

Dominion Energy

00000000

0

2022 Methane Report

#### Introduction

Dominion Energy is committed to **achieving Net Zero carbon and methane emissions** for Scope 1 emissions, Scope 2 emissions, and certain material categories of Scope 3 emissions by 2050.<sup>1</sup>

In order to track progress towards this goal, the company completes a comprehensive annual corporate inventory of greenhouse gas emissions (including sources not required to be reported to the EPA). This report provides additional details on our 2022 Scope 1 corporate inventory of methane emissions.<sup>2</sup> Details regarding other components of Dominion Energy's GHG inventory and green energy programs can be found in the Sustainability and Corporate Responsibility Report.

Consistent with the GHG Protocol, the company does not take credit for divested assets when tracking and reporting reduction progress towards our Net Zero target.<sup>3</sup> Given this approach, in 2022 Dominion Energy reduced methane emissions from its natural gas infrastructure business by 38 percent (compared to an adjusted 2010 baseline).<sup>4</sup>



These emissions reductions are due in large part to Dominion Energy's significant investments to prevent potential methane emissions from entering the atmosphere. These investments include replacing infrastructure, improving processes and systems, pursuing a wide range of voluntary initiatives, investing in innovation, and striving towards bestin-class technical excellence. Since 2010, these cumulative savings efforts have resulted in preventing approximately 96,000 metric tons of methane from entering the atmosphere, which is equivalent to taking 600,000 gasoline passenger vehicles off the road for a year or planting 45 million nursery-grown tree seedlings in an urban environment and growing them for 10 years.

#### **Dominion Energy Methane Savings (Since 2010)**



<sup>1</sup> Dominion Energy's Net Zero commitment includes the following carbon and methane emissions: Scope 1 (direct) emissions; Scope 2 (indirect) emissions from electricity the company consumes but does not generate; and Scope 3 (indirect) emissions from three material categories: electricity purchased to power the grid, fossil fuels purchased for our power stations and gas distribution systems, and consumption of sales gas by our natural gas customers.

<sup>2</sup> The majority of Dominion Energy's methane emissions come from the company's natural gas operations. Therefore, throughout this report, all references to methane emissions and savings refer only to those emissions originating from Dominion Energy's natural gas operations which do not include Cove Point, LLC (for which Dominion Energy had 50 percent ownership during the reporting year but no operational control). Similarly, all references to "Dominion Energy" and "the company" refer only to Dominion Energy's natural gas business.

<sup>3</sup> Methane emissions and savings figures throughout this report have been adjusted to exclude all emissions and savings associated with assets divested prior to the end of 2022, including Dominion Energy Questar Pipeline (DEQP) and Dominion Energy West Virginia (DEWV).

<sup>4</sup> This report primarily focuses on performance in calendar-year 2022. All environmental and other related metrics are inclusive of assets owned in 2022, except Hope Gas, Inc., which was sold in August 2022\*. Some content referenced in this disclosure may include forward-looking information. For a full discussion of forward-looking information, see our Forward-Looking Statements. Dominion Energy expects future reporting will be adjusted to reflect the outcome(s) of the company-wide business review announced in November 2022.

\*Please see our 2022 Summary Annual Report and Form 10-K for a description of assets owned in 2022 as well as a description of the sale of Hope Gas, Inc.

#### Understanding Methane Emissions and Sources: Methane Emissions in the U.S.

According to the <u>EPA's Inventory of Greenhouse Gas</u> <u>Emissions and Sinks</u>, in 2021 (the most recent year for which data is available), methane emissions made up approximately 11.5 percent of all greenhouse gas emissions in the United States on a carbon dioxide equivalent (CO2e) basis. Agriculture continued to be the country's largest source of methane, accounting for approximately 35 percent of total methane emissions — mostly from manure decomposition and the natural digestive process of livestock. The natural gas industry contributed approximately 23 percent of U.S. methane emissions, or approximately 2.6 percent of the national total of CO2e emissions.

### Methane Emissions in Dominion Energy's Natural Gas System

As shown in **Figure 1**, emissions from Dominion Energy's natural gas business accounted for 6 percent of the company's total direct CO2e emissions in 2022. The primary sources of methane emissions from Dominion Energy's natural gas system are pneumatic devices, unprotected vintage pipes, customer gas meters, and releases due to third-party damages. Each of these emission sources is subject to a variety of state and federal regulations, and Dominion Energy maintains programs to ensure strict compliance.

