

June 5, 2017
Bretton Woods, NH

Gas Utility Expansion

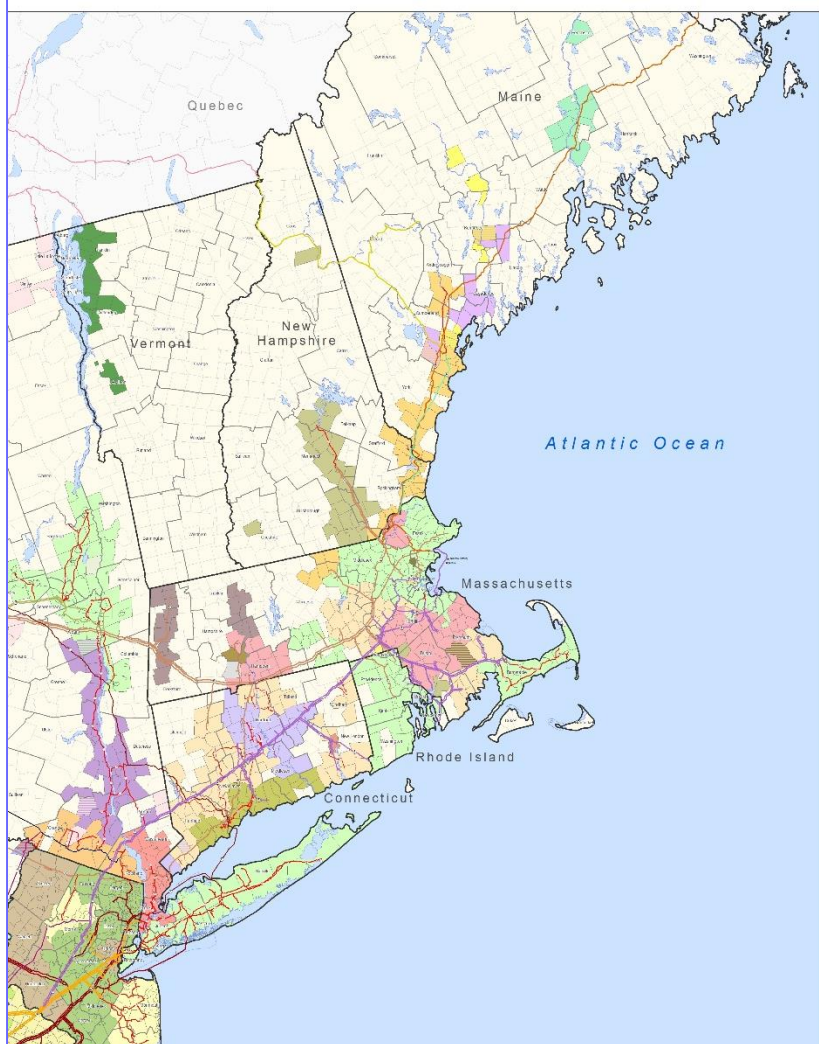
Presented to:

