



METHANE
GUIDING
PRINCIPLES

Methane Guiding Principles Signatory Reporting

Exxon Mobil Corporation

July 12th 2021



COMPANY: **Exxon Mobil Corporation**

DATE: **July 12th 2021**

YEAR OF JOINING METHANE GUIDING PRINCIPLES: **2017**

SENIOR REPRESENTATIVE: **Neil A. Chapman, Senior Vice President**

WORKING LEVEL REPRESENTATIVES: **Matt Kolesar, Stan Sokul**



Principle One:
Continually reduce methane emissions

Historical completed activity	2021 intended activity
<p>In 2018, ExxonMobil announced a series of greenhouse gas (GHG) reduction measures including reducing methane emissions by 15 percent by 2020 (versus 2016 levels). We achieved this goal.</p> <p>ExxonMobil implemented a program across its U.S. unconventional production to reduce methane emissions from new and existing sources by:</p> <ul style="list-style-type: none"> • Enhancing leak detection and repair surveys. • Phasing out high-bleed pneumatic devices. • Monitoring liquid unloadings to avoid unplanned releases. • Improving facility designs. • Furthering training programs for operations management, superintendents, foremen, facility engineering personnel and those involved in leak inspections. <p>In addition, the Company continues to mature and operationalize research and technology developments in these areas. For example, emerging aircraft leak detection is now part of routine monitoring campaigns. Continuous monitoring approaches are also under development.</p> <p>Since initiating our program, we have conducted nearly 23,000 leak surveys on more than 5.2 million components at more than 9,500 production sites. High-bleed pneumatic devices have been eliminated across U.S. unconventional production as of 2020.</p> <p>As a result of these actions, U.S. unconventional methane emissions have been reduced by approximately 43 percent as of 2020, compared to 2016, which is equivalent to about 63,000 tonnes.</p>	<p>On December 14, 2020, ExxonMobil announced additional plans to reduce GHG emissions, including methane intensity by 40-50 percent for our operated upstream assets by 2025 (compared to 2016 levels). See: ExxonMobil Emissions Plans</p> <p>Under these plans, absolute flaring and methane emissions are expected to decrease by 40 to 50 percent.</p> <p>Additional details on our approaches to reducing methane emissions are provided in our 2021 Energy and Carbon Summary, which was released on January 5, 2021.</p>



What are your organisation's total methane emissions?

Historical completed activity	2021 intended activity
<p>ExxonMobil reports emissions on a net equity basis. In 2018 our methane emissions totaled 7 million CO₂-equivalent tonnes; in 2019 methane emissions totaled 6 million tonnes CO₂e; and in 2020 methane emissions totaled 5 million tonnes.</p>	

Do you have a methane emission target?

Historical completed activity	2021 intended activity
<p>As noted above, ExxonMobil announced a series of GHG reduction measures including reducing methane emissions by 15 percent by 2020 (versus 2016 levels). We achieved this goal.</p>	<p>As noted above, ExxonMobil recently announced additional plans to reduce GHG emissions, including methane intensity by 40-50 percent for our operated upstream assets by 2025 (compared to 2016 levels).</p> <p>Under these plans, absolute flaring and methane emissions are expected to decrease by 40 to 50 percent.</p>



Principle Two:

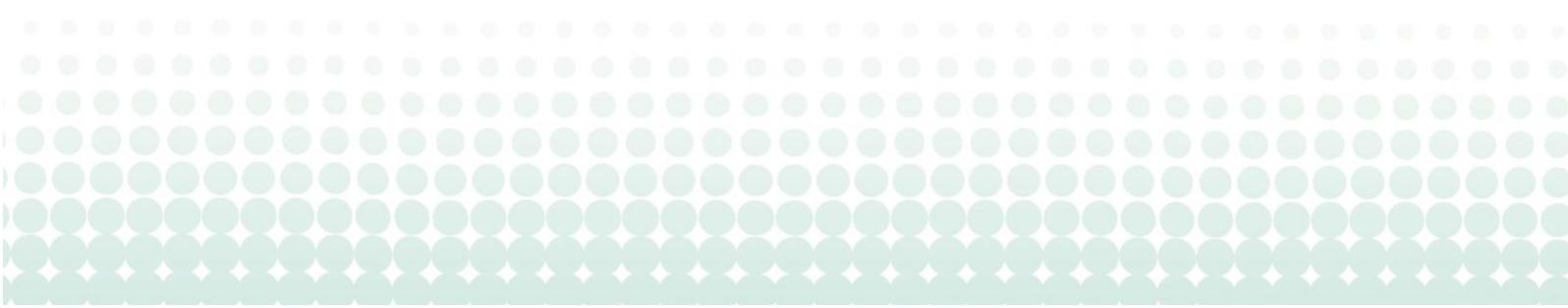
Advance strong performance across the gas supply chain

