Committee on Gas

Monday, February 11, 2019
Committee on Gas
Pipeline Safety – Emerging Issues for 2019 and Beyond: Reauthorization of Pipeline Safety Act
The Pipeline Safety Act

- Protect against risks to life and property posed by pipeline transportation and facilities
  - Requires uniform national pipeline safety standards
  - Applies to interstate and intrastate pipelines, distribution, and storage
  - Preempts state safety regulations
The Pipeline Safety Act

Who is the regulator?

- Interstate pipeline facilities: PHMSA
- Intrastate and distribution pipeline facilities: State Authorities meeting specific requirements
  - Adopt federal safety standards
  - Must inspect and enforce standard
  - May adopt more stringent standards for intrastate facilities, as long as compatible with federal requirements
- 75% of pipelines are state-regulated for pipeline safety
The Pipeline Safety Act

- Reauthorized by Congress every 3-5 years
  - Last reauthorizations 2016 and 2011
  - Statutory amendments influenced by pipeline incidents
  - Funding expires September 30, 2019

- 2019 is a reauthorization year
2019 Pipeline Safety Act Reauthorization

House and Senate committees:
- House Transportation and Infrastructure
- House Energy and Commerce
- Senate Commerce, Science and Transportation

Potential Scenarios
- “Clean” bill without statutory amendment?
- New requirements for PHMSA, operators and others?
- Stand-alone bill vs. incorporation into broader legislation?
2019 Pipeline Safety Act Reauthorization

Potential Safety Issues

- preventing overpressurization
- incomplete directives from 2011 and 2016 reauthorizations
- expanded operator response options to population increases
- eliminate class location designations
- higher civil penalties for accidents
- mandated safety management systems

- voluntary information sharing system
- reduced standard for criminal liability
- pipeline security
- cybersecurity
- reducing methane emissions
2019 Pipeline Safety Act Reauthorization

Potential Key Influences

- Significant pipeline accident
- PHMSA’s progress completing previous statutory directives
- New Democratic majority in House/divided Congress
- Priorities of new Democratic committee members
- Administration priorities and deregulatory objectives
- Other pipeline issues: security, cybersecurity, pipeline siting, eminent domain, state review of interstate pipeline projects
- Priorities of external stakeholder groups
- NTSB recommendations
Thank You

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(202) 298-1896
sam@vnf.com

Subscribe to Van Ness Feldman’s free Pipeline Safety Update at www.vnf.com
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Monday, February 11, 2019
urb}int

Plan for what's next.
AT URBINT, OUR MISSION IS TO

Help infrastructure operators make communities safer and more resilient.
Corey Capasso
Founder & CEO
Nomi (sold to Brickstream)
Spinback (sold to BM / Salesforce)

Josh Attenberg
Head of Data Science
Etsy, NYU, Integral Ad Science, Yahoo

Amen Ra Mashariki
Head of Urban Intelligence
ESRI, New York City Mayor’s Office, White House Fellow

Josh Troy
Head of Finance & Operations
KPMG, StreetEasy (sold to Zillow), CompStak

Benjamin Berry
Head of Product
Yext (IPO) Accenture Consulting

People who make it possible.
Energy Impact Partners.

The world's leading coalition of utilities investing a new energy future.

Our partners
Our world is changing. The only way utilities can keep up is with technology.
New era of weather.

Heavily burned acres by wildfires

Hurricane wind speed: 25 Knots by 2090

Heavy downpours: 30% since 1980

2X since 1989

ACRES BURNED BY WILDFIRES
U.S. POPULATION LIVING IN URBAN AREAS - 82%

Urbanization

64%
Increase since 1950

CONSTRUCTION ACTIVITY

4-6%
Annual growth rate
Aging Infrastructure.

Overview

GAS INFRASTRUCTURE

$177B

Investment gap 2016 - 2025

$270B

Replacement cost for gas pipes.

GAS INFRASTRUCTURE
Workforce Turnover.

Nearly half of the utility workforce will be nearing retirement age.
High-risk Incidents.
Traditional Process.

- No External Data
- Intuition Based
- Broad Targets
- Static
- Reactive
External Data

EXTERNAL DATA

- Vegetation
- Contractors
- Coastal Effect
- Weather

PREDICTIVE INTELLIGENCE

- Pollution
- Weather
- Permits

DECISION INTELLIGENCE

- Topography
- Building
Predictive Intelligence.

EXTERNAL DATA → PREDICTIVE INTELLIGENCE → DECISION INTELLIGENCE

- Model Training
- Real World Validation
- Production Model
Decision Intelligence.

Interventions: 6
Leaks Prevented: 3.45
AI helps utilities keep pace with change.

