

INGAA CLIMATE REPORT:

Methane and GHG Emissions Performance

November 2025

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A MESSAGE FROM OUR PRESIDENT AND CEO

Natural gas remains the foundational energy source that is critical to powering businesses, heating homes, fueling data centers, and empowering American innovation, while also enhancing national security. Natural gas provides the consistency and stability needed to complement intermittent sources with its ability to ramp up quickly and efficiently, balancing supply and demand and ensuring a baseload of energy is available when we need it. Advancements in technology and industry practices are maximizing the environmental benefits of natural gas, making it integral to our efforts to reduce air emissions from energy sources.

In our third-year publishing membership-wide methane metrics, we report a continued trend of reducing total methane emissions and improving methane intensity in 2023 and 2024. We are proud of our members' efforts to continuously improve in this space, and INGAA remains committed to providing consistent and transparent data, measurement, and reporting of greenhouse gas emissions from operations to demonstrate our members' actionable progress toward achieving our shared goal of emissions reductions.

Notably, INGAA members in 2023 and 2024 exceeded [INGAA's GHG Emissions Commitments](#) for conducting leak surveys and repairs on pipelines and compressor stations, and maintaining safe and efficient operations while minimizing methane emissions from pipeline blowdowns. These successes are enabled by INGAA members' growing investment in cutting-edge technologies and the implementation of system-wide programs that allow for better monitoring, detection, and reduction of methane emissions from their operations.

In 2025, INGAA members continue to build upon natural gas infrastructure's role as a leader in emissions reductions. We do this because we know lowering emissions is not just good for the environment, it's good for business and it positions natural gas as a leader for years to come.



Sincerely,

A handwritten signature in blue ink, appearing to read 'A. Andryszak'.

Amy Andryszak

President and CEO of INGAA and the INGAA Foundation

KEY FINDINGS

This report presents a high-level snapshot of the state of emissions reduction and disclosure efforts within the segment of the natural gas industry responsible for the transmission and storage of natural gas between production and distribution. INGAA developed this report by collecting, aggregating, and sharing emissions data related to INGAA member company assets and showcasing our members' efforts to reduce emissions.

By transparently sharing methane emissions data, INGAA hopes to empower policymakers and stakeholders with information to make informed decisions. This openness fosters accountability and encourages industry innovations aimed at reducing methane emissions, ultimately guiding us toward further progress.

Total Methane Emissions & Methane Intensity

In this year's report, methane emissions from INGAA members' reported assets show a continued trend of year-over-year reductions —decreasing in 2023 and again in 2024.¹ This is a continuation of the downward trend we saw from 2021 to 2022. Methane emissions metrics from 2023 and 2024 (total methane as well as methane intensity) were calculated by an outside consultant² and are disclosed below. The process undertaken by our outside consultant³ was then verified for accuracy by a separate consultant. For the calculations, INGAA collected, reviewed, and aggregated 2023 and 2024 data from members' interstate pipeline assets and any intrastate assets for which members voluntarily applied [INGAA's GHG Emissions Commitments](#). This year's report shows three years of continuous improvement in reducing methane emissions and improving methane intensity.⁴



¹ For this report, INGAA collected two years of methane emissions data in an effort to align with the industry standard in corporate sustainability reporting, where emissions data from the prior calendar year is reported.

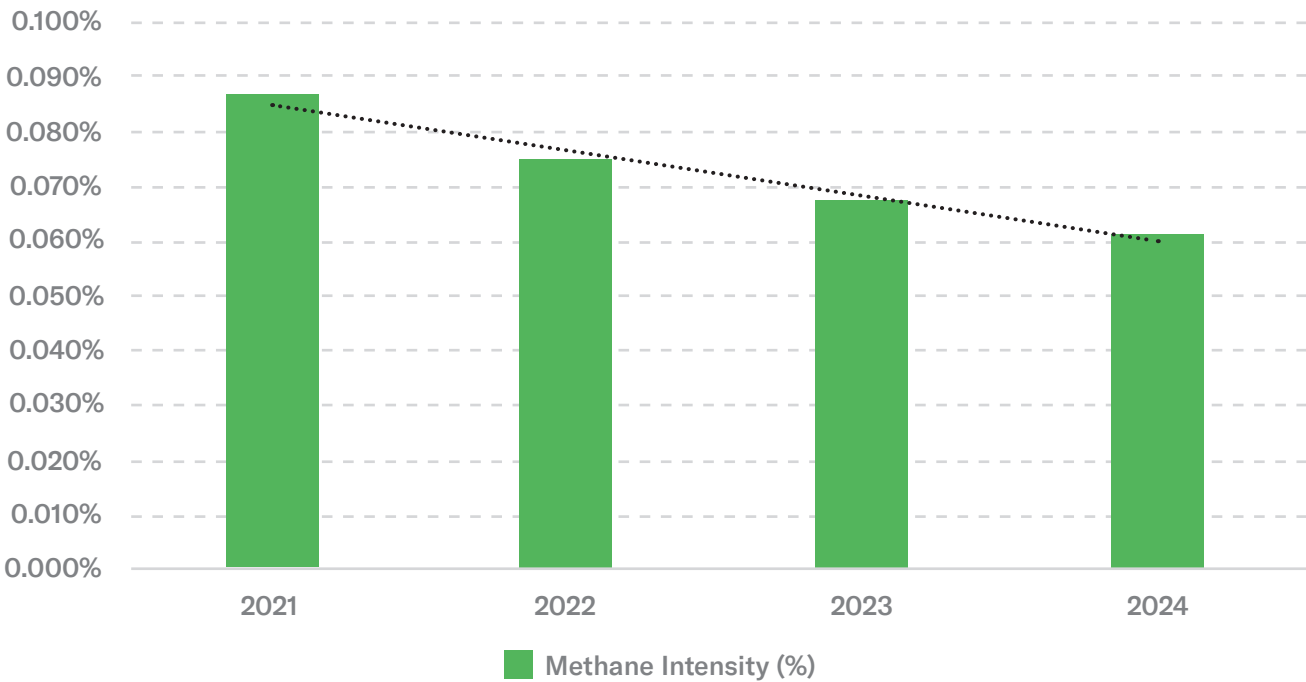
² INGAA utilized an outside consultant, Environmental Resources Management (ERM), to ensure the data collected from INGAA member companies was analyzed, complete, and consistent with INGAA's methane intensity protocol and scorecard methodology.

