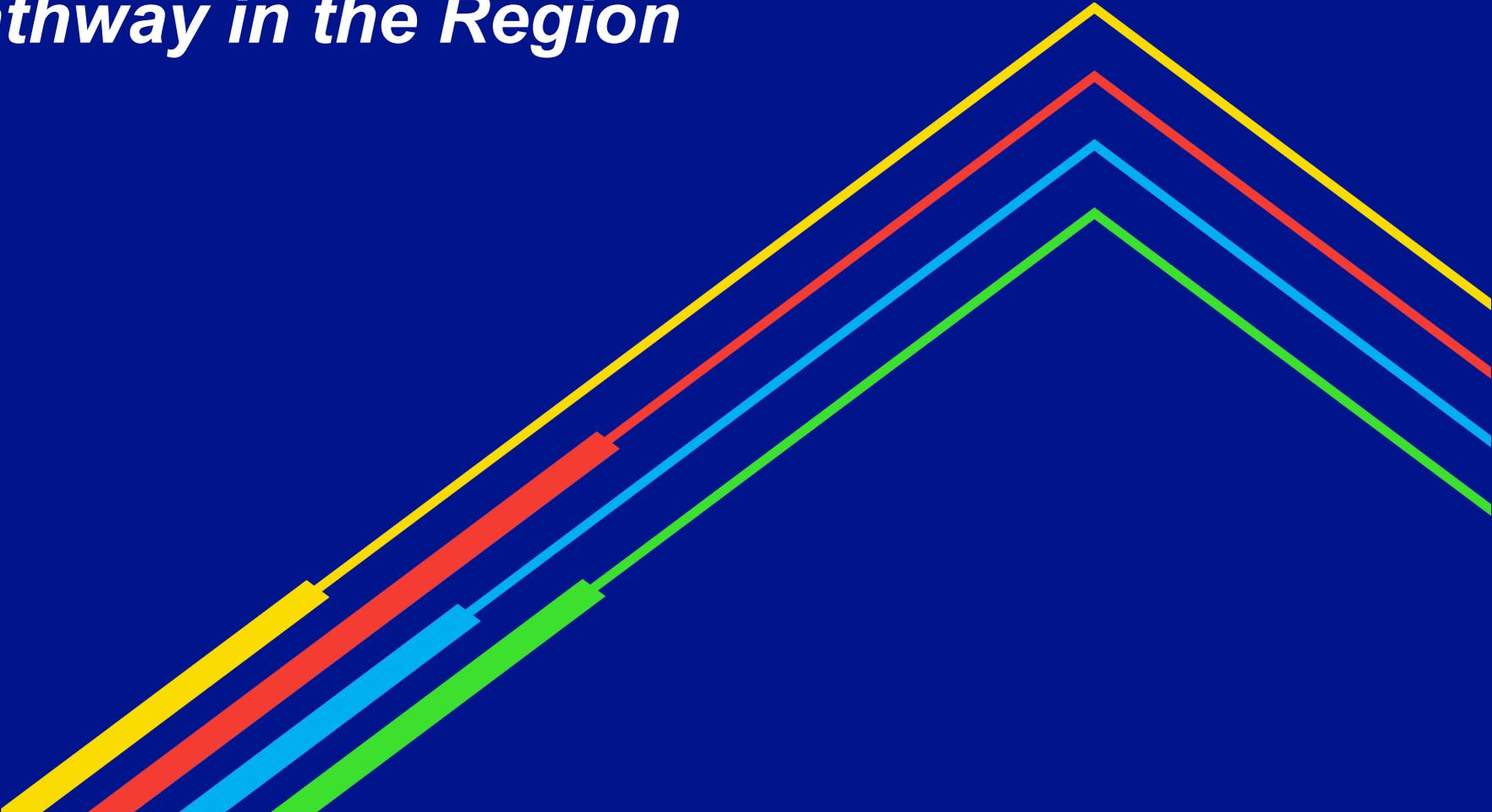


Northeast Gas Association

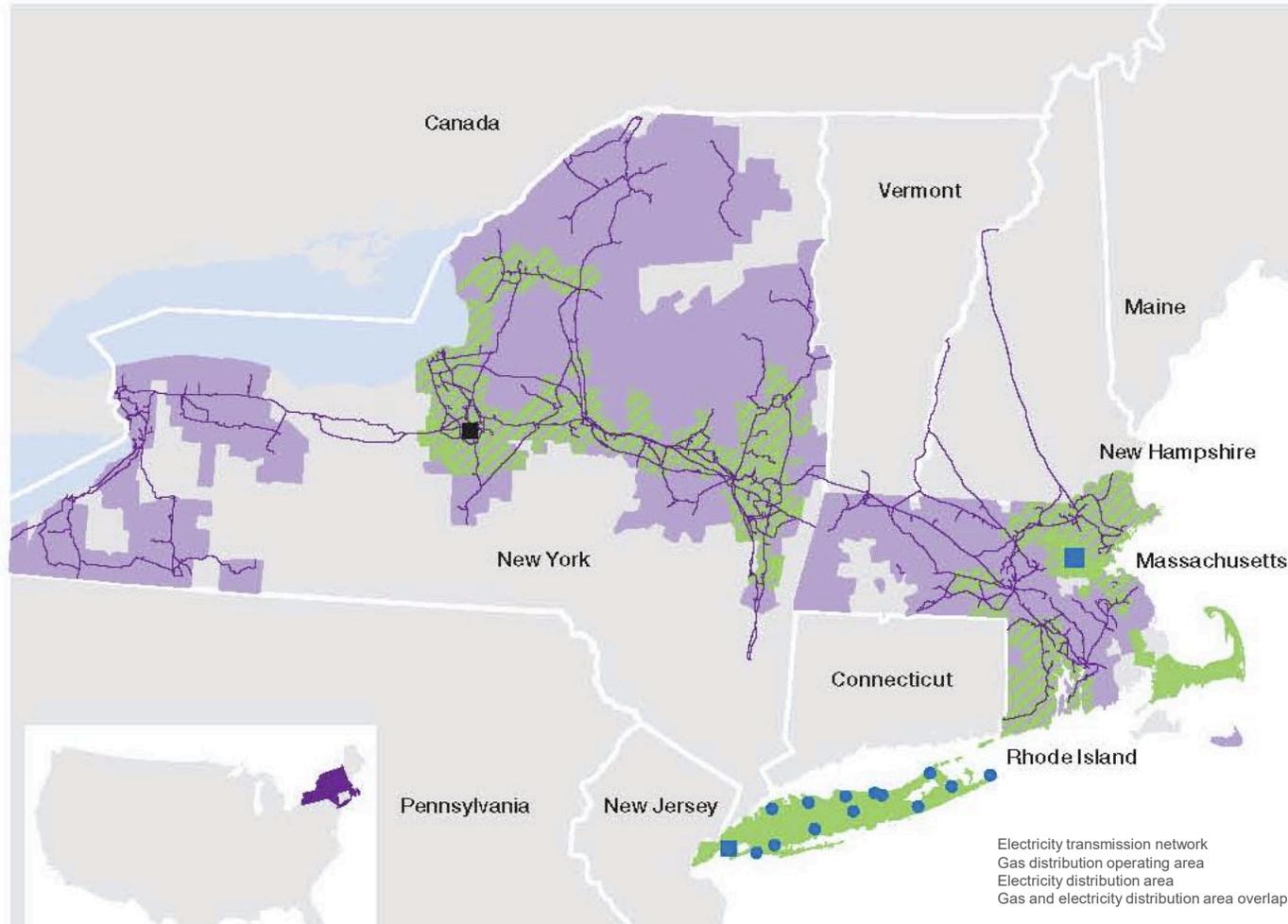
Natural Gas's Pathway in the Region

April 29, 2021

Keith Rooney



National Grid: our regulated businesses in the U.S.



National Grid U.S.

- Gas and electricity businesses in the U.S. supply energy directly to 20 million customers.
- Owns and operates electricity and gas distribution networks in New York, Massachusetts and Rhode Island.
 - 3/18 announcement – PPL to acquire our Rhode Island business
- Owns and operates electricity transmission facilities across the Northeast; including upstate New York, Massachusetts, New Hampshire, Rhode Island and Vermont.

National Grid Ventures and National Grid Partners: operating outside of our core regulated businesses

National Grid Ventures

- Created in 2017 as competitive division of National Grid.
- Operates outside of core regulated businesses in the U.S. and U.K. where it develops, operates and invests in energy projects, technologies and partnerships to speed up the development of our clean energy future.
- Oct. 14 launch of National Grid Renewables, the new brand name for our U.S. renewable energy business which includes solar, onshore wind and battery storage.

National Grid Partners

- Created in 2018 to advance the energy systems of tomorrow.
- Corporate investment and innovation arm incubates and funds disruptive technologies at the intersection of energy and emerging tech.
- 22 investments and counting from \$250M initial venture allocation; two portfolio exits.