- External Data
- Empirical
- Pinpointed
- Dynamic
- Proactive
Committee on Gas

Monday, February 11, 2019
RNG: Transforming the Future of Sustainable Energy & Agriculture
Align RNG™
Partnership Between Global Industry Leaders

- **$250-million, 50/50 joint venture** between Dominion Energy & Smithfield Foods
- **Largest RNG partnership** in history
- **90 percent of Smithfield’s hog farms** in NC & UT over next 10 years
- **Carbon-negative fuel** – more GHG emissions captured from hog farms than released in end-use in homes & businesses
- **Around-the-clock renewable energy** – RNG generates power on-demand, 24/7, 365 days a year
Align RNG™ Initial Projects
Virginia, North Carolina & Utah

- Four initial projects will produce enough energy to **power 14,000 homes & businesses**
- GHG reductions equal to **taking 120,000 cars off the road or planting 14 million new trees**.
  - Initial projects in service **late 2019/2020**.
RNG Quality Exceeds Geologic Gas
>99 Percent CH4 After Processing
Corporate Sustainability Goals
Strong Market Demand for Clean, Renewable Natural Gas

Corporate Renewable Energy Buyers’ Principles:
Increasing Access to Renewable Energy

78 Companies
69 Million MWh of Demand for Renewable Energy
$7.8 Trillion in Market Cap

Bloomberg
Sprint
eBay
Volvo
Etsy
Microsoft
Berry
AMD
Hilton
Visa

3M
TD
Aviva
P&G
Gap Inc.
Equinix
VMware
Boston Scientific

Adobe
ARUP
Newell
Packard
Enterprise

3M
Pepsi
Genentech
Yahoo!

AT&T
Workday

Mars
Johnson & Johnson
Kellogg’s
Yahoo!

Cisco

www.buyersprinciples.org
Regulatory Partnerships
How Can Utility Commissioners Help?

As a trusted and knowledgeable voice, Utility Commissions can play an important role in RNG’s future success:

- Consumer education on benefits of RNG
- Broad policy support
- Consideration of RNG-specific tariffs
- Streamline interconnection policies to reduce cost and expedite project planning
Committee on Gas

Monday, February 11, 2019
Future of Heat
Renewable Natural Gas - A Straight “Trash” Talk

Sheri Givens – VP US Regulatory & Customer Strategy
NARUC Winter Policy Summit
February 11, 2019
Who We Serve

Gas and electric distribution company providing energy to 20 million customers in NY, MA, and RI.

We deliver **safe, affordable, reliable** and **sustainable** energy.
# Key Takeaways From Our 80x50 Pathway Modeling

Our 80x50 Pathway is ambitious and comprehensive, with implications for customers, communities, utilities, automakers, and policymakers.

## Power

<table>
<thead>
<tr>
<th>40% x 2030</th>
<th>80% x 2050</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ramp up renewable electricity deployment to achieve 67% zero-carbon electricity supply vs. 45% today</td>
<td>Zero carbon electricity system</td>
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<tr>
<td></td>
<td>Increase large-scale renewables</td>
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<tr>
<td></td>
<td>Inter-seasonal energy storage</td>
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<tr>
<td></td>
<td>New clean electricity options (gas + CCS, modular nuclear)</td>
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</tbody>
</table>

## Transport

<table>
<thead>
<tr>
<th>40% x 2030</th>
<th>80% x 2050</th>
</tr>
</thead>
<tbody>
<tr>
<td>Reach more than 10 million light-duty electric vehicles on Northeast roads (50% of all light-duty vehicles) vs. &lt; 75,000 today</td>
<td>More than 20 million light-duty vehicles (100% of the fleet)</td>
</tr>
<tr>
<td></td>
<td>Low-carbon heavy duty, rail, and off-road transportation</td>
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<tr>
<td></td>
<td>Reductions in vehicle miles traveled</td>
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</tbody>
</table>

## Heat

<table>
<thead>
<tr>
<th>40% x 2030</th>
<th>80% x 2050</th>
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</thead>
<tbody>
<tr>
<td>Double the rate of EE retrofits</td>
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<tr>
<td>Triple the rate of oil-to-gas heating conversions</td>
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</tr>
<tr>
<td>Transform the oil-to-electric conversion market (10X scale up)</td>
<td>Sustain thermal efficiency investment</td>
</tr>
<tr>
<td></td>
<td>Decarbonize natural gas supply for heating</td>
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<tr>
<td></td>
<td>Hybrid gas/electric heating</td>
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</tbody>
</table>
Renewable Natural Gas (RNG)

Current definition

• Pipeline-quality gas produced from biomass

Emerging / evolving definition

• Pipeline compatible gas derived from biomass or other renewable sources that has lower lifecycle CO₂e emissions than geologic natural gas.
• e.g. – Power-to-Gas, Methane Reforming
National Grid’s RNG Journey

1982
Staten Island Landfill – oldest operating RNG facility in the U.S.

2009
Newtown Creek Demonstration Project

2010
National Grid RNG Whitepaper

2011
AGA Nationwide RNG Whitepaper

2017
Standard Interconnection Guideline for all NY LDCs

2018
Facilitating interconnection for RNG producers, developing RNG offerings, R&D for new sources
Newtown Creek Demonstration Project

Partnership with NYC DEP to convert city’s largest wastewater treatment plant into a source of clean energy

