the human energy company™

Chevron

climate change resilience

advancing a lower-carbon future

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a view from our lead director

"We know our stakeholders' expectations on climate change are increasing, and we are committed to helping achieve a lower-carbon future."

"Providing guidance and oversight for Chevron's approach to climate change is an important Board priority.

We regularly consider climate and related sustainability issues as an integral part of our review of the Company's overall business strategy. We seek to understand climate-related risks over a range of scenarios, then put in place effective protocols to ensure responsible actions that mitigate these risks and strengthen the long-term resilience of our business. Demonstrating our commitment to greater transparency and disclosure, Chevron has in recent years issued four increasingly detailed voluntary climate disclosure reports.

Chevron management and Directors meet regularly with investors and other outside stakeholders to better understand your views and suggestions. Like you, we at Chevron are committed to helping achieve a lower-carbon future."

— Dr. Ronald D. Sugar
Lead Director

chairman's letter

"We look ahead with optimism to working together to help create a lower-carbon future."

In 2018, Chevron published *Climate Change Resilience: A Framework for Decision Making*, our first report aligned with the Task Force on Climate-related Financial Disclosures (TCFD) framework. This report was created to share the governance, risk management, processes, and metrics we use to manage climate change–related risks and opportunities. This year's report provides an update and speaks to actions we are taking in support of a lower-carbon future.

The global response to the COVID-19 pandemic has created profound economic and social impact around the world. Despite these challenges, we have stayed focused on the health and safety of our people and the communities where we operate, providing the affordable, reliable, ever-cleaner energy the world needs, taking actions to advance a lower-carbon future, and delivering results for our investors and stakeholders.

We've also engaged in conversations about the future of energy and the best way to achieve the world's climate goals. We believe reducing the carbon intensity of the energy on which billions of people rely every day is a tremendous opportunity to make progress toward the global net-zero ambitions of the Paris Agreement.

As a company, we take actions that drive measurable progress toward our commitments. This means reducing the carbon intensity of our operations and assets, increasing the use of renewables and offsets in support of our business, and investing in low-carbon technologies that can enable commercial solutions. These actions will make energy and supply chains more sustainable—helping industries and our customers realize their own lower-carbon goals.

We have set ambitious, achievable metrics on carbon-emissions reductions. To enable others to track our performance, we aim to lead the industry on transparent carbon-emissions reporting, aligning metrics by commodity based on our equity interest.

Our metrics, coupled with our view of Scope 3—which includes supporting a price on carbon through well-designed policies; transparently reporting emissions from use of our products for nearly two decades; and enabling customers to lower their emissions through increasing our renewable products, offering offsets, and investing in low-carbon technologies—support a global approach in order to achieve the goals of the Paris Agreement as efficiently and cost-effectively as possible.

This report, *Climate Change Resilience: Advancing a Lower-Carbon Future*, offers further insights into the steps we are taking. Throughout the report, we answer the questions that are frequently asked, including about our role in global efforts to address climate change, our approach to innovation to scale climate solutions, our strategy and portfolio, and our positions on important climate policies. We are committed to an energy economy that works for all. We intend this report to contribute to an open and thoughtful conversation.

We appreciate the feedback we receive from investors and all our stakeholders—it informs and shapes our point of view, and we look ahead with optimism to working together to help create a lower-carbon future.

Thank you,

Michael K. Wirth
Chairman of the Board and
Chief Executive Officer
March 2021

24 = higher returns, lower carbon

three action areas

page 39

lower carbon intensity
cost-efficiently

increase renewables and offsets
in support of our business

invest in low-carbon technologies
to enable commercial solutions

lower-carbon capital allocation

$2B
by 2028 in carbon-reduction projects
page 41

$750M
by 2028 in investments in renewables and offsets
pages 44–46

$300M
committed to the Future Energy Fund II
page 47

carbon footprinting

page 42

drilling & completions › production › pipeline › liquefaction/refining › shipping › use