Historical completed activity	2021 intended activity
<p>In March 2020, ExxonMobil released a model regulatory framework which described for industry, policymakers and other stakeholders the common sources of methane emissions and means to mitigate emissions.</p> <p>ExxonMobil participated in the development of new methane principles with the American Exploration and Production Council (AXPC), released on Jan. 5, 2021. AXPC represents independent U.S. oil and gas producers.</p> <p>Additionally, ExxonMobil participated in industry discussions in Argentina that resulted in consensus best practice documents on sources of emissions and means to control them. The intent is for these documents to support regulations.</p> <p>ExxonMobil is also a founding member of API's Environmental Partnership, whose mission is to continuously improve the industry's environmental performance with a current focus on methane and VOC emissions. The Partnership takes action, learns together about best practices and technologies, and fosters collaboration in order to responsibly develop oil and natural gas resources. The Partnership's members have more than tripled since its launch in 2017, and 19 of the top 20 U.S. natural gas producers and 36 of the top 40 U.S. natural gas producers are participating companies. In 2020, the Partnership's actions expanded to midstream operations. See: The Environmental Partnership's 2020 Annual Report</p> <p>Through the Methane Guiding Principles, ExxonMobil:</p> <ul style="list-style-type: none"> • Participated in the workshops concerning Non-Operated Joint Ventures, and • Participated in discussions with Malaysian industry around methane emissions and mitigation. 	<p>ExxonMobil will continue to work within trade associations globally to promote industry consensus on the need and means to reduce methane emissions, as well as with the Environmental Partnership in the U.S.</p> <p>Under the MGPs, ExxonMobil will continue to participate in the Non-Operated Joint Ventures work stream, as well as any additional MGP-sponsored country discussions as occurred with Malaysia.</p>



Principle Three: Improve accuracy of methane emissions data

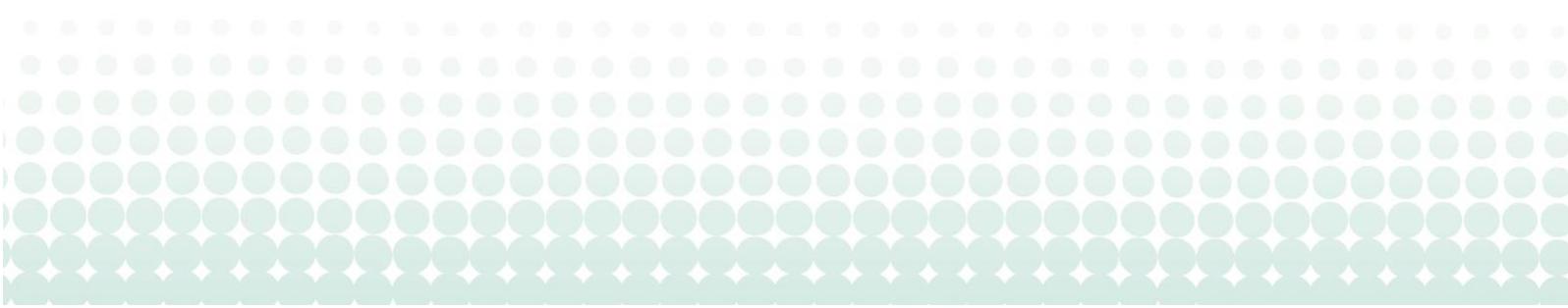
Historical completed activity	2021 intended activity
<p>Working with our industry peers, regulators, researchers and NGOs, ExxonMobil is undertaking extensive research to understand methane emission sources, and to help develop and test new detection and mitigation technologies.</p> <p>In 2020, ExxonMobil conducted a series of trials with a variety of technologies, principally focused on aerial, satellite and ground based sensors.</p> <p>For example, in April 2020, ExxonMobil announced field trials for eight emerging methane detection technologies, including satellite and aerial surveillance monitoring, at nearly 1,000 sites in Texas and New Mexico to further reduce methane emissions. See: ExxonMobil field testing new comprehensive methane monitoring technologies</p> <p>Additionally, ExxonMobil presented the results of a field trial of six technologies tested simultaneously across 125 production facilities at the national meeting of the American Geophysical Union (AGU) in December 2020. Resulting from this study, ExxonMobil research and operational personnel partnered to develop operationalization procedures for airborne LiDAR technology.</p> <p>ExxonMobil is also working to find new and better ways to monitor and reduce methane emissions through a new collaboration, known as Project Astra, involving universities, environmental groups and other industry partners. Announced in May 2020, the partners are working to develop an innovative sensor network in Texas that continuously monitors methane emissions across large areas to enable quick and efficient detection and repair of leaks. This high-frequency monitoring system will enable operators to more efficiently direct resources to a specific location and could provide a more affordable, efficient solution to reduce methane emissions, see: Project Astra Website</p> <p>In addition, ExxonMobil is testing novel analytical systems that can be deployed in helicopters, airplanes and drones to detect fugitive emissions; and is also exploring the use of satellite surveillance where data can be regularly updated each time satellites orbit the earth.</p>	<p>ExxonMobil plans to continue working on the projects described for 2020 and to publish results. We also intend to develop and begin additional R&D/technology projects, both individually and in collaboration with others. These will be announced once launched.</p> <p>ExxonMobil expects to submit, for peer review publication, the results of the comparative monitoring study that was presented to AGU in Dec. 2020. Additionally, based on a completed equivalency study (aerial technology versus regulatorily mandated optical gas imaging) ExxonMobil plans to apply to U.S. Environmental Protection Agency (EPA) for approval to use aerial technology in regulatorily required surveys in the Midland basin.</p> <p>ExxonMobil also expects to increase its deployment of fixed sensor monitors and conduct additional research with aerial solutions; and to field trial a different means to power compressed air, seeking solutions for the elimination of gas driven pneumatic controllers.</p> <p>ExxonMobil will continue evaluating GHGSat’s capabilities with the recent launch of its newer satellites and analytics.</p> <p>ExxonMobil also anticipates publication in peer reviewed journals:</p> <ul style="list-style-type: none"> • The first multi-satellite characterization of methane from a well control event that estimates emissions of methane over the entire life cycle of the event; and • A Life Cycle Analysis of emissions of oil and natural gas from the U.S. Delaware basin (Permian). <p>Under the MGPs, ExxonMobil will participate in the NOJV work stream and the new flaring work stream.</p>



