EPA AGA Renewable Natural Gas Workshop
RNG Policy, Financial Incentives and Market Forces

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Pipeline quality gas derived from biomass that is fully interchangeable with natural gas.... BUT, this definition is being disrupted due to technology innovation: ‘Power-to-Gas’

Source: U.S. DOE NREL
What’s Driving the Market? Policies Valuing RNG Environmental Attributes

- **Heat**: No state or federal policies
- **Electricity**: Renewable Portfolio Standard (RECs)
- **Transportation**: Federal – Renewable Fuel Standard (RINs), California – Low Carbon Fuel Standard (LCFS)

### Value of RNG (ICF 2016)

<table>
<thead>
<tr>
<th></th>
<th>Commodity</th>
<th>RINs</th>
<th>LCFS</th>
<th>RCES</th>
</tr>
</thead>
<tbody>
<tr>
<td>Landfill Gas (D3 RINs)</td>
<td>$25</td>
<td>$20</td>
<td>$5</td>
<td>$5</td>
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<tr>
<td>Food Waste (D5 RINs)</td>
<td>$20</td>
<td>$15</td>
<td>$5</td>
<td>$5</td>
</tr>
<tr>
<td>Animal Waste (D3 RINs)</td>
<td>$40</td>
<td>$30</td>
<td>$10</td>
<td>$10</td>
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<tr>
<td>RNG to Electricity</td>
<td>$5</td>
<td>$5</td>
<td>$1</td>
<td>$1</td>
</tr>
</tbody>
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Source: ICF
Challenges to RNG Development

1. INTERCONNECTION
   “Utilities are the biggest barrier for RNG projects”

2. POLICY SUPPORT
   Regulation only values RNG in transportation and power generation

3. COMMUNICATION
   Educating stakeholders on opportunity for gas system to decarbonize
What Have We Done?

National Grid’s Journey with Renewable Natural Gas

RNG RESEARCH & WHITEPAPER
Outlined the value of RNG as an alternative energy source. Analyzed the potential for RNG in NY, MA, RI & NH. Paper also provides a vision for a sustainable gas network and a roadmap on how to get there.

NATIONWIDE RNG REPORT
Partnership with AGA & AGF to analyze the national potential for RNG.

NEW YORK STANDARD INTERCONNECTON GUIDELINE
Collaborative effort to develop a revolutionary interconnection guideline. The purpose of this effort is to develop a guideline addressing gas quality standards and streamline the process of connecting RNG projects to the gas distribution network.

NEWTOWN CREEK DEMONSTRATION PROJECT
Partnership with NYC-DEP to convert New York City’s waste water into a source of clean energy.

STATEN ISLAND LANDFILL RFS PROGRAM
Educating stakeholders on EPA’s Renewable Fuel Standards (RFS) program. Facilitated transactions to monetize the environmental attributes.

CURRENT STAKEHOLDER ENGAGEMENT
- Facilitating Customer Projects
  - Working with customers, project developers, technology providers and consultants
- Education & Advocacy
  - Associations, policy makers and regulators

2010

2018
Where Are We Going Next?

1. Considering new products, e.g., a ‘Green Gas’ offering to allow our gas customers to decarbonize heat

2. Facilitate RNG market place and connect customer driven projects

3. Grow potential for RNG through demonstration projects

- Renewable Natural Gas
- Power-to-Gas
- Hydrogen Blending
Storage capacity of power-to-gas compared to other storage methods: **longest duration, highest capacity**
“Combining electricity with gas can allow Europe to achieve the Paris Agreement target at the lowest possible cost.”

_Ecofys 2018, “Gas for Climate”_