

Protecting the Environment

Methane Emissions Reduction Appendix

Since 2010, Dominion Energy has prevented potential methane emissions from entering the atmosphere by replacing infrastructure, improving processes and systems, pursuing a wide range of voluntary initiatives, investing in innovation, and striving towards best-in-class technical excellence. These cumulative savings efforts have resulted in preventing 307,200 metric tons of methane from entering the atmosphere, which is equivalent to taking 1.7 million non-EV cars off the road for a year, or planting approximately 127 million new trees.



Dominion Energy Methane Savings (Since 2010)

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(metric tons) of methane from entering the atmosphere since 2010

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While these savings are a testament to Dominion Energy's efforts over the last decade, it is also important to explore methane emissions reductions (a comparison of actual emissions year to year) resulting from Dominion Energy's focus and work toward our Net Zero goal.

In 2020, the company continued to strategically reposition itself to focus on its state-regulated, sustainability-focused utility operations. Following the sale of the majority of our gas transmission and storage assets to Berkshire Hathaway Energy (BHE) in 2020 and the announced 2021 sale of the Questar Pipeline assets, the company adjusted the reporting of natural gas metrics to compare progress towards our Net Zero target with our post-divestment asset portfolio.

Given this approach, in 2020 Dominion Energy has reduced methane emissions from its natural gas infrastructure business by 32 percent (from a 2010 baseline).

In the interest of transparency, Dominion Energy completes a comprehensive annual corporate inventory of emissions that includes sources not required to be reported by EPA and, for 2020, included divested assets for the period of ownership. This appendix provides additional detail on our 2020 corporate inventory of methane emissions.

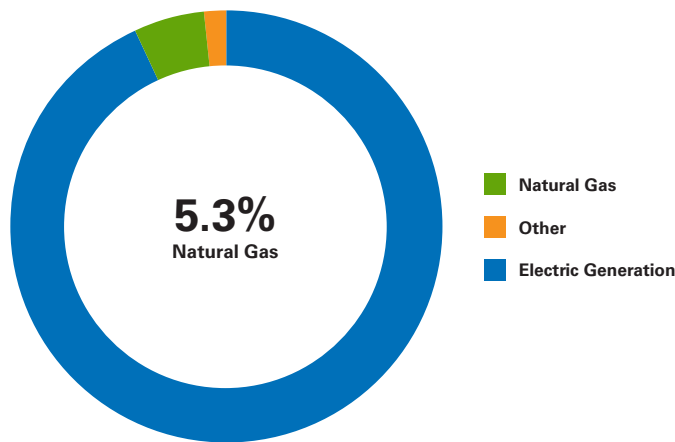
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Understanding Methane Emissions and Sources

Methane Emissions in the U.S.

In the United States, methane emissions make up approximately 10 percent of all greenhouse gas emissions. Agriculture is the country’s largest source of methane, accounting for approximately 38 percent — mostly from manure and the natural digestive process of livestock. The natural gas industry contributes approximately 22 percent of U.S. methane emissions, or approximately 2.1 percent of the national total of carbon dioxide equivalent (CO₂e) emissions.

Figure 1: 2020 Dominion Energy CO₂e Emissions^{1 2 3}



Methane Emissions in Dominion Energy’s Natural Gas System

The primary sources of methane emissions from Dominion Energy’s natural gas system are: pneumatic devices, gas venting from maintenance and inspection activity; minor releases from specific infrastructure and equipment such as uncoated vintage pipe, valves, and fittings; and, small releases from facilities and metering and regulation stations.

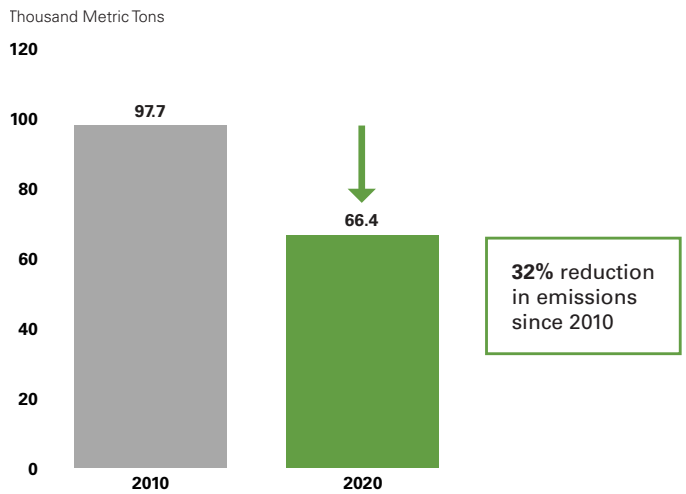
Each of these emission sources is subject to a variety of state and federal regulations, and Dominion Energy maintains programs to ensure strict compliance.

