U.S. Department of Energy Methane Mitigation Efforts

Overview

The U.S. Department of Energy (DOE) is committed to developing and deploying technology solutions to reduce methane emissions from the oil and natural gas supply chain. Methane mitigation is part of DOE's broader mission to reduce the environmental and climate impacts of fossil fuels and to help realize the Biden-Harris Administration's <u>U.S. Methane</u> <u>Emissions Reduction Action Plan</u>, which includes a global goal of cutting methane emissions by 30% by 2030.

Methane Mitigation Technologies Program

The Office of Fossil Energy and Carbon Management (FECM)'s <u>Methane Mitigation Technologies program</u> leads DOE's efforts to reduce methane emissions from the oil and natural gas supply chain. Collectively, FECM's methane mitigation research and development efforts will help reduce methane emissions, create good-paying jobs, improve air and water quality for communities, and spur economic revitalization.

The Methane Mitigation Technologies program consists of two sub-research and development areas: (1) **methane quantification**, which focuses on improving the development of technology solutions capable of detecting and measuring methane emissions throughout the oil and natural gas value chain, and (2) **methane mitigation**, which involves developing novel technology solutions to reduce these emissions. FECM's portfolio encompasses fugitive methane emissions (i.e., gases and vapors that are accidentally released into the atmosphere) and vented methane emissions (i.e., gases that are released as a part of the system design) to help improve air and water quality for communities across the nation.

Research, Development, and Partnerships

Since January 2021, DOE has already awarded nearly \$397 million and announced up to \$30 million in additional funding for efforts related to methane mitigation:

- In March 2023, FECM awarded nearly <u>\$47 million in funding for 22 projects</u> that will focus on the technical challenges of quantifying and mitigating methane emissions along the U.S. oil and natural gas supply chain. By 2025, these projects will help to advance the development of integrated networks of surface-based methane sensor technologies for more timely monitoring of methane emissions across large areas of oil- and natural gas-producing basins.
- DOE has entered a partnership with the <u>U.S. Environmental Protection Agency</u> (EPA) to assist in the implementation of the <u>Methane Emissions Reduction Program</u>, or MERP. This partnership will provide up to \$1.3 billion under the Inflation Reduction Act (Section 60113) to reduce methane emissions from the oil and natural gas sector.
 - In December 2023, EPA and DOE announced the selection of <u>14 States to receive up to \$350 million in formula</u> <u>grants</u> to help identify and plug marginally-producing, high-emitting wells and conduct environmental restoration of these well sites.
 - In February 2024, EPA and DOE released a <u>Notice of Intent</u> to make additional MERP funds available to help measure and reduce methane emissions from the oil and natural gas sectors.
- In September 2023, DOE <u>announced up to \$30 million</u> for the development of advanced technologies to reduce or eliminate the need for natural gas flaring at oil production sites, by converting unused and otherwise wasted natural gas produced into value-added products such as sustainable chemicals and fuels.

In addition to these investments, FECM works with industry partners and other federal agencies to develop advanced technologies and solutions for methane mitigation. These efforts include:

- Developing advanced materials and sensor systems designed to find and reduce methane emissions from natural gas and oil infrastructure by making it as leak tight as possible;
- Developing integrated methane measurement and monitoring platforms to improve the accuracy of methane emissions estimates;
- Carrying out rigorous field testing in partnership with Colorado State University's <u>Methane Emissions Technology</u> <u>Evaluation Center</u> field site to accelerate the adoption of natural gas leak detection and quantification solutions by natural gas operators, and their approval by state and federal regulatory authorities; and
- Collaborating with the <u>Interstate Oil & Gas Compact Commission</u> to assist federal land management agencies, states, and tribal nations to locate, characterize and mitigate the environmental risks of <u>undocumented orphaned wells</u>.

Societal Considerations and Impacts

As FECM advances the research and development of methane mitigation technologies and solutions, it is critical to understand and address the societal considerations and impacts of these projects at local and regional levels. That is why projects funded by the office must incorporate plans for community, tribal, and stakeholder engagement; diversity, equity, inclusion, and accessibility; energy and environmental justice ("Justice40"); and the creation of quality jobs. Learn more about each of these project plan areas.

To keep up to date with information about the Methane Mitigation Technologies program and funding opportunity announcements, <u>visit FECM's website</u> and <u>sign up for news alerts</u>.



Fossil Energy and Carbon Management

For more information, visit: <u>energy.gov/fecm</u>