Our commitment to cleaner energy: Net Zero by 2050

Achieve net zero greenhouse gas emissions by 2050:

- *“We believe our electric and gas networks have a vital role in helping achieve net zero emissions and our announcement today is the beginning of a transformative journey for our business.” – Badar Khan, President, CEO, National Grid US*
- *We will reduce emissions from our own operations and emissions that result from the sale of electricity and gas to our customers (scopes 1, 2, and 3).*

Learn more at:

<https://www.nationalgridus.com/responsible-business-commitments>

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Our commitment to cleaner energy: Net Zero by 2050

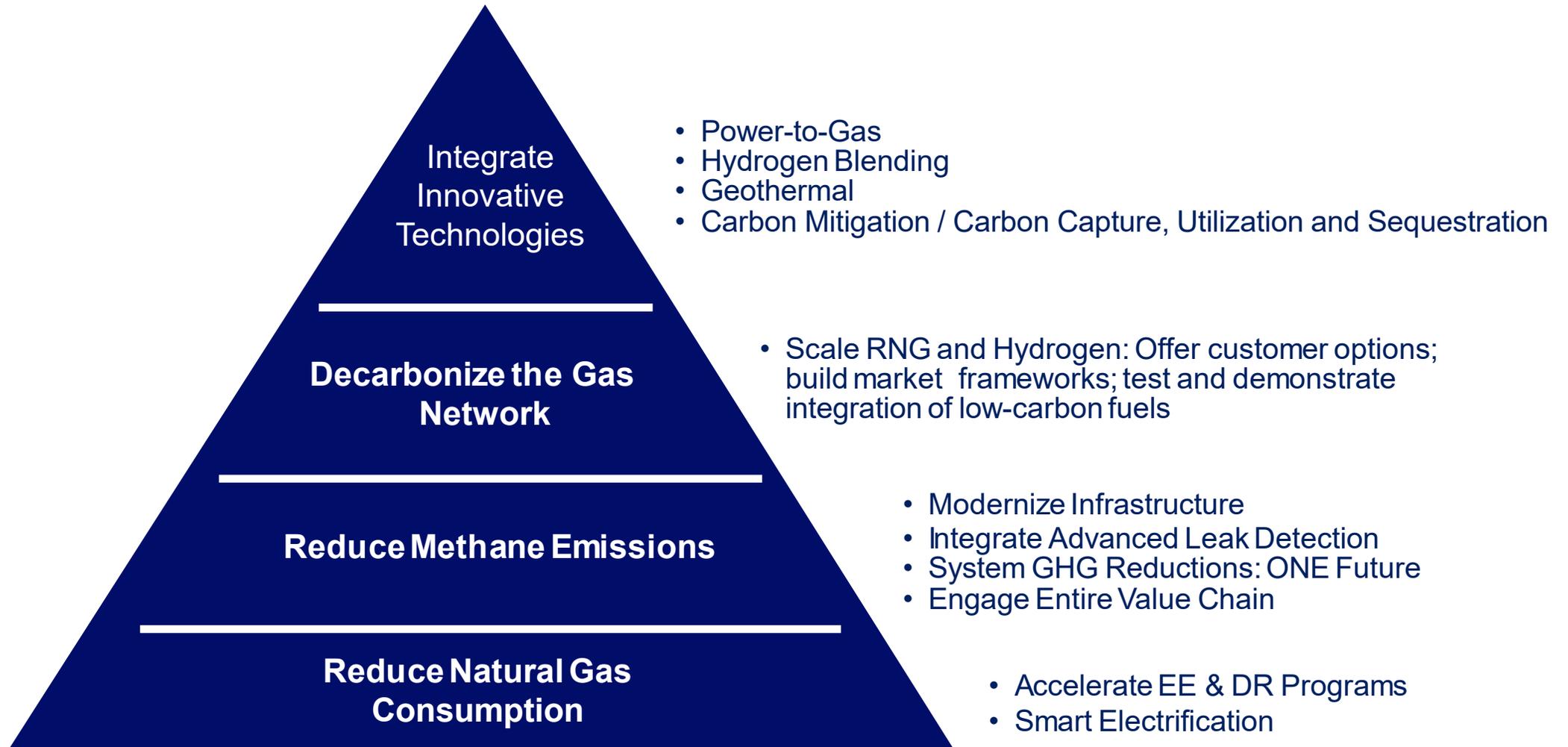
10 FOUNDATIONS

1. Reducing demand through energy efficiency and demand response;
2. Decarbonizing the gas network with renewable natural gas and hydrogen;
3. Reducing methane emissions from our own gas network while working with the industry to reduce emissions through the entire value chain;
4. Integrate innovative technologies to decarbonize heat;
5. Interconnecting large scale renewables with a 21st century grid;
6. Enabling and optimizing distributed generation;
7. Utilizing storage;
8. Eliminating SF6 emissions;
9. Advancing clean transportation; and
10. Investing in large scale carbon management.