As shown in **Figure 1**, as a share of Dominion Energy’s total carbon dioxide equivalent, or CO₂e, emissions (including methane and carbon) from all electric generation and natural gas operations in 2020, the company’s natural gas business accounted for 5.3 percent of emissions.

Methane Emissions Reductions Progress-to-Date

In 2020, Dominion Energy reduced methane emissions from its natural gas infrastructure business by 32 percent when compared to 2010. **Figure 2** shows 2010 baseline emissions and 2020 emissions.

Figure 2: Methane Emissions from Natural Gas Operations Corporate Inventory^{2 4}



¹ Of the 5 percent of Dominion Energy’s CO₂e emissions from Natural Gas, approximately 4.6 percent was methane and 0.6 percent was from CO₂. CO₂e emissions include carbon dioxide and methane only.
² Excludes divested gas transmission and storage assets sold to Berkshire Hathaway Energy in 2020 and the announced sale of Questar Pipeline assets to Southwest Gas in 2021.
³ “Other” refers to Cove Point, for which Dominion Energy has 50 percent ownership but no operational control.
⁴ Dominion Energy has re-evaluated its methane emissions in light of acquisitions and divestitures. This included a more detailed inclusion of assets in calculations related to the 2010 baseline and reductions over time.

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How Methane Emissions Are Reported

Because EPA’s reporting requirements exclude emissions from some minor equipment and in the interest of transparency, in 2018 Dominion Energy voluntarily adopted our own corporate inventory, which includes additional emissions sources and alternative calculation methodologies. **Figure 3** shows Dominion Energy’s EPA-reported methane emissions from 2011 to 2020 by subsidiary.

Dominion Energy continues to push for even greater transparency and accountability by integrating new, more representative methods and more comprehensive methane source inventories. **Figure 4** shows the company’s corporate inventory of methane emissions as compared to the inventory of emissions required to be reported to EPA for 2020.

Figure 4: Dominion Energy Methane: EPA-Reported vs. Corporate Inventory for 2020^{5,6}

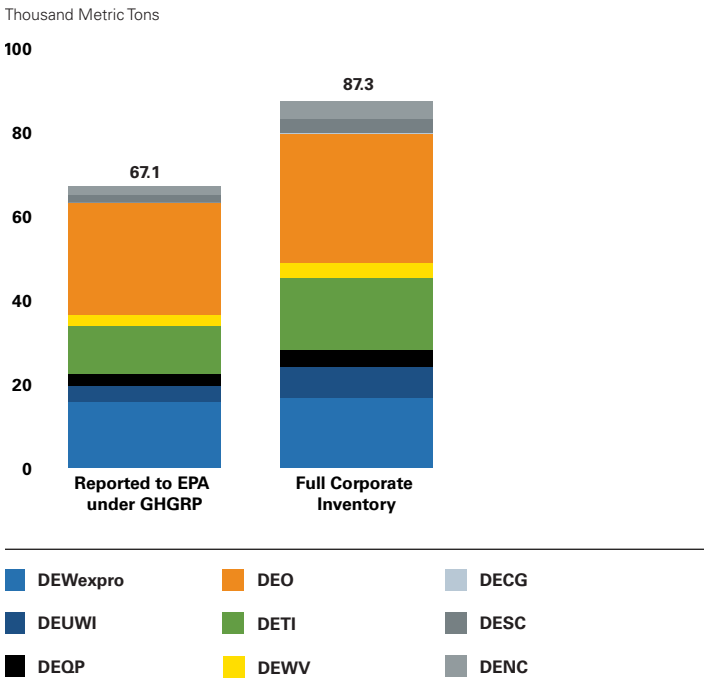
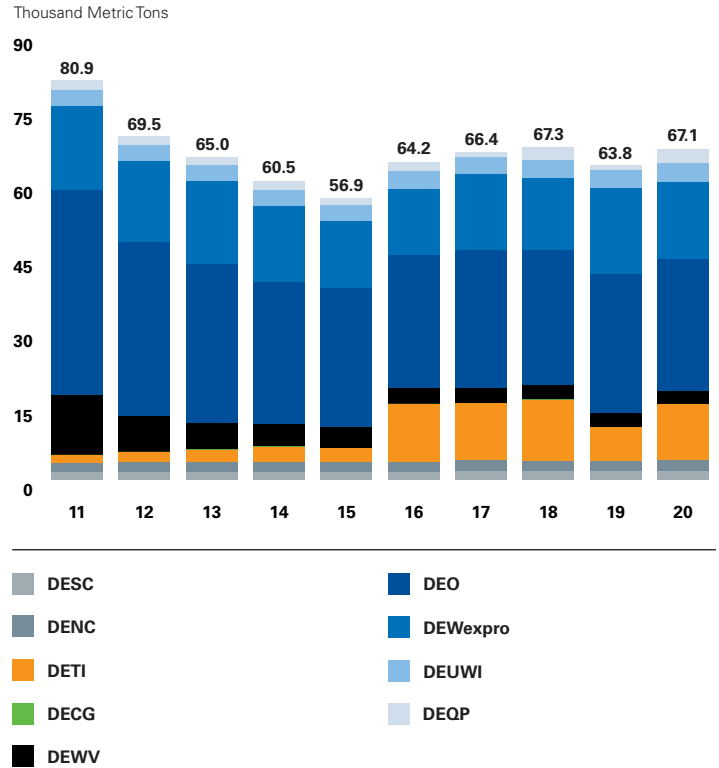