NECPUC Annual Symposium



Thomas M. Kiley
Northeast Gas Association

New England Natural Gas Distribution System

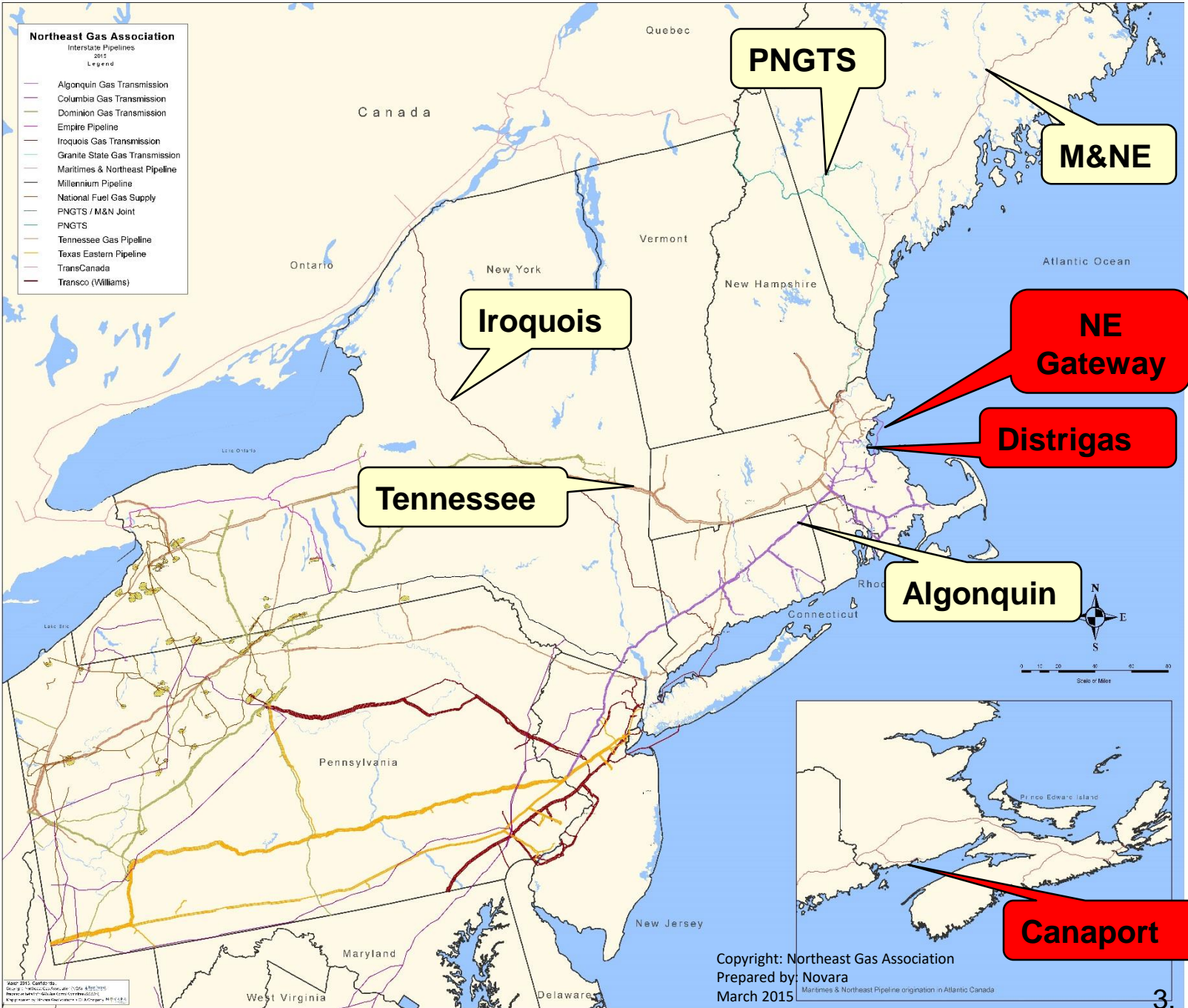


New England

Gas = 39%
of home
heating

Gas = 47%
of power gen

2.7 million
natural gas
customers



- Northeast Gas Association**
Interstate Pipelines
2015
Legend
- Algonquin Gas Transmission
 - Columbia Gas Transmission
 - Dominion Gas Transmission
 - Empire Pipeline
 - Iroquois Gas Transmission
 - Granite State Gas Transmission
 - Maritimes & Northeast Pipeline
 - Millennium Pipeline
 - National Fuel Gas Supply
 - PNGTS / M&N Joint
 - PNGTS
 - Tennessee Gas Pipeline
 - Texas Eastern Pipeline
 - TransCanada
 - Transco (Williams)