- Standardized reporting enabling buyer choice
- Reliable, verifiable information driving returns
- Life-cycle carbon-footprinted products mobilizing action

policy

page 49

innovation support

carbon pricing

targeted policies

metrics

page 52

chevron upstream emissions intensity reduction metrics for 2028:

24 kg CO_2e/boe for oil (global industry averages 46)	40% reduction from 2016
24 kg CO_2e/boe for gas (global industry averages 71)	26% reduction from 2016
2 kg CO_2e/boe for methane and a global methane detection campaign	53% reduction from 2016
0 routine flaring by 2030 and 3 kg CO_2e/boe for overall flaring	66% reduction from 2016

executive summary

At Chevron, we believe the future of energy is lower carbon and we support the global net-zero ambitions of the Paris Agreement. Affordable, reliable, ever-cleaner energy is essential to achieving a more prosperous and sustainable world. In this report, we outline our governance, risk management, strategy, portfolio, actions, and metrics.

reliable and disciplined oversight

Our governance structure calls for Chevron's full Board of Directors and executive leadership to exercise their oversight responsibilities with respect to climate change–related risks and energy-transition opportunities. This oversight is executed through regular engagement by the full Board of Directors and also through deeper, focused engagement by all Board Committees. This occurs primarily through the Board's Public Policy and Sustainability Committee, as well as the Board's Management Compensation, Audit, and Nominating and Governance Committees. At the executive level, we manage climate change–related risks and energy-transition opportunities through the Enterprise Leadership Team and the Global Issues Committee, each of which meets regularly throughout the year. We periodically reassess our governance structure to enable Chevron to maintain a Board composition and governance framework that is effective for managing the Company's performance and risks as we deliver value to our investors.

risk assessment and management

We face a broad array of risks, including physical, legal, policy, technology, market, and reputational risks. We utilize an enterprise-wide process to assess major risks to the Company and seek to apply appropriate mitigations and safeguards. As part of this process, we conduct an annual risk review with executive leadership and the Board of Directors and assess our risks, safeguards, and mitigations.

higher returns, lower carbon

Our primary objective is to deliver higher returns, lower carbon, and superior shareholder value in any business environment. Chevron's strategic and business planning processes bring together the Company's views on long-term energy market fundamentals to guide decision making by executives and to facilitate oversight by the Board of Directors. The world's energy demands are greater now than at any time in human history. Most published outlooks conclude that fossil fuels will remain an important part of the energy system over the coming decades, and that the energy mix will include increasingly lower-carbon sources. As part of our strategic planning process, we use proprietary models to forecast demand, energy mix, supply, commodity pricing, and carbon prices—all of which include assumptions about future policy, such as those that may be implemented in support of the Paris Agreement's goal of "holding the increase in the global average temperature to well below 2° C above pre-industrial levels and pursuing efforts to limit the temperature increase to 1.5° C above pre-industrial levels."

In 2020, more than 60 percent of our total Scope 1 and Scope 2 equity greenhouse gas (GHG) emissions were in regions with existing or developing carbon-pricing policies.[1] In this environment, and into a future likely to include additional lower-carbon policies, we seek to find solutions that are good for society and good for investors.

We use carbon prices and derived carbon costs in business planning, investment decisions, impairment reviews, reserves calculations, and assessment of carbon-reduction opportunities. We believe that our portfolio is resilient and that our asset mix enables us to be flexible in response to potential changes in supply and demand, even in lower-carbon scenarios like the International Energy Agency's Sustainable Development Scenario or under higher-emissions scenarios like the Intergovernmental Panel on Climate Change's Representative Concentration Pathway 8.5 to model the potential upper bound of physical risks.

success in a lower-carbon future

Our intent is to deliver affordable, reliable, ever-cleaner energy that enables human progress and delivers superior stockholder value. Our actions are focused on (1) lowering our carbon intensity cost-efficiently, (2) increasing renewables and offsets in support of our business, and (3) investing in low-carbon technologies to enable commercial solutions.

in summary

We believe the future of energy is lower carbon and we support the net-zero ambitions of the Paris Agreement. Our Board of Directors provides reliable and disciplined oversight; we assess and manage risks related to climate change; we intend to deliver higher returns and lower carbon; and we are advancing a lower-carbon future through our three action areas.