³ INGAA utilized an external consultant, Trinity Consultants, Inc. (Trinity) to verify the reported emissions metrics. Trinity applied the main elements and basic approach of a "Limited Assurance" verification based on the ISO 14064-3:2019 verification standard, Greenhouse Gases – Part 3: Specification with Guidance for the Verification and Validation of Greenhouse Gas Statements. Based on Trinity's review of INGAA's emissions metrics for 2023 and 2024, no discrepancies were identified in the final asserted emissions that would indicate that emissions calculations and equations supporting the emissions statements are not represented fairly in accordance with the relevant criteria.

⁴ See INGAA's [2023 Climate Report](#) for a detailed description of the development of INGAA's methane intensity methodology.

KEY FINDINGS

Year	2021	2022	2023	2024
Methane Intensity	0.087%	0.075%	0.068%	0.061%

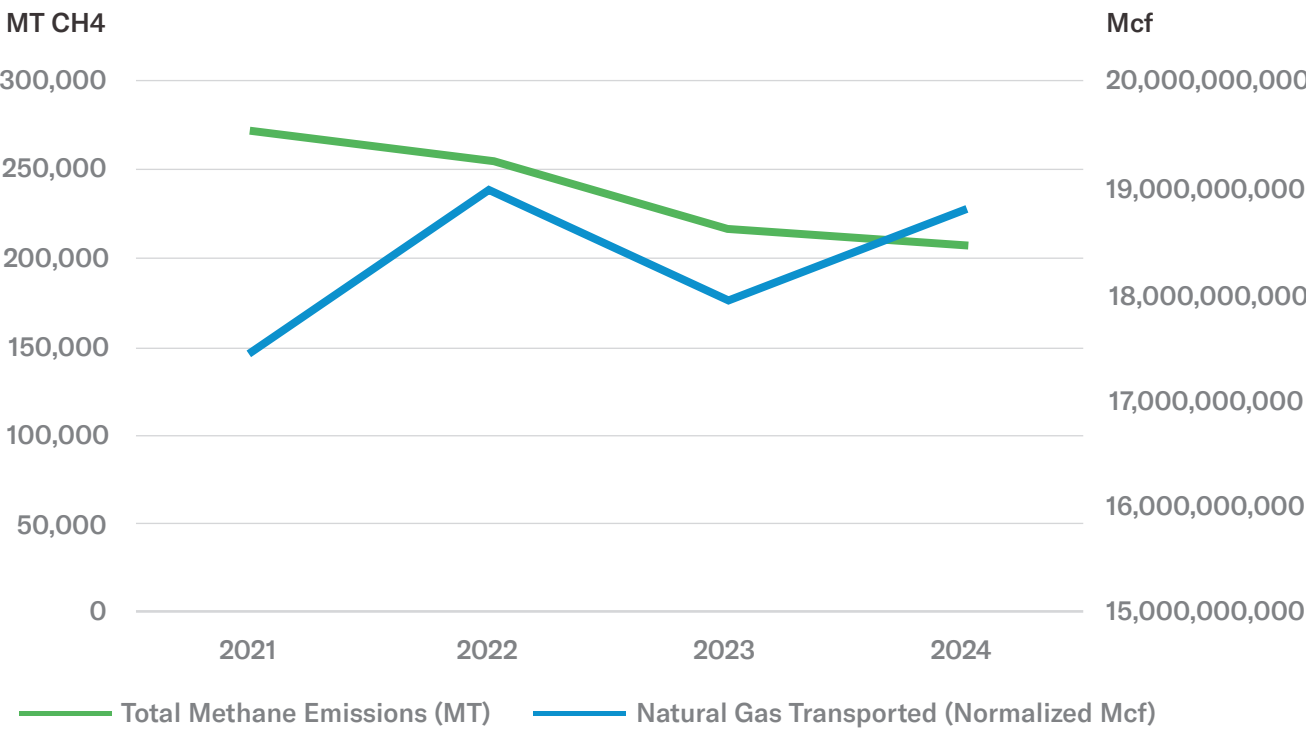


In 2023, INGAA members collectively⁵ had a methane intensity of 0.068%. That number indicates that of all INGAA member-reported assets, only 0.068% of the methane flowing through those pipes was released into the atmosphere. This means INGAA members are more than 99.9% efficient in the transportation of natural gas that warms homes and runs businesses. INGAA members’ methane intensity improved further in 2024 with a value of 0.061%, an improvement of roughly 10% year-over-year.

⁵ For further context, see the statement on page 6 explaining the percentage of national pipeline throughput and INGAA membership represented in these values.

KEY FINDINGS

Year	2021	2022	2023	2024
Total Methane Emissions (MT)	271,583	254,502	217,129	207,099



In 2023, and again in 2024, total methane emissions from INGAA members were less than 1% of the total methane emissions in the United States.⁶ The largest sources of methane emissions, according to INGAA member data, were transmission (pipeline and compressor station) blowdowns and venting, reciprocating compressor fugitive emissions, and centrifugal compressor emissions. This line chart shows that methane emissions from INGAA members from 2021 to 2024 decreased despite the increased throughput of natural gas through INGAA member assets. This reduction in emissions is due to the ongoing work of INGAA members to implement best practices and utilize technologies that reduce methane emissions.

