

Nashoba Conservation Trust

- *TGP Northeast Energy Direct Project Info Session*

June 1, 2014

Agenda

- **What is it?**
 - **Overview**
 - **Process and Timeline**
- **How does it affect us?**
 - **Impact to Mass.**
 - **How it affects each of us**
- **Is it necessary?**
- **What can you do?**
- **Appendices**

Background

New England States Committee on Electricity (NESCOE) seeks to increase region's gas capacity to

- Mitigate peak season electricity rate spikes
- Ensure grid reliability during peak season usage
- Ensure region is not competitively disadvantaged

The proposed TGP Northeast Energy Direct is one potential solution to addressing this concern

Natural Gas Pipeline

The approval by FERC of a tariff for the recovery of the cost of firm natural gas pipeline capacity, in a manner that is effective to achieve the construction of new, or expansion of existing, pipelines....

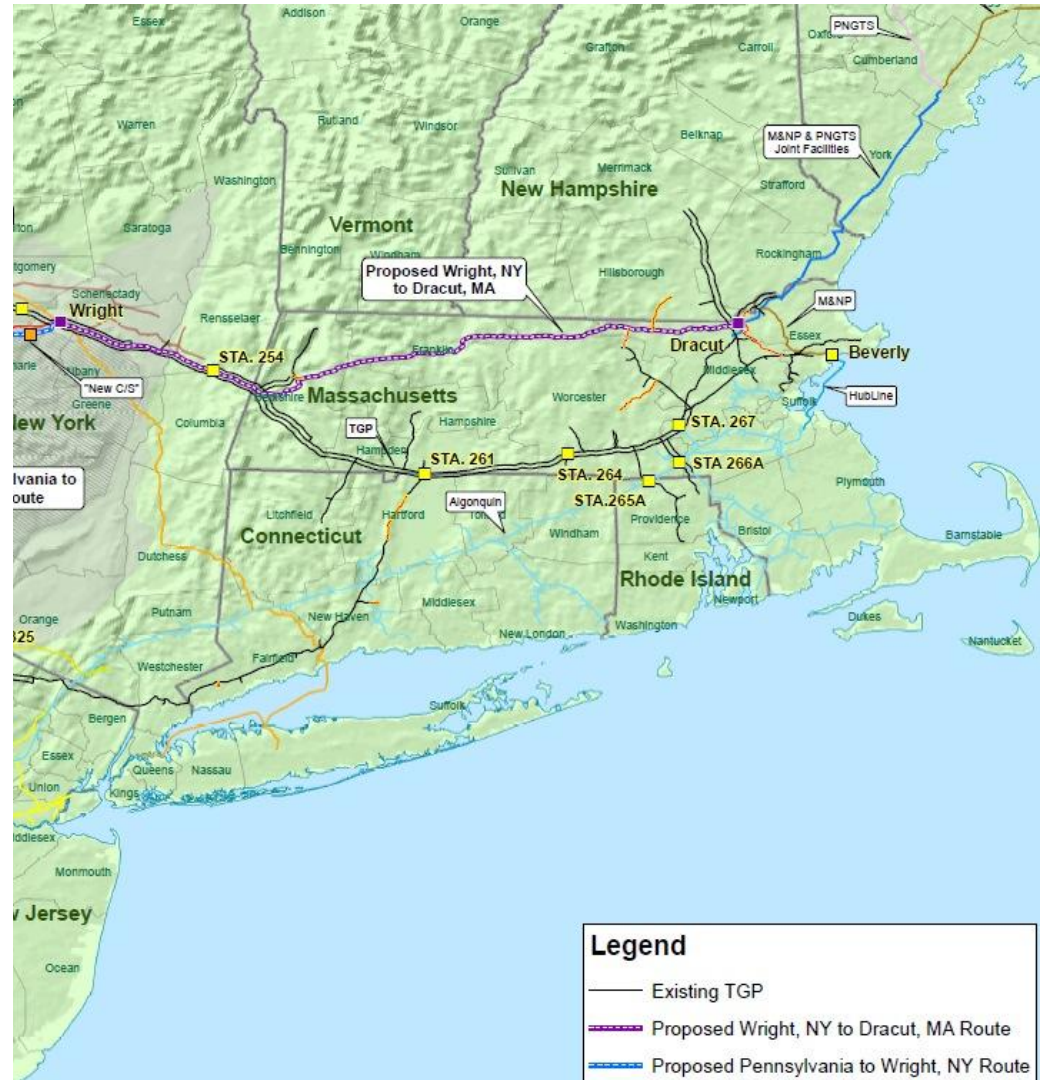
in the amount of firm pipeline capacity into New England of 1000 mmcf/day above 2013 levels or, 600mmcf/day beyond what has already been announced for the AIM and CT expansion projects...

The New England States preliminarily agree, through NESCOE, that recovery of the net cost of any such procurement of firm pipeline capacity be collected through the Regional Network Services rate shared appropriately among the New England States.

11"

TGP Energy Direct Overview

- 129 miles of greenfield construction for a 30-36" transmission pipeline entering MA in Richmond and terminating in Dracut
- Addition of six lateral lines off the mainline route
- Up to 2.2Bcf/d of natural gas delivered to NE and beyond



Process and Timeline

- Kinder Morgan is surveying the proposed route – a necessary step to FERC filing
- KM plans to do a pre-filing with FERC in October 2014 , which is aimed to identify and remedy issues related to pipeline siting, environmental impact etc.
- Following FERC’s issuance of Environmental Impact Statement, FERC will issue an order of construction.
- KM is aiming for FERC approval Nov 2016 and would start construction Jan 2017
- Pipeline operational late 2018

Estimated Project Schedule

Action	Timing
Outreach Meetings	Ongoing
Route Selection and Permit Preparation	Ongoing
Agency Consultations	Ongoing
File for FERC pre-filing	October 2014
KM Open Houses	November – December 2014
FERC Scoping Meetings	January – February 2015
FERC filing	August 2015
Anticipated FERC approval	November 2016
Proposed Start of Construction Activity	January 2017
Proposed In-Service	November 2018

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Towns affected

Preliminary Northeast Expansion Project Town List

Berkshire County

- Dalton, MA
- Hinsdale, MA
- Lenox, MA
- Peru, MA
- Pittsfield, MA
- Richmond, MA
- Washington, MA
- Windsor, MA

Essex County

- Andover, MA
- Lynnfield, MA
- Methuen, MA

Franklin County

- Ashfield, MA
- Conway, MA
- Deerfield, MA
- Erving, MA

- Greenfield, MA
- Montague, MA
- Northfield, MA
- Orange, MA
- Shelburne, MA
- Warwick, MA