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How the gas network will help us achieve our goals



Our current hydrogen study on Long Island

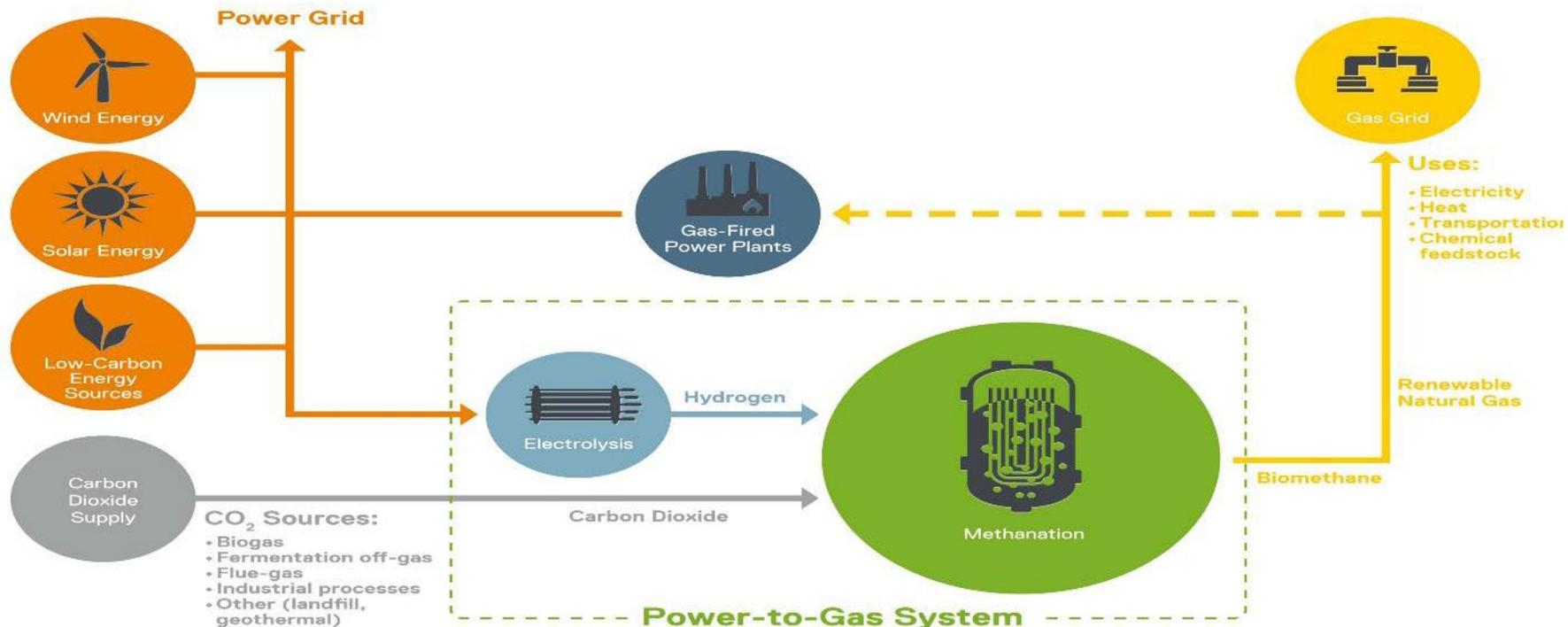
Partnering with Stony Brook's Institute of Gas Innovation and Technology (IGIT), NYSERDA, to assess how much hydrogen can blend into the existing natural gas system.

Goal

- Assess the impacts of hydrogen on NY's natural gas infrastructure
- Determine acceptable blend amounts
- Identify required alterations to accomplish safe and cost-effective inclusion of hydrogen in gas systems

Scope of Study

- Task 1. Technology & risk assessment
- Task 2. Simulated gas pipeline test unit & safety protocols
- Task 3. Test natural gas - H₂ mix
- Task 4. Gas quality measurements
- Task 5. Modeling dynamic mixed gas flow through pipelines



Landmark study: Pathways to Carbon-Neutral NYC

- **Team:** NYC Mayor's Office of Sustainability, Con Edison, National Grid; included consultancy team and 25-member technical advisory committee
- **Objective** - to create a body of work that can provide insight into key decarbonization options, risks, and tradeoffs as NYC transitions toward carbon neutrality
- Shows in-depth analysis of multiple pathways for NYC to reach a clean energy future, while still meeting energy needs of New Yorkers in a safe, reliable and affordable manner
- Confirms the path forward will require all stakeholders to use every available tool, including technology and innovation, to achieve carbon neutral goals
- RNG and hydrogen will be an important emission reduction strategy for end uses that do not electrify
 - Gas network also offers other overall system benefits, like managing peak electric demand and reducing the need for certain investments to the electricity network, improving overall system reliability and resiliency

Full study at NYC Mayor's Office of Sustainability site



Pathways to Carbon-Neutral NYC:

MODERNIZE, REIMAGINE, REACH

APRIL 2021

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