Approximately 55% of interstate pipeline throughput in the United States⁷ is represented in this report, including data from 20 INGAA member companies.⁸


⁶ See EPA's Inventory of U.S. Greenhouse Gas Emissions and Sinks, 2022 for gross total methane emissions in the U.S. in 2022 which INGAA used as the basis of comparison. The 2023 Inventory was not utilized in this comparison because it had not been finalized prior to the release of this report.


⁷ The 55% figure is based on EIA throughput collected and national EIA throughput data publicly available.

⁸ Two member companies that reported in previous years did not report this year and two member companies were new to reporting this year. Additionally, two companies who reported separately in 2022 reported as one combined member company for this year's report due to acquisition. The outside consultant completed an analysis on potential impacts of this change in members reporting last year versus this year and did not find a significant impact on total emissions or throughput. The difference is less than 1% of INGAA totals, meaning there is no material impact at the INGAA-level.

GHG Scorecard

This report also analyzes INGAA members' progress in meeting INGAA's GHG Emissions Commitments. To assess our members' progress, INGAA developed a rating system based on eleven categories, assigned each Commitment one of the following ratings, and is now publishing those ratings in the following scorecard:

Rating	Description
 Exceeding Commitment	Based on member responses, commitment has not only been met, but member is taking actions to go above and beyond.
 Meeting Commitment	Based on member responses, the commitment has been met.
 Progressing on Implementation	Based on member responses, commitment has not yet been met, but progress is being made toward achieving the commitment.
 Commitment to be Implemented	Based on member responses, commitment has not yet been met and little progress has been made to this point.

GHG Scorecard	2021	2022	2023	2024
Pipelines - Leak Surveys & Repairs	 Meeting Commitment	 Exceeding Commitment	 Exceeding Commitment	 Exceeding Commitment
Stations - Leak Surveys & Repairs	 Meeting Commitment	 Meeting Commitment	 Exceeding Commitment	 Exceeding Commitment
Storage Wells - Inspections	 Meeting Commitment	 Meeting Commitment	 Progressing on Implementation	 Progressing on Implementation
Pipelines - Blowdowns	 Meeting Commitment	 Exceeding Commitment	 Exceeding Commitment	 Exceeding Commitment
Stations - Venting	 Meeting Commitment	 Meeting Commitment	 Meeting Commitment	 Meeting Commitment
Storage Wells - Emissions	 Progressing on Implementation	 Progressing on Implementation	 Progressing on Implementation	 Progressing on Implementation
Pneumatic Controllers	 Commitment to be Implemented	 Commitment to be Implemented	 Commitment to be Implemented	 Commitment to be Implemented
Stations - Rod Packing Seals	 Progressing on Implementation	 Progressing on Implementation	 Progressing on Implementation	 Progressing on Implementation
CO ₂ Reductions	 Commitment to be Implemented	 Commitment to be Implemented	 Commitment to be Implemented	 Progressing on Implementation
R&D	 Meeting Commitment	 Meeting Commitment	 Meeting Commitment	 Meeting Commitment
Information Sharing	 Exceeding Commitment	 Exceeding Commitment	 Exceeding Commitment	 Exceeding Commitment

The GHG Emissions Scorecard provides an average rating in each category of INGAA commitments for all INGAA members combined, with data weighted by member throughput.

Takeaways from the GHG Scorecard

The 2023-2024 Scorecard update shows progress across nearly every category.⁹ Over the two years, INGAA members made progress to **exceed** the commitment to conduct leak surveys and repairs on compressor stations, a result of INGAA members' focused efforts to address emissions across multiple priority areas. As a testament to this, members also continue to **exceed** the commitments to conduct leak surveys and repairs on pipelines, to reduce methane emissions from pipeline blowdowns, and to publicly share information on their GHG emissions.

INGAA members in 2023 and 2024 continued **meeting** commitments across several significant sources of methane emissions including station venting and research and development (R&D). In addition to the above, the industry's collective work to address CO₂ reductions continues, and the data showed some improvements in this category.

Our members are **progressing on implementation** across multiple other commitments, including rod-packing and storage well emissions. Through this process, the only category that has seen a decline in implementation is storage well inspections, which regressed in 2023. While the overall score regressed, several INGAA members are actually exceeding this commitment by conducting more frequent inspection and surveys, and by implementing continuous monitoring systems. All these areas will continue to be enhanced by the industry's information-sharing and R&D, where INGAA members are either meeting (R&D) or exceeding (information sharing) commitments.

REDUCING METHANE & CO₂ EMISSIONS FROM OPERATIONS

To achieve various emissions reductions targets being pursued by INGAA members, new technologies will have to be created and deployed. Today, there are several ways companies are working to reduce methane and CO₂ emissions from their operations and making marketed progress on shared climate goals, including:



Reducing blowdown emissions by lowering line pressure before conducting planned pipeline maintenance;



Replacing rod packaging at regular intervals on reciprocating compressors;



Routing compressor blowdown gas into a vent gas recovery system;



Identifying and replacing high-bleed pneumatic devices with low- or no-bleed devices; and



Conducting leak surveys along the pipeline, at compressor stations, natural gas storage wellheads, metering and regulating stations and taking corrective measures;



Assessing pipeline and storage integrity to detect potential defects and leaks that require corrective actions.

⁹ See INGAA's [2023 Climate Report](#) for a detailed description of the development of the GHG scorecard methodology.

Our members have made observable improvements in recent years and recognize there is still work to do. INGAA members, as part of their commitment to continuous improvement, are in the process of replacing older, higher-emitting equipment with current technologies and the latest management practices that will reduce methane emissions from pneumatic controllers. Members are also evaluating additional technologies to transport and utilize lower carbon fuels. In the coming years, we expect that there will be significant progress in reducing emissions from these sources.

