



INGAA's Voluntary Methane Emissions Commitments

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Who is INGAA?



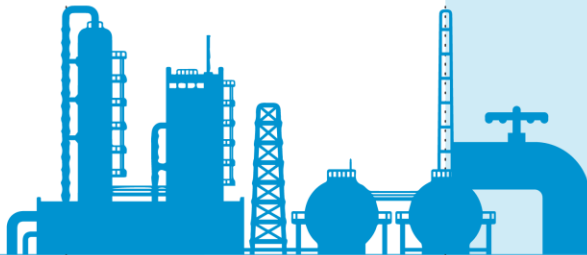
INGAA represents 28 member companies that operate interstate natural gas pipelines.

Production



27.3 Tcf
The amount of US natural gas produced by the end of 2014.¹

Processing



Purifying the gas
During processing, impurities and non-methane hydrocarbons are removed.

Transportation & Storage



300,000 miles
A vast, interconnected system of transmission pipes helps move gas from where it's produced to where it's used.

400 underground storage units
Natural gas is stored in depleted oil and gas reservoirs, aquifers, and salt caverns for future use.

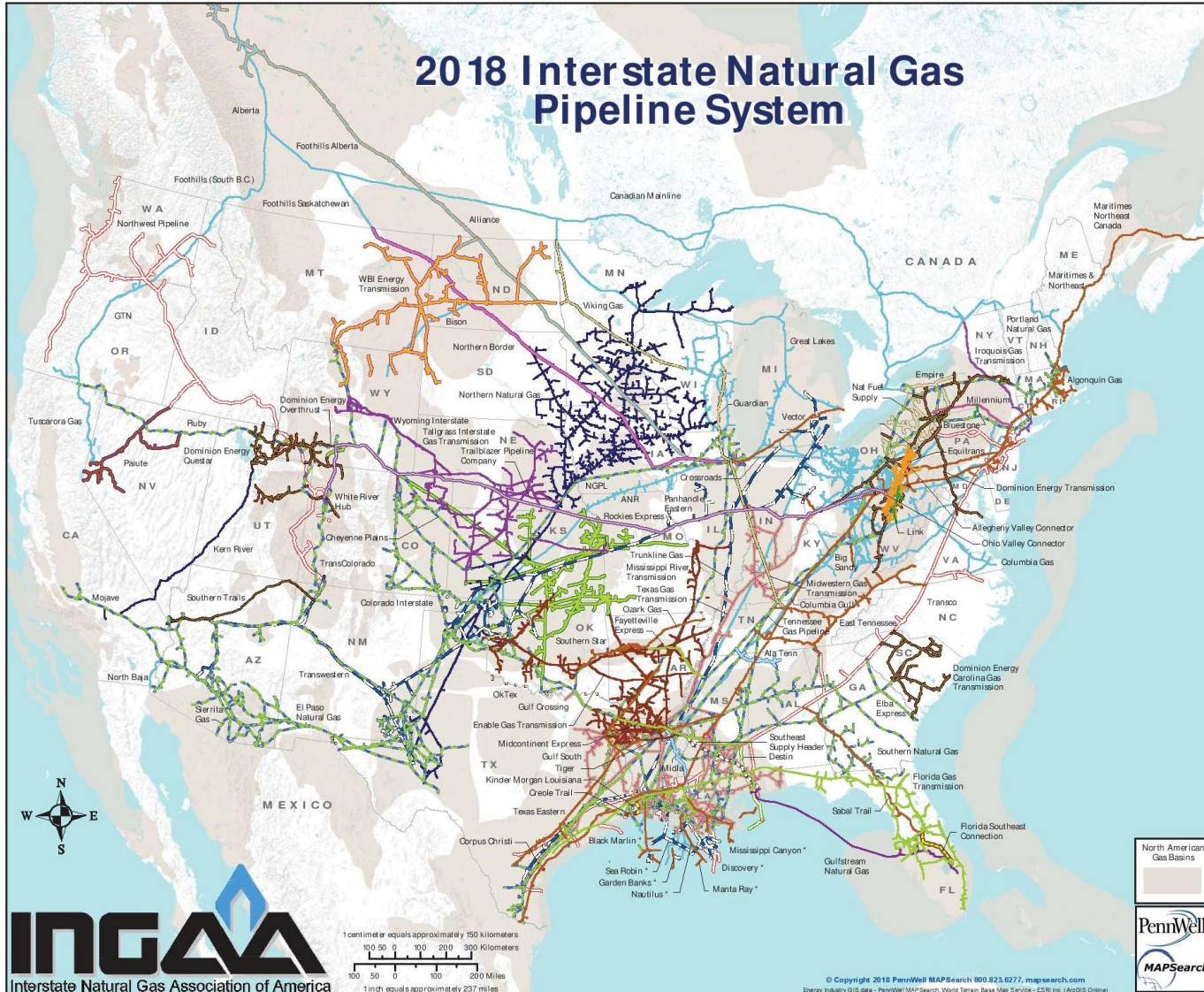
Distribution

- Residential
- Commercial
- Industrial
- Power plants
- Exports



More than **200 local gas companies** provide gas to over 68 million customers.

Interstate Natural Gas Pipeline System



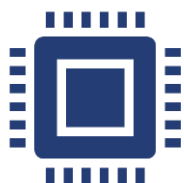
The transmission sector has a long history of working with EPA and PHMSA to reduce methane emissions