1 Scope 1 includes direct emissions. Scope 2 includes indirect emissions from imported electricity and steam.

Q&A

with the honorable jon m. huntsman jr., former ambassador and member of the PPSC

As you return to the Chevron Board, including serving on the Public Policy and Sustainability Committee, what do you see as the greatest policy issue facing the Company today?

Huntsman: Chevron is a world-class company with a significant global reach. Of all the policy issues facing the Company, the one that transcends all others is climate change. We must lead and be solution oriented, which gladly is recognized by Chevron leadership, starting with the Board. We are well-positioned to confront the post-COVID environment, which will carry both social and economic challenges. But at the same time, we will ensure that Chevron helps advance a lower-carbon economy. With 140 years of navigating difficult circumstances and policy issues, Chevron is better prepared than ever to lead as a responsible and respected global energy company.

Some are calling for Chevron to establish an ambition for net zero by 2050. What is your view on the issue?

Huntsman: If Chevron is to lead responsibly on climate, then ambitions are required. We support the Paris Agreement, which calls for achieving net-zero GHG emissions in the second half of this century. Chevron is already a leader in producing energy at a carbon intensity well below the average of the global system and is in the best-performing quartile of all oil and gas producers. Addressing the world's need for affordable, reliable, and lower-carbon energy is a priority that must be tailored to our broader goals around sustainability while generating a competitive return for investors. Our Board is deeply engaged on this issue and has aligned the Company's metrics to advance these opportunities.

With your background as a diplomat, policymaker, and businessperson, how do you think Chevron can best support the global effort to reach the goals of the Paris Agreement?

Huntsman: The best way a company can support this effort is to report on the carbon efficiency of the products they sell, along with making continuous carbon efficiency improvements and advancing new technologies that expedite all the above. Companies like Chevron that are global leaders must play a role in informing good policy, driving innovative solutions, and working with others to lower the carbon intensity of the global economy. None of this will happen without strong and unprecedented global collaboration around Paris Agreement goals while maintaining economic growth and enhancing the standard of living for all. As I return to the Board, I've never been more optimistic or impressed about what Chevron is doing to support the global energy transition.

section 1

governance framework

Our climate-related governance is designed to manage climate change–related risks and energy-transition opportunities. Board oversight, executive management, and organizational capability are foundational elements to our reliable and disciplined approach.

1.1 board oversight

Chevron's Board oversees the Company's strategic planning and risk management, both of which include climate change issues. Chevron's governance structure includes multiple avenues for the Board to exercise its oversight responsibilities with respect to risks and opportunities, including those related to climate change.

The full Board, on an annual basis, reviews the Company's strategy, including long-term energy outlooks and leading indicators that could signify change. The Board has access to education and training on climate-related materials and to Chevron's internal subject matter experts. The Board also regularly receives briefings on climate-related issues, including policies and regulations, technology, and adaptation. The full Board has met with external experts who have shared their perspectives on climate change and the energy transition. Accessing external experts—who have differing viewpoints about the speed and scale of the energy transition—in addition to internal experts, enables the Board to consider the risks and energy opportunities arising from climate change.

The Board and its committees annually review Chevron's Enterprise Risk Management (ERM) process, which assists the Board of Directors and executive leadership in overseeing key strategic risks for the Company. Climate change is addressed in a comprehensive manner in the ERM process (see page 9).

Given the nature of climate change and its relevance to our business, the entire Board addresses climate change–related issues, with each of the Board's committees focused on certain aspects. The Board has four standing committees: Public Policy and Sustainability; Audit; Nominating and Governance; and Management Compensation. Each Board committee includes only independent Directors, and each is chaired by an independent Director, who determines the frequency, length, and agenda of the meetings. Each Committee Chair has access to management, Company information, and independent advisors, as needed. Issues considered by the committees are regularly reported to the Board. In 2020 and 2021, the full Board reviewed its governance of climate change–related risks and energy-transition opportunities with the aim of ensuring complete coverage and assignment of responsibilities. Each committee undertook a revision of its charter in order to clearly and proactively articulate its oversight related to climate issues and coverage of related Board responsibilities. The Public Policy and Sustainability Committee's charter was enhanced to underscore its leadership role among the Board committees in providing oversight of climate change–related risks and energy-transition opportunities.