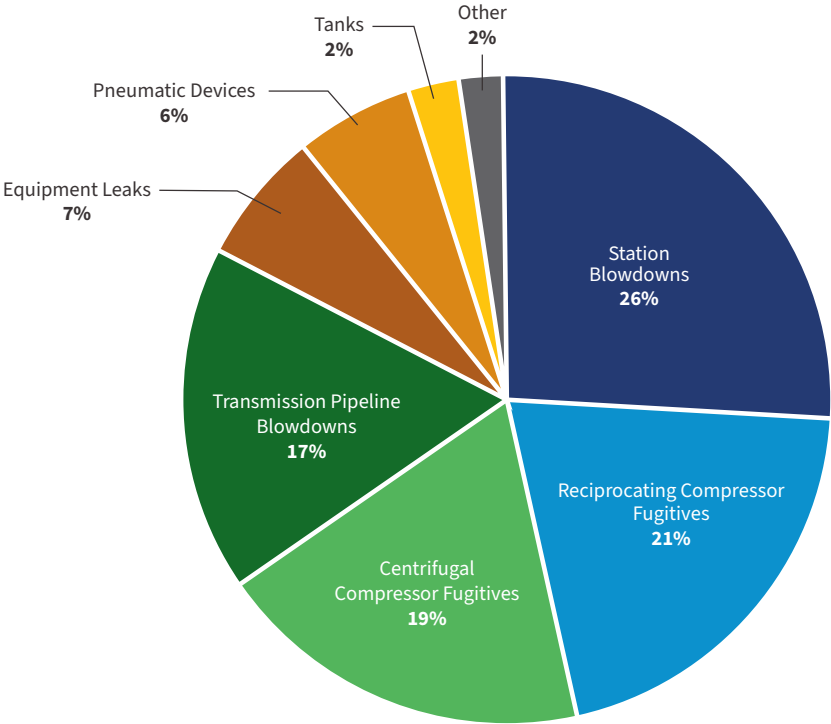


In 2024, **Williams Companies** reported 62 distinct blowdown events in which natural gas was redirected or captured and recompressed instead of being vented. As a result, Williams prevented 1.22 Bcf of gas from releasing into the atmosphere. This recovered gas is capable of powering more than 89,028 homes for a year and eliminated an estimated 662,920 metric tons of CO₂e emissions.¹⁰

The figure below represents the collective 2023 and 2024 INGAA membership emissions profile, demonstrating how our commitments are data driven and designed to address areas of greatest need for improvement. Together, the Total Methane Emissions and Methane Intensity metrics and updated GHG Scorecard testify to the dedicated effort on the part of our members to achieve emissions reduction goals and to be transparent and accountable for the industry’s emissions.

2023 and 2024 INGAA Members’ Methane Emissions Sources

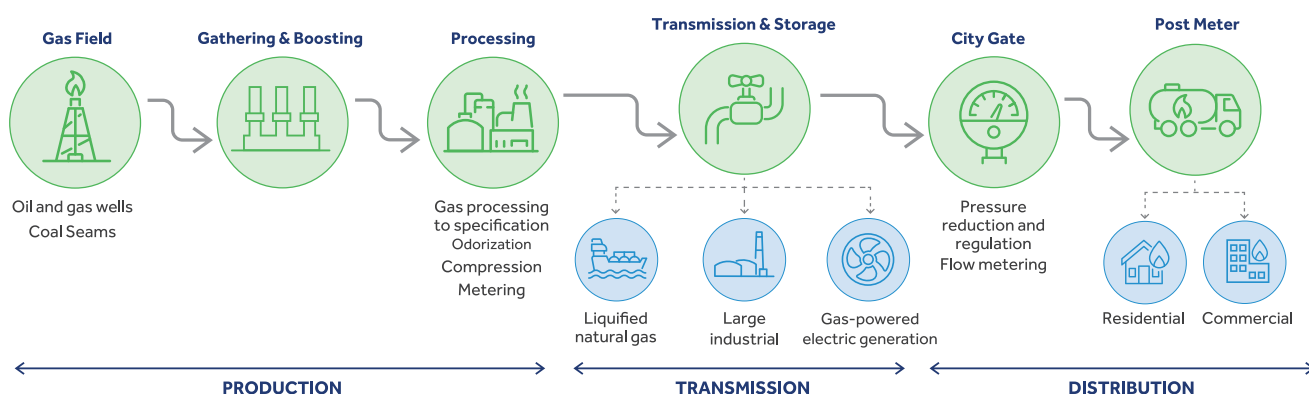
All sources of methane emissions captured in this pie chart are covered by INGAA’s GHG Emissions Commitments.



¹⁰ [Williams 2024 Sustainability Report](#), pg. 46

GHG EMISSIONS IN THE U.S. AND THE CONTRIBUTION OF NATURAL GAS TRANSMISSION & STORAGE

Natural Gas Supply Chain



The text (below) is adapted from EPA's *Inventory of U.S. Greenhouse Gas Emissions and Sinks, 1990-2022*.

The U.S. natural gas system encompasses hundreds of thousands of wells, hundreds of processing facilities, and over one million miles of transmission and distribution pipelines.

Exploration & Production: Drilling, testing, and completion enables withdrawal of raw gas from underground gas formations.

Gathering & Boosting: Boosting stations and gathering pipelines are used for this process. They receive natural gas from production and transfer it, through gathering pipelines, to transmission pipelines or processing facilities.