- Processes 250 million gallons/day of wastewater
- Operational October 2019
- Inject enough RNG to heat 2,500 homes, reduce CO$_2$ emissions by ~16,000 metric tons
- Significant potential to increase RNG production if NYC food waste pilot project becomes permanent

Source: New York City Department of Environmental Protection
Challenges to RNG Development

1. POLICY & REGULATORY SUPPORT
   Regulators can work on valuing RNG used for heating

2. INTERCONNECTION
   Utilities and regulators can collaborate on guidelines

3. EDUCATION
   Utilities, regulators & developers can work together to raise awareness
Where Are We Going Next?

1. Develop new products – e.g. Green Gas Tariff

2. Connect customer driven biomass based projects – e.g. Interconnection Incentives

3. Grow RNG potential through demonstration projects
Committee on Gas

Monday, February 11, 2019
Renewable Natural Gas Credit Tracking System

Benjamin L. Gerber
Executive Director, M-RETS
NARUC 2019 Winter Policy Conference
Monday, February 11, 2019
Background

• Mission: M-RETS validates the environmental attributes of energy to serve as a trusted centralized gateway to environmental markets.

• Independent non-profit with a broad stakeholder board including regulators.

• M-RETS able to track in all states and provinces.

• Planned new functionality for 2019 includes hourly and peak level certificate data, RNG tracking, and renewable storage credits.
Why do REC tracking systems exist?

- **Generation**: REC systems prevent double counting for both generators and parties making claims.
- **Compliance**: Provide regulators with an independent, easy to use, and reliable source to verify compliance.
- **Liquidity**: Create a mechanism to manage holdings, effectuate transactions, disseminate data, and maintain claims.
Partner with the RNG community to build a web-based tracking system that both supports existing markets and establishes robust new markets through:

- increased market transparency
- higher level of integrity and assurance over paper attestations
- facilitation of transactions (both exchange-based and OTC), providing greater liquidity and enhancing the value of RNG
- scientifically validated carbon values to facilitate GHG reduction claims
EU RNG GO Scheme / Danish Biomethane

<table>
<thead>
<tr>
<th>BMGoO</th>
<th>Country</th>
<th>Registry</th>
<th>Plant</th>
<th>metering point</th>
<th>prodfromdate</th>
<th>prodtodate</th>
<th>timestamp</th>
<th>checkcharacter</th>
</tr>
</thead>
<tbody>
<tr>
<td>BMGoO = Biomethane GoO</td>
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<td>Country = Country Code (like AT, CH, DE, DK, FR, UK etc.).</td>
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<td>Registry = Biomethane registry, alias</td>
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<td>Metering point = Metering point, number</td>
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<tr>
<td>Prodfromdate = From date, date when injection of biomethane started</td>
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<tr>
<td>Prodtodate = To date, date when injection of biomethane ended</td>
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<td>Timestamp (of GoO created)</td>
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<tr>
<td>Check character: The check character can be based on a various number of previous characters used to ensure the validity of the ID. The principle of the check character is a standard for ID validation. The implementation of an algorithm for the calculation of the check character must be agreed mutually.</td>
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For each Biomethane Certificate, the following is registered:

1. CVR number of the Biogas Facility
2. Location of the Biogas Facility
3. Capacity of the Biogas Facility in kWh/year
4. Start-up date of the Biogas Facility
5. Type of the Biogas Facility
6. GSRN for Metering Point for Price Supplement
7. Issuing body
8. Date of issue
9. Country of issue
10. Identification number of certificate
11. Unit used in the certificate (1 MWh)
12. Production period for the Biomethane
13. Expiry date (12 months after date of production).
RNG Certificate – Data

- Generator #
- State/Province
- Facility Type (source(s) biogas)
- Day/Month/Year of Injection
- Month/Year Certificate Created
- Natural Gas Injection Point
- Volume (Dekatherms suggested)
- Unique Certificate Serial #
- Carbon intensity (CI) as measured in grams of carbon dioxide equivalent gases per megajoule of energy (gCO2e/MJ) and GREET carbon pathway
- Program Eligibilities (if any)
Important Market Dynamics

A modern registry platform works to support goals of regulators and those seeking to verify, certify, and/or market claims and builds trust between all parties. It should be flexible enough to accommodate:

- System compatibility – 1 system nationally
- Pass/fail vs. calculated carbon reductions
- Compliance markets (working with state & federal regulators) and voluntary markets (working with CRS on their Green-e Thermal program)
Why M-RETS?

- **Well-Established Relationships** – M-RETS maintains strong relationships with many state regulators
- **Industry Credibility** – A long track record in commodity tracking among clean energy stakeholders
- **Proven Platform** – Using the M-RETS platform saves high initial startup costs and ensures a stable rollout
- **Responsiveness** – In-house development staff
- **Business Model** – 501(C)(4) status allows M-RETS to focus resources on maintenance and improvements
- **Accepted Practice** – Similar market structures and complimentary processes between RECs and RNG justify using a system already trusted by regulators and market participants
THANK YOU

Contact: ben@mrets.org
Committees on Gas & Energy Resources and the Environment

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