1.1.1 Public Policy and Sustainability Committee (PPSC)

The PPSC assists the Board in monitoring, identifying, and evaluating climate risks, policies, and trends that affect Chevron's activities and performance. The PPSC discusses Chevron's progress in addressing the energy transition, establishment of climate-related goals, and voluntary reporting of environmental matters, including those related to sustainability and climate change. The PPSC reviews Chevron's political activities, including how its direct and indirect lobbying on climate issues supports Chevron's climate strategy and reflects on the Company's reputation. In conjunction with the Board Nominating and Governance Committee, the PPSC reviews climate-related proxy proposals and makes recommendations on the Company's responses. The PPSC is also responsible for overall coordination within the Board on climate-related issues.

1.1.2 Audit Committee (AC)

The AC is responsible for oversight of the integrity and compliance of the Company's financial statements and for seeing that financial reports and associated disclosures adequately reflect all financial risks that are material to the business. The AC analyzes potential financial risk exposures as part of Chevron's ERM process, including potential financial risks associated with climate change. These risks are discussed in the Risk Factors section of

the role of an auditor

Registered public accounting firms must follow auditing and related professional practice standards established by the Public Company Accounting Oversight Board (PCAOB).

- The objective of the audit of financial statements by an independent auditor is the expression of an opinion on the fairness with which the statements present, in all material respects, a company's financial position, results of operations, and cash flow in conformity with generally accepted accounting principles.
- Auditors must maintain independence as required by the American Institute of Certified Public Accountants' Code of Professional Conduct and by Securities and Exchange Commission requirements.

Chevron monitors developments in PCAOB standards, including Auditing Standard 3101 regarding critical audit matters, and incorporates them into our internal processes. More information on auditing standards is available on the PCAOB website.

board of directors

highly engaged, diverse board with relevant skills and qualifications

Michael K. Wirth
Chairman and Chief Executive Officer
Former Vice Chairman of the Board and Executive Vice President of Midstream & Development, Chevron

Ronald D. Sugar
Lead Director
Retired Chairman and CEO, Northrop Grumman Corporation **(3, 4)**

Wanda M. Austin
Retired President and CEO, The Aerospace Corporation **(2, 3)**

John B. Frank
Vice Chairman, Oaktree Capital Group, LLC **(1)**

Alice P. Gast
President, Imperial College London **(2, 3)**

Enrique Hernandez Jr.
Chairman and CEO, Inter-Con Security Systems, Inc. **(2, 4)**

Marillyn A. Hewson
Retired Chairman, CEO, and President, Lockheed Martin Corporation **(1)**

Jon M. Huntsman Jr.
Former U.S. Ambassador to China, Russia; Former Governor of Utah **(2, 4)**

Charles W. Moorman IV
Senior Advisor to Amtrak, Retired Chairman and CEO, Norfolk Southern Corporation **(1)**