Hampshire County

- Plainfield, MA

Middlesex County

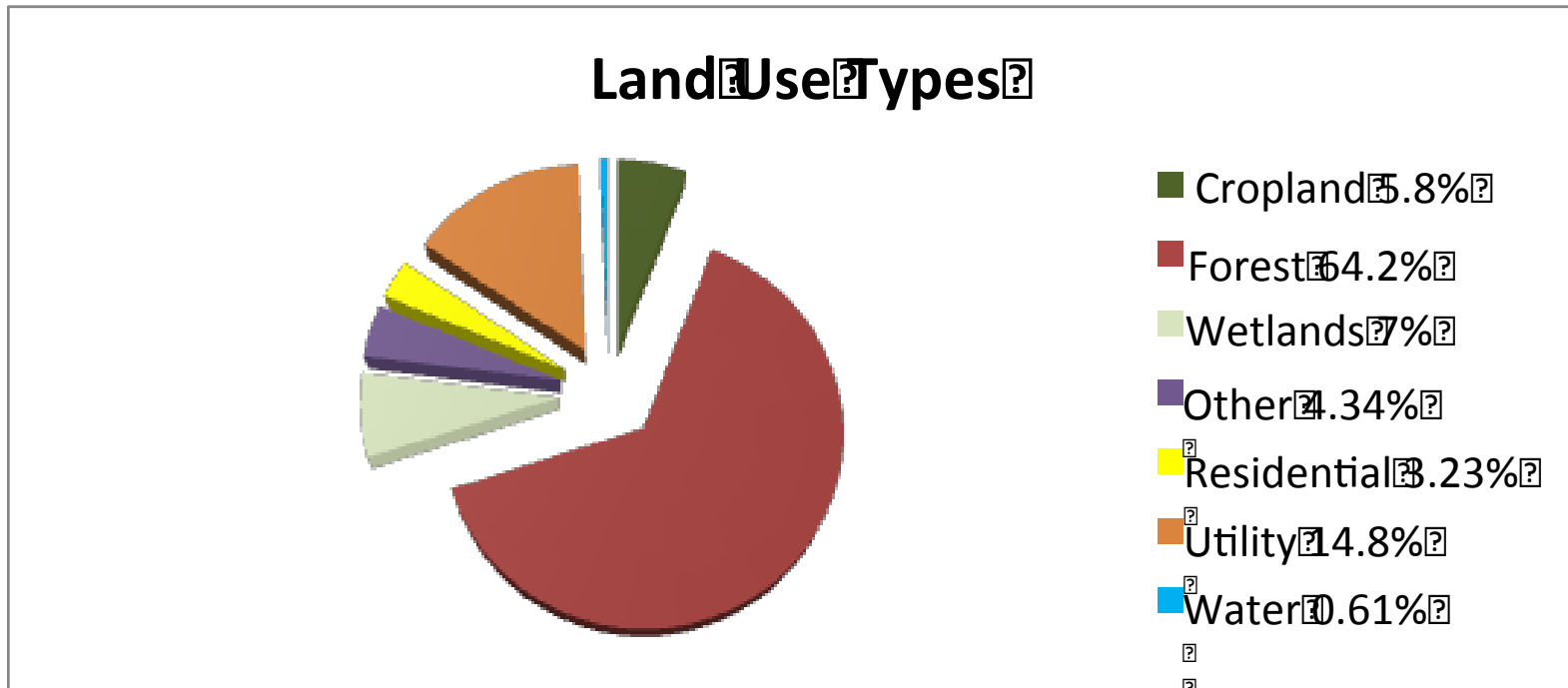
- Ashby, MA
- Dracut, MA
- Dunstable, MA
- Groton, MA
- Lowell, MA
- North Reading, MA
- Pepperell, MA
- Tewksbury, MA
- Townsend, MA

- Tyngsborough, MA
- Wilmington, MA

Worcester County

- Ashburnham, MA
- Athol, MA
- Berlin, MA
- Bolton, MA
- Boylston, MA
- Gardner, MA
- Lunenburg, MA
- Northborough, MA
- Royalston, MA
- Shrewsbury, MA
- Winchendon, MA
- Worcester, MA

Land categories affected*

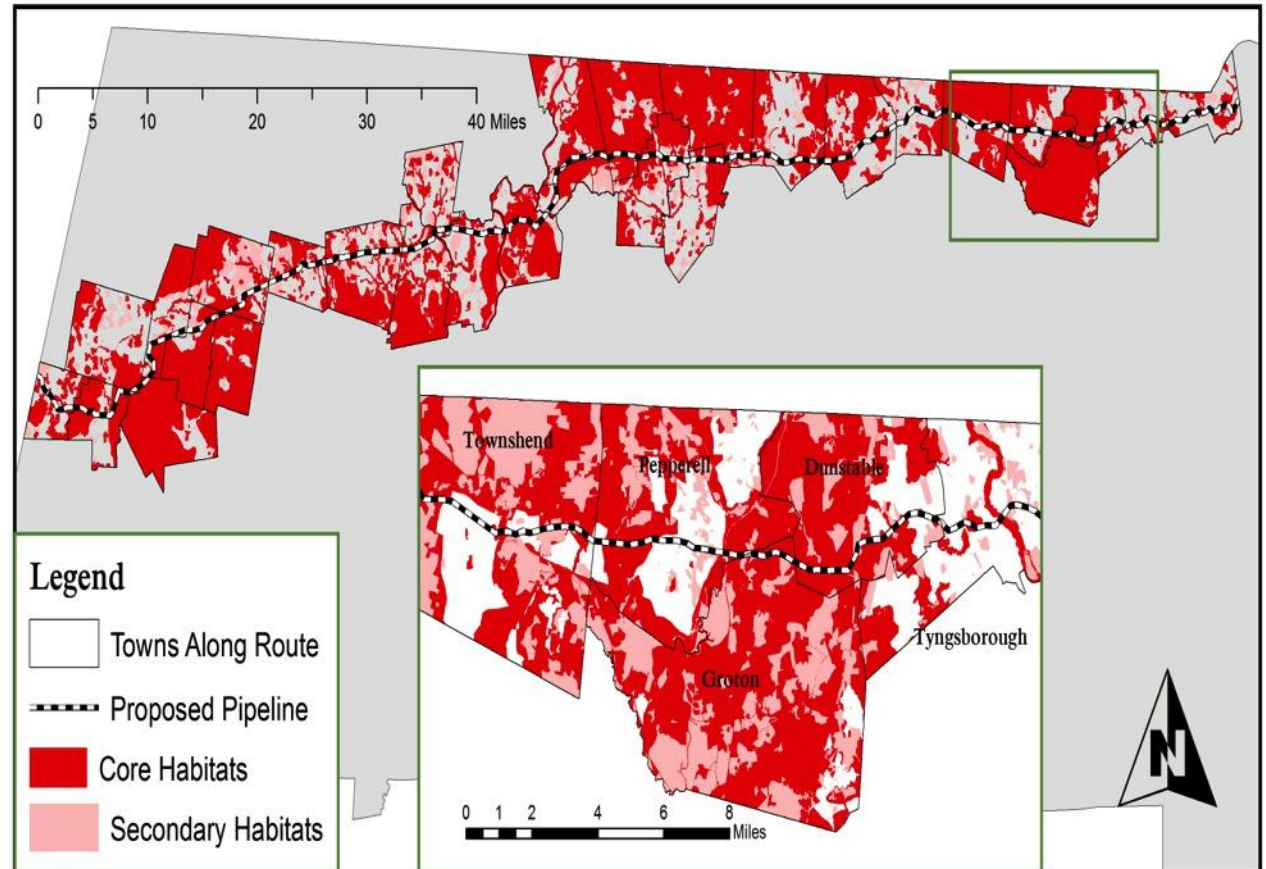


*Excludes laterals

Habitats affected*

Statewide Impact:

