Natural Gas Infrastructure Expansion Plans

An overview

August 20, 2013
Many Benefits of Natural Gas Expansion in Connecticut

**Opportunity**

- Shale resources in close proximity of Northeast markets
- Natural gas prices expected to remain disconnected from oil
- New England unique due to its high reliance on imported heating oil

**Benefits to Customers and State**

- Environmental benefits
- Energy efficiency
- Business competitiveness
- Job creation
- Economic impact
- Energy independence

$1,800 savings per year for an average residential customer
CT & MA Have High Growth Potential

CT & MA residential gas heating penetration vs. nearby states

CT Residential Market Penetration by Heating Source

Sources: SNL; Energy Information Administration State Energy Data System (SEDS); Northeast Gas Association
The Plan will call for the addition of approximately 280,000 new heating customers over 10 years across all three gas companies. Yankee’s target is 82,400 new heating customers.
Benefits of the Plan

- $2.8 billion in net present value of savings for those that convert (after conversion costs).
- 50% natural gas penetration rate for residential after 10 years and 60% for industrial and commercial customers.
- $436 million per year injected into Connecticut’s economy by saving customers up to $1,800 per year on their heating bills after 10 years.
- $107 million per year reduction for commercial and industrial customers’ production costs once program is in place.
- 820,000 tons of CO2 reduction or 7% reduction of total emissions in CT.
- 262 million gallons reduction on fuel oil consumption or a 43% reduction of fuel oil consumed in CT at the end of the 10 years of the plan.
- At least 500 construction and utility related jobs per year once Plan ramps up, not counting positive impact on jobs driven by customer conversion activity;
Benefits of the Plan

Benefits are multiple and significant.

> Significant reduction in SOx and NOx emissions;

> Improved access to natural gas for State and municipal facilities, thus decreasing the operating costs of those facilities through the use of cheaper natural gas;

> Increased funding for gas energy efficiency due to the increase in the number of heating customers;

> Increased taxes to the State and municipalities;

> Increased size of the distribution system which allows for economies of scale, thus benefiting existing customers; and

> Expansion of gas pipeline capacity that provides more flexibility and access to lower cost gas.
Plan aims to increase saturation rates for all the towns serviced by Yankee.
Low-Use Conversion Targets

Low-Use Market Opportunity by Town

Target to convert 10,000 out of an estimated 11,000 viable low use customers.

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<tbody>
<tr>
<td>Low-Use Res. Conv.</td>
<td>1,100</td>
<td>1,100</td>
<td>1,200</td>
<td>1,400</td>
<td>1,500</td>
<td>1,200</td>
<td>900</td>
<td>700</td>
<td>600</td>
<td>300</td>
<td>10,000</td>
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On-Main Conversion Targets

On-Main Market Opportunity by Town

Targeting to achieve 93% on main penetration after 10 years from 74% currently.

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<tbody>
<tr>
<td>On-Main Res</td>
<td>3,000</td>
<td>2,700</td>
<td>3,300</td>
<td>3,800</td>
<td>4,200</td>
<td>4,200</td>
<td>4,200</td>
<td>4,200</td>
<td>4,200</td>
<td>4,200</td>
<td>38,000</td>
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<tr>
<td>On-Main C&amp;I</td>
<td>240</td>
<td>224</td>
<td>295</td>
<td>341</td>
<td>366</td>
<td>370</td>
<td>365</td>
<td>365</td>
<td>365</td>
<td>365</td>
<td>3,296</td>
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<tr>
<td>TOTAL</td>
<td>3,240</td>
<td>2,924</td>
<td>3,595</td>
<td>4,141</td>
<td>4,566</td>
<td>4,570</td>
<td>4,565</td>
<td>4,565</td>
<td>4,565</td>
<td>4,565</td>
<td>41,296</td>
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The larger towns offer the greatest off-main opportunity.