Dambisa F. Moyo
CEO, Mildstorm LLC **(1)**

Debra Reed-Klages
Retired Chairman, CEO, and President, Sempra Energy **(1)**

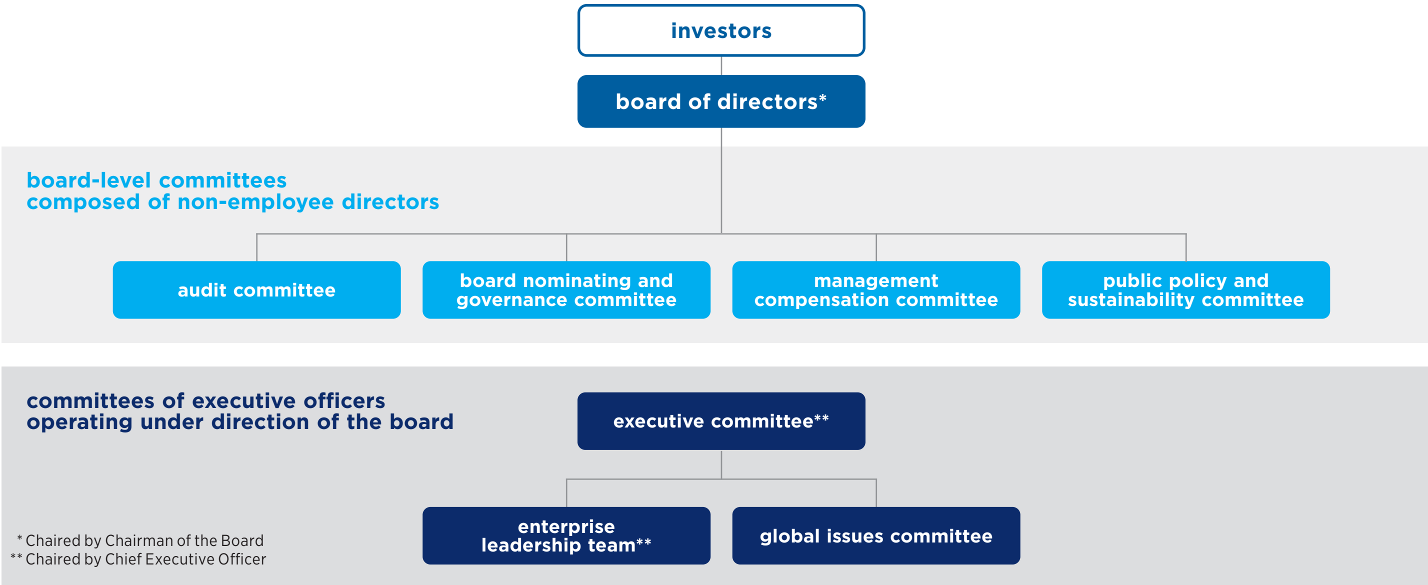
D. James Umpleby III
Chairman and CEO, Caterpillar Inc. **(3, 4)**

Skills, Experiences, and Expertise: ● CEO/Senior Executive/Leader of Significant Operations ● Science/Technology/Engineering/Research/Academia ● Government/Regulatory/Legal/Public Policy ● Finance/Financial Disclosure/Financial Accounting ● Global Business/International Affairs ● Environmental

Committees of the Board: **(1)** Audit: Charles W. Moorman IV, Chair **(2)** Public Policy and Sustainability: Wanda M. Austin, Chair **(3)** Board Nominating and Governance: Ronald D. Sugar, Chair **(4)** Management Compensation: Enrique Hernandez Jr., Chair

chevron's governance structure

relevant to climate change–related risk and energy-transition opportunity oversight



the Company's Annual Report on Form 10-K.[2] The AC selects and engages the Company's independent auditor and oversees the Board's responsibility with respect to the independent audit of the Company's financial statements.

1.1.3 Management Compensation Committee (MCC)
The MCC considers the relative alignment of the Company's compensation policies and practices with investors' interests, including those related to sustainability, climate change risks, and energy-transition opportunities. The MCC assesses and approves the incorporation of GHG-related performance measures into the scorecard that affects the compensation of management and most other employees.

1.1.4 Board Nominating and Governance Committee (BNGC)
The BNGC identifies and recommends prospective Directors with the goal of maintaining a Board composition appropriate to overseeing the wide-ranging risks that affect Chevron. The BNGC regularly reviews the appropriate skills and qualifications of Directors in the context of the current composition of the Board, the operating requirements of the Company, and the long-term interests of investors. Among the skills and qualifications desired on our Board are experience in environmental affairs, and extensive knowledge of governmental, regulatory, legal, or public policy issues. Under our Corporate Governance Guidelines, the BNGC considers expertise and experience with respect to climate issues when assessing Board membership.

