

# Our Approach to Climate Change-related Risks and Opportunities

Identifying and managing potential risks and opportunities related to climate change is part of our ongoing enterprise risk management and business planning processes, which are overseen by senior management and our Board of Directors.

There is growing interest in how oil and gas companies may be affected by increased carbon regulation, as well as how companies are assessing and managing climate change-related risks, such as the risk of carbon assets becoming stranded. Some have expressed concern about the potential financial risks companies may face due to increased carbon regulations, changes in energy demand and/or competition from lower-carbon energy sources as nations reduce fossil fuel use.

We are paying close attention and giving careful thought to the issue of climate change and its potential implications for Apache and our stakeholders. We recognize that investors are increasingly interested in how companies are assessing and managing climate change-related risks, especially those that may have financial implications. This growing interest is reflected in part in the development of the

Task Force on Climate-related Financial Disclosures (TCFD) and the increasing support for and use of its disclosure recommendations by the investment community and public corporations.

Over time, we have been increasing our disclosures regarding how we identify and address climate change-related risks. In this year's sustainability report, including in this section, we have further expanded our reporting and aligned it to the TCFD's recommendations to disclose information on climate change-related governance, strategy, risk management, and metrics and targets. (See p. 128 for an index of TCFD-related disclosures throughout the report.)

## GOVERNANCE

Apache's Board of Directors and senior management are directly engaged in assessing and managing climate change-

related risks and opportunities. The Board's Audit Committee oversees our risk management process (described in more detail below and on p. 15), which includes management of climate change-related risks. The Corporate Governance & Nominating (CG&N) Committee oversees the company's management of, and performance on, environmental issues. In addition to the work of these committees, the full Board receives regular updates on climate change-related issues, including risk management and greenhouse gas (GHG) emission management and performance.

Apache's leadership considers environmental, social and governance (ESG) matters — including climate change-related issues — as part of its regular, ongoing efforts to identify, track and mitigate risk. Read more on our approach to ESG management on pp. 14-15. Commencing with our 2018 annual

incentive compensation plan, we began to link all employee incentive compensation directly to the reduction of methane emissions intensity and freshwater usage as part of our assessment of the environmental, health and safety (EH&S) goal. In 2020, we added a goal to our annual incentive compensation plan pertaining to GHG emissions, freshwater use, natural gas flaring, the United Nations Sustainable Development Goals, and workforce training. This goal is in addition to the health and safety goal weighted at 10%, making the combined weighting of ESG-focused goals equal to 20%.

### STRATEGY

We have identified a range of potential risks and opportunities related to climate change that could impact our business, and we have integrated these risks and opportunities into our business planning process.

These include, but are not limited to, the following:

#### Risks

- Changes in regulatory frameworks that could impact the cost of our operations and/or products
- Changes in consumer demand and preferences
- Changes in investor assessments and requirements
- Competition from other energy sources
- Physical risks such as those that could occur from changing weather patterns

#### Opportunities

- Cost savings and/or revenue enhancements associated with new technologies that can make our operations more resource efficient
- Financial and reputational benefits associated with managing climate-related risks
- Increased investor demand and increased access to and reduced cost of capital
- Improved regulatory relationships associated with proactive, constructive engagement on regulatory issues and voluntary performance improvements
- Improved employee attraction and retention based on our track record as a responsible operator





## Apache's Scenario Planning Framework

As part of our regular, ongoing business and planning risk management processes, we use a scenario planning framework to assess potential climate-related risks and opportunities, including forecasts of future demand and pricing in energy markets and changes in government regulations and policy. We consider a range of pricing scenarios when forming our long-term investment and development plans, including scenarios in a carbon-constrained world. We cast a wide net and include the input of experts from a number of internal functional areas to ensure rigorous scenario planning in an uncertain world.

Given the dynamic nature of our business, scenario analyses are much better conducted over five-year, rather than 10-year, time frames. While we do our best

to look ahead, we also believe that being conservative, thoughtful, open and nimble are the best ways to run a responsible exploration and production company in light of today's important environmental policy issues.

