Northeast Energy Direct Project
CT Expansion Project
Tennessee Gas Pipe Line Company LLC

A Transformative Energy Solution for New England
Kinder Morgan Assets
The Marcellus Shale Play

- Due to increased production in shale plays, such as from the Marcellus, the United States became the world’s largest gas producer, surpassing Russia and Saudi Arabia. (EIA, 2013)

- The Marcellus Shale play is the largest and most productive shale play region in the country. (EIA, 2015)

- The Marcellus Shale play produces approximately 15 billion cubic feet of natural gas per day. (EIA, 2015).

- America’s current estimated natural gas reserves will last at least 100 years based on current use models.
System Overview

- Proudly providing reliable service to New England for over 60 years
- 11,900 miles of pipeline
- 92 Bcf of storage capacity
- ~9.0 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

Delivered ~390 Bcf to New England customers in 2012
In Connecticut,

- Kinder Morgan operates approximately **130 miles** of Tennessee Gas Pipelines in CT.

- Kinder Morgan Northeast headquarters for Tennessee Gas Pipeline located in Enfield, CT.

Kinder Morgan owns or operates assets in Fairfield, New Haven, Hartford and Litchfield counties.
Existing TGP Lines in Connecticut Update

Connecticut municipalities with existing TGP Lines:

**Fairfield County:**
- Bridgeport
- Easton
- Fairfield
- Greenwich
- New Canaan
- Norwalk
- Shelton
- Stamford
- Stratford
- Trumbull
- Westport

**Hartford County:**
- Bloomfield
- East Granby
- Enfield
- Farmington
- Hartland
- New Britain
- Plainville
- Simsbury
- **Southington**
- Suffield
- West Hartford
- Windsor

**Litchfield County:**
- Barkhamsted
- Torrington
- Winchester

**New Haven County:**
- Bethany
- Cheshire
- Derby
- Hamden
- Milford
- Orange
- Wallingford
- Woodbridge
The Northeast Energy Direct Project will expand the existing Tennessee Gas Pipeline system within Pennsylvania, New York, Massachusetts, New Hampshire and Connecticut.

The proposed project, as currently configured, would result in the construction of approximately 438 miles of new pipelines, additional meter stations, and modifications to existing facilities.

The expansion will help meet increased demand in the U.S. Northeast for transportation capacity for natural gas and allow up to 2.2 billion cubic feet per day of additional natural gas to the region.

Estimated project cost: $4 billion

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**Estimated Project Schedule**

<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>Conduct Open Houses (complete)</td>
<td>January-March, 2015</td>
</tr>
<tr>
<td>FERC Filing</td>
<td>October 2015</td>
</tr>
<tr>
<td>Requested date for FERC Certificate order</td>
<td>October 2016</td>
</tr>
<tr>
<td>Commission issues permission to fell trees and start HDD’s</td>
<td>January 2017</td>
</tr>
<tr>
<td>Start remaining const.</td>
<td>April 2017</td>
</tr>
<tr>
<td>Anticipated In-Service</td>
<td>Nov. 1, 2018</td>
</tr>
</tbody>
</table>
Transformative NED Project links INCREMENTAL, low cost and prolific Marcellus supplies to New England

- 91% NED Market mainline co-located in existing corridors
- Enough Supply for 4.49 Million Households or 6250MW
- Physical, direct connection to incremental regional supplies
- Creates Bi-Directional flows on interstate pipelines in New England creating broad access to incremental supply
- Additional pipeline infrastructure enhances reliability
NED in Connecticut

- 300 Line CT
  - 14.72 miles
  - Hartford Co., CT
Benefits to Connecticut

Construction Economic Impact of the NED Project as estimated by Quinnipiac University (2015):

• Total economic impact of CT portion of the NED Project: Approximately $64.5 million
  - Hartford Co.: $58 million
  - Fairfield Co.: $6.5 million
• Additional tax revenues from construction: $4.3 million
• 531 total jobs created during construction period (2017 – 2019)
  • Hartford County – 473 jobs created
  • Fairfield County – 58 jobs created