- 72 miles core wildlife habitat
- 32 miles of secondary wildlife habitat

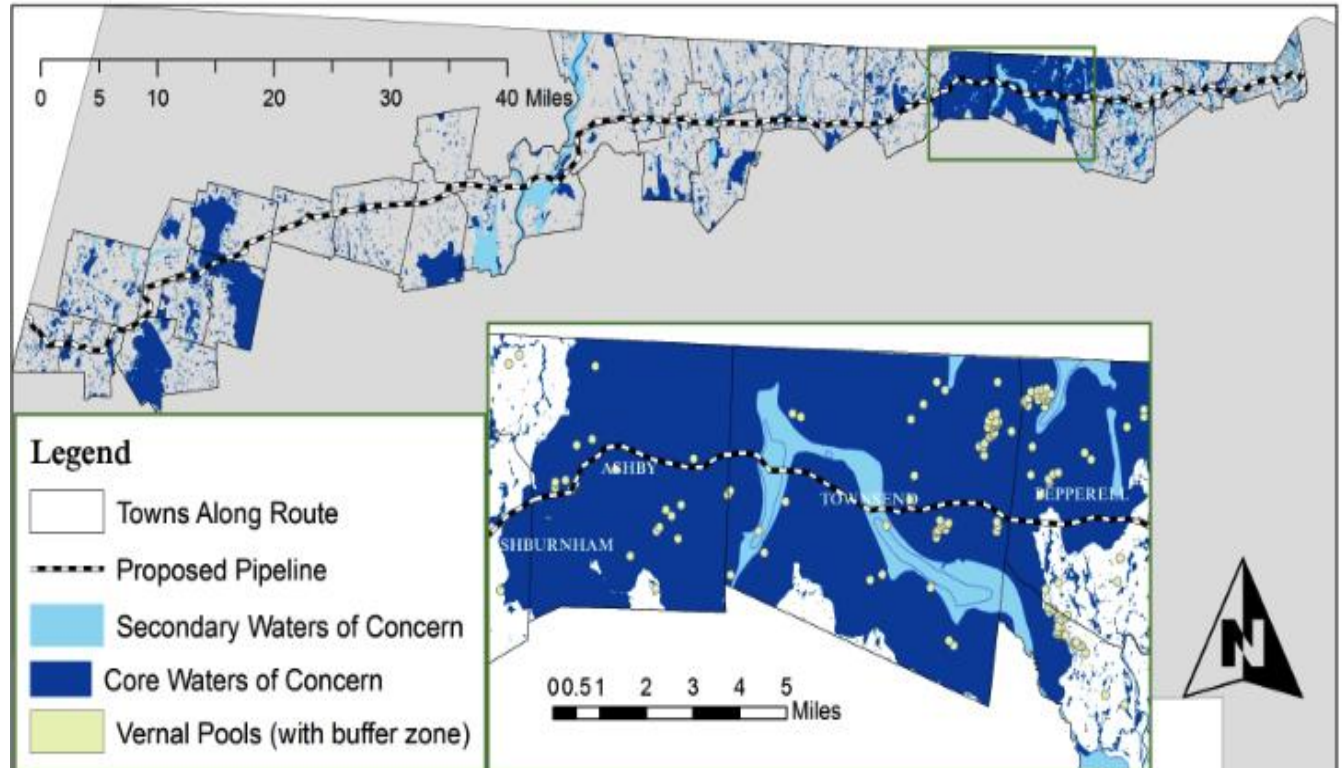


*Excludes laterals

Water resources affected*

Statewide Impact:

- 206 wetlands
- 15 outstanding water resources



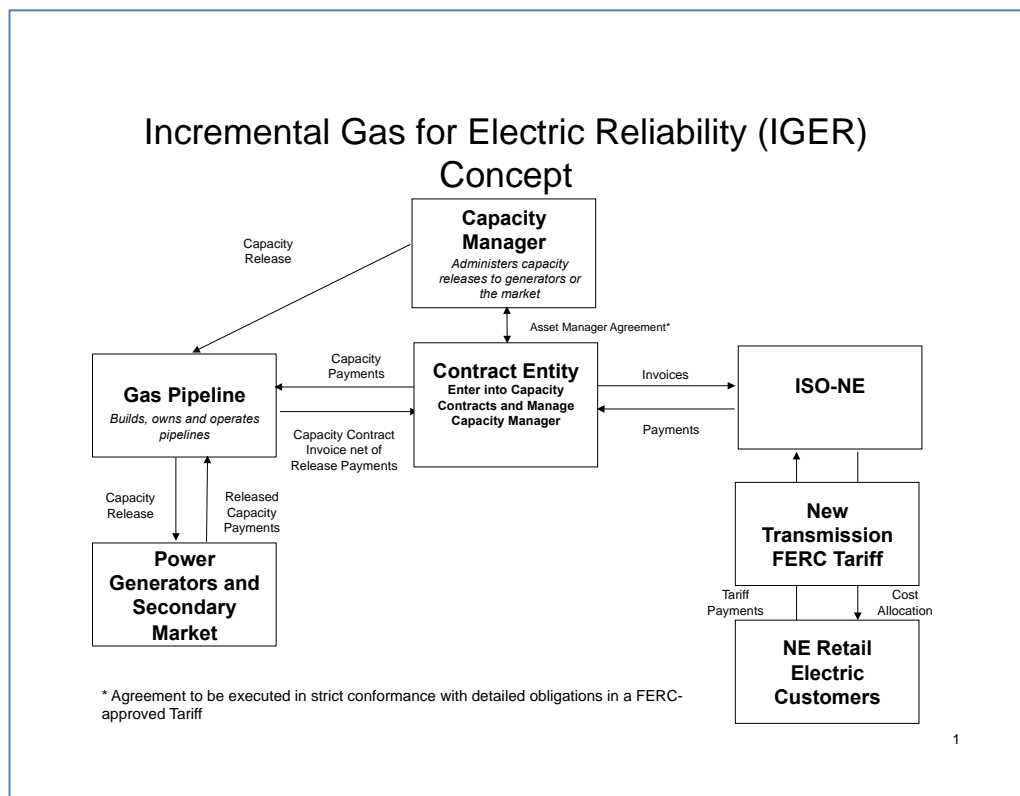
*Excludes laterals

How we are affected – *Permanently altered land*



Dracut pipeline construction and easement

How we are affected - *We may pay for the pipeline*



“...the New England States Committee on Electricity, whose members are appointed by the region’s six governors, wants a tax to fund pipeline construction.

- *By ALISON SIDER , Wall Street Journal, April 27, 2014 7:24 p.m. ET*

The IGER concept referenced in the above diagram was proposed by National Grid, UIL and Northeast Utilities, and may be a possible model for administering the new gas infrastructure and the allocation of costs

How we are affected - *Eminent Domain*

Section 7(h) of the Natural Gas Act (NGA) grants the right of eminent domain when a certificate of public convenience and necessity is issued by the Commission under section 7(c) of the NGA.