#### Methane Emissions Reductions Progress-to-Date

In 2022, Dominion Energy reduced methane emissions from its natural gas business by 38 percent when compared to a 2010 baseline. As noted previously, consistent with the GHG Protocol, this comparison is on a post-divestment, post-acquisition basis. **Figure 2** shows 2010 baseline emissions and 2022 emissions.







<sup>5</sup> Of the 6 percent of Dominion Energy's total CO2e emissions that come from natural gas systems, approximately 4 percent was from methane, and the remaining amount was primarily from CO2. CO2e emissions include carbon dioxide, methane, and nitrous oxide only.

<sup>6</sup> Excludes divested Questar Pipeline assets sold to Southwest Gas in 2021, and Dominion Energy West Virginia assets sold in 2022.

<sup>7</sup> "Other" refers to direct emissions from building heat, corporate aviation, military privatization assets, and the company's on-road and off-road vehicle fleet, as well as emissions on an equity share basis from Dominion Energy's renewable natural gas (RNG) facilities and Cove Point, LLC, for which Dominion Energy had 50 percent ownership during the reporting year but no operational control. Dominion Energy sold its remaining ownership interest in Cove Point, LLC, on September 1, 2023.

<sup>8</sup> Both baseline and prior-year emissions numbers exclude divested Questar Pipeline assets sold to Southwest Gas in 2021 and Dominion Energy West Virginia assets sold in 2022, and include Green River Basin upstream assets acquired in 2022.

Figure 1: 2022 Dominion Energy CO2e Emissions<sup>5, 6, 7</sup>

## Dominion Energy's Methane Emission Savings and Reduction Best Management Practices

Dominion Energy's progress to date in reducing emissions is due in large part to the company's implementation of Best Management Practices (BMPs) that help prevent methane from being emitted from natural gas equipment. **Table 1** details several of the most successful BMPs implemented by Dominion Energy in pursuit of the company's methane emissions reduction commitments.



#### Table 1: Dominion Energy Best Management Practices for Reducing Methane Emissions

ВМР	Description	
Voluntary Leak Detection and Repair (LDAR)	Identification and repair of gas leaks beyond the minimum LDAR activities that are required by law.	
Replacement of Pneumatic Devices	Conversion of natural gas-powered pneumatic control systems to instrument air or electric systems eliminates methane emissions and provides additional safety benefits.	
Replacement of Vintage Pipelines	Reduces the potential for leaking methane emissions, which lowers operating costs and improves safety.	
Reducing Releases before Maintenance	Includes several methods of reducing methane emissions associated with preparing equipment for maintenance. For example, pipeline pump-down techniques are used to minimize the amount of natural gas contained in a pipeline prior to the line being opened to the atmosphere. Similarly, when natural gas compressors are vented to take them off-line, vented gas can be recovered by connecting vent lines to the fuel gas system or to a low-pressure pipeline.	
Install Plunger Lifts	Using plunger lifts to remove fluids that accumulate in gas wells is a cost-effective way of increasing production while avoiding methane-emitting blowdowns.	
Excavation Damages	Annual training for known excavators, and the use of 811 posters and television advertising, help minimize unintentional releases caused by excavation damage to pipelines.	
Hot Taps	Hot tapping is a procedure that allows a new pipeline connection to be made while the pipeline remains in service, thereby eliminating the need to shut down the pipeline and vent contained gas to the atmosphere prior to making the connection.	
Rod Packing Replacement	More frequent monitoring and replacement of rod packing systems in reciprocating compressors can minimize leaks and extend the life of compressor rods.	

### Natural Gas STAR and Methane Challenge Methane Savings

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). Figure 3 shows cumulative methane savings captured under the NgSTAR and Methane Challenge Programs for Dominion Energy's natural gas businesses, as well as additional voluntary savings that are not captured under these programs. In November 2022, EPA ended the Natural Gas STAR program and informed partners that annual savings reports would no longer be collected. EPA will continue to collect data and share information on methane mitigation technologies as part of the Methane Challenge Program. Copies of the full reports showing methane emission savings and best management practices implemented by Dominion Energy for Methane Challenge Report will be available at the links below, once the reports are published by EPA.9

EPA Partner Profile websites which include Dominion Energy's annual reports under the Methane Challenge Program:<sup>10</sup>

- DEUWI Dominion Energy Utah, Wyoming, and Idaho Methane Challenge Partner Profile | US EPA
- DEO Dominion Energy of Ohio Methane Challenge Partner Profile | US EPA
- DEWexpro Dominion Energy Wexpro Methane
   Challenge Partner Profile | US EPA



# Figure 3: Cumulative Methane Savings Achieved (2010-2022)

Million Cubic Feet of Methane



<sup>&</sup>lt;sup>9</sup> 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.