Chevron's Directors have a diverse set of skills, experience, and expertise to enable the Board to effectively provide oversight of climate change–related risks and energy-transition opportunities. Several independent Directors bring specific environmental and policy skills and qualifications to the Board. Their experience comes from academic, government, and business sectors. These diverse perspectives help enable the Board to challenge itself and management on climate change–related risks and energy-transition opportunities.

The Board periodically reassesses Chevron's governance structure and the skills, experience, and expertise of the Board of Directors in an effort to enable Chevron to maintain an effective framework for managing the Company's performance and the risks to our business.

our nomination process

To maintain a balance of knowledge, experience, background, and capability, when conducting its review of the appropriate skills and qualifications desired of Directors, the BNGC considers:

- Leadership experience in business as a chief executive officer, senior executive, or leader of significant business operations
- Expertise in science, technology, engineering, research, or academia
- Extensive knowledge of governmental, regulatory, legal, or public policy issues
- Expertise in finance, financial disclosure, or financial accounting
- Experience in global business or international affairs
- Experience in environmental issues (including climate change)
- Service as a public company director
- Diversity of age, gender, and ethnicity
- Such other factors as the committee deems appropriate, given the current needs of the Board and the Company

2 Chevron Corp., 2020 Annual Report on Form 10-K, chevron.com/investors/financial-information#secfilings.

1.2 executive management of climate risks

Under the direction of the Board, Chevron's Executive Committee is composed of executive officers of Chevron and carries out Board policy in managing the business affairs of the Company. The Enterprise Leadership Team (ELT) and Global Issues Committee (GIC), described below, are subcommittees of the Executive Committee.

1.2.1 Enterprise Leadership Team

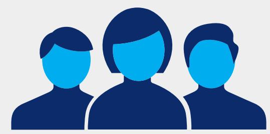
The ELT is responsible for managing the composition, resource allocation, and strategic direction of Chevron's portfolio to achieve Chevron's objectives. The ELT focuses on performance improvement by understanding current performance and business drivers, and assessing the progress and status of key corporate initiatives, like our climate and energy-transition strategy (see pages 12–31). The ELT also oversees the ERM process (see page 9), which addresses climate change–related risks. At its monthly meetings, the ELT receives briefings from Chevron's subject matter experts on topics such as energy transition and climate change, geopolitical risk, innovation and technology, the policy landscape, and market conditions. For example, in 2020, the ELT received briefings and provided guidance on energy-transition strategies; peer activities; enterprise-wide optimization and funding of carbon-reduction projects; performance on and updates to metrics; technology and innovation; policy; and future energy opportunities. The ELT also consults outside experts to discuss energy transition and climate change issues. In addition to these topical discussions, the ELT reviews carbon-price forecasts, which are incorporated into all business units' business plans and, as appropriate, into their carbon management plans (see page 30).

1.2.2 Global Issues Committee

The GIC oversees the development of Chevron's policies and positions related to global issues that may have a significant impact on Chevron's business interests and reputation.

The vice president of Chevron Strategy & Sustainability chairs the GIC and serves as the secretary to the PPSC of the Board, ensuring that the GIC's work is connected to the PPSC.

The GIC receives updates from subject matter experts on an array of climate change–related issues, such as carbon policy development around the world; Company positions on carbon policy; political developments; lobbying and trade association activity; and environmental, social, and governance (ESG) reporting practices. The GIC reviews the climate change–related actions of other companies to understand how our peers are responding to climate change–related risks and energy-transition opportunities. It also oversees our stockholder engagement plan and reviews feedback from our stockholder engagements. The GIC is focused on ensuring that our strategy is clearly communicated and that stakeholder feedback and concerns are carefully considered.