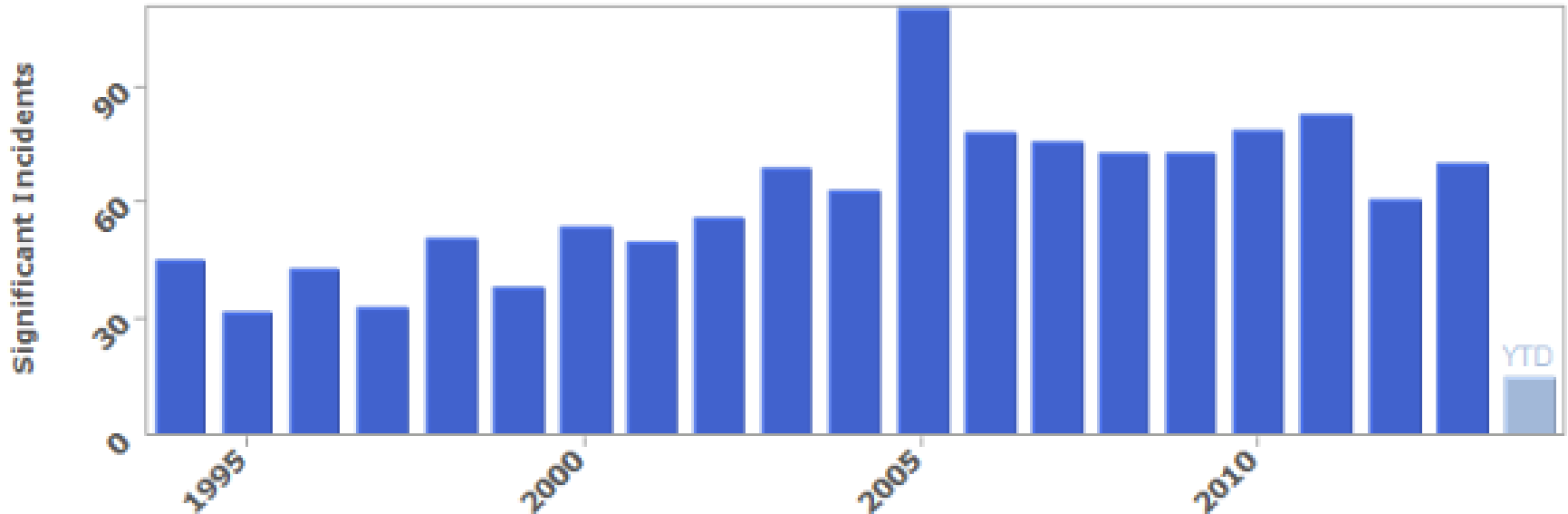
Thus, when the Commission finds that a proposed project is in the public convenience and necessity, **the pipeline company has the right to acquire the property for that project by eminent domain** if the pipeline cannot acquire the necessary land through a negotiated easement or where the landowner and the pipeline cannot agree on the compensation to be paid for the land.

- FERC

Federal law regarding natural gas pipelines usurps state and local laws regarding land use and protection

How we are affected - *Potential safety issues*

National, Gas Transmission, Significant Incidents: Count 1994-2013



Source: PHMSA Significant Incidents Files, Apr 01, 2014

Since 1995:

- 1247 incidents
- 41 fatalities
- 195 injuries
- \$1.7 Billion in property damage

An “incident” is recorded when:

- fatality or injury requiring in-patient hospitalization
- \$50,000 or more in total costs, measured in 1984 dollars
- highly volatile liquid releases of 5 barrels or more or other liquid releases of 50 barrels or more
- liquid releases resulting in an unintentional fire or explosion

How are we all affected?

- *Potential safety issues*



San Bruno CA, 2010:

- 30" pipeline explosion
- 8 fatalities
- Dozens of homes destroyed

How we are affected - *Greenhouse gas emissions*

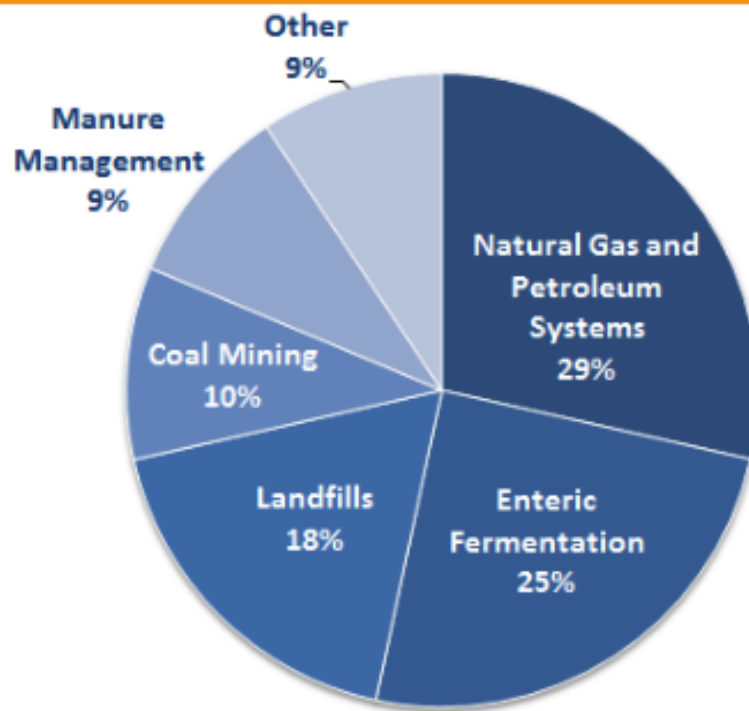
“Pound for pound, the comparative impact of CH₄ on climate change is over 20 times greater than CO₂ over a 100-year period.”

- EPA

“The proposed Kinder Morgan project... is also contrary to the state’s commitment to meet the green house gas (GHG) emission reduction targets of the *Global Warming Solutions Act*.”