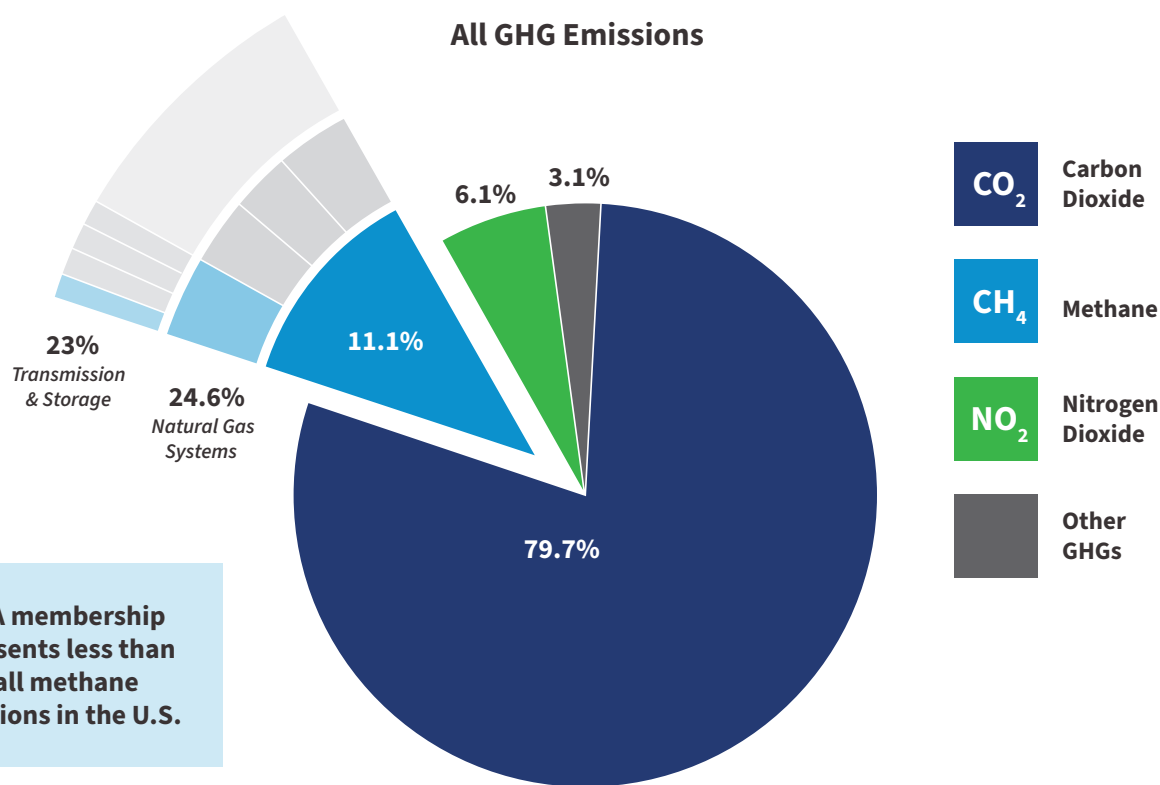
Processing: Natural gas liquids and various other constituents from the raw gas are removed, resulting in "pipeline quality" gas that is injected into the transmission system.

Transmission & Storage: Involves high-pressure, large-diameter pipelines that transport gas long distances from field production and processing areas to distribution systems or large volume customers such as power plants or chemical plants. Compressor station facilities are used to move the gas throughout the U.S. transmission system. Natural gas is also injected and stored in underground formations, or liquefied and stored in above ground tanks, during periods of low demand, and withdrawn, processed, and distributed during periods of high demand.

Distribution: Distribution pipelines receive the high-pressure gas from transmission pipelines at "city gate" stations, which reduce the pressure, and then distribute gas primarily through underground mains and service lines to individual end users.

Post-Meter: Includes residential and commercial appliances, industrial facilities and power plants, and natural gas fueled vehicles.

Methane Emissions from Natural Gas Transmission & Storage Sector



Graphic (above) developed from data in EPA Inventory of U.S. Greenhouse Gas Emissions and Sinks, 2022

In the United States, one-quarter of all methane emissions originate from the natural gas supply chain. Within the natural gas supply chain's emissions, transmission & storage assets represent 23%. Overall, INGAA membership represents less than 1% of all methane emissions in the United States.¹¹

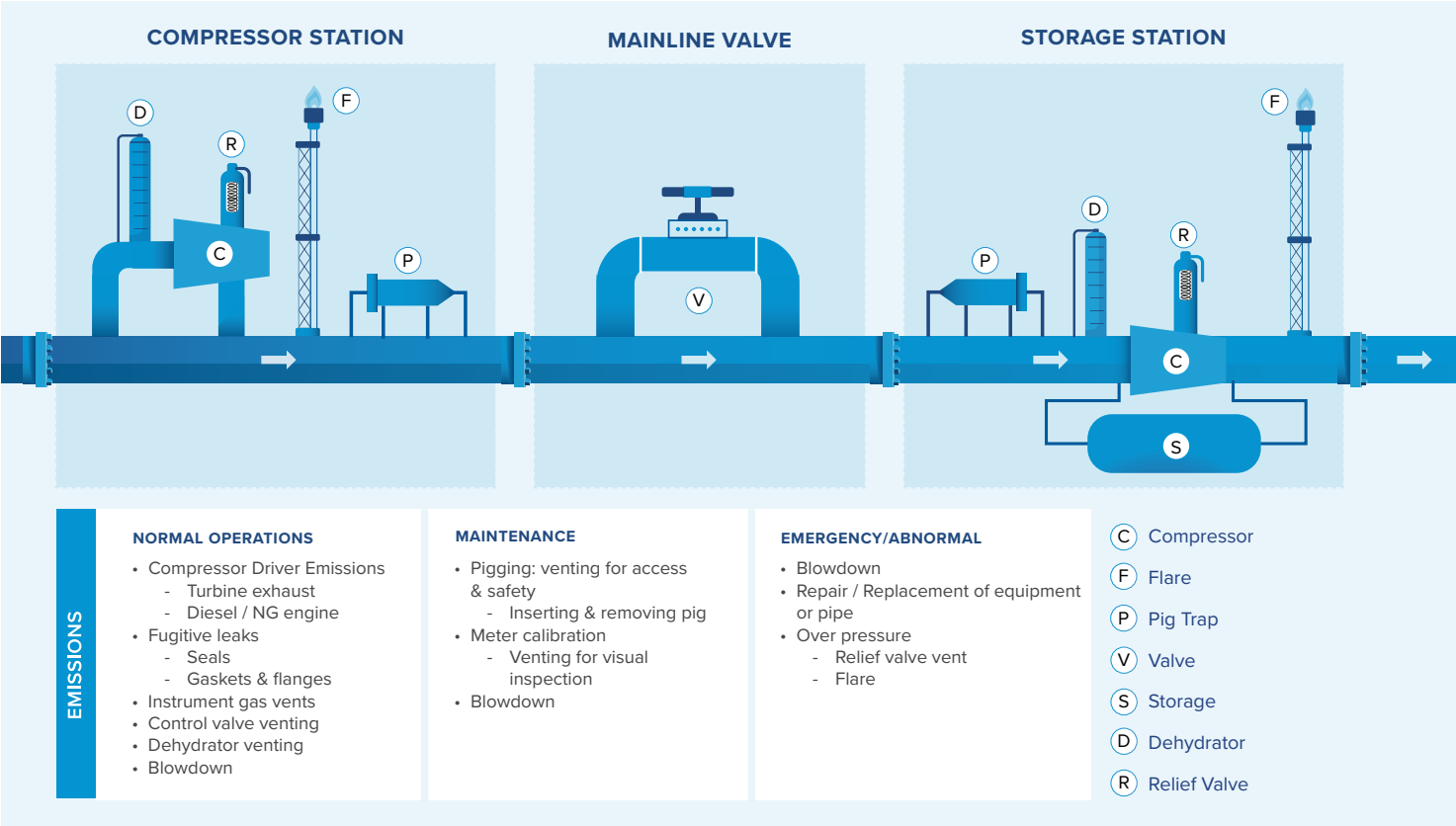
As the lowest carbon-intensive fossil fuel, natural gas represents the greatest opportunity to realize quick reductions of global emissions through the practice of fuel switching. According to the International Energy Agency (IEA), the largest emissions savings from coal-to-gas switching occurred in the United States due to the rise of shale gas, which pushed down natural gas prices and underpinned large-scale switching from coal to gas in the power sector, where emissions have dropped by 21% since 2010.