Figure 3: Methane Emissions Reported to EPA by Subsidiary⁵

Additional information on the emissions reported to the EPA under the GHGRP, including station-by-station information, can be found at: <https://ghgdata.epa.gov/ghgp/main.do>.



¹ Transmission Pipeline and Gathering & Boosting added as EPA reporting segments in 2016.
² 2019 (DEO) and 2018 (DEQP) was first year TPL reported under EPA’s GHGRP, prior years were below the reporting threshold.

In addition, Dominion Energy reports emissions on a rate or intensity basis. Emissions rates are measurements of methane emissions as a percentage of the total amount of gas that travels through the Dominion Energy gas delivery chain. **Table 1** and **Figure 5** provide updated methane emissions and emission rates for Dominion Energy’s natural gas assets based on the company’s corporate inventory. In 2020, Dominion Energy’s methane emissions rate across our entire natural gas infrastructure system was 0.100 percent.

⁵ EPA reported emissions include BHE assets and DEQP full year emissions for 2020 as required by EPA.

⁶ The full corporate inventory includes DEQP full year emissions. BHE assets and DEWexpro Marathon are included for the time of ownership in 2020.

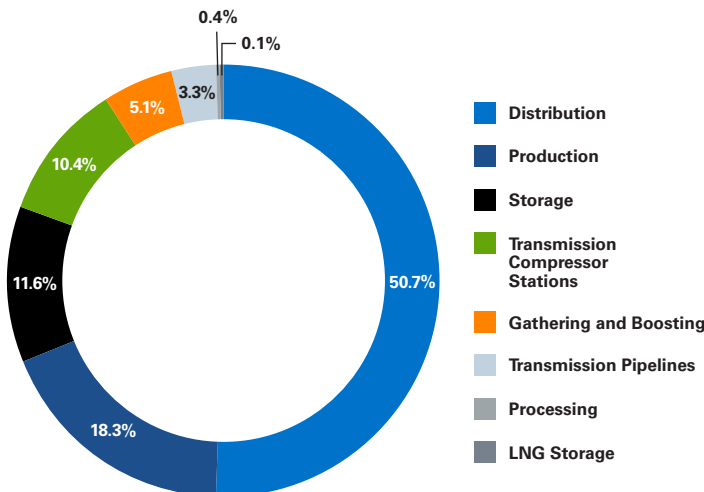
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Table 1: 2020 Emission Rates from Dominion Energy's Natural Gas Operations

Natural Gas System Segment	Total Corporate Methane Emissions (mcf CH ₄)	Total Gas Throughput (mcf CH ₄)	Methane Emission Rate %
Production	830,728	47,258,572	1.758%
Gathering & Boosting	230,137	349,660,102	0.066%
Processing	19,724	33,535,395	0.059%
Transmission and Storage	1,150,608	3,191,627,418	0.036%
LNG Storage	4,830	203,102,282	0.002%
Distribution	2,303,625	699,156,246	0.329%
Total	4,539,652	4,524,340,015	0.100%

This data reflects Dominion Energy facilities and emissions calculated using more stringent methodology for corporate inventory reporting. Segments are consistent with EPA GHG Part 98 Subpart W definitions. Values reported are based on measurements of standard cubic feet of methane. Production, Gathering & Boosting, and Processing throughput calculated following ONE Future Coalition Protocol. Transmission and Storage, LNG Storage, and Distribution throughput calculated based on data from Form EIA-176. Compressed Natural Gas (CNG) is not included above. The CNG segment is not included in Part 98 nor is it included in industry protocols such as ONE Future. This table includes DEQP full year emissions. BHE assets and DEWexpro Marathon are included for the time of ownership in 2020.

Figure 5: Dominion Energy 2020 Methane Emissions by Segment (percent)^{7 8 9}



⁷ Methane emitted by the company's electric generation operations is less than 15 percent of total methane inventory for the natural gas businesses.

⁸ CNG <0.1%.

⁹ The full corporate inventory includes DEQP full year emissions. BHE assets and DEWexpro Marathon are included for the time of ownership in 2020.