### Off-Main Conversion Targets

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<tbody>
<tr>
<td>Off-main Res</td>
<td>700</td>
<td>1,300</td>
<td>1,900</td>
<td>2,400</td>
<td>2,800</td>
<td>3,100</td>
<td>3,400</td>
<td>3,500</td>
<td>3,600</td>
<td>3,600</td>
<td>26,300</td>
</tr>
<tr>
<td>Off-Main C&amp;I</td>
<td>167</td>
<td>344</td>
<td>372</td>
<td>456</td>
<td>506</td>
<td>552</td>
<td>607</td>
<td>607</td>
<td>607</td>
<td>607</td>
<td>4,825</td>
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<tr>
<td>TOTAL</td>
<td>867</td>
<td>1,644</td>
<td>2,272</td>
<td>2,856</td>
<td>3,306</td>
<td>3,652</td>
<td>4,007</td>
<td>4,107</td>
<td>4,207</td>
<td>4,207</td>
<td>31,125</td>
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</table>
Yankee estimates adding 362 miles of main throughout the Plan period.

UIL plans to add another 475 miles of main for a total of 838 miles added over 10 years.
Off-Main Expansion - Potential Anchor Loads

We have identified more than 100+ potential anchor loads.
Off-Main Expansion – Neighborhood Projects

We will focus on higher density neighborhoods with high interest in converting

- Plan short main extensions through such “neighborhoods”
- Implement outreach program and recruit “neighborhood activists”
- Coordinate with towns interested in working with YG to lower installation costs (paving, permits and police detail)
- Projects to be evaluated individually based on uptake over a 3 to 5 year horizon
Sales & Marketing - Traditional Approaches

We are working on enhancing our traditional sales and marketing channels.

> Executing mass media campaigns in coordination with the other Gas LDCs.
> Providing “Make the Switch and $ave” marketing toolkits.
> Utilizing van messaging
> Leveraging “On-Main, Non-Customer List” and “gas availability” online tool, inquiry database, Construction Coordination Software, EGIS Mapping
> Launching additional web content upgrades & increase webinar offerings.
> Implementing changes to the internal new business process
> Deploying a new retail sales force that will meet face-to-face with residential and small commercial prospects.
Some new approaches will be tested and rolled-out if successful.

> Fostering trade ally partnerships
  › Plumbing & Heating Contractors
  › Equipment Manufacturers/Distributors
  › Big Box Retailers

> “One-stop shopping”

> Energize Waterbury

> Coordinated Energy Efficiency Campaigns
Sales & Marketing - Rebates and financing

We are assembling a wide array of credit and financing options.

<table>
<thead>
<tr>
<th>Equipment Type</th>
<th>Maximum Possible Federal Tax Credits</th>
<th>Maximum Possible C&amp;LM Rebates</th>
<th>Target Manufacturer’s Rebate (1)</th>
<th>Target LDC Credit (2)</th>
<th>Total Maximum Incentives Possible</th>
<th>Out of pocket or to be financed</th>
<th>10-year monthly installment at 2.99% (3)</th>
<th>10-year monthly installment at 5.99% (4)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Furnace</td>
<td>$150</td>
<td>$700</td>
<td>$250</td>
<td>$250</td>
<td>$1,350</td>
<td>$6,150</td>
<td>$60</td>
<td>$70</td>
</tr>
<tr>
<td>Boiler</td>
<td>$150</td>
<td>$750</td>
<td>$250</td>
<td>$250</td>
<td>$1,400</td>
<td>$6,100</td>
<td>$60</td>
<td>$69</td>
</tr>
</tbody>
</table>

(1) Rebates LDCs aim to get from manufacturers/contractors due to pooling of demand from CES. Working in coordination with CNG and SCG to increase this rebate amount.
(2) To be requested by LDCs as part of the Gas Expansion Plan filing. Represents average, could be higher for some customers.
(3) Assumed customer qualifies for CEEF - HES Residential Loan Fund – Administered by CHIF or Boiler/Furnace Replacement Funds Program
(4) Assumed customer qualifies for CEFIA’s – Smart-E Loan

Financing Approach

> Approach I – Leverage existing programs (Energy Conservation Loan Program administered and HES Residential Loan Fund administered by CHIF, Smart-E Loan and Cozy Loan administered by CEFIA)