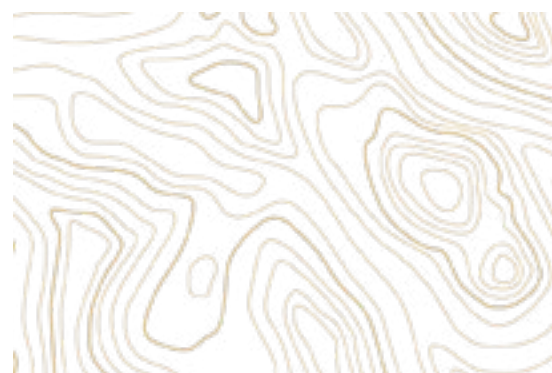
From an investment and a policy point of view, managing the life expectancy of our proved resource base is a key risk mitigant. A long-duration production cycle (and well inventory) could potentially increase risk to asset value and expose future capital invested to a greater risk of fluctuations in long-term hydrocarbon demand trends. This point is supported in IHS Energy's 2014 Deflating the "Carbon Bubble" report, which concludes that integrated oil and gas company investments face limited near-term carbon-related financial risk because "the intrinsic value of most publicly traded oil and gas companies is based primarily

on the valuation of proved reserves, 90% of which are expected to be monetized in the next 10–15 years."<sup>3</sup>

We also proactively manage our asset mix to further mitigate exposure to carbon risk. Our portfolio approach enables us to shift capital investment away from certain assets in response to changes in regulations, energy demand or other factors. Coupled with a relentless focus on being one of the lowest-cost and most resource-efficient operators in our industry, we believe this reduces carbon risk and helps to increase our potential as a premier corporate citizen.

Recent studies by the International Energy Agency (IEA) suggest that, even in a carbon-constrained future scenario, demand for natural gas will continue to grow for the next 10 years, and natural gas and oil will continue to make up approximately half of the overall energy mix for the next 20 years. These studies suggest that natural gas and oil will continue to play an important role for decades, even in a lower-carbon energy future.

We also believe that natural gas — an important part of our product portfolio — has a key role to play in helping to reduce global GHG emissions. According to the



<sup>3</sup> Meyer and L. Brinker, *Deflating the "Carbon Bubble": The Reality of Oil and Gas Company Valuation*, IHS, 2014, <https://ihsmarkit.com/research-analysis/q22-deflating-the-carbon-bubble.html>.

## OUR SCENARIO PLANNING FRAMEWORK

**1** Risk assessment

**2** Oil and gas  
price scenarios

**3** Strategy  
and planning

**4** Capital allocation

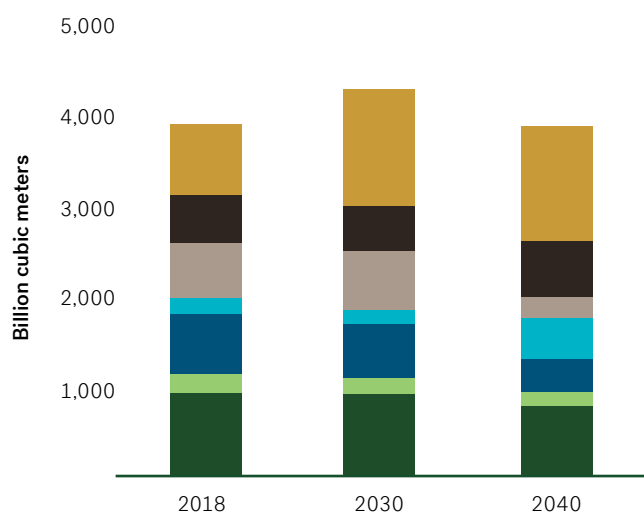


IEA, global energy-related carbon dioxide (CO<sub>2</sub>) emissions were flat from 2018 to 2019, even as the global economy grew by nearly 3%. The IEA notes that this decoupling of economic growth from CO<sub>2</sub> emissions is due in part to the increased use of natural gas in electricity generation.

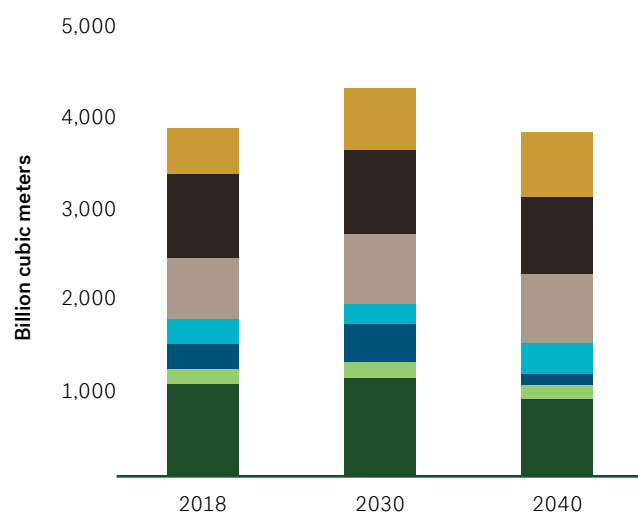
This trend was especially true in the U.S., where natural gas increased its market share of total electricity generation to a record high of 38% in 2019. The most recent report by the U.S. Environmental Protection Agency on GHG emissions also supports this point. According to this report, net GHG emissions in the U.S. decreased by 10% overall from 2005 to 2018, and CO<sub>2</sub> emissions from the electric power sector decreased by 27% during that same time frame, in large part due to the increased use of natural gas in electric power generation.<sup>4</sup>

