Northeast Energy Direct Project

A Transformative Energy Solution for New England

New England Council
Energy & Environment Committee
February 24, 2015
Kinder Morgan is one of the largest, most experienced energy companies in North America. We own an interest in or operate approximately 80,000 miles of pipelines and 180 terminals.

Kinder Morgan employs approximately 11,500 people throughout the United States and Canada.

We are committed to operating our assets in a safe, ethical and transparent manner.

We ensure public safety and safe pipeline operations through employee training, regular testing, right-of-way aerial and foot patrols and adherence to our comprehensive Integrity Management plan and procedures.

Kinder Morgan does not have a Political Action Committee (PAC), or make any political contributions.
Kinder Morgan Assets

- 3rd largest energy company in North America with combined enterprise value of approximately $110 billion (a)
- Largest natural gas network in North America
  - Own an interest in / operate ~68,000 miles of natural gas pipeline
  - Connected to every important U.S. natural gas resource play, including: Eagle Ford, Marcellus, Utica, Uinta, Haynesville, Fayetteville and Barnett
- Largest independent transporter of petroleum products in North America
  - Transport ~2.3 MMBbl/d (b)
- Largest transporter of CO₂ in North America
  - Transport ~1.3 Bcf/d of CO₂ (c)
- Largest independent terminal operator in North America
  - Own an interest in or operate ~180 liquids / dry bulk terminals
  - ~125 MMBbls domestic liquids capacity
  - Handle ~103 MMTons of dry bulk products (d)
- Only Oilsands pipe serving West Coast
  - Transports ~300 MMBbl/d to Vancouver / Washington State; proposed expansion takes capacity to 890 MMBbl/d

(a) Combined enterprise value of KMI, KMP & EPB; see footnotes on slide 9 for further information.
(b) 2014 budgeted volumes.
System Overview

- 13,900 miles of pipeline
- 79 Bcf of storage capacity
- ~8.0 Bcf/d – design capacity
- 1.4 million horsepower
- >500 FT customers
- 35 MM households equivalent
- Delivered ~390 Bcf to New England customers in 2012
- Abundant & Growing Supply
  - Marcellus, Utica, Eagle Ford, Haynesville, Fayetteville
Existing Rights-of-Way in MA

Horseshoe Rd., Dracut, MA

Main St., Wilmington, MA

Parker Rd., Dracut, MA

Sampson Rd., Bolton, MA
The Northeast Energy Direct Project will expand the existing Tennessee Gas Pipeline system within Pennsylvania, New York, Massachusetts, New Hampshire and Connecticut.

The expansion will help meet increased demand in the U.S. Northeast for transportation capacity for natural gas.

Following completion, the proposed project could bring an estimated increased capacity of up to 2.2 Bcf/d to the Northeast, which is equivalent to an additional 1.5MM households.

The pre-filing process allows for open and transparent interaction between FERC Staff and stakeholders regarding the Project before the formal certificate application is filed, and is intended for early identification and resolution of environmental and other important issues. During pre-filing, TGP will file detailed draft environmental resource reports with FERC for review and comment.

FERC Docket #: PF14-22-000

<table>
<thead>
<tr>
<th>Action</th>
<th>Timing</th>
</tr>
</thead>
<tbody>
<tr>
<td>Outreach Meetings</td>
<td>Ongoing</td>
</tr>
<tr>
<td>Route Selection and Permit Preparation</td>
<td>Ongoing</td>
</tr>
<tr>
<td>Agency Consultations</td>
<td>Ongoing</td>
</tr>
<tr>
<td>File for FERC Pre-Filing</td>
<td>Nov. 5, 2014</td>
</tr>
<tr>
<td>Open Houses</td>
<td>January-March, 2015</td>
</tr>
<tr>
<td>FERC Filing</td>
<td>4th Quarter 2015</td>
</tr>
<tr>
<td>Anticipated FERC Approval</td>
<td>4th Quarter 2016</td>
</tr>
<tr>
<td>Proposed Start of Construction Activity</td>
<td>January 2017</td>
</tr>
<tr>
<td>Proposed In-Service</td>
<td>November 2018</td>
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</tbody>
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Regulatory Oversight

Federal, state and local agencies will have extensive regulatory authority over the proposed project. Some of these include:

**Federal**
- Federal Energy Regulatory Commission
- U.S. Army Corps of Engineers
- U.S. Environmental Protection Agency
- U.S. Fish and Wildlife Service
- U.S. Department of Agriculture
- U.S. Department of the Interior

