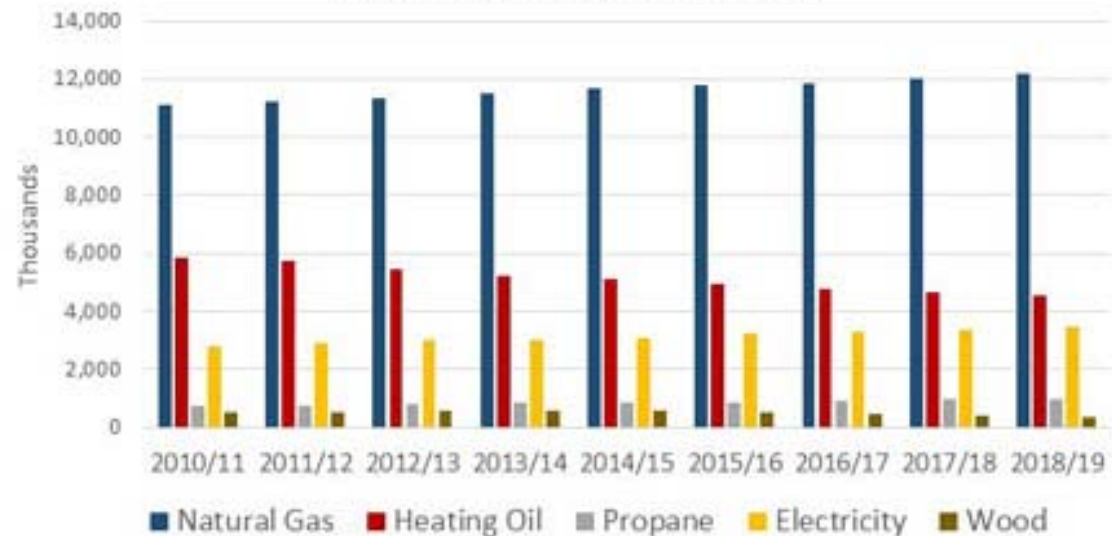


Map: Energir

Gas Utility Customer Growth Trend, Northeast



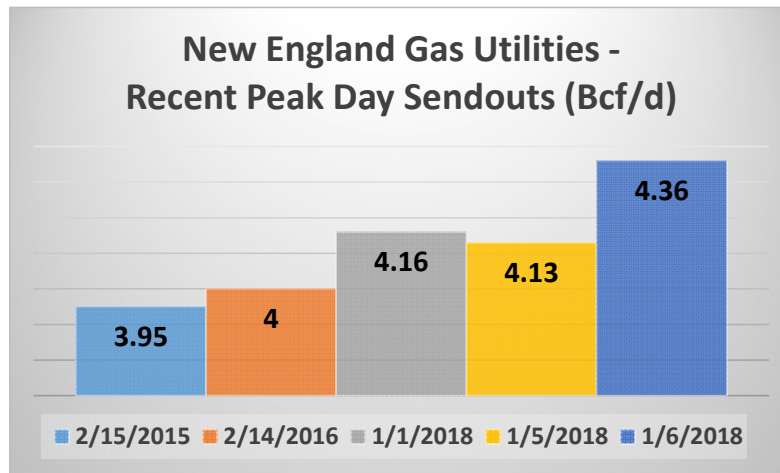
Households by Primary Fuel Type,
Northeast U.S., 2010-2018



Source: U.S. EIA, 10-10-18

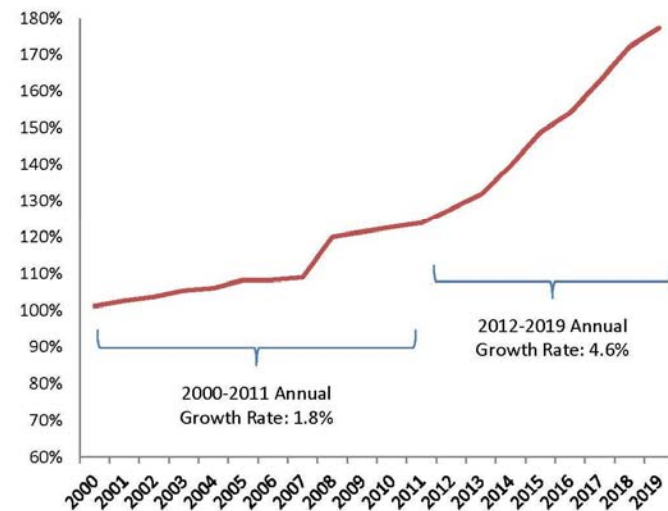
Since 2010, natural gas has added over 1 million new household customers in the Northeast states.

Increasing Peak Day Demand & Records



- Most LDCs in Northeast set multiple sendout records in first week of Jan. 2018.
- New England natural gas utilities collectively set 3 new sendout records that week – with new all-time peak set on 1-6-18, at close to 4.4 Bcf.

