ExxonMobil aims to achieve net-zero Scope 1 and 2 greenhouse gas emissions from its operated assets by 2050 and is taking a comprehensive approach centered on developing detailed emission-reduction roadmaps for major operated assets.

The Company’s roadmap approach identifies greenhouse gas emission-reduction opportunities and the investment and policy needs required to achieve net-zero. The roadmaps are tailored to account for facility configuration and maintenance schedules, and they will be updated as technologies and policies evolve.

Net-zero roadmaps for major assets, covering about 90% of the Company’s greenhouse gas emissions, are scheduled to be completed by year-end 2022, and the remainder in 2023.

An example of an asset roadmap is ExxonMobil’s Permian Basin operations, where the company announced groundbreaking plans to reach net-zero Scope 1 and 2 emissions by 2030. With the support of proven technology and sound policies, the Company plans to electrify operations with low-carbon power, which may include wind, solar, natural gas with carbon capture and storage, or other technologies. The Company also plans to expand and accelerate its methane mitigation and industry-leading detection technology, eliminate routine flaring, upgrade equipment, and employ emission offsets, which may include nature-based solutions. Achieving net-zero emissions in the Permian Basin will be a major contributor to the Company’s efforts to support a lower-emission future, as the Permian accounts for more than 40% of ExxonMobil’s net U.S. oil and natural gas production.
The Company’s plans to reduce greenhouse gas emissions through 2030 compared to 2016 levels support its net-zero ambition. The plans are expected to result in a 20-30% reduction in corporate-wide greenhouse gas intensity, including reductions of 40-50% in upstream intensity, 70-80% in methane intensity and 60-70% in flaring intensity. These plans include actions that are expected to reduce absolute corporate-wide greenhouse gas emissions by approximately 20%, including an estimated 70% reduction in methane emissions, 60% reduction in flaring emissions and 30% reduction in upstream emissions. For non-operated assets, the Company works with its equity partners to advance greenhouse gas reductions to achieve comparable results.

ExxonMobil plans to achieve these additional emission reductions through actions that include:

- Achieving net-zero Scope 1 and Scope 2 greenhouse gas emissions in its Permian Basin operations by 2030.
- Deploying hydrogen, carbon capture and storage, and lower-emission fuels in its operations.
- Further reducing methane emissions in alignment with the Global Methane Pledge by deploying best practices and advanced technologies, including satellite, aerial and ground-sensor networks.
- Further reducing flaring in upstream operations to meet the World Bank Zero Routine Flaring initiative.
- Integrating lower greenhouse gas energy sources into its facilities, for example through long-term renewable power purchase agreements and increasing power and steam co-generation.
- Improving energy efficiency in its businesses by adapting operational and maintenance processes, such as improving furnace efficiency.
- Deploying innovative lower-emission solutions to further reduce greenhouse gas emissions as supportive policies are enacted.

ExxonMobil also plans to use its technology expertise, particularly in carbon capture and storage, hydrogen, and biofuels, to support net-zero ambitions. Over the next six years, the Company plans to invest more than $15 billion on lower-emission initiatives, including large-scale projects to lower greenhouse gas emissions, a significant share of which will be directed toward its Low Carbon Solutions business.
Policy support has driven rapid deployment of key technologies, such as wind, solar, and electric vehicles. Additional policy support would accelerate and broaden deployment of critical technologies like carbon capture and storage, hydrogen and lower-emission fuels. It would also provide ExxonMobil additional investment opportunities to reduce greenhouse gas emissions.

ExxonMobil has long supported an explicit price on carbon to establish market incentives and provide the needed clarity and stability for investments. In the absence of economy-wide carbon-pricing systems, well-designed, sector-based policy options to drive innovation and investment could also be an effective way to reduce emissions.

Approach to greenhouse gas emission reductions in business planning

Actions needed to advance the Company’s 2030 greenhouse gas emission-reductions plans are incorporated into its medium-term business plans, which are updated annually. The reference case for planning beyond 2030 (including impairment assessments and future planned development activities) is based on the Energy Outlook, which contains the Company’s demand and supply projection based on its assessment of current trends in technology, government policies, consumer preferences, geopolitics, and economic development. Reflective of the existing global policy environment, the Energy Outlook does not project the degree of required future policy and technology advancement and deployment for the world, or ExxonMobil, to meet net zero by 2050. As future policies and technology advancements emerge, they will be incorporated into the Outlook, and the Company’s business plans will be updated accordingly.

Potential GHG abatement options for ExxonMobil Permian unconventional operations supporting 2030 net zero plan(3)