The IEA estimates that up to 1.2 gigatonnes of CO₂ could be abated in the short term by switching from coal to existing gas-fired plants, if relative prices and regulation are supportive. The vast majority of this potential lies in the United States and in Europe, where doing so would bring down global power sector emissions by 10% and total energy-related CO₂ emissions by 4%. On average, coal-to-gas switching reduces emissions by 50% when producing electricity, and by 33% when providing heat.

INGAA's methane metrics and GHG scorecard provide a candid look at the natural gas industry's work to minimize methane emissions from the transmission & storage sector. These actions, combined with other industry efforts, are essential to maximizing the environmental benefits of natural gas.

¹¹ See EPA's Inventory of U.S. Greenhouse Gas Emissions and Sinks, 2022.

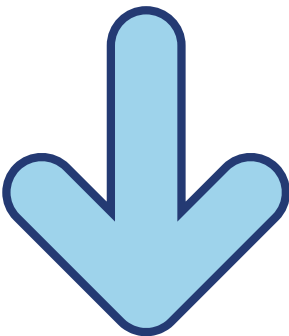
Where Methane Leaks and Venting Occur in the Natural Gas Transmission & Storage System



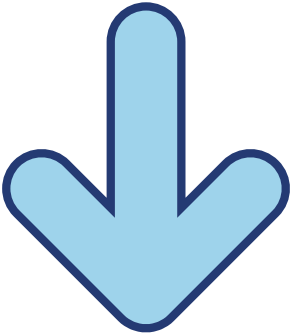
This infographic displays some of the common components of transmission & storage assets and the variety of ways that methane could be emitted from the system. While many of these occurrences are simply byproducts of normal operations of a natural gas pipeline, others can happen during preventative maintenance, and some are also a result of infrequent emergency procedures. The methodology developed to quantify INGAA members’ methane intensity captures the vast majority of these emissions sources. Further, the commitments made by INGAA focus on the larger sources of emissions (station/pipeline blowdowns and venting, reciprocating compressor fugitives, and centrifugal compressor dry seal fugitives) to drive progress towards emissions reductions.



In the years since INGAA issued its climate commitments (2019-2023), total annual methane emissions for transmission compressor stations reporting to EPA under Subpart W of the GHG Reporting Program



DECREASED BY
2.33 M
METRIC TONS



According to EPA’s GHG Equivalencies Calculator, this reduction is equivalent to:

REMOVING 542,629
PASSENGER VEHICLES FROM THE ROAD



OR



484,798 HOMES
ELECTRICITY USE FOR 1 YEAR

OTHER METHANE PROGRAMS, INITIATIVES, AND RESEARCH

Natural gas companies have reported GHG emissions on an annual basis to the EPA through the [Greenhouse Gas Reporting Program](#) (GHGRP) since its inception in 2009. The data provided by natural gas companies, and other reporting sources, is used in a variety of applications including the development of EPA's annual [Inventory of Greenhouse Gas Emissions and Sinks](#). Overall, the GHGRP and the Inventory are foundational resources that help the public, and natural gas companies, understand many of the sources and amounts of GHG emissions coming from reporting facilities.

While these resources are important, INGAA members recognize they are not fully representative of all emissions originating from natural gas transmission & storage operations. INGAA members are engaged in addressing this by participating in a variety of voluntary programs which are aligned with the organization's goals of quantifying GHG emissions and enabling natural gas companies to go above and beyond to reduce and eliminate GHG emissions. Several of these programs, initiatives, and research institutions are broadly adopted by INGAA membership and are outlined below.

Natural Gas Sustainability Initiative (NGSI)

[NGSI](#) is a voluntary, industry-wide approach for companies to calculate methane intensity by segment. In February 2021, NGSI released a [protocol](#) for calculating methane intensity for natural gas companies. This voluntary initiative was created through a collaboration between the Edison Electric Institute (EEI) and the American Gas Association (AGA) so that investors, customers, environmental groups, and other stakeholders know that a consistent and transparent methodology was used to calculate a company's methane intensity.