- Henry Tepper, President, MassAudubon

U.S. Methane Emissions, By Source

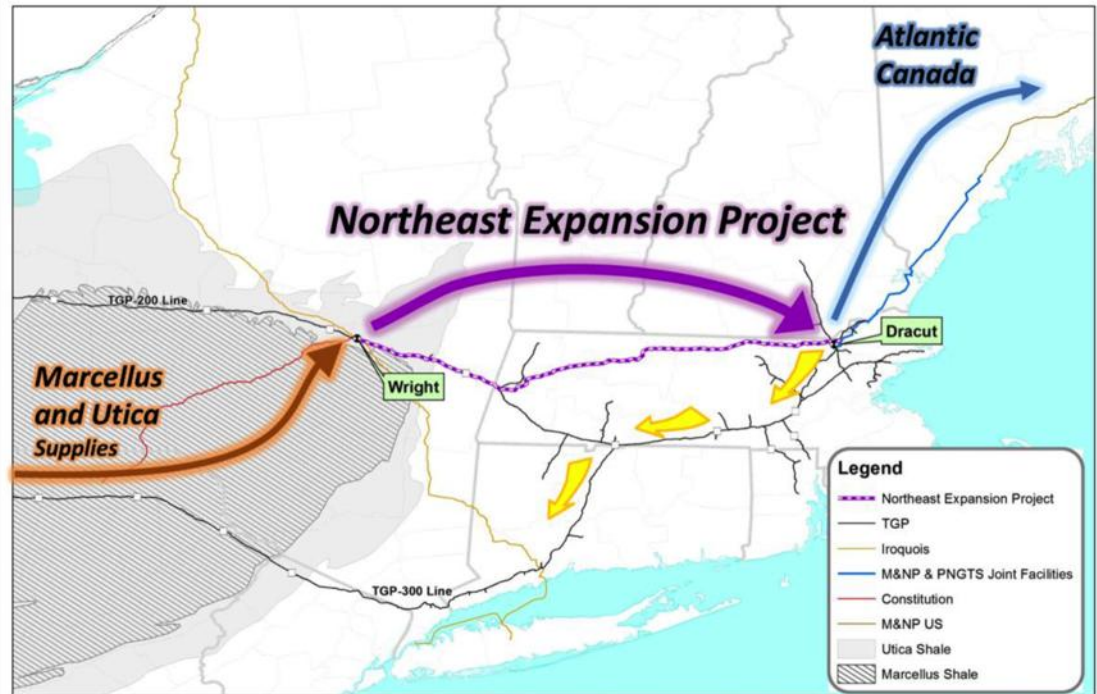


Note: All emission estimates from the *Inventory of U.S. Greenhouse Gas Emissions and Sinks: 1990–2012*.

Who benefits – *Some gas planned for export*









“In response to significant interest from local distribution companies, electric generators, industrial end users and **developers of liquefied natural gas projects in New England and Atlantic Canada**, Tennessee is holding an open season to solicit requests for service on new capacity which can be sized from approximately 600,000 Mcf per day (“Mcf/d”) up to 2.2 Bcf per day (“Bcf/d”)”

- *Kinder Morgan Northeast Expansion Open Season notice*



New England would not fully benefit from this project

How we are affected - *Residents' concerns*

Pipeline's Potential QOL Impact	Homeowner Perspective
Homeowners rights/eminent domain	
Rate increases to pay for pipeline	
Natural resources and habitats	
Town and regional character	
Safety issues	
Insurance costs	
Property values	
Pipeline expansion	
Electricity rates	?



Positive impact



Potential positive impact



Potential negative impact



Negative impact

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Is the pipeline needed? - *The New England states' view*

Governors' Statement on Northeast Energy Infrastructure

Objective is to increase NE's firm gas supply to:

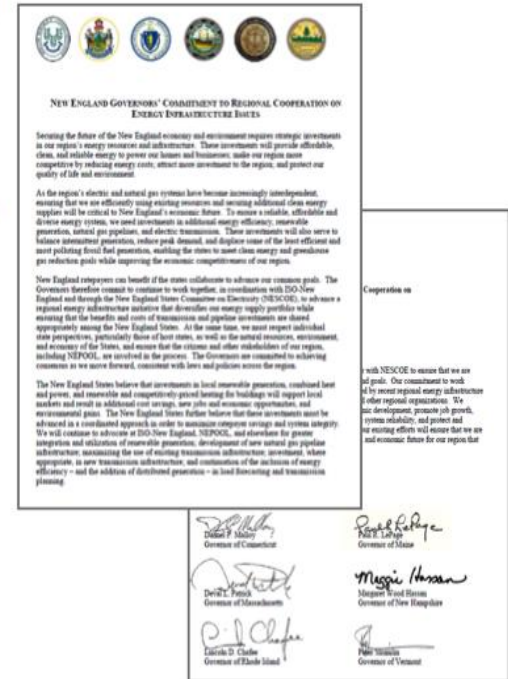
- Alleviate supply constraints during peak demand periods
- Secure NE's long term energy needs as older facilities are retired.

In Dec. 2013, New England Governors called attention to the shortage of energy infrastructure.

An open letter was signed by Governors Malloy (CT), LePage (ME), Patrick (MA), Hassan (NH), Chafee (RI), and Shumlin (VT).

"To ensure a reliable, affordable and diverse energy system, we need investments in additional energy efficiency, renewable generation, natural gas pipelines, and electric transmission."

"These investments will provide affordable, clean, and reliable energy to power our homes and businesses; make our region more competitive by reducing energy costs; attract more investment to the region; and protect our quality of life and environment."

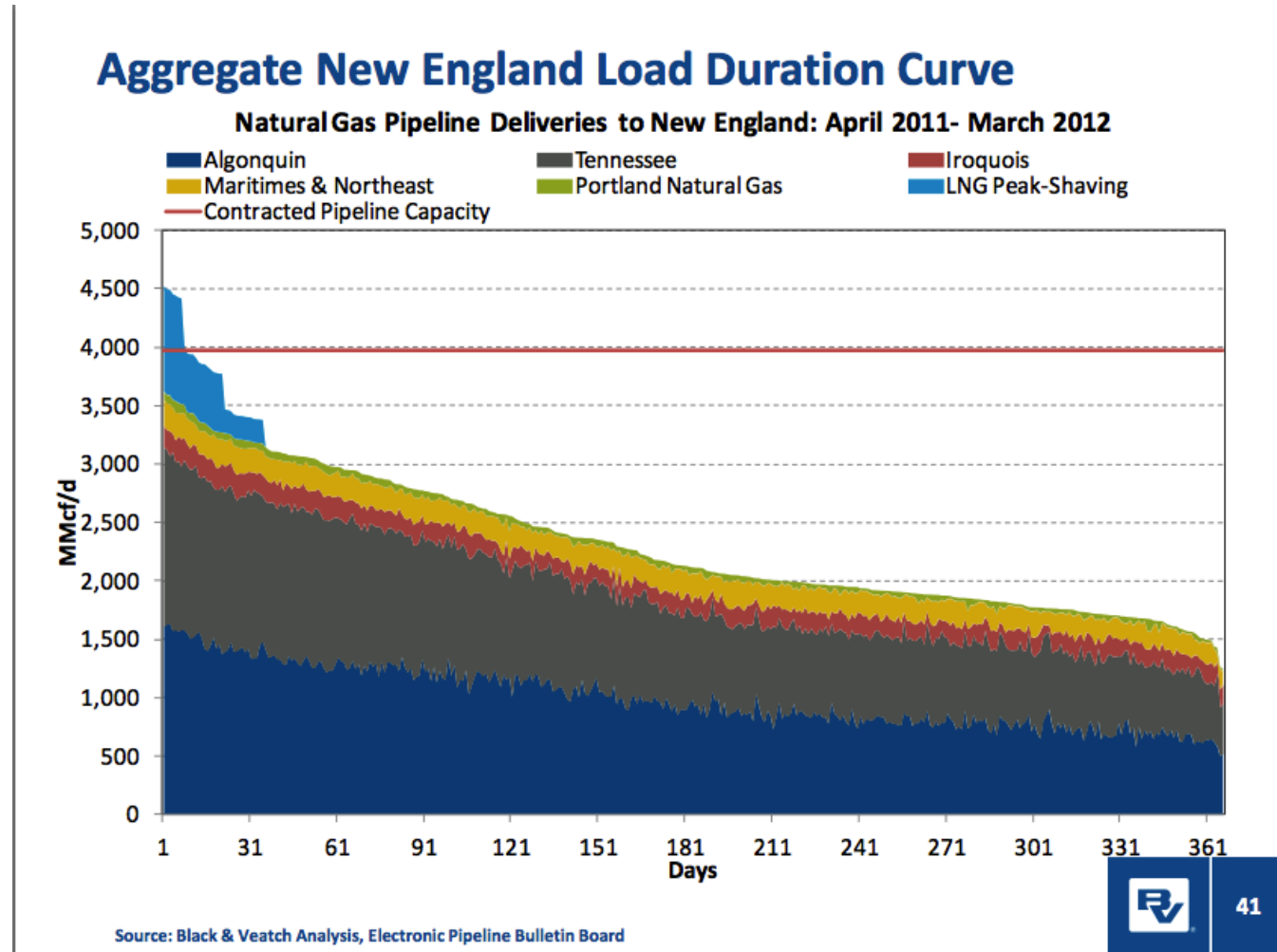


Addressing near term peak usage

- *Peak demand and capacity management*

Per consultants Black & Veatch, hired by NESCOE, Mass. has sufficient pipeline capacity to meet current needs except during peak usage periods.

