Natural Gas Supply Chain Engagement: NGSC & NGSI

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M.J. Bradley & Associates ("MJB&A") is a multi-disciplinary team of experts with a long track record of advising industry, NGOs, and government agencies on energy and environmental policy, technology, and implementation. Our staff have backgrounds in law, engineering, finance, policy, and environmental science.

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- Oil and Gas Industry
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- Engineering and Technical Services

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- Execute on strategic policy initiatives
- Manage sustainability programs
- Develop market entry strategies for emerging technologies
- Evaluate investment opportunities
- Track state, regional, and federal energy and environmental initiatives
- Engage with stakeholders and communities
Increased Stakeholder Scrutiny of Natural Gas

Oil & Gas industry needs to do more on climate change: investors

DAVOS MAY 18, 2018 / 7:23 AM

LONDON (Reuters) - Sixty global investors on Friday called on the oil and gas industry to do more to tackle climate change, ratcheting up pressure on company boards ahead of several high profile annual shareholder meetings.

New Study Finds U.S. Oil and Gas Methane Emissions Are 60 Percent Higher Than EPA Reports

Smaller boroughs push back as fracking expands in Allegheny County

Hays Free Press News-Dispatch

Pipeline Protested: Citizens fight natural gas project

SANTA FE NEW MEXICAN

Bill would freeze fracking permits during impact study

By Rebeeca Moss rm@newmexicoun.com Feb 4, 2019

News-Dispatch
NRG Energy announced a goal to reduce supply chain carbon and water intensity 25 percent by 2025. A third-party study concluded that NRG’s largest impact areas per dollar of spend are related to fuels. The analysis led to a focus on addressing methane leakage in the natural gas supply chain given the growing importance of natural gas to NRG and the U.S. energy system.

A natural gas utility is developing its own estimates of producer methane emissions rates using publicly available data and educating its gas procurement team on the performance of its suppliers.

In September 2018, the Independent Energy Standards Corporation (IES) announced the first public transaction of natural gas certified through its TrustWell™ Ratings system, which focuses on water, air, land and community impact. The transaction occurred between Southwestern Energy Company and New Jersey Natural Gas. IES has since partnered with Xpansiv, Carbon Creek Energy, and East Coast Power & Gas to provide TrustWell™ certified natural gas.
Natural Gas Supply Chain Engagement

**Natural Gas Supply Collaborative (NGSC)**
Voluntary forum for companies interested in promoting safe and responsible practices for the supply of natural gas.

**Natural Gas Sustainability Initiative (NGSI)**
Overarching voluntary framework for the natural gas supply chain to recognize and advance innovative, voluntary programs.
Collectively, purchases of natural gas by participants for delivery or electric generation are equivalent to over 13% of U.S. marketed natural gas.

Overview
NGSC is a voluntary collaborative of natural gas purchasers promoting safe and responsible practices for natural gas supply.

Environmental and Social Performance Indicators
NGSC identified 14 key environmental and social (non-financial) performance indicators for natural gas production that reflect the perspectives of natural gas purchasers, are guided by the interests of customers and stakeholders, and highlight leading producer practices.

Additional information is available at: https://www.mjbradley.com/NGSC
NGSC Drivers and Benefits

Why are companies participating in the Natural Gas Supply Collaborative?

- To promote safe and responsible practices for the supply of natural gas.
- To respond to heightened interest in environmental and social practices used in natural gas production.
- To extend existing supplier sustainability efforts to include natural gas, a primary business input for NGSC participants.
- To encourage advances in the availability and accessibility of voluntarily-reported information on environmental and social practices related to natural gas production.

As key parts of the natural gas value chain, both producers and purchasers benefit from robust voluntary reporting on natural gas production practices.

Benefits to Producers:

- Identifying opportunities to improve performance through metrics
- Directly communicating metrics related to environmental and social topics
- Building transparency and trust with stakeholders

Benefits to Purchasers:

- Increasing understanding of natural gas supply
- Addressing stakeholder questions about environmental and social topics
- Supporting corporate sustainability goals
NGSC encourages natural gas producers to provide an accessible discussion of important environmental and social issues through company websites and voluntary reporting.

NGSC identified environmental and social performance indicators from existing voluntary reporting frameworks used by natural gas producers.

<table>
<thead>
<tr>
<th>Topic Area</th>
<th>Environmental and Social Performance Indicators</th>
</tr>
</thead>
<tbody>
<tr>
<td>01 Methane and Air Emissions</td>
<td>Methane Emissions (Total and Intensity)</td>
</tr>
<tr>
<td></td>
<td>Overall Methane Strategy</td>
</tr>
<tr>
<td>02 Water</td>
<td>Water Use (Total and Freshwater Intensity)</td>
</tr>
<tr>
<td></td>
<td>Freshwater Use Strategy</td>
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<tr>
<td></td>
<td>Well Planning and Integrity Strategy</td>
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<td></td>
<td>Wastewater Management Strategy</td>
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<tr>
<td>03 Chemical Use</td>
<td>Chemical Stewardship</td>
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<td></td>
<td>Chemical Management Strategy</td>
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<tr>
<td>04 Community and Safety</td>
<td>Measuring Community Engagement</td>
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<tr>
<td></td>
<td>Community Engagement Strategy</td>
</tr>
<tr>
<td></td>
<td>Contractor Performance Strategy</td>
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</table>
NGSC Public Resources

NGSC provides resources to support stakeholder engagement and improve public understanding of producer operations, practices and level of disclosure.

Natural Gas Production Data

NGSC maintains an interactive tool summarizing publicly-available data on onshore U.S. natural gas production.

Visit www.mjbradley.com/NGSC to access the public resources.