NGSI participants use the protocol to calculate and disclose total methane emissions (in metric tons) associated with the transmission & storage segment, total natural gas transported (thousand standard cubic feet), the methane content (as a percentage) of the transported natural gas, and the methane intensity (as a percentage).

INGAA supports NGSI's work to provide a standardized reporting framework. INGAA's total methane and methane intensity calculations are similar to NGSI's approach¹² and attempt to transition the company-level reporting in NGSI's protocol to an industry-wide scale. Reducing both intensity and overall emissions will be critical to the long-term success of natural gas.

¹² INGAA follows the NGSI protocol for the emissions portion of the intensity calculation. INGAA uses a different throughput methodology to avoid double counting of gas transmitted from one member company to another. INGAA used Version 1.0 of the protocol for this report. Version 2.0 was released September 2024, but INGAA elected to continue with Version 1.0 since members may not have had the data for both 2023 and 2024 due to the timing of the protocol update. Further, the only difference in the protocols for transmission & storage is that tanks for underground storage were added.



ONE Future Coalition members agree to segment-specific emissions intensity targets that inform a collective goal of reducing methane emissions associated with the production, processing, transmission, and distribution of the onshore U.S. natural gas value chain to 1 percent or less by 2025. Each industry segment's reduction target is determined by its proportional share of current emissions that can be abated cost-effectively. The 2025 ONE Future target for transmission & storage is 0.301%, and ONE Future members beat that goal with an emissions intensity of 0.081% in 2023.

INGAA member participants: BHE Pipeline Group, Boardwalk Pipelines, DT Midstream, DTE Energy, Enbridge, EQT, Kinder Morgan, National Fuel, NiSource, ONEOK, Southern Company Gas, Southern Star, Spire, TC Energy, and Williams.



PRCI is an association comprised of the world's leading pipeline companies and the vendors, service providers, equipment manufacturers, and other organizations that support the energy pipeline industry. Around the world, PRCI is recognized as a unique forum within the energy pipeline industry for delivering value through the development and deployment of research solutions to improve pipeline safety and performance.

Within its broad research portfolio, PRCI has established two key initiatives to address the issue of pipeline infrastructure GHG emissions.

GHG Emissions Strategic Research Priority

The first key initiative is the GHG Emissions Reduction Strategic Research Priority (SRP), established by PRCI to address these issues as a multi-year, multi-million-dollar initiative that expands upon many years of research in this arena. This SRP explores the areas surrounding analytic tools and data analysis; fugitive emissions surveys and mitigation; leak detection and quantification; incomplete combustion from reciprocating engines (methane slip); blowdown reduction through capture, recovery, and flaring; and efficiency improvements. The SRP was completed in 2025, and the results are available on the PRCI website (www.prci.org).

Emerging Fuels Institute

Established to solve technical challenges around the safe transportation and storage of hydrogen, renewable natural gas, and other fuels, the Emerging Fuels Institute (EFI) is the second key PRCI initiative that assists the industry in achieving net zero GHG emissions.

Together, INGAA and PRCI will continue to provide industry leadership to ensure the safety and integrity of current pipeline infrastructure vital for the transport and storage of today's fuels and the world's future needs.

Members of INGAA and PRCI: BHE GT&S, Boardwalk Pipelines, Enbridge, ExxonMobil Pipeline Company, Kinder Morgan, National Fuel, ONEOK, PG&E, TC Energy, and Williams Companies.

INGAA MEMBER PROJECTS & INITIATIVES

Through ongoing partnerships between companies, regulators, and policymakers, the natural gas industry will continue to advance its collective understanding of GHG emissions and identify additional opportunities to minimize and mitigate these emissions across operations.

INGAA members are pursuing efforts that will help lead the industry forward. As detailed throughout this report, INGAA member companies are working to reduce GHG emissions from transportation & storage operations with some companies setting specific net-zero targets as well as methane reduction and methane intensity goals. Beyond emissions reductions from operations, INGAA members are investing in other initiatives to support the growth of renewable natural gas (RNG), research into hydrogen as a zero-carbon fuel, building carbon capture, utilization and storage (CCUS) facilities, investing in projects for differentiated gas, and other efforts to ensure that natural gas continues to be a foundation for our energy economy.

Below are a few specific examples of efforts INGAA members and its affiliates are pursuing to reduce GHG emissions.



Methane Initiatives



Williams Sustainability Report 2024

In 2024, **Williams Companies** announced a new near-term climate commitment to lower CO₂e emissions intensity by 30% by 2028 against a 2018 baseline. This commitment aligns with their growth ambitions to transition the economy from higher carbon intensity fuels to natural gas as a decarbonization tool. To reach this goal, Williams will remain focused on key emissions reduction efforts, including enhancing operating efficiencies, investing in equipment modernization and adopting advanced technologies like satellite monitoring and real-time leak detection.¹³

Williams achieved the OGMP 2.0 Pathway to Gold Standard in 2024 as a result of their planning and efforts to enhance reporting to Level 4. Gold Standard is achieved when all assets with material emissions, where there are no restrictions on reporting, report at Level 4 and demonstrate efforts to move to Level 5 as defined by the UNEP. Williams' performance in transparency and planning toward achieving Gold Standard received external recognition in UNEP's International Methane Emissions Observatory (IMEO) 2024 Report. Williams set a methane intensity goal in 2024 in alignment with OGMP 2.0 membership requirements, to achieve a Scope 1 methane intensity of 0.0375% methane emitted per unit of methane throughput by 2028.¹⁴

¹³ [Williams 2024 Sustainability Report](#), pg. 38.

¹⁴ [Williams 2024 Sustainability Report](#), pg. 40.

Renewable Natural Gas

RNG provides a beneficial use of waste methane from other sectors, including from livestock and dairy farms, food waste, wastewater treatment digesters, and landfills, resulting in an impactful reduction in GHGs. Increasing the access to and use of RNG will provide carbon-neutral/potentially carbon-negative fuel through infrastructure that is largely already in place.