<sup>&</sup>lt;sup>10</sup> The 2022 Methane Challenge reporting period has not opened. 2022 savings values are subject to change pending EPA review and approval.

#### How Methane Emissions Are Reported

In the interest of transparency, and because EPA's reporting requirements exclude emissions from some minor equipment, in 2018 (reporting year 2017) Dominion Energy voluntarily adopted our own corporate inventory, which includes additional emissions sources and alternative calculation methodologies that represent a more accurate and comprehensive accounting of actual emissions across the company's natural gas businesses. Dominion Energy continues to push for even greater transparency and accountability by integrating new, more representative methods and more comprehensive methane emission source inventories. Figure 4 shows the company's full corporate inventory of methane emissions compared to the inventory of emissions required to be reported to EPA for 2022.

### Additional Details Regarding Methane Emissions

In addition to reporting total annual emissions, Dominion Energy reports emissions on an intensity basis. Methane emissions intensity — which is calculated based on the full corporate inventory measures methane emissions as a percentage of the total amount of Dominion Energy-titled gas that travels through the Dominion Energy gas delivery chain. **Table 2** provides data on total annual methane emissions and methane emissions intensity for Dominion Energy's natural gas assets based on the company's corporate inventory. In 2022 Dominion Energy's methane emissions rate across our entire natural gas infrastructure system was 0.14 percent.<sup>11</sup>

# Figure 4: Dominion Energy Methane: EPA-Reported vs. Full Corporate Inventory for 2022



 Table 2: Dominion Energy 2022 Methane Emissions

 by Segment<sup>12, 13</sup>

Natural Gas System Segment	Methane Intensity (%)	Methane Emissions (Metric Tons)
Production	1.68%	13,555
Gathering & Boosting	0.36%	3,000
Transmission & Storage	0.01%	2,154
Distribution	0.26%	36,917
CNG	0.53%	14
Gas Delivery Chain Total	0.14%	55,640

Increase in emissions due to incorporating methane slip, and some other ONE Future sources.

<sup>12</sup> Transmission & Storage includes LNG storage, transmission pipelines, transmission compressor stations and underground storage.

<sup>13</sup> Dominion Energy is currently implementing a pneumatic controller replacement program which is expected to significantly reduce the methane intensity of the production segment.

<sup>&</sup>lt;sup>11</sup> When divested DEQP and DEWV assets are removed from the previously reported 2021 methane intensities, total methane intensity is 0.15%. Thus, on a post-divestment, post-acquisition basis, Dominion Energy has reduced methane intensity by 0.01% compared to 2021.

## Additional Innovations to Reduce Emissions Throughout the Natural Gas Value Chain

In addition to efforts to reduce direct methane emissions from the company's natural gas business, Dominion Energy has several programs in place to seek innovative ways to reduce methane emissions from the full natural gas value chain. For example, Dominion Energy is taking steps to begin blending hydrogen into the natural gas distribution system. To prepare the distribution system to receive up to a 5% hydrogen blend by 2030, the company is performing multiple hydrogen blending pilot projects. The first pilot project was completed in 2021 at the company's Training Academy in Utah. In December 2022, Dominion Energy Utah (DEU) reached a significant milestone, kicking off the next phase of its hydrogen blending project, ThermH<sub>2</sub>, by introducing a 5% hydrogen blend with natural gas in a distribution system serving a community of approximately 1,800 customers. The Utah project is the first among Dominion Energy's LDCs and one of the nation's first to pursue blending in a live system. Additionally, DEU anticipates upgrading to green hydrogen created using an electrolyzer later in 2023, which will ensure minimum carbon emissions equivalent to planting 5,000 trees annually. The company is also performing hydrogen blending pilots at the training centers in Ohio and North Carolina.

Improvements in customer energy efficiency will also reduce methane emissions throughout the natural gas value chain. Dominion Energy offers energy efficiency programs designed to reduce energy consumption for natural gas customers in NC, OH, SC, UT, WY and ID. These programs include energy audits and



assessments, incentives for customers to implement certain energy efficiency measures and/or systems, weatherization assistance to help income-eligible customers reduce their energy usage, and home energy planning (providing homeowners a plan to reduce gas usage through efficiency improvements). Dominion Energy's ThermWise® programs, for example, provide customers with energy conservation plans and funds for home retrofits. In 2022, ThermWise spending in our Western-states operations totaled over \$22.8 million and resulted in annual customer natural gas savings of 949,000 dekatherms.