PNGTS

M&NE

Iroquois

NE Gateway

Tennessee

Distrigas

Algonquin

Canaport

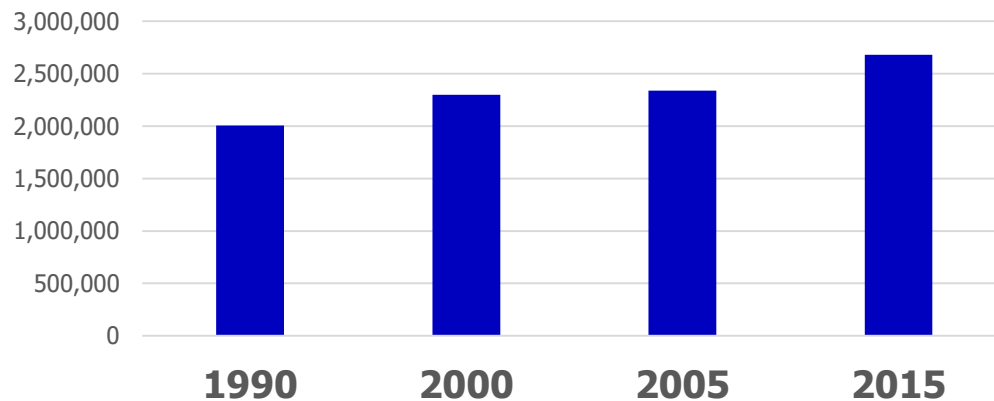
April 2015, Confidential
 State of Vermont, Office of Energy & Water Resources
 Project of Vermont's Natural Gas Infrastructure Study
 Energy Research by the Vermont Center for Energy, Water & Forests

Copyright: Northeast Gas Association
 Prepared by: Novara
 March 2015
 Maritimes & Northeast Pipeline origination in Atlantic Canada

Customer Growth Continues - up 13% *from 2005 - 2015*



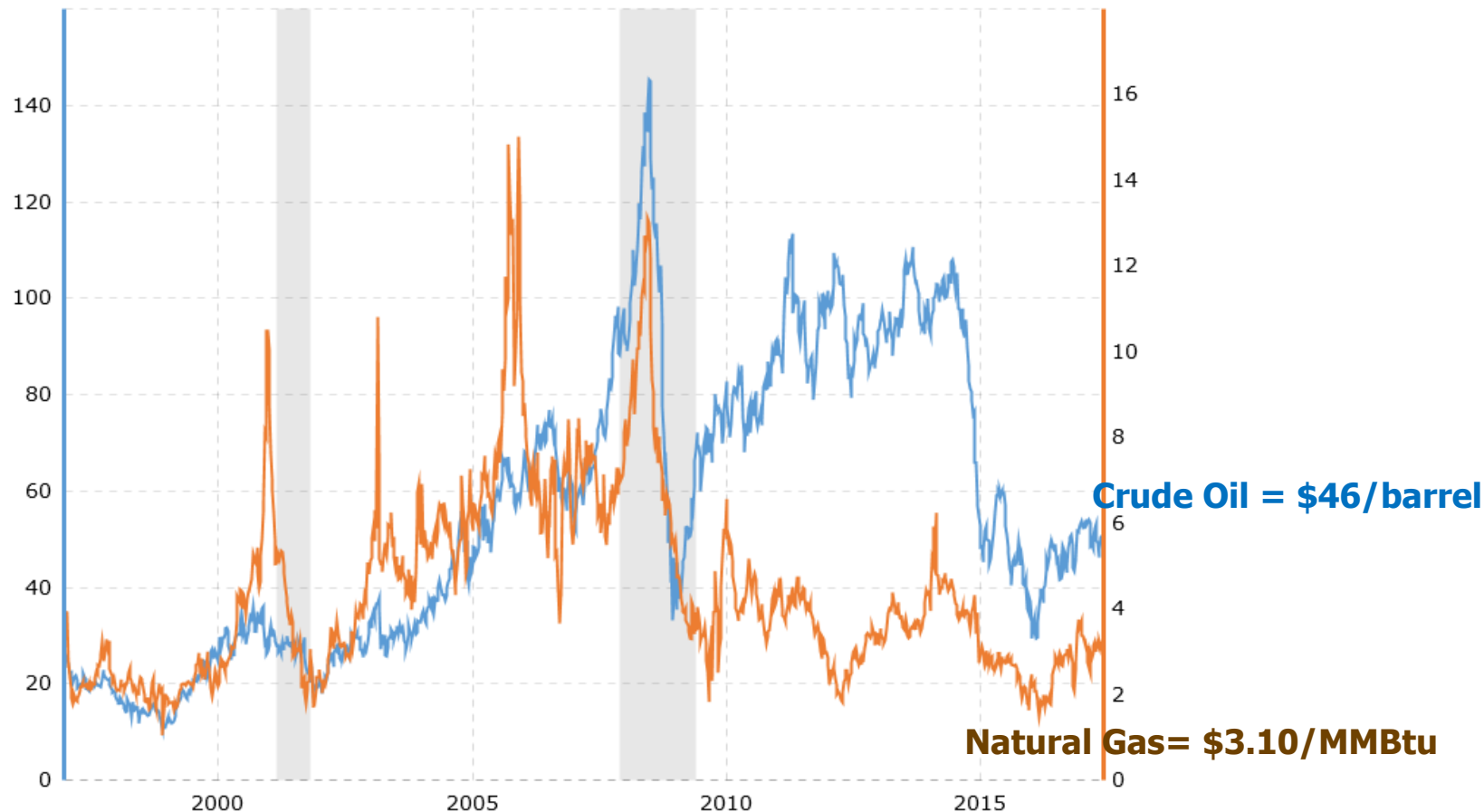
**Residential & Commercial Natural
Gas Customers, New England,
1990-2015**