From 1990 – 2016, methane emissions from transmission and storage facilities **decreased by 44%** due to reduced compressor station and fugitive emissions, despite a 43% increase in U.S. natural gas consumption during the same time



PHMSA's 2016 Interim Final Rule on Underground Natural Gas Storage was a **collaborative effort** to develop practices to prevent and mitigate integrity breaches, leaks, and failures at natural gas storage facilities



INGAA members have been **encouraging PHMSA to adopt advanced inspection technologies** to reduce the need to blowdown pipelines

Sources of Methane Emissions from T&S



Compressor Stations

- Reciprocating compressors
- Centrifugal compressors
- Fugitive emissions
- Station venting

Pipeline Emissions

- Venting
- Fugitive emissions
- Incidents

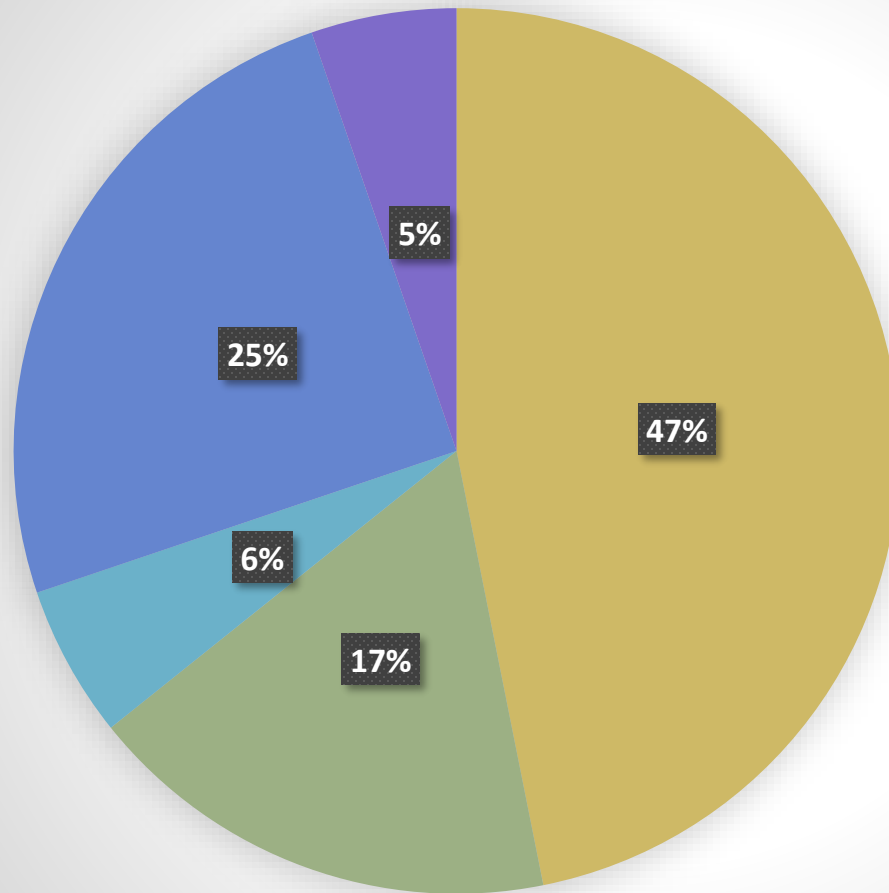
Pneumatic Device Emissions

- High-bleed controllers
- Low-bleed controllers
- Intermittent controllers

Natural Gas Storage Emissions

- Venting
- Compressors
- Fugitives

Sources of T&S Compressor Station Subpart W Emissions



- Reciprocating Comp
- Centrifugal Comp
- Other Leaks
- Blowdowns
- Pneumatics

(Avg. over 2011-2016)