**Local**
- MA Historical Commission

**State**
- Massachusetts State Legislature
- Massachusetts Executive Office of Energy and Environmental Affairs (EOEEA)
  - Dept. of Public Utilities
  - Dept. of Fish and Game
  - Dept. of Environmental Protection
  - Dept. of Agricultural Resources
  - Office of Coastal Zone Management
- MA Energy Facilities Siting and Licensing Board
Proposed Northeast Energy Direct Route
# NED Impacted Towns

## Massachusetts
- Andover, MA
- Ashfield, MA
- Berlin, MA
- Bolton, MA
- Boylston, MA
- Cheshire, MA
- Conway, MA
- Dalton, MA
- Danvers, MA
- Deerfield, MA
- Dracut, MA
- Erving, MA
- Hancock, MA
- Hinsdale, MA
- Lunenburg, MA
- Lynnfield, MA
- Methuen, MA
- Middleton, MA
- Montague, MA
- North Reading, MA
- Northborough, MA
- Northfield, MA
- Peabody, MA
- Peru, MA
- Plainfield, MA
- Reading, MA
- Shelburne, MA
- Shrewsbury, MA
- Tewksbury, MA
- Townsend, MA
- Warwick, MA
- West Boylston, MA
- Wilmington, MA
- Windsor, MA
- Worcester, MA

## Connecticut
- Bloomfield, CT
- East Granby, CT
- Farmington, CT
- Simsbury, CT
- Stamford, CT
- West Hartford, CT
- Windsor, CT
- Shrewsbury, CT

## New Hampshire
- Amherst, NH
- Brookline, NH
- Fitzwilliam, NH
- Greenland, NH
- Hudson, NH
- Litchfield, NH
- Londonderry, NH
- Mason, NH
- Merrimack, NH
- Milford, NH
- New Ipswich, NH
- Pelham, NH
- Richmond, NH
- Rindge, NH
- Salem, NH
- Troy, NH
- Winchester, NH
- Windham, NH

## New York
- Afton, NY
- Berne, NY
- Bethlehem, NY
- Cobleskill, NY
- Davenport, NY
- Franklin, NY
- Harpersfield, NY
- Jefferson, NY
- Knox, NY
- Masonville, NY
- Middleburgh, NY
- Nassau, NY
- New Scotland, NY
- Richmondville, NY
- Sanford, NY
- Schodack, NY
- Schoharie, NY
- Sidney, NY
- Stephentown, NY
- Summit, NY
- Wright, NY
- Wyalusing, PA
• **Tax Income**: An estimated additional $25M to local taxing bodies in MA, $11M in NH and $25M in NY.

• **Job Creation**: Estimated creation of 3,000 construction-related jobs

• **Economic Stimulus**: Economic benefits to surrounding areas during construction (retail, hospitality, etc.)

• **Energy Reliability**: Providing long-term energy reliability to the region.

• **Future Economic Growth**: Provide capacity for growth; expandable to meet future needs

Kinder Morgan signed a Memorandum of Agreement with the Laborers International Union North America (LiUNA) for the Northeast Energy Direct Project.
We have conducted 45 public project presentations to impacted towns, counties and community groups. Over 4,400 people have attended these presentations.
Community Open Houses

Kinder Morgan is currently conducting Community Open House event’s along the proposed pipeline route. So far, we have conducted 9 Open Houses which have been attended by over 1,800 people.

Completed:
• 2/4/15: Winchester, NH Open House
• 2/5/15: Greenfield, MA Open House
• 2/10/15: Pittsfield, MA Open House
• 2/11/15: Farmington, CT Open House
• 2/12/15: New Scotland, NY Open House
• 2/17/15: Andover, MA Open House
• 2/18/15: Londonderry, NH Open House
• 2/19/15: Hudson, NH Open House
• 2/23/15: Rindge, NH Open House

Scheduled:
• 2/24/15: Milford, NH Open House
• 2/25/15: Berlin, MA Open House
• 2/26/15: Fitchburg, MA Open House
• 4/7/15: Schoharie, NY Open House
• 4/8/15: Richmondville, NY Open House
• 4/9/15: Davenport, NY Open House
• 4/13/15: Sidney, NY Open House
• 4/14/15: Sanford, NY Open House
• 4/15/15: Montrose, PA Open House
• 4/16/15: Towanda, PA Open House
Northeast Energy Direct

- Provides direct access to incremental supply
  - Marcellus – (core)
  - Utica
  - Storage Access

- Enhances reliability of both the gas and power systems on an appropriate scale

Benefits Economy and Consumers
- Ability to serve existing and new generation
- Supports future load growth (LDC, power generation, industrial)
- Results in lower prices for all consumers