(Source: Quinnipiac University Economic Impact Study of the Northeast Energy Direct Project Connecticut Portion)
Provides for gas and electric reliability throughout the northeast

Transformative solution that will lower gas prices in the northeast and energy costs for the consumer

Independent studies support the need for additional pipeline infrastructure in New England

A project with committed market participants

Any regional solution to address electric reliability should apply to power plants along the TGP system – and must include NED
Executed contracts ~500,000 DTH/d

TGP is an active participant in the each of the NE State proceedings regarding the EDC solution for pipeline infrastructure

Firm contractual path from Marcellus or Wright

Provides EDC with rate certainty and benefits of scale

Customized services including no-notice, line-pack services, hourly flexibility catered towards power generation
NED Provides Critical Role

- Balanced approach to solving long-term energy needs includes:
  - Large-scale renewables
  - Enhanced Demand Reduction programs
  - Expanding natural gas pipeline capacity to the region

- Opportunity for EDC to lower energy costs and increase reliability to gas and power grids

- Natural Gas-Fired Generation is Synergistic with Renewables
  - Integrated response: Not “either-or”
  - Environmentally cleanest fossil fuel allows conversion
  - Provides necessary and flexible backup source of generation to support growth in wind and solar
TGP currently supplies approximately 5079 MW in New England
NED will increase TGP’s ability to serve power generation

<table>
<thead>
<tr>
<th>Power Plant Name</th>
<th>MW</th>
</tr>
</thead>
<tbody>
<tr>
<td>ANP Blackstone</td>
<td>578</td>
</tr>
<tr>
<td>Berkshire Power</td>
<td>289</td>
</tr>
<tr>
<td>Capitol District EC</td>
<td>78</td>
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<tr>
<td>Granite Ridge</td>
<td>900</td>
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<tr>
<td>L Energia Facility</td>
<td>85</td>
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<tr>
<td>Lowell Cogeneration</td>
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<tr>
<td>Masspower</td>
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<td>Milford CT</td>
<td>578</td>
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<td>Millennium Power</td>
<td>360</td>
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<td>Ocean States I</td>
<td>254</td>
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<tr>
<td>Ocean States II</td>
<td>254</td>
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<tr>
<td>Pawtucket Power</td>
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<tr>
<td>Pittsfield Generating</td>
<td>173</td>
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<tr>
<td>RI State Energy (FPLE)</td>
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<tr>
<td>Stony Brook (MA)</td>
<td>350</td>
</tr>
<tr>
<td>Waters River</td>
<td>44</td>
</tr>
<tr>
<td>West Springfield</td>
<td>120</td>
</tr>
<tr>
<td>Windsor Locks</td>
<td>56</td>
</tr>
<tr>
<td><strong>Total MW</strong></td>
<td><strong>5,079</strong></td>
</tr>
<tr>
<td>Milestone</td>
<td>Date</td>
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<tr>
<td>-----------------------------------------------------------------</td>
<td>-----------------------------</td>
</tr>
<tr>
<td>Conduct open houses (complete)</td>
<td>January - April 2015</td>
</tr>
<tr>
<td>FERC holds scoping meetings</td>
<td>June - July 2015</td>
</tr>
<tr>
<td>File ER Draft #1 (Resource Reports 1 through 12) (complete)</td>
<td>March 13, 2015</td>
</tr>
<tr>
<td>File ER Draft #2 (Resource Reports 1 through 12)</td>
<td>July 2015</td>
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<tr>
<td>File certificate application with FERC (includes final ER)</td>
<td>October 2015</td>
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<tr>
<td>FERC reviews application, conducts public comment meetings,</td>
<td>October 2015- October 2016</td>
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<tr>
<td>addresses comments, prepares and issues draft and final EIS</td>
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<tr>
<td>Requested date for FERC certificate order</td>
<td>October 2016</td>
</tr>
<tr>
<td>Accept certificate order</td>
<td>November 2016</td>
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<td>Commission issues permission to fell trees and start HDD’s</td>
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<tr>
<td>Start remaining construction</td>
<td>April 2017</td>
</tr>
<tr>
<td>Anticipated in-service date for NED project (mainline and</td>
<td>November 1, 2018</td>
</tr>
<tr>
<td>certain laterals)</td>
<td></td>
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</table>
Northeast Energy Direct

- Ensures gas and electric reliability throughout Northeast

- Transformative solution that will lower gas and electricity prices for all New England consumers

- Direct access to incremental supply from the most prolific shale play in the US

- Critical component to any regional solution to address electric reliability
Connecticut Expansion Project Overview

- The Connecticut Expansion Project will expand the existing Tennessee Gas Pipeline system within New York, Massachusetts, and Connecticut.