Methane Emissions Commitments



- **July 2018** – INGAA board adopts voluntary methane emissions commitments
 - ✓ Minimizing emissions makes good business sense
 - ✓ Focus is on continuously improving practices to minimize methane emissions in a prudent and environmentally responsible manner
 - ✓ Need to maintain pipeline integrity, safe operations, and minimizing adverse customer and community impacts

Methane **Emissions Commitments** 

Members of the Interstate Natural Gas Association of America (INGAA) commit to continuously improving practices to minimize methane emissions from interstate natural gas transmission and storage operations in a prudent and environmentally responsible manner.

To further reduce methane emissions from natural gas transmission and storage facilities while maintaining pipeline integrity, safe operations and minimizing adverse customer and community impacts, INGAA member companies commit to the following:

- Pipelines & Pneumatic Controllers**
 - Minimizing methane emissions from natural gas pipelines and pneumatic controllers**
 - **Maintaining safe and efficient operations** while minimizing methane emissions from interstate natural gas pipelines during maintenance, repair or replacement (a practice commonly referred to as a "blowdown") by evaluating and implementing voluntary practices, such as those found in the U.S. Environmental Protection Agency's (EPA's) Natural Gas STAR Program.
 - **Selecting air-driven, low-bleed or intermittent pneumatic controllers** when installing new pneumatic controllers, unless a different device is required for safe operations. For existing high-bleed pneumatic controllers, INGAA members will evaluate the feasibility of replacing them with air-driven, low-bleed or intermittent controllers.
- Storage & Compressor Stations**
 - Minimizing methane emissions from natural gas storage wells and compressor stations**
 - **Minimizing emissions from natural gas transmission and storage compressor stations**, where practical, prior to conducting planned maintenance.
 - **Minimizing methane emissions from rod packing seals** on all reciprocating compressors at transmission and storage facilities. Member companies agree to replace rod packing on all transmission and storage reciprocating compressors by utilizing one of the following options: (1) a condition-based replacement approach; (2) replacing packing every 26,000 hours of operation; or (3) replacing packing 36 months from the date of the most recent rod packing replacement.
 - **Conducting leak surveys at transmission and storage compressor stations** to reduce emissions by evaluating leaks and taking corrective actions. INGAA member companies will perform leak surveys at all transmission and storage compressor stations owned and operated by INGAA member companies by 2022.
 - **Conducting leak surveys at all natural gas storage wells** owned and operated by INGAA member companies by 2025.
- R&D and Information Sharing**
 - Developing effective practices and sharing information**
 - **Reporting their methane emissions transparently**. INGAA member companies will also continue to collaborate within the membership and with other organizations on research and development (R&D) to identify effective practices to detect and reduce methane emissions. INGAA member companies are analyzing the data reported under EPA's Greenhouse Gas Mandatory Reporting Rule to improve this information and identify additional opportunities to reduce methane emissions.

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Methane Commitments



Pipelines & Pneumatic Controllers

- **Maintaining safe & efficient operations** while minimizing methane emissions from interstate natural gas pipelines during maintenance, repair or replacement
- **Selecting air-driven, low-bleed or intermittent pneumatic controllers** when installing new devices unless a different device is required for safe operations.

Natural Gas Storage & Compressor Stations

- **Minimize emissions** where practical, prior to planned maintenance
- **Minimize emissions from rod packing seals**
- **Leak surveys** at all T&S compressor stations by 2022 and natural gas storage wells by 2025

R&D and Information Sharing

- **Collaborate** within the membership and with other organizations on R&D
- **Analyze data** reported under EPA's GHGRP to identify areas of opportunity

Participation in Other Programs



Many INGAA member companies participate in other voluntary methane emissions programs as well, including:

- EPA's Natural Gas STAR
- EPA's Methane Challenge
- ONE Future