June 2022

# EPA Natural Gas STAR & Methane Challenge Implementation Plan

DIVERSIFIED ENERGY COMPANY
IMPLEMENTATION PLAN V.1

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# 1. Corporate Overview and Commitments

Diversified Energy Company ("Diversified") is an independent owner and operator of oil and natural gas wells that cover 8-separate EPA reporting Sub-Basins. Diversified operates these wells in Oklahoma, Texas, Louisiana, Pennsylvania, Ohio, West Virginia, Kentucky, Tennessee, and Virginia. The Diversified acquisition model focuses on acquiring existing producing wells that are long-life, and low decline[1]. Operations is focused on effectively managing these assets to improve or restore production, optimize compression, increase efficiencies, and reduce emissions before safely and permanently retiring those assets at the end of their useful lives.

The Diversified operated asset base is comprised of over 86,000+ conventional and unconventional natural gas, and oil producing wells and approximately 17,000 miles of natural gas gathering pipelines. Along the ~17,000 miles of pipelines you will find a system of compressor stations.

## 1.1 Methane Challenge Commitment

As a part of Diversified's Responsible, Stewardship-Based model[2], tackling climate-related exposure is a key strategic opportunity for Diversified to lower carbon emissions while preserving a critical role in an ever-evolving energy industry. During 2020, Diversified established a Greenhouse Gas ("GHG") emissions baseline and set future climate-related goals including benchmarks, and emission reduction targets. Diversified further refined this baseline in 2021. The Diversified emission reduction plan includes a holistic, long-term approach to achieve net-zero carbon emissions by 2040[3].

[1] About DEC, as discussed in the 2021 Sustainability Report - Poised to Thrive Through the Energy Transition 2021 Sustainability Report

[2] A Responsible, Stewardship-Based Model as discussed in the Capital Markets Day Presentation dated Nov 17, 2021. Capital Markets Day Presentation

[3]Emission Reduction plan as outlined in Diversified's Climate Change Policy

The Natural Gas STAR & Methane Challenge Programs are a flexible, voluntary partnership between the U.S. Environmental Protection Agency (EPA) and Diversified Energy Company. These voluntary programs allow the EPA to collaborate with Diversified to promote and track ambitious, transparent commitments to voluntarily reduce methane emissions beyond regulatory requirements and to recognize Diversified for their progress. The voluntary agreement, as of today, between the U.S. EPA and Diversified Energy applies to pneumatic controllers in the Onshore Production segment, and to pneumatic controllers and reciprocating compressors as part of the Gathering and Boosting Segment. Additional emission categories can be added in the coming years. Diversified's methane reduction targets are detailed in the table below.

**Table 1. Methane Emission Reduction Targets**

| | Objective | Emission Category | Start Date | Target Year |
|---|---|---|---|---|
| **Onshore Production** | Methane Emission Reductions | Pneumatic Controllers | Nov 1, 2021 | 2026 |
| **Gathering & Boosting** | Methane Emission Reductions | Pneumatic Controllers & | Nov 1, 2021 | 2026 |
| **Gathering & Boosting** | Methane Emission Reductions | Reciprocating Compressors | Nov 1, 2021 | 2026 |

## 1.2 Methane Emission Reduction

Diversified recognizes that climate change is a complex global issue that requires governments, businesses and communities working together on appropriate, achievable policies, and we are committed to playing our part in supporting the goal of responsibly transitioning to a lower carbon world. We are committed to helping the US do its part in meeting the world's methane emission reduction aspirations of 30% by 2030 as compared with 2020 levels and as set out at the 2021 UN Climate Change Conference (COP26)[3]. Diversified has defined 2020 as a baseline year for methane emissions. Diversified will report methane emission reduction progress using Reporting Year 2020 as a guidepost. Diversified has established a distinct methane reduction target year for its pneumatic devices as part of its production assets and its pneumatic devices and compressors as part of its gathering and boosting assets.

[3]As discussed in Diversified's Climate Change Policy

## 1.3 Baseline Year

Diversified has defined the methane emission baseline year as 2020. Using the 2020 methane emissions as a guidepost and driven to improve the carbon footprint of Diversified's portfolio, the internally developed Project Fresh initiative commenced in 2021 to refine the precision of emission measurement and reporting. The primary goal of Project Fresh was to measure emissions from Diversified's producing infrastructure to more accurately calculate actual GHG emissions.

Diversified placed significant methane emission reduction attention and action in 2021 on pneumatic devices through the comprehensive Project Fresh initiative. An improved pneumatic device inventory and collection of related actuation activity data enhanced the emissions baseline for this source category. In addition, Diversified looks to expand on its methane emission reductions by targeting reciprocating compressors over the coming years.

# 2. Onshore Production

Diversified has assessed all methane sources from pneumatic devices and ranks the impact of each location by total methane emissions. Impact in this context refers to the significance of total methane emissions per pneumatic device located within the boundaries of "Onshore Production" as defined by the EPA.

## 2.1 Milestones/Timeframes for Methane Reductions

1. Onshore Production ***Pneumatic Controllers*** – RY 2026
    a. Continued aggressive capital investments in emission reduction plans.
    b. Install air compression, (instrument air), to eliminate utilization of methane for pneumatic devices at 150 distinct locations (Onshore & B&G combined) by 2026.
    c. Diversified will average ~37 conversions per year between our Central District and Appalachia Operational footprint.