Con Edison Peak Day Natural Gas Demand (Weather-Normalized, Compared to 2000)



“Supply and demand increasingly out of balance
 – ~50% peak growth in last 10 years
 – Last new supply added in 2013
 – Use of delivered services rising”

Source: Con Edison, 4-25-19, at NGA Forum

Growing Role for Gas in Power in Northeast in Last Decade

Net electricity generation by fuel in Northeast states, 2006-2016
million megawatthours

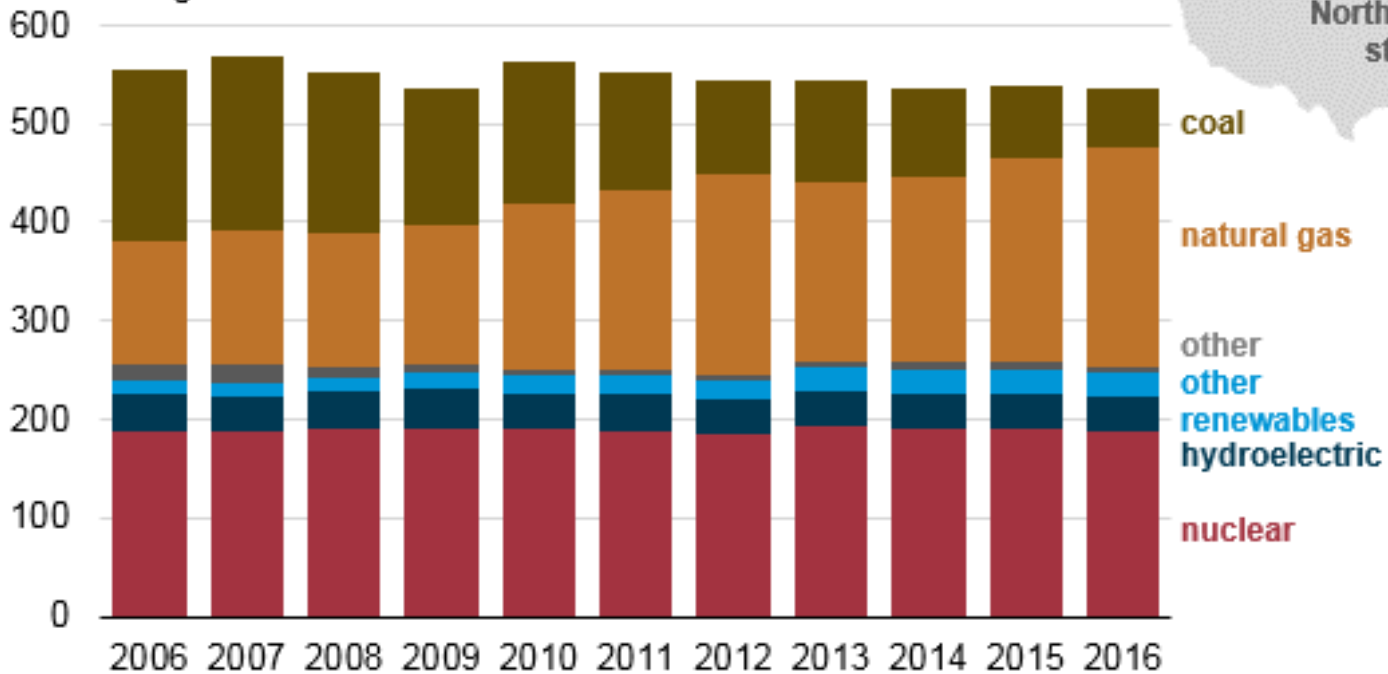


Chart: U.S. EIA, 5-11-17

Natural Gas was 23% of total regional electric mix in 2006 – increased to 41% in 2016.

New Gas Generation Capacity in Region



**Footprint Power
Salem Harbor
Salem, MA
674 MWs
Online June 2018**



**CPV Towantic Energy Center
Oxford, CT
805 MWs
Online June 2018**



**PSEG Power
Bridgeport Harbor Station 5
Bridgeport, CT
485 MWs
Expected online, June 2019**

"The region's reliance on natural gas will only intensify... While some argue that the region is too dependent on natural-gas-fired power plants, the future hybrid power system will require reliable, flexible back-up power - exactly what efficient natural-gas-fired generators provide."

- Gordon van Welie, ISO-NE, 2017

LNG Provided Key Supply Input This Past Winter

U.S. EIA: “Estimated deliveries from the LNG facilities located in New England rose from about 360 million cubic feet per day (MMcf/d) on January 19, 2019, to more than 700 MMcf/d on January 21.”

Strong volumes this winter on key delivery days from the **Exelon Generation, Everett LNG** facility; and **Canaport LNG** in New Brunswick.

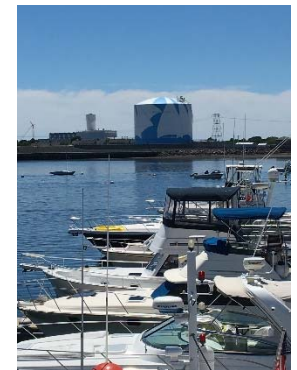
Offshore facility owned by Excelerate Energy – **Northeast Gateway** - made its first deliveries in 2 years into New England system. Achieved record sendout on Feb. 1.