- The 72,100 Dth/d project, as currently configured, would result in the construction of approximately 13.3 miles of 36 and 24-inch diameter pipeline looping, which is the installation of additional pipe adjacent to the existing pipeline.
  - Albany County, New York (1.4 mi.-36”)
  - Berkshire County, Massachusetts (3.8 mi.-36”)
  - Hartford County, Connecticut (8.26 mi.-24”)

- The total estimated cost of the Connecticut Expansion Project is approximately $81.2 million.

- Connecticut Natural, Yankee Gas and Southern Connecticut have signed long term agreements with Tennessee for the additional transportation capacity that CT Expansion Project will add to the Tennessee Gas Pipeline system.

- Pending receipt of necessary regulatory approvals, the proposed project is estimated to be placed in-service by the winter of 2016.

### Estimated Project Schedule

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<td>Ongoing</td>
</tr>
<tr>
<td>FERC filing</td>
<td>July 2014</td>
</tr>
<tr>
<td>Anticipated FERC approval</td>
<td>July 2015</td>
</tr>
<tr>
<td>Proposed Start of Construction Activity</td>
<td>Spring 2016</td>
</tr>
<tr>
<td>Proposed In-Service</td>
<td>Winter 2016</td>
</tr>
</tbody>
</table>
*Any final route determination is subject to surveying, land acquisition and easements, environmental impact assessments, permitting and stakeholder input.*
Energy Crisis in Connecticut

- Natural gas consumption has increased by 24% since 2009 (mainly due to an increase in natural gas electric generation).
  - Natural gas fired generation is currently 15-50% lower in cost than coal-fired power generation.
  - Natural gas fired generation, on a per unit of energy delivered basis, emits 32% less greenhouse gasses than oil-fired electricity generation.

- Currently, the majority of homes in Connecticut are heated by fuel oil, while 31% of Connecticut homes heat with natural gas. Natural gas is 60-75% cheaper than fuel oil, 70-80% cheaper than propane, and 75-85% cheaper than electric heating.
  - The average homeowner heating with fuel oil in Connecticut pays $1,800 more per year than a homeowner using natural gas.

The CT Comprehensive Energy Strategy calls for:
1. Making gas available to as many as 300,000 additional CT homes and businesses
2. The expansion of natural gas pipeline capacity into CT to meet the anticipated rise in demand for gas as a result of expanded infrastructure and availability

(Source: The CT DEEP 2013 Comprehensive Energy Strategy for Connecticut)
The Six State Energy Action Plan, released by the New England Governors on April 23, 2015, highlighted legislation in Connecticut working towards fixing the energy crisis, including Senate Bill 1078. SB 1078 passed the House and Senate by wide margins and is awaiting the Governor’s signature.

Senate Bill 1078:

- Allows the CT DEEP to solicit long-term contracts of resources (including natural gas) that can secure CT’s proportional share (i.e., approximately one quarter) of the infrastructure solutions needed by the region
- Allows for coordinated proposals with other states in the region
- States can cooperatively work together to help solve the lack of energy infrastructure issue in New England
Energy Crisis in Connecticut

On April 23, 2015, the Governors of New England held a summit in Hartford, Connecticut to discuss regional energy solutions


- “New England is challenged by a lack of natural gas pipeline infrastructure and is losing non-gas power plants, both of which threaten power system reliability.” - Official Statement of the New England Governors, 4/23/15

- “New England’s natural gas infrastructure has not kept pace with the tremendous growth in natural gas-fired generation and the increasing demand for natural gas as a heating fuel.” - Gordon van Welie, President/CEO of ISO-NE, 4/23/15