Source: U.S. EIA

340,000 new residential and commercial customers in the region over the last decade (2005-15)

Price Still Matters: *Gas vs. Oil*



Source: MacroTrends, data through May 1, 2017. Oil is WTI; gas is Henry Hub spot price.

Rising Demand, but Challenges Too

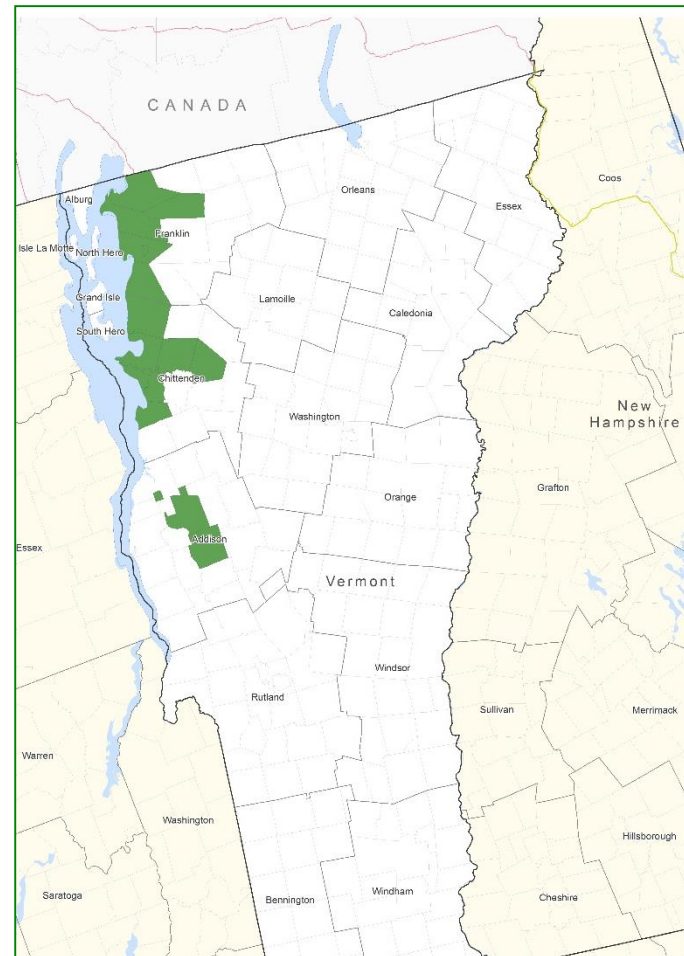
- Infrastructure access
 - Access to pipelines can be limited depending on location
 - Supply constraints at points
- Gas utilities can and do enter transportation agreements for supply, but challenges remain on the power gen side
- Workforce requirements
- Siting and environmental issues
- Increasing role of “virtual pipelines” for strategic market reach, particularly for larger C&I customers
 - CNG and LNG option.

Utilities are Investing in the Region

Some interesting examples in northern New England – to be discussed by Unitil and Liberty.

Vermont Gas Addison Expansion Project just completed. 41 mile expansion south into Addison County.

Middlebury had been served for last few years by CNG delivered by truck via NG Advantage, with gas sourced at Vermont Gas. Now a pipeline is in place.



NARUC Task Force Looking at Gas Access

In April, NARUC set up a new **Natural Gas Access and Expansion Task Force**.

Charged with “developing best practices and recommendations regarding natural gas service for underserved and unserved areas of the country, including, but not limited to rural communities.”

Co-chair is Commissioner John F. Coleman Jr. of PA PUC. MA DPU Commissioner Robert Hayden is a member.