LNG ship Excalibur at dock in Everett, MA this winter during a snowstorm.

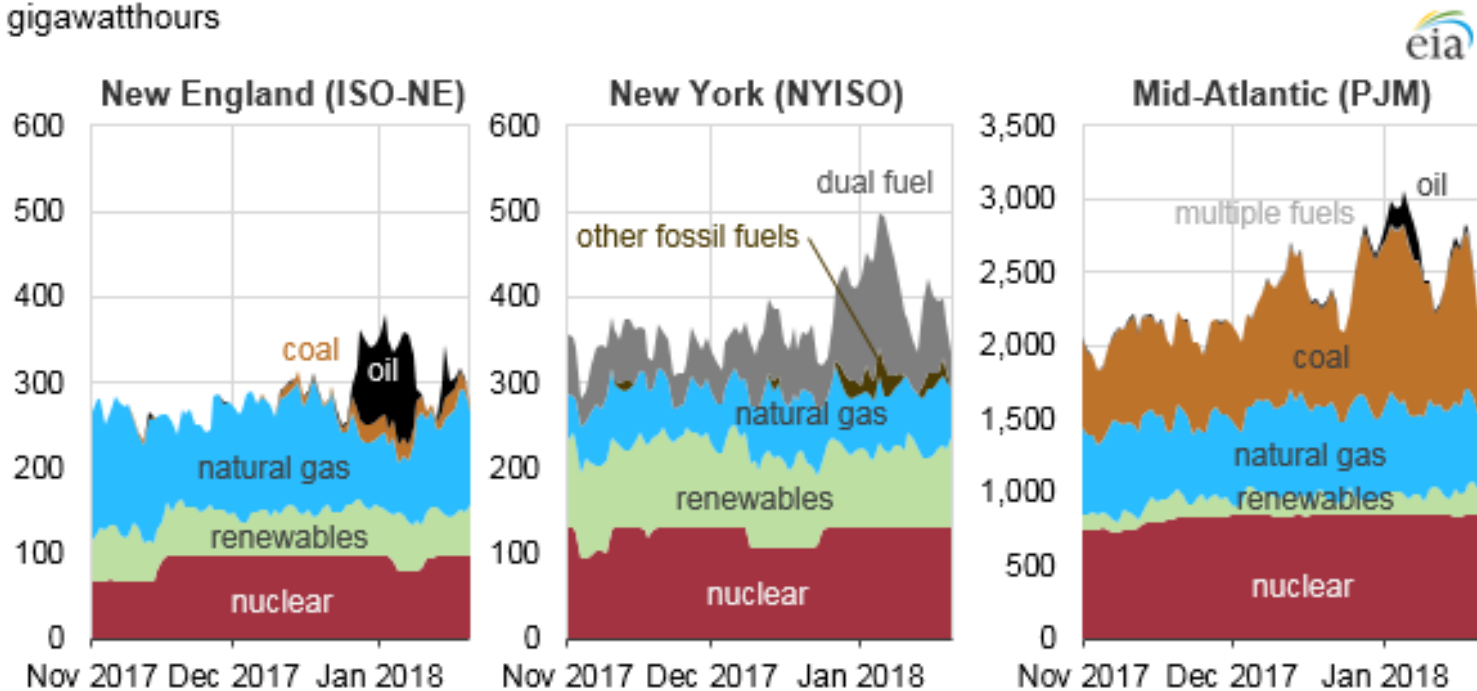
LNG Developments

- Exelon Generation Everett LNG facility ownership, as of Oct. 2018.
- FERC has approved National Grid's proposal to add liquefaction at its Providence, RI facility.
- Northeast Energy Center (NEC) is an LNG liquefaction, storage and truck loading facility under development in Charlton, MA. The facility will consist of about 25,000 dth per day of liquefaction, 200,000 dth of LNG storage, and four truck loading bays. NEC is currently being reviewed by the MA Energy Facilities Siting Board (Docket EFSB18-04). NEC expects to begin service in late 2020.
- Trucking supply availability from Quebec (Energir/Gaz Metro LNG) and PA (UGI Energy Services). Other entrants emerging as well (e.g., Dominion & REV LNG's NiChe LNG, LLC).



2017/18 “Cold Snap”: Power Systems Switched to Alternate Fuels

Daily generation mix in New England, New York, Mid-Atlantic (Nov 1, 2017 - Jan 20, 2018)
gigawatthours



New England power system used about 2 million barrels of oil during the cold snap – close to depleting its inventory – and increasing air emissions - as natural gas spot prices surged, and system constraints were felt. EIA: “A constrained natural gas pipeline network led to a significant increase in oil-fired and dual-fuel generation in New England and New York and, to a lesser extent, in the Mid-Atlantic.”

Observations

- Gas utilities in Northeast continue to see growth on systems and to plan incremental infrastructure investments to meet that growth.
- Natural gas continues to be key part of region's power system – and helps balance / enable increasing renewable additions. Most gas-fired generation is not supported by firm transportation arrangements.
- Key market role remains for LNG and CNG in this region.
- Key take-aways: Inter-relationship of fuels, and important role of communication among industries and state/federal agencies.