## PROJECTED DEMAND FOR AND PRODUCTION OF NATURAL GAS UNDER THE IEA'S SUSTAINABLE DEVELOPMENT SCENARIO<sup>5</sup>

GAS DEMAND BY REGION AND SCENARIO, 2018-2040



GAS PRODUCTION BY REGION AND SCENARIO, 2018-2040



● North America    ● Central and South America    ● Europe    ● Africa  
 ● Middle East    ● Eurasia    ● Asia Pacific    ● International Bunkers

<sup>4</sup> U.S. EPA, *Inventory of U.S. Greenhouse Gas Emissions and Sinks: 1990-2018*, April 2020.

<sup>5</sup> IEA, *World Energy Outlook 2019*, <https://www.iea.org/reports/world-energy-outlook-2019/gas#abstract/>.



## RISK MANAGEMENT

The results of our comprehensive scenario analyses are integrated into our overall risk management process, which includes senior managers and executives on the Corporate Risk Management Committee. This committee is overseen by our Board of Directors and the Board's Audit Committee (see more on pp. 27-28).

Apache also has a separate risk management function focused specifically on environmental, health and safety risks — including climate change-related risks. These formal risk management teams work together with all Apache employees to understand and mitigate risks across our operations. People at all levels of the company and in a wide range of departments — such as Planning, Operations, Facilities, EH&S, Marketing, Tax, Risk Management, Treasury, Public

Affairs, Government Affairs and others — participate in carefully analyzing the potential impacts of climate change-related risks on our business to ensure rigorous and comprehensive risk management.


### Managing Climate Change-related Risks and Opportunities

We are developing innovative approaches to operational processes that lower our costs, reduce our environmental footprint and maximize capitalization of natural gas in a lower-carbon energy future. For example, we are working to reduce fugitive methane emissions (see p. 41). We employ a leak detection and repair (LDAR) program using the latest equipment and technologies to reduce methane losses. We are also addressing GHG emissions from our operations by reducing flaring and powering our equipment with electricity, when practicable (see p. 41).

We also take very seriously, and are working to address, the potential physical impacts to our operations posed by climate change. For example, to mitigate the risk of reduced water supplies critical to our operations, we are continuing our efforts to maximize water recycling, especially in water-scarce areas (see pp. 52-55).

We are also collaborating with industry, government and nongovernmental partners to encourage others in our industry to reduce emissions and to develop more effective technologies to do so. Apache is a charter member of the ONE Future Coalition, a group of 26 companies from across the natural gas value chain that has achieved reducing methane losses to less than 1% of total methane production from the wellhead through to the point of use by 2025 — a science-based goal developed to support the ongoing climate benefits of natural gas. We have also joined the





American Petroleum Institute's (API's) The Environmental Partnership, a group of U.S. oil and gas companies working together to address environmental challenges and further improve environmental performance in our industry. (See p. 44 for more information on these partnerships.)

### METRICS AND TARGETS

We use a range of metrics and targets to assess and drive our performance in managing climate change-related risks, in particular our ability to reduce operational GHG emissions. We measure our progress in reducing GHG and methane emissions based on intensity metrics (emissions per unit of

production), rather than gross emissions, because intensity metrics provide a more comparable year-over-year measure of our performance that is not skewed by changes in activity levels, acquisitions and divestitures and other factors. We measure and report our GHG emissions as total CO<sub>2</sub> equivalents and by primary gas type, including CO<sub>2</sub>, methane and nitrous oxide. (See pp. 42-43 for methane and GHG emissions performance data.)

To help drive performance improvements, we adopted a global methane emissions intensity target to emit 0.37% or less of gross methane production by 2025, and in 2019, we achieved this target six years early. Through the API's The Environmental Partnership, we have made three commitments toward reducing our methane emissions: implementing an LDAR program at all relevant sites within the next five years; replacing high-bleed pneumatic controllers with low- or zero-emitting devices within the next five years; and implementing a monitoring and emission reduction program for liquids unloadings. We are making progress on all of these commitments (see p. 44).