So, how do we address peak needs?



Addressing near term peak usage

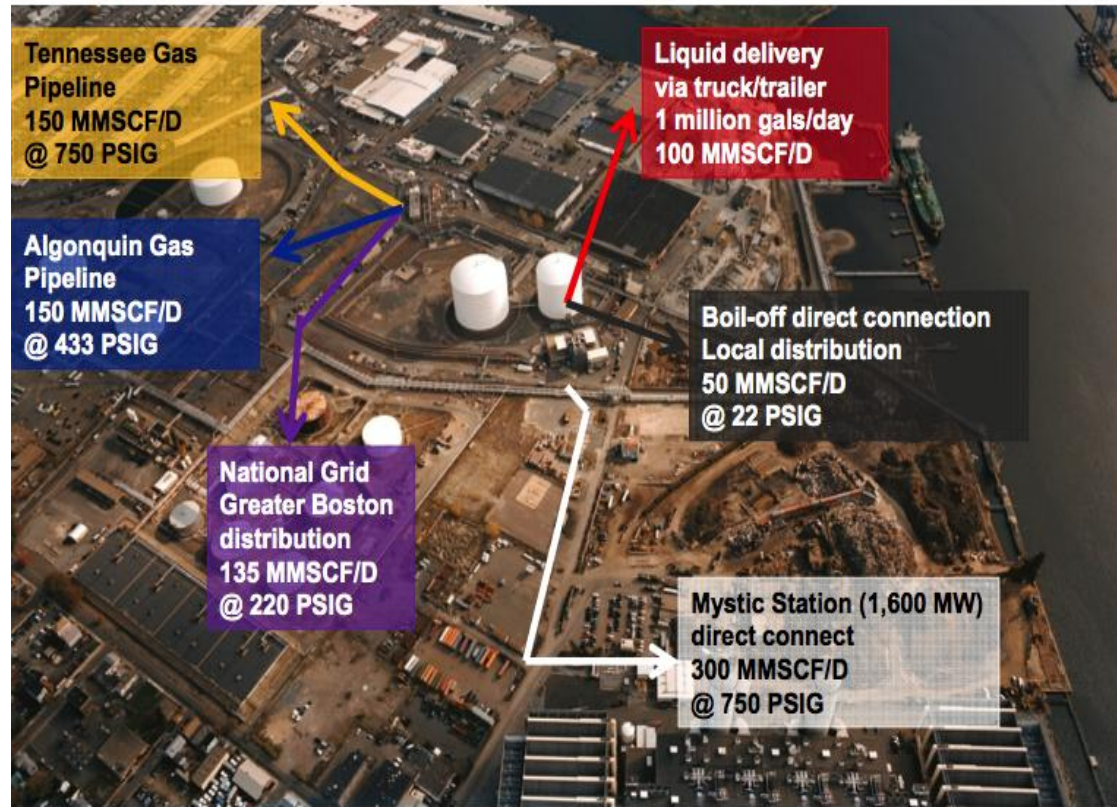
- *Applying available energy resources*

The energy industry speaks:

“The subcommittee concluded that LNG imports would continue to be a key winter marginal supply source for the electric industry for the foreseeable future”
- New England Gas-Electric Focus Group, Final Report

“Existing LNG import facilities that service the Northeast markets should be utilized like conventional gas storage to mitigate supply shortfalls during periods of peak demand.”
- Repsol

Everett Marine Terminal



GDF SUEZ

Addressing long term needs

Although a number of coal, oil and nuclear generators will be decommissioned in the next decade, New England's long term energy needs can be met using a combination of:

- Improved gas-electric market coordination
- Repairs to existing pipelines
- Renewable energy
- Energy efficiency

Addressing long term needs

- *Do we have too little gas, or a market operations problem?*

“.....there are changes that could be made to the market rules to encourage different behavior by both generators *and* system load that could satisfy any identified needs. These types of changes **could mitigate or even eliminate any pipeline capacity shortfall...**”

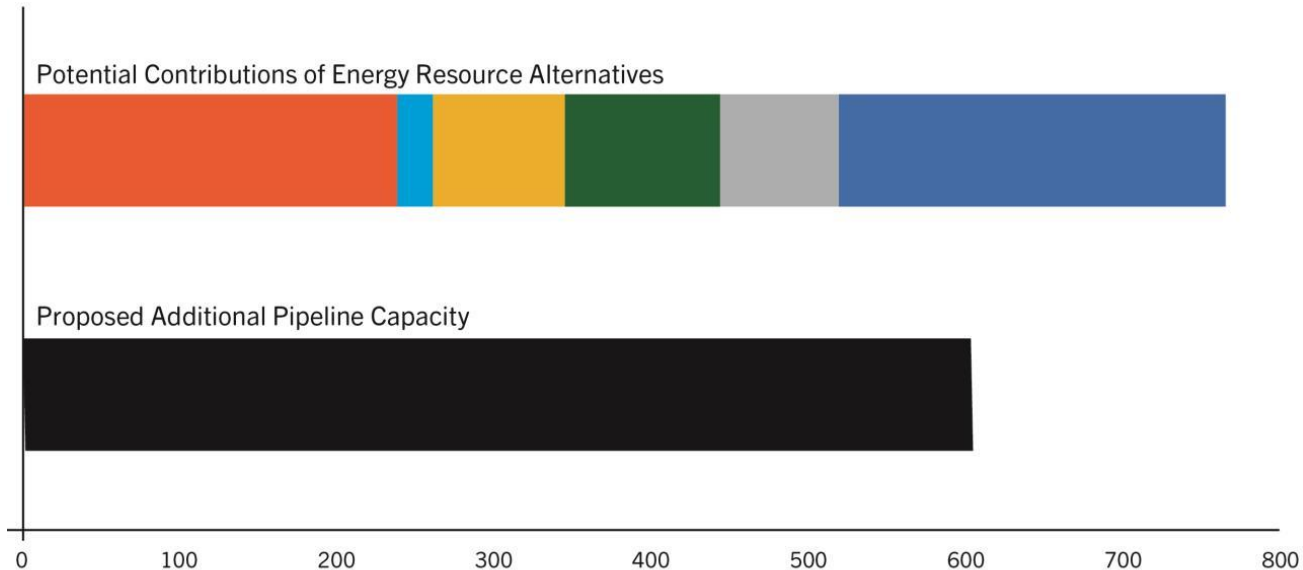
- NESCOE comments before FERC on the coordination of Gas and Electric Markets, Mar 30, 2012

