Utility Perspective on Fossil Energy Hydrogen Challenges

Joseph Del Vecchio - Vice President and Chief Regulatory Counsel, National Fuel Gas Distribution Corp.
National Fuel Gas Company is a diversified energy company headquartered in Williamsville, New York, that operates an integrated collection of natural gas and oil assets across four business segments throughout Western NY and Northwestern PA:

- Exploration & Production
- Pipeline & Storage
- Gathering
- Utility

Guiding Principles

- Safety
- Environmental Stewardship
- Community
- Innovation
- Satisfaction
- Transparency
Organizational Structure → Unique Integration

National Fuel Gas Company
(NYSE: NFG)

Upstream
Seneca Resources Company, LLC

Midstream
National Fuel Gas Supply Corporation
Empire Pipeline, Inc.

Downstream
National Fuel Gas Midstream Company, LLC
National Fuel Gas Distribution Corporation

Utility Customer Demographic
(All values approximate)
747,000
Total Customers
692,000
Residential
55,000
Commercial & Industrial
Meeting the Challenge: Scenarios for Decarbonizing NY’s Economy

NY CLCPA Goals and Objectives

- 70% Renewable Energy by 2030
- 100% Zero-emission Electricity by 2040
- 85% GHG Reduction by 2050

Practical Considerations

- Consumer Affordability
- Safety and Reliability
- Resiliency and Delivery Certainty
Pathway to a Low-Carbon Future

An “all-of-the-above” approach is the optimal solution for consumers, providing a broad range of emissions reduction solutions while ensuring a safe, reliable, and resilient energy delivery system.

### Four Pillars for Achieving New York’s Climate Goals

<table>
<thead>
<tr>
<th>I. Scale Energy Efficiency</th>
<th>II. Reduce Utility Emissions</th>
<th>III. Decarbonize the Energy Source</th>
<th>IV. Leverage Existing Infrastructure</th>
</tr>
</thead>
<tbody>
<tr>
<td>• Transportation</td>
<td>• Continued reduction in</td>
<td>• Renewable Natural Gas</td>
<td>• Serve hard-to-electrify</td>
</tr>
<tr>
<td></td>
<td>fugitive methane emissions</td>
<td>• Hydrogen - enriched Natural Gas</td>
<td>customers with low-carbon options</td>
</tr>
<tr>
<td></td>
<td>• Invest in system</td>
<td>• Industrial Local Hydrogen</td>
<td>• Mitigate peak electricity</td>
</tr>
<tr>
<td></td>
<td>modernization and safety</td>
<td>• Carbon Capture and Storage</td>
<td>demand / avoid more substantial</td>
</tr>
<tr>
<td></td>
<td>• Commitment to</td>
<td>• Community Geothermal</td>
<td>infrastructure build-out</td>
</tr>
<tr>
<td></td>
<td>substantial reduction of</td>
<td></td>
<td>• Assure a reliable and</td>
</tr>
<tr>
<td></td>
<td>delivery system emissions</td>
<td></td>
<td>resilient energy system</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

5
Potential Western New York Site

- Potential Hydrogen Production
  - Hydroelectric resources
  - Solar and Wind Farms
  - Proximity to PA Natural Gas production

- Potential to supply existing and future businesses with low/no carbon fuel sources

- Natural Gas Supply
  - High pressure pipelines and local distribution
  - HENG Blending Opportunities

- Potential Hydrogen Storage
  - Existing and Abandoned Salt Mines

- Light and Heavy Vehicle Fueling
  - I-90 (NY Alternative Fuels Corridor) / Proximity to Canada

- Industrial/Commercial/Residential Customers
  - Rochester & Buffalo Markets
Regulatory Considerations

✓ Policies to increase the supply of RNG/permit hydrogen deployment to help decarbonize the energy source in a safe and reliable fashion

✓ Support development of resiliency assets

✓ Reduce long-term uncertainty in the low carbon fuel and infrastructure market to help drive requisite private investment