Voluntary Public Disclosures

NGSC maintains an inventory of voluntary public disclosures by the top 40 U.S. natural gas producers on environmental and social topics.
NGSC Stakeholder Engagement

NGSC serves as a platform for participants to engage with natural gas producers and environmental groups, and other key stakeholders.

Engaging with Producers

• Engage with natural gas producers about voluntary reporting around environmental and social performance indicators
• Present and discuss NGSC at industry events and conferences

Engaging with Environmental Stakeholders

• Engage with key U.S. and Canadian environmental NGOs for feedback on NGSC and materials

Engaging with New Players in Industry

• Maintain relationships with organizations promoting responsible natural gas certification programs and data-driven tracking of attributes throughout the value chain
An overarching framework to recognize and advance innovative, voluntary programs.

The NGSI framework is initially focused on methane emissions and will incorporate additional environmental, social, and governance topics over time.

The development of NGSI was initiated by a CEO Natural Gas Task Force organized by the Edison Electric Institute (EEI) and the American Gas Association (AGA).
EEI and AGA ESG/Sustainability Reporting Templates

To better serve customers and investors, EEI launched an environmental, social, governance, and sustainability-related (ESG/sustainability) reporting template, with the goal of helping member electric companies provide investors with more uniformity and better consistency for ESG/sustainability metrics. AGA developed a companion template.

Voluntary ESG/Sustainability Reporting Template

<table>
<thead>
<tr>
<th>Qualitative</th>
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</thead>
<tbody>
<tr>
<td><strong>ESG/Sustainability Governance</strong></td>
</tr>
<tr>
<td>Management and oversight of ESG/Sustainability,</td>
</tr>
<tr>
<td>commitment to safety (AGA Pilot), methane</td>
</tr>
<tr>
<td>mitigation strategy (AGA Pilot)</td>
</tr>
<tr>
<td><strong>ESG/Sustainability Strategy</strong></td>
</tr>
<tr>
<td>Practices, programs, and initiatives designed</td>
</tr>
<tr>
<td>to support the company’s transition to a lower</td>
</tr>
<tr>
<td>carbon and increasingly sustainable energy</td>
</tr>
<tr>
<td>future.</td>
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</tbody>
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<table>
<thead>
<tr>
<th>Quantitative</th>
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</thead>
<tbody>
<tr>
<td><strong>Portfolio</strong></td>
</tr>
<tr>
<td>An Excel-based data reporting template that is</td>
</tr>
<tr>
<td>customized to include metrics on owned and/or</td>
</tr>
<tr>
<td>purchased generation data by technology/resource</td>
</tr>
<tr>
<td>type, as well as other metrics related to capital</td>
</tr>
<tr>
<td>investments, emissions, and natural gas</td>
</tr>
<tr>
<td>human resources.</td>
</tr>
<tr>
<td><strong>Emissions</strong></td>
</tr>
<tr>
<td><strong>Resources</strong></td>
</tr>
<tr>
<td><strong>Natural Gas OpCo Metrics (AGA Template)</strong></td>
</tr>
<tr>
<td>An Excel-based data reporting template that is</td>
</tr>
<tr>
<td>customized to include metrics on methane</td>
</tr>
<tr>
<td>emissions and reduction strategies.</td>
</tr>
</tbody>
</table>

The current template does not address ESG/sustainability information for the natural gas supply chain, but the AGA Template includes gas metrics.
NGSI Conceptual Design for Methane Emissions

Program Elements

- Measure
- Disclose
- Recognize

Current Focus Areas

Objectives

- Encourage consistent approaches for measuring and tracking key metrics
- Support and encourage robust reporting across the industry
- Encourage environmental performance and sustainability leadership
- Provide cohesive framework for sustainability metrics throughout the natural gas supply chain
NGSI Guiding Principles

- NGSI participants are **committed to continuous improvement** to respond to customer and stakeholder expectations for **managing environmental and social issues** along the natural gas supply chain.

- **Building on existing voluntary programs**, NGSI is a voluntary framework to **expand and accelerate industry-wide actions** and recognize the collective benefits of these actions.

- NGSI supports individual companies’ voluntary efforts to manage environmental and social issues by **promoting consistent approaches** for measuring and reporting on key ESG topics and **recognizing industry leadership** across all segments.

- All NGSI participants’ supplier-related decisions are at the sole discretion of the individual companies. NGSI is focused on supporting companies through **common tools and metrics** to meet environmental and social objectives and promote continuous improvement.
Current Focus on Methane Emissions Intensity

- There is limited clarity and consistency on approaches for voluntarily calculating and reporting methane emissions intensity.
- **NGSI focuses on disclosure of methane emissions intensity, at the company-level for all segments supply chain.**
- NGSI seeks to work with participants to develop a consistent and transparent approach to estimate and report total methane emissions and natural gas throughput, and to calculate methane emissions intensity at the segment level.

Why use methane emissions intensity?

Emissions intensity is a measure of methane emissions relative to some measure of output. This measurement:

- Normalizes year-to-year fluctuations
- Tracks performance over time
- Compares performance between business operations
- Benchmarks performance
Key Questions and Next Steps

Segment Definitions
- Segment boundaries for the supply chain?
- Organizational boundaries (i.e. equity share or operational control of assets)?
- Protocol for allocating emissions to the natural gas value chain?

Methane Emissions Measurement / Estimation
- Sources of data for measuring / estimating emissions from specific sources?
- Units for measuring methane emissions?

Throughput Measurement / Estimation
- Sources of data for measuring / estimating throughput?
- Units for throughput?

Next Steps
April: Feedback on the Methane Emissions Intensity White Paper
Early May: Revised Methane Emissions Intensity White Paper
May: NGSI Approach to Methane Emissions Intensity Working Draft
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