MEMBER HIGHLIGHTS:



PG&E's biomethane metering skid (left) ensures the validation of gas quality and the control of biomethane entering PG&E's pipeline network. It includes filtration, gas quality analysis, a rejection return for out-of-specification gas, precise measurement, and odorization.

Pacific Gas and Electric Company (PG&E) is expanding its Renewable Natural Gas (RNG) program with the aim of increasing RNG throughput throughout the pipeline system. Current sources of biomethane for PG&E's pipeline include organic materials such as food waste, manure from dairy farms, and biogas from landfills.

Currently, PG&E's system receives RNG through seven operational interconnections, with an additional seven scheduled by 2027. New biogas sources include waste-water treatment plants, woody biomass, and agricultural waste. Since the initial commercial injection of RNG in December 2021, throughput has surpassed 5.8 Bcf.

PG&E plans for renewable natural gas to make up 15% of its residential and commercial supply by 2030, as part of its strategy to reach net-zero emissions by 2040.¹⁵

¹⁵ See [PG&E's 2025 Corporate Sustainability Report](#) for further information about their RNG program, pg. 79.

Hydrogen

Hydrogen can be deployed as a fuel source that does not release CO₂ when combusted. The natural gas industry is currently evaluating the potential for hydrogen blending on the existing natural gas systems, providing a lower carbon fuel to consumers while utilizing existing infrastructure. Development of new hydrogen pipeline infrastructure may also be needed as the U.S. hydrogen market grows.

MEMBER HIGHLIGHTS:



Hydrogen Tiny Home



Hydrogen Blending Skid in Monaca, PA

One of **NiSource's** five strategic priorities is to expand their sustainable fuels business. They are focused on advancing opportunities associated with hydrogen, which can be blended with natural gas or used by itself and, potentially, distributed through their existing pipeline infrastructure.

In 2023, NiSource constructed a hydrogen blending skid at Columbia Gas of Pennsylvania's state-of-the-art training center in Monaca, Pennsylvania. This multiphase project allows the controlled blending of hydrogen with natural gas at a rate ramping up to 20% hydrogen. This project also allows NiSource to conduct trials on piping, appliances, and materials that replicate field scenarios. It also will help their employees understand the impact of using hydrogen in the existing infrastructure from safety, customer experience, and employee standpoints. The results of these field trials, which continued in 2024, will assist NiSource in determining hydrogen's role in their decarbonization program. Their initial data and results – along with those produced across the industry – predict promise for hydrogen in the future.¹⁶

¹⁶ [NiSource 2024 ESG Report](#), pg. 18.

Carbon Capture, Utilization & Storage

CCUS technologies offer the potential to reduce combustion CO₂ emissions from natural gas infrastructure and end use by capturing, transporting and storing those emissions before they are released into the atmosphere.

[According to the International Energy Agency](#), 45 commercial CCUS facilities are currently in operation for industrial processes, fuel transformation, and power generation. While implementation of CCUS slowed compared to expectations, significant investment in recent years has led to a surge in interest and deployment of this technology.

MEMBER HIGHLIGHTS:



Enbridge believes carbon capture and storage is a critical decarbonization technology that will be required to support hard-to-abate sectors in meeting their goals. Enbridge's Open Access Wabamun Carbon Hub is under development north and west of Edmonton, Alberta. The Wabamun Hub is positioned to support industry in Edmonton and Alberta's Industrial Heartland with CO₂ transportation and storage and to serve nearby projects, such as the Heidelberg Materials' CO₂ capture project at its proposed cement plant. Once built, local Indigenous groups will have the opportunity to co-own an interest in the hub's CO₂ transportation and storage infrastructure. Projects like the Wabamun Hub are being developed across North America to help support the decarbonization of industries like cement, power generation, steel, petrochemicals, hydrogen production, and oil and gas production and refining.¹⁷

¹⁷ [Enbridge 2024 Sustainability Report](#), pg. 25.

Differentiated Gas

Differentiated gas is natural gas that has been independently verified to have undergone certain environmental best practices. Depending on the program, differentiated gas verifiers evaluate several attributes of natural gas including whether the gas falls below a certain threshold for methane intensity and whether best practices have been utilized to mitigate methane emissions, reduce community impacts, and limit environmental impacts to water resources.

Differentiated gas allows operators and buyers to distinguish their natural gas in response to market demands, regulatory pressure, or community input, and enables purchasers to select natural gas that meets certain environmental standards.

MEMBER HIGHLIGHTS:



EQT Transmission Compressor Station

EQT Corporation has certified a majority of its natural gas production under both the EO100™ Standard for Responsible Energy Development, which focuses on environmental, social, and governance (ESG) performance, and MiQ methane standard. EQT's certified natural gas production now comprises 4.5% of all natural gas produced in the U.S., making EQT not only the nation's largest natural gas producer, but also the nation's largest producer of certified natural gas. The certifications provide a transparent, verified method for tracking EQT's ESG commitments, which include achieving net zero Scope 1 and 2 greenhouse gas (GHG) emissions and reducing EQT's methane intensity by 65% by 2025.

Additional Initiatives

INGAA members invest in additional initiatives like solar power installations, environmental performance indicators for staff compensation, and carbon offset purchases to reduce the climate footprint of the natural gas transmission & storage sector.

ABOUT INGAA



Interstate Natural Gas Association of America

INGAA member companies transport more than 95% of the nation's natural gas through approximately 200,000 miles of interstate natural gas pipelines. In 46 of the lower 48 contiguous states, INGAA member companies operate more than 5,400 natural gas compressors at more than 1,300 compressor stations and storage facilities along the pipelines that transport natural gas to local gas distribution companies, industrial end-users, gas marketers, and gas-fired electric generators. This network includes over 3,500 stationary natural gas-fired reciprocating engines, 1,500 combustion turbines, and 300 electric motors that drive the compressors.

INGAA Membership:





INGAA CLIMATE REPORT:
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