Continued cooperation with stakeholders
Northeast Energy Direct – Project Details

**Route:** This project is a combination of TGP’s proposed Pennsylvania to Wright, NY, and Wright, NY to Dracut, MA projects designed to provide incremental, direct access to Northeast supply

### NED Project - Supply Path
- **In-Service:** November 2018
- **Capacity:** Scalable 0.6 – 1.2 Bcf/d
- ~135 miles of new and co-located 30” pipeline
  - 1440 psig
- ~32 miles of 36” looping (TGP 300 Line)
- Upgrade of an existing C/S and construction of three new C/S in Susquehanna Co., PA; Delaware Co. and Schoharie Co., NY incl. booster C/S to deliver gas into Iroquois at Wright

### NED Project - Market Path
- **In-Service:** November 2018
- **Capacity:** Scalable 0.8 – 2.2 Bcf/d
  - Up to 1.2 Bcf/d (30”)
  - Up to 2.2 Bcf/d (36”)
- ~188 miles of new and co-located 30” pipeline
  - 1440 psig
  - 53 miles co-located in NY
  - 64 miles co-located in MA
  - 71 miles co-located in NH
- ~75 miles of market delivery laterals and loops in MA, CT and NH
- Up to six (6) new C/S in Rensselaer Co., NY; Berkshire Co., Franklin Co., Middlesex Co., MA; Hillsborough Co., NH
Initial Anchor Shippers

• Executed 492,263 Dth/d of Precedent Agreements to date with key New England LDCs, including:
  • National Grid (MA)
  • The Berkshire Gas Company (MA)
  • Columbia Gas of Massachusetts (MA)
  • Connecticut Natural Gas Corporation (CT)
  • Southern Connecticut Gas Corporation (CT)
  • Liberty Utilities (Energy North Natural Gas) Corp. (NH)
  • Westfield Gas & Electric (MA)
  • …and others

• Precedent Agreement Negotiations continuing

• Participation in Maine PUC Pipeline Proceeding
• Project designed to bring Marcellus shale gas to New England to meet demand for incremental gas with long-term, low-cost gas supply and lower New England energy costs
• Physically connected to regional supplies of 5.3 - 6.2 Bcf
  ▪ ~4 BCF/d of Marcellus Supply into TGP today
  ▪ 0.7 to 1.2 BCF/d - Constitution
  ▪ 0.7 to 1.2 BCF/d with NED Supply
“In New England, increasing pressure on an already-constrained natural gas infrastructure is our most pressing and urgent challenge... New England’s pipeline infrastructure is inadequate to serve demand by local distribution companies (for home heating) and power generators in the winter period. This constraint has led to significant electric reliability challenges.”

- Gordon van Welie, President and CEO of ISO-NE.

Current Supply:
• Competitive Energy Services (CES) estimates that New England currently has the capacity to import 2.7 Bcf/d on existing pipelines (not including Canadian imports, LNG and proposed new pipelines.)

Current and Future Needs:
• Natural gas demand for heating and industrial processes in New England can exceed 4.5 Bcf/d on the coldest winter days. This does NOT include the needs of the electric system.
To provide the ISO-NE with natural gas to meet the needs of electric generators in the winter at competitive prices, CES estimates that New England needs an additional 2.4 Bcf/d of pipeline capacity.

- Massachusetts represents 50% of New England's natural gas usage and thus needs an additional 1.2 Bcf/d of incremental pipeline capacity.

- CES has estimated the economic value of adding 2.4 Bcf/d of capacity to New England is $2.988 Billion to the region’s electricity consumers alone.

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“The supply-and-demand imbalance caused by pipeline constraints in New England has had a dramatic impact,” translating into “record-high power prices and soaring energy market costs.”

- Gordon van Welie, ISO- New England President and CEO, Jan 21, 2015
New England – Power Challenges

“New England could face significant reliability issues when natural gas-fired power generators are not able to dispatch as a result of the gas pipeline capacity constraints.”

- NESCOE Phase III Study, Fall 2013.

- Electric generation, in New England and elsewhere, is increasingly dependent on natural gas, due to a combination of market forces, environmental regulations, and improvements in technology, but the natural gas infrastructure is trailing behind the construction of new gas-fired capacity.

- The New England region is in a precarious operating position as there is inadequate pipeline infrastructure leading to high prices and reliability concerns; the long term solution is to expand natural gas infrastructure to meet demand.

- The commitment from non-LDCs is not sufficient to build the infrastructure to accommodate the generators, and the generators are unable to transact due to lack of an appropriate regulated incentive mechanism that provides for a recovery of their costs in the current capacity market construct.