# 3. Boosting & Gathering

Diversified has started to evaluate methane sources from pneumatic devices within the EPA Defined Boosting and Gathering ("B&G") segment. Upon completion of the pneumatic device analysis, Diversified will rank the impact of each B&G location by total methane emissions. In addition, Diversified has ongoing methane emissions reduction projects to replace natural gas driven pneumatics with instrument air driven alternatives. Another area of methane emission reduction opportunity for Diversified lies with its reciprocating compressors. Rod packing systems emit small amounts of gas either into an open distance piece to the atmosphere or through an atmospheric vent line connected to the packing case, or both. Individual cylinder packing vents are normally manifolded together to a single vent. The piston rod packing is used to create a seal around the piston rod to prevent large amounts of high-pressure gas leakage from the cylinder. A set of flexible, segmented rings in a packing cup is pressed against the rod to inhibit emissions down the shaft. These rings oscillate back and forth with the rod reciprocal movement, sealing against the cup faces to prevent leakage around the rings. However, some gas slips around the rings with each stroke. This amount increases over time as packings are further worn out.

## 3.1 Milestones/Timeframes for Methane Reductions

1. Gathering & Boosting ***Pneumatic Controllers***
    a. Diversified is committed to resurvey all pneumatic devices in-order to update and verify source- level field data that is used for methane emission calculations by the end of 2023
    b. Continued aggressive capital investments in emission reduction plans.
    c. Install air compression, (instrument air), to eliminate utilization of methane for pneumatic devices at 150 distinct locations (Onshore & B&G combined) by 2026.
    d. Diversified will average ~37 conversions per year between our Central District and Appalachia Operational footprint.

2. Gathering & Boosting ***Reciprocating Compressors***
    a. Diversified is committed to have a survey completed by 2024 of compressors that require a rod packing change
    b. Replace rod packing based on survey data as appropriate
    c. Achieve methane emissions reductions by 2026

OMB Control No. 2060-0722
Approval expires 12/31/2024

# Methane Challenge Program Implementation Plan

**Partner Name**
Diversified Energy Company

**Current As Of (Date)**
June 2022

## Methane Challenge Commitments[1] - BMP Commitment Option

| | Source | Start Date | Achievement Year |
|---|---|---|---|
| | **Onshore Production** | | |
| ■ | Pneumatic Controllers | Nov 1, 2021 | 2026 |
| | Equipment Leaks/Fugitive Emissions (*commitment not finalized*) | | |
| | Liquids Unloading (*commitment not finalized*) | | |
| | Pneumatic Pumps (*commitment not finalized*) | | |
| ☐ | Fixed Roof, Atmospheric Pressure Hydrocarbon Liquid Storage Tanks | | |
| | *Continuous Improvement Source (TBD)* | | |
| | *Continuous Improvement Source (TBD)* | | |
| | **Gathering and Boosting** | | |
| ■ | Pneumatic Controllers | Nov 1, 2021 | 2026 |
| | Equipment Leaks/Fugitive Emissions (*commitment not finalized*) | | |
| | Pneumatic Pumps (*commitment not finalized*) | | |
| ☐ | Fixed Roof, Atmospheric Pressure Hydrocarbon Liquid Storage Tanks | | |
| ■ | Reciprocating Compressors - Rod Packing Vent | Nov 1, 2021 | 2026 |
| ☐ | Centrifugal Compressors - Venting | | |
| | *Continuous Improvement Source (TBD)* | | |
| | *Continuous Improvement Source (TBD)* | | |
| | **Natural Gas (NG) Processing** | | |
| ☐ | Reciprocating Compressors - Rod Packing Vent | | |
| ☐ | Centrifugal Compressors - Venting | | |
| | *Continuous Improvement Source (TBD)* | | |
| | *Continuous Improvement Source (TBD)* | | |
| | **NG Transmission & Underground Storage** | | |
| ☐ | Reciprocating Compressors - Rod Packing Vent | | |
| ☐ | Centrifugal Compressors - Venting | | |
| ☐ | Equipment Leaks (Compressor Blowdown and Isolation Valves) | | |
| ☐ | Transmission Pipeline Blowdowns between Compressor Stations *(Commitment Rate: ; must be 50% or greater)* | | |
| ☐ | Pneumatic Controllers | | |
| | *Continuous Improvement Source (TBD)* | | |
| | *Continuous Improvement Source (TBD)* | | |
| | **NG Distribution** | | |
| | M&R Stations/City Gates (*commitment not finalized*) | | |
| ☐ | Mains – Cast Iron and Unprotected Steel *(Commitment Rate: )* | | |
| ☐ | Services – Cast Iron and Unprotected Steel | | |
| ☐ | Distribution Pipeline Blowdowns *(Commitment Rate: ; must be 50% or greater*) | | |
| ☐ | Excavation Damages | | |
| ☐ | Renewable Natural Gas | | |
| | *Continuous Improvement Source (TBD)* | | |

[1] Partners may delete unused rows within the table and may duplicate rows and add relevant details as needed (e.g., a corporate parent partner that has different commitments for each LDC can duplicate relevant rows to list the commitments for each LDC).

| | Source | Start Date | Achievement Year |
|---|---|---|---|
| | *Continuous Improvement Source (TBD)* | | |

## Methane Challenge Commitments - ONE Future Emissions Intensity Commitment Option

| | | | | | |
|---|---|---|---|---|---|
| Segment: | | Intensity Target: | | Target Year: | |

## Milestones/Timeframes for Meeting Commitments

*Provide information on steps for achieving commitments such as anticipated rate of progress, key milestones, or other context (e.g., referencing work to be done during the next planned shutdown of a facility).*

See Attached implementation plan.

## Additional Information/Context (optional)

*Use this space, if desired, to provide other information about Program participation, such as plans for expanding Methane Challenge commitments, how historical actions informed Methane Challenge commitments, or other information on how the Program will be implemented.*

See Attached implementation plan.