> Approach II – Implement new programs enabled by legislation (Residential Furnace and Boiler Replacement Program)

> Approach III – Launch new financing programs (People’s United, Altus Power/Partner RE, Citizens Bank, credit unions and other banks)
Proposed Regulatory Changes

We are seeking approval for the following key regulatory changes:

**Modify the current hurdle rate model to:**

- Extend the time horizon of hurdle rate model calculations to 25 years for all customers.
- Eliminate CIAC requirements for heating prospects that are located 150 feet or less from an existing main that require only a service extension.
- Allow the LDCs to consolidate individual projects into a single hurdle rate model analysis within a common geographic location ("portfolio view").
- Allow the LDCs to forecast future project conversions over a 3 to 5 year period.
- Establish an expanded project selection and prioritization model that takes into account broader societal benefits including economic activity due to customer savings, economic development benefits from extending mains to commercial and industrial and/or State and municipal customers and environmental benefits.
We are seeking approval for the following key regulatory changes:

> **Approve and implement a new rate design** that:
  > Approves new customer rate tariffs to help minimize the impact of the expansion on existing customers.
  
  > Provides for the use of non-firm margin ("NFM") credits in support of the expansion.
  
  > Allows for more timely recovery of LDC capital dollars (natural gas infrastructure expansion tracker to be reconciled annually).
  
  > Provides for the opportunity to earn an incremental performance-based incentive.

> **Approve the LDCs’ plan to acquire incremental pipeline capacity** into Connecticut in support of the Plan’s expansion goals.
Capacity Plan - CT LDC Peak Day Demand and Supply

CT LDC's 10 YR Peak Day Forecast and Supply Requirements

- Unidentified
- Identified
- Current Supply
- Demand

MMBtu's (000's)

- 2013/14
- 2014/15
- 2015/16
- 2016/17
- 2017/18
- 2018/19
- 2019/20
- 2020/21
- 2021/22
- 2022/23
Capacity Plan - Overview

Capacity plans have been finalized to support growth proposed in the Plan

> Capacity Plans have been finalized
  › Three pipelines and two LNG facility expansions
    › AGT AIM, TGP CT, IGTS. LNG Expansion
  › Well structured to accommodate CES plan
  › Total Capacity for LDCs is approx. 300,000 Mcf
  › Reliable, cost effective, timely, cost based. FERC regulated
  › Well suited to where demand is projected to grow on system
  › Access to prolific Marcellus (and Utica) supplies

> DEEP and others continued active support of pipeline expansion projects in the various regulatory venues is important including at FERC
CT Next Steps

> Received favorable decision from DEEP on July 16th

> Filed amended Plan on July 26th

> Submit Residential Furnace and Boiler Replacement Program by September 1st

> Expect approval from PURA on or before November 22nd

> Expansion with new tools starts on January 1st
### NSTAR Gas – The Opportunity

<table>
<thead>
<tr>
<th>Category</th>
<th>Quantity</th>
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<tr>
<td>Low use</td>
<td>12,549</td>
</tr>
<tr>
<td>NCOM (non-customer on main)</td>
<td>19,441</td>
</tr>
<tr>
<td>NCNOM (non-customer not on main)</td>
<td>35,000</td>
</tr>
<tr>
<td>Requires main ext. less than 150'</td>
<td></td>
</tr>
<tr>
<td>NCNOM (non-customer not on main)</td>
<td>160,142</td>
</tr>
<tr>
<td>Requires main ext. greater than 150'</td>
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<tr>
<td>Total</td>
<td>227,132</td>
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MA Efforts

> DOER has kicked off an analysis effort led by Sussex Economic Advisors
  › Sussex has been retained to evaluate and provide recommendation on specific policies, strategies and regulatory models related to natural gas expansion in MA
  › Efforts include quantifying and evaluating different various policy options
    › Estimating market potential by market sector
    › Estimating costs and savings
    › Identifying market barriers and challenges
    › Analyzing economic and environmental impacts of gas expansion in MA

> Initial kick-off meeting scheduled for August 26th

> Final report expected by early November