Principle Four:

Advocate sound policy and regulations on methane emissions

Historical completed activity	2021 intended activity
<p>ExxonMobil respects and supports society's ambition to achieve net-zero emissions by 2050, and continues to advocate for policies that promote cost-effective solutions to address the risks of climate change – including with respect to industry methane emissions.</p> <p>In this regard, ExxonMobil submitted a letter to the U.S. EPA opposing the agency's proposal to remove methane as a directly regulated pollutant from new oil and gas sources, and supporting reasonable, cost-effective federal regulations to manage methane emissions from both new and existing sources. In the U.S., we also engaged with states advancing their own regulatory programs, seeking industry consensus on the need to support regulations. For example, in New Mexico we chaired industry working groups as the state develops its methane regulations.</p> <p>Additionally, in March 2020, ExxonMobil released a model framework for industry-wide methane regulations and urged stakeholders, policymakers and governments to develop comprehensive, enhanced rules to reduce emissions in all phases of production and across the full natural gas value chain.</p> <p>ExxonMobil also submitted a statement to the European Commission as it developed a Methane Strategy for the European Union that was released in October 2020, and participated in industry discussions to coalesce around best practices in Argentina and Malaysia – where subsequent regulatory action is possible.</p> <p>Within the Methane Guiding Principles, ExxonMobil is one of the lead sponsors of the International Energy Agency's Methane Tracker. The tracker provides information on methane emission sources and available mitigation technologies, as well as emission estimate profiles, for every country to help them understand their emission sources. In January, IEA added a "regulatory tracker" to the platform that will help countries understand their regulatory options to address their oil and gas methane emissions.</p>	<p>ExxonMobil intends to remain highly active in support of effective methane policies and regulations across the globe. We will engage with the new U.S. Administration, and remain engaged with U.S. states, the European Union, and other interested countries (such as Argentina and Malaysia).</p> <p>ExxonMobil will also continue to publish the results of its technology programs that can support more efficient and cost-effective regulatory programs.</p> <p>Within the MGPs, ExxonMobil will participate in the European Policy Working Group, continue to sponsor and participate in IEA Methane Tracker emissions and regulatory activities, and participate in additional MGP-sponsored country discussions as occurred with Malaysia.</p>



Principle Five:

Increase transparency

Historical completed activity	2021 intended activity
<p>ExxonMobil publishes information on its methane emissions performance and programs in its Energy and Carbon Summary and Corporate Sustainability Report.</p> <p>Throughout the year, ExxonMobil also releases information through press releases and website article postings. Examples of such releases include:</p> <ul style="list-style-type: none"> • ExxonMobil comment letter to U.S. EPA • ExxonMobil proposes framework for industry-wide methane regulations (03/03/20) <ul style="list-style-type: none"> ○ Perspectives Blog: A framework for regulatory progress on methane reductions ○ Framework: Mitigating Methane Emissions from the Oil and Gas Industry Model Regulatory Framework • Energy Factor: Reducing methane emissions by leveraging terabytes - Project Astra (05/19/20) <ul style="list-style-type: none"> ○ UT Austin Press Release • Energy Factor: Reducing natural gas flaring (06/29/20) • Energy Factor: When it comes to methane, better regulatory approach needed (08/20/20) <p>ExxonMobil also presents the results of our technology research at science meetings and publishes findings in scientific journals.</p>	<p>ExxonMobil will continue to release additional information on its corporate website, participate in relevant conferences and symposia, and publish study results in scientific journals.</p>

Commentary:

Please see ExxonMobil's [2021 Energy and Carbon Summary](#) for a full discussion of how the Company is responsibly meeting society's evolving need for energy in a reliable and sustainable manner – including mitigating methane emissions.