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Dominion Energy's Methane Emission Savings Initiatives

Dominion Energy has been a founding member or leading participant in several landmark methane emissions savings and benchmarking initiatives, including the EPA's Natural Gas Star (NgSTAR) Program, the EPA's Methane Challenge Program, the ONE Future Coalition, and the Natural Gas Sustainability Initiative (NGSI).

Natural Gas STAR and Methane Challenge Methane Savings by Business Unit

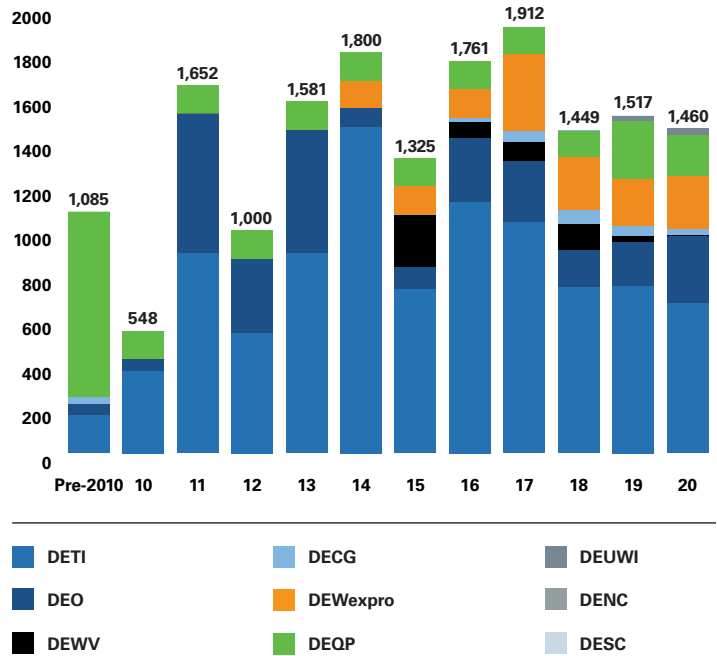
Figure 6 shows annual methane emission savings credits calculated under the NgSTAR and Methane Challenge Programs for Dominion Energy's natural gas businesses, as well as additional savings. Copies of the full reports showing methane emission savings and cumulative credits attributed to Dominion Energy for each NgSTAR and Methane Challenge Report will be available at the links below, once the reports are published by EPA.

EPA Partner Profile websites which include Dominion Energy's annual reports under the Methane Challenge Program:

- DEUWI: <https://www.epa.gov/natural-gas-star-program/dominion-energy-utah-wyoming-and-idaho-methane-challenge-partner-profile>
- DEO & DEWV: <https://www.epa.gov/natural-gas-star-program/dominion-energy-west-virginia-and-dominion-energy-ohio-hope-gas-inc-and>
- DEWexpro: <https://www.epa.gov/natural-gas-star-program/dominion-energy-wexpro-methane-challenge-partner-profile>
- DECG: <https://www.epa.gov/natural-gas-star-program/dominion-energy-carolina-gas-transmission-llc-methane-challenge-partner>
- DETI: <https://www.epa.gov/natural-gas-star-program/dominion-energy-transmission-inc-methane-challenge-partner-profile>
- DEQP: <https://www.epa.gov/natural-gas-star-program/dominion-energy-questar-pipeline-methane-challenge-partner-profile>

Figure 6: Annual Methane Savings Achieved^{10 11}

Million Cubic Feet of Methane Saved



¹⁰ Emissions for these initiatives are based on the full corporate inventory which includes DEQP and BHE assets for the time of ownership in 2020 (BHE is DETI and DECG).
¹¹ In addition to including voluntary savings beyond those from NgSTAR and Methane Challenge programs, minor updates to previous year savings were identified through data verification and have been incorporated for additional accuracy.

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EPA’s voluntary methane reduction programs, NgSTAR Program and the Methane Challenge Program, have provided a platform where proactive and progressive natural gas companies can voluntarily report methane emissions reductions from their operations through implementation of best management practices (BMPs), as well as progress towards commitments made under the Methane Challenge. **Table 2** lists several of the most successful BMPs implemented by Dominion Energy under the NgSTAR Program, Methane Challenge Program, and most recently through Dominion Energy’s internal methane emissions reduction commitments.



Table 2: Dominion Energy Best Management Practices for Reducing Methane Emissions

Capped Emergency Shutdown (ESD) Tests	Replacement of Pneumatic Devices (High Bleed and Intermittent Bleed)
Engine Blowdown Recovery	Replacement of Vintage Pipelines - Mains/Services
Install Plunger Lifts	Rod Packing Replacement Program for Compressors
Reducing Releases before Maintenance - Stations, Pigging, Pipelines (reduce pressure, capturing/rerouting gas)	Use of Hot Taps
Replace Orifice with Ultrasonic Meters	Voluntary Leak Detection and Repair (LDAR)