Addressing long term needs

– *meeting 2020 energy targets*



- 1.6 GW of Combined Heat & Power (1/4 of potential)
- All Cost Effective Gas Efficiency (1.2% of Sales)
- All Cost Effective Electric Efficiency (2.5% of Sales)
- RPS Expanded to 25% by 2025 (23.4% by 2020)
- 743 MW of Energy Storage (Proportional to CA)
- 1.2 GW of Electric Transmission



Per Environment New England, a combination of existing infrastructure, energy efficiency and alternative sources would exceed the increased gas capacity requested

Addressing long term needs

- *Power plant retirement*

Retirements Alone Result in Capacity Shortfalls

Region will be challenged to meet 2020 Installed Capacity Requirements absent replacements, repowering or the addition of new resources

- *How to address the expected energy shortfall?*

Qualified Capacity Assumed Available in 2020 including EE Forecast	37,000 MW
Representative Installed Capacity Requirement in 2020 (net of HQICC)	34,600 MW
Margin Before Potential Retirement of At-Risk Units	2,400 MW
Amount of At-Risk Generation	8,300 MW
Shortfall After Retirements	- 5,900 MW

Retirement of At-Risk Units without replacements or new resources will result in shortfall of ICR



Addressing long term needs

- *Energy sources in the queue**

- A portfolio of wind, dual-fuel, biomass and other projects “in the queue” can close over 5000MW of the gap.
- Wind power to generate 2400MW
- *What can be done to accelerate deployment of renewables?*

Retirements Alone Result in Capacity Shortfalls

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Shortfall After Retirements	- 5,900 MW
April 2013 Generator Interconnection Queue*	5,200 MW
Shortfall plus queue	-700 MW

Adding existing queue still results in shortfall

* Generator Interconnection Queue includes nameplate capacity – note almost 40% of April 2013 queue is wind generation

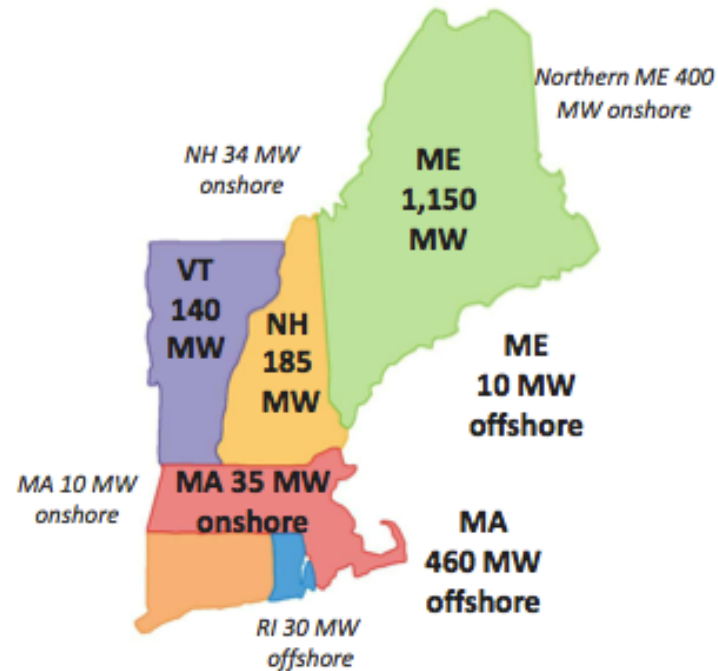
* From ISO-NE presentation Oct 2013. Although the information is a snapshot from that period and subject to change, the principle of investing in and deploying clean energy to address some of the gaps still applies

Addressing long term needs

- *Alternative energy sources*

Wind Proposed for the Region

- About 2,400 MW proposed (*includes non-FERC jurisdictional*)
- Majority of wind development proposals in Maine and northern New England
- Large-scale offshore project proposed in Massachusetts



Source: ISO Generator Interconnection Queue (April 2013)

Current NE States' goal is to have 30% of total energy demand to be met by renewable sources. *Can we do better than that?*

Addressing long term needs

- *Distributed generation sources*

Table 5. Current and Projected DG Installations in New England.

State	Current DG Capacity Installed (MW)	ISO's Estimate of Installed PV by end of 2021 (MW)*	Synapse Estimate of Potential Installed DG by end of 2021 (MW)
Connecticut	400+	300	700+
Massachusetts	350+	430	1700+
Maine	30	5	70
New Hampshire	25	10	50
Rhode Island	29	25	170
Vermont	46	30	165
REGIONAL TOTAL	980	800	2,855+

* Note that ISO's estimates are only for solar PV and do not include other types of DG.

- 1600MW of Mass' DG power to come from solar
- *What more can be done?*

Addressing long term needs

- Increase efficiency and lower energy demand

NESCOE's consultants Black & Veatch examined the need for new pipeline under three energy demand scenarios. They concluded:

“No long-term infrastructure solutions are necessary under the Low Demand Scenario.”

How do we get there?

FUNDAMENTAL FACTOR	BASE CASE	HIGH DEMAND SCENARIO	LOW DEMAND SCENARIO
Electric Power Drivers			
Load Growth	As projected by the 2013 ISO-NE Forecast Report of Capacity, Energy, Loads and Transmission 2013 – 2022 (CELT)	Same as Base Case	Limited demand growth
Energy Efficiency	As projected by the 2013 ISO-NE Forecast Report of Capacity, Energy, Loads and Transmission 2013 – 2022 (CELT)	Energy Efficiency declines slightly from the Base Case, leading to slightly higher load growth	Completely offsets load growth
Renewable Portfolio Standards (RPS)	Each New England state meets 100% of its RPS target	Each New England state meets 75% of its RPS target	Same as Base Case
Environmental Policy	No stricter regulations on hydraulic fracturing; Federal GHG emissions program in 2020	Same as Base Case	Same as Base Case
New England Generation Capacity Changes	Nuclear deactivation occurs between 2032-2035; Later period capacity additions	Nuclear deactivation occurs between 2027-2030	Same as Base Case

Addressing long term needs

- Increase efficiency and lower demand

Report of the Massachusetts Energy Efficiency Advisory Council – Nov 2013

RESIDENTIAL RESULTS

2012	Program Spending (million \$)	Participants (thousands)	Annual GWh	Lifetime GWh	Annual Therms (million)	Lifetime Therms (million)	Annual GHG (metric Tons)
Actual	218	2,112	317	2,219	11	139	235,743
Goal	210	1,846	291	1,762	11	145	226,147

LARGE C&I RESULTS

2012	Program Spending (million \$)	Participants (thousands)	Annual GWh	Lifetime GWh	Annual Therms (million)	Lifetime Therms (million)	Annual GHG (metric Tons)
Actual	107	6	336	4,332	7.1	83	182,749
Goal	184	8	480	6,039	7.5	90	255,788

“Energy efficiency has immediate beneficial impact on cost and reliability challenges. Efficiency is the lowest cost option to help meet MA energy needs”
- Birud Jhaveri, Deputy Commissioner DOER, Energy Markets Overview, April 8, 2014

Addressing long term needs

- Fix the leaks!

