

## Public-private partnerships to promote voluntary methane emissions reductions – USA

### Initial condition:

In the early 1990s, there was not a widespread understanding of cost-effective methane emission reduction opportunities in the U.S. oil and gas sector. There was neither a mechanism in place to facilitate information-sharing among companies, nor explicit incentives for companies to mitigate such emissions. In 1992, the U.S. Congress passed the Energy Policy Act of 1992 that directed U.S. federal agencies to adopt mandatory and voluntary measures to promote replacement fuels to the maximum extent practicable, and to reduce U.S. dependence on imported oil. In response, the U.S. Environmental Protection Agency (U.S. EPA) created several partnership programs to promote voluntary methane emission reduction activities in various sectors, including the oil and gas, to fill the information and incentive gaps.

### Process:

In 1993, U.S. EPA created the Natural Gas STAR Program to increase the oil and gas industry's awareness of methane emission sources, and to share innovative, cost-effective practices to reduce these emissions. Today, the Natural Gas STAR Program promotes over 70 mitigation best practices that have been shared by industry partners, providing a valuable information resource for companies aiming to reduce gas product losses. Natural Gas STAR partners develop company-specific approaches to evaluate and implement cost-effective Best Management Practices (BMPs) to reduce methane emissions, and report their voluntary activities to U.S. EPA.

In 2016, U.S. EPA launched the Methane Challenge Program to build on the success of the Natural Gas STAR Program. The Methane Challenge Program encourages U.S. oil and gas companies to make ambitious commitments to widespread implementation of methane mitigation activities across the oil and natural gas value chain. Methane Challenge partners commit to voluntary emissions reduction activities in production, gathering and processing, transmission, and/or distribution segments. The Methane Challenge Program offers two different commitment options, both focused on increasing the transparency of company-specific voluntary actions, and providing corresponding company recognition. Methane Challenge partners can either 1) commit to implement Best Management Practices for one or more key sources across their operations within five years, or 2) report on their company-wide emissions reductions from all sources in partnership with the ONE Future (Our Nation's Energy Future) Coalition. U.S. EPA publishes detailed summary reports of Methane Challenge partners' data to provide a public record of voluntary accomplishments in reducing methane emissions. For the benefit of all partners from both programs, U.S. EPA hosts Technology Transfer workshops to help partners to learn about

new and innovative technologies and practices, and to facilitate information-sharing among network members.

#### Results:

The Natural Gas STAR and Methane Challenge Programs continue to promote methane emissions reduction activities, with far-reaching benefits for industrial efficiency, domestic energy supply and revenue generation, improved air quality, and greenhouse gas emissions reductions. The Programs also continue to build a network of companies committed to sharing best practices and strengthening relationships among oil and gas industry stakeholders. These programs complement regulatory activities and provide an opportunity for companies to share successes and lessons learned regarding emissions reductions.

The Natural Gas STAR Program currently includes over 100 partners across the natural gas value chain. During calendar year 2017, Natural Gas STAR partners committed to use 45 technologies and best practices that resulted in methane emissions reductions of 46.5 MMTCO<sub>2</sub>e (million metric tons of carbon dioxide equivalent) — an equivalent to preventing CO<sub>2</sub> emissions from the consumption of over 107 million barrels of oil. Since the inception of the program, Natural Gas STAR partners have eliminated over 717 MMTCO<sub>2</sub>e of methane emissions, equivalent to preventing CO<sub>2</sub> emissions from an annual energy use in over 85 million homes.<sup>1</sup>

Since the launch of the Methane Challenge Program in 2016, over 60 partners have joined and committed to comprehensively track and publicly report their voluntary methane emissions reduction activities to U.S. EPA. Partners' progress towards meeting their commitments to implement methane-reducing technologies and practices are published on the U.S. EPA's website.<sup>2</sup> During calendar year 2017, the first year of reporting to U.S. EPA under the project, Methane Challenge partners achieved methane emissions reductions of .96 MMTCO<sub>2</sub>e — equivalent to preventing CO<sub>2</sub> emissions from the consumption of over 2 million barrels of oil.

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<sup>1</sup> <https://www.epa.gov/energy/greenhouse-gas-equivalencies-calculator>

<sup>2</sup> <https://www.epa.gov/natural-gas-star-program/methane-challenge-partners>