- Nationally, 2.6 trillion cubic feet of natural gas “lost” between 2000-2011
- Equivalent to releasing 56.2 million metric tons of CO₂

- In Mass., 99 billion cubic feet of natural gas “lost” between 2000-2011
- Mass. ratepayers paid as much as \$1.2 billion for gas they never received
- At least 45% of Mass.’ methane emissions come from leaks

America Pays for Gas Leaks



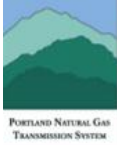

Natural Gas Pipeline Leaks Cost Consumers Billions

A report prepared for Sen. Edward J. Markey

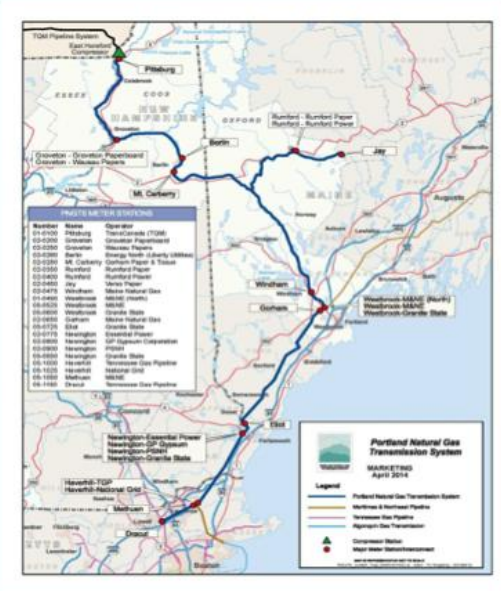
Alternate route – *Use existing right of way*

Portland Natural Gas' "C2C" project would:

- Deliver 200,000Bcf/d by 2016
- Requires no additional construction
- *Expansion of existing pipeline routes could contribute to the solution*

PNGTS Continent-to-Coast "C2C" Expansion Project



- "No" construction needed
 - Expansion upstream provides more volume
- Anticipated new upstream TCPL capacity by Nov 2016
- Total Capacity approx. 335,000 MMBTU/day
- Fixed, \$0.60/Dth, 15 year rate
- Bidders have 90 days to secure upstream transport
- Could expand more with build

6

Is the pipeline needed?

- *Final thoughts*

“Public funding for a massive pipeline-building program is like “trying to kill a cockroach with a sledgehammer.”

- GDF Suez executive Frank Katulak, quoted in WSJ

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What is NCT doing?

- Web site pages dedicated to educating the public about the pipeline
- Attending other town meetings with Kinder Morgan
- Communicating and coordinating actions with other conservation and stakeholder groups
- Public meetings to educate property owners and stakeholders
- Coordinate actions amongst neighboring communities
- Reaching out to state reps and agencies involved in the decision process

What can YOU do?

- Speak to/write your local, state and federal representatives
- Speak to your neighbors, friends and get them to speak/write to elected officials...this affects all of us
- Check the Nashoba Conservation Trust web site and FB page frequently for information

Appendices

FERC Certificate Process

- *Planning process*

PROCESSES FOR NATURAL GAS CERTIFICATES

Applicant's Planning Process

- Hold open season to determine market needs
- Select proposed pipeline route
- Identify landowners
- Start easement negotiations
- Hold public meetings
- Start surveys, complete resource reports
- File at FERC

FERC Certificate Process

- *Application process*



FERC

FEDERAL ENERGY REGULATORY COMMISSION

[Return to graphic version](#)

PROCESSES FOR NATURAL GAS CERTIFICATE

Application Process

1. Receives formal application from Applicant
2. Notice of Application Issued
3. Conduct Scoping to Determine Environmental Issues
4. Review Application and Issue Data Request(s) if Needed
5. Commission May Issue Preliminary Determination of Need Based on Non-environmental Factors

EIS

6. Provides Preliminary Draft EIS to Cooperating Agencies for Review.
7. Issues Draft EIS and Opens Comment Period.
8. Holds Meeting(s) in the Project Area to Hear Public Comments on the Draft EIS.
9. Responds to Comments and Revises the Draft EIS.
10. Issues Final EIS.
11. Commission Issues Order Approving or Denying Project.

If the project is approved

12. If the Project is Approved, Applicant May Construct and Operate the Project, Only After Obtaining Clean Water Act, Coastal Zone Management Act, and Clean Air Act Permits.

EA

6. Provides Preliminary Draft EIS to Cooperating Agencies for Review.
7. Issues EA and Opens Comment Period.
8. Responds to Comments Received on EA in Commission Order.
9. FERC approves or denies project.
10. Commission Issues Order Approving or Denying Project.

If the project is denied

11. If the project is denied, Applicant and/or Public can ask FERC to Rehear Case or Refer to FERC Administrative Law Judge.
12. Applicant and/or Parties can take FERC to Court.

FERC Certificate Process

- *EIS Pre-filing process*

EIS Pre-Filing Environmental Review Process

Applicant assesses market need and considers project feasibility

Applicant requests use of FERC's Pre-Filing Process

FERC receives Applicant's request to conduct its review of the project within FERC's NEPA Pre-Filing Process

FERC formally approves Pre-Filing Process and issues PF Docket No. to Applicant

Applicant studies potential site locations

Applicant identifies Stakeholders

Applicant holds open house to discuss project

FERC participates in Applicant's open house

FERC issues Notice of Intent for preparation of an EIS opening the scoping period to seek public comments

Applicant conducts route studies and field surveys. Develops application

FERC holds public scoping meeting(s) and site visits in the project area. Consults with interested stakeholders.

Applicant files formal application with the FERC

FERC issues Notice of Application

FERC analyzes data and prepares Draft EIS

FERC issues Draft EIS and opens comment period

FERC holds public comment meetings on the Draft EIS in the project area

FERC responds to comments and revises the Draft EIS

FERC issues Final EIS

Commission Issues Order

Parties can request FERC to rehear decision

Applicant submits outstanding information to satisfy conditions of Commission Order

FERC issues Notice to Proceed with construction

FERC Certificate Process

- *Construction process*

PROCESSES FOR NATURAL GAS CERTIFICATE

Construction Process

- Finalize project design
- File plans, surveys, and information required prior to construction by Commission order
- Complete right-of-way acquisition
- Pipeline construction
- Right-of-way restoration

PROJECT IN SERVICE

- Department of Transportation Office of Pipeline Safety

FERC Certificate Process

- *EA Pre-filing process*

EA Pre-Filing Environmental Review Process

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Applicant studies potential site locations

Applicant identifies Stakeholders

Applicant holds open house to discuss project

FERC Participates in Applicant's open house

FERC issues Notice of Intent for Preparation of an EA opening the scoping period to seek public comments.

FERC may hold public scoping meeting(s) and site visits in the project area. Consults with interested stakeholders

Applicant conducts route studies and field surveys. Develops application.

Applicant files formal application with the FERC

FERC issues Notice of Application

FERC analyzes data and prepares EA

FERC - If no scoping comments are received, EA is placed directly into eLibrary. If substantive comments are received, EA is mailed out for public comment.

FERC responds to comments

Commission Issues Order

Parties can request FERC to rehear decision

Applicant submits outstanding information to satisfy conditions of Commission Order

FERC issues Notice to Proceed with construction.

Thank you!

For more information please visit
www.nashobatrust.com