1.3 organizational capability on climate issues

To further enhance enterprise coordination and organizational capability on climate issues, we established the Energy Transition Team in 2018 to bring together subject matter experts on climate strategy, GHG-reduction initiatives, and lower-carbon businesses. The ESG & Sustainability Team was also established in 2018 to coordinate ESG-related engagement with investors, other stakeholders—including framework developers such as the IPIECA (the global oil and gas industry association for advancing environmental and social performance), the Task Force on Climate-related Financial Disclosures, and the Sustainability Accounting Standards Board—and rating agencies. Chevron aims to engage annually with our top 50 investors and other key stakeholders to gain valuable feedback that is then shared with the Board, Board committees, management, and subject matter experts.

In 2020, Chevron moved the Energy Transition and ESG & Sustainability teams into one organization and added professionals with technical, commercial, and related project experience. We placed this group in the newly renamed and enhanced Chevron Strategy & Sustainability organization, along with Chevron's strategic, macroeconomic, forecasting, and competitor intelligence teams, which collectively facilitate the Company's long-term strategy.

section 2

risk management

chevron employs long-standing risk management processes for identifying, assessing, and managing the risks to our business, including risks related to climate change

Our Enterprise Risk Management process provides corporate oversight for assessing major risks to the Company and overseeing the safeguards and mitigations that are put in place. As part of the annual ERM process, the Enterprise Leadership Team evaluates categories of risks and their potential consequences, financial and otherwise. It also identifies and assesses the effectiveness of safeguards and mitigations in place to manage each risk category. When necessary, the ELT develops and implements improvements to strengthen the Company's safeguards. Following endorsement by the ELT, the annual ERM assessment is reviewed by the Board of Directors. Potential climate change–related risks are integrated into multiple ERM categories. Our management of risk is further aided by other systems and processes. For example, operational risks vary by geography and segment, but we seek to approach risk management in a consistent manner through our Operational Excellence Management System (OEMS).

Climate disclosure frameworks generally identify two main areas of corporate climate risk: physical risks[3] and transition risks. Physical risks include potential physical impacts driven by both acute events and long-term shifts in climate patterns. Transition risks include the potential risks to a company arising from the transition to a lower-carbon energy system, such as policy changes, litigation, technology advancements, shifts in supply and demand, and changing stakeholder perceptions.

2.1 physical risk

According to the UN Intergovernmental Panel on Climate Change (IPCC), the physical risks of climate change are varied and widespread. As disclosed on page 20 of the Company's 2020 Annual Report on Form 10-K, the Company's operations are subject to disruption from natural or human causes beyond its control, including physical risks from hurricanes, severe storms, floods, heat waves, other forms of severe weather, wildfires, ambient temperature increases, and sea level rise.

We have in place practices to manage risks to our operations associated with the impacts of ambient conditions and extreme weather events. These long-standing practices are currently applied to address possible effects of climate change and to maintain the ongoing resilience of our infrastructure. For example, Chevron's Metocean Design and Operating Conditions Standard provides guidance for the physical parameters to be used in the design, construction, and operation of offshore and coastal facilities, including those on land that may be threatened by coastal inundation due to storm surges. In addition, our Climate Adaptation Risk Assessment procedure is designed to identify and address potential physical impacts of climate change to capital projects, facilities, and operations under our control (see page 36).

With worldwide operations subject to diverse microclimates and weather phenomena, we stay prepared for the possibility of natural disasters. Based on risk evaluations and business impact analysis, business units develop and implement a Business Continuity Plan to provide continuous availability—or prompt recovery—of critical business processes, resources, and facility operations. Our business units work with local communities and emergency response teams to develop site-specific plans in the event of any disruption. The plans and processes are regularly reviewed and tested to promote business continuity.

3 Wellington Management, *Physical Risks of Climate Change (P-ROCC)*, October 2019, wellington.com/uploads/2019/10/e01e2a4ed6fce336dce93f86f0af9883/physical-risks-of-climate-change_procc_framework.pdf; Task Force on Climate-related Disclosures (TCFD), *Recommendations of the Task Force on Climate-related Financial Disclosures*, June 2017, assets.bbhub.io/company/sites/60/2020/10/FINAL-2017-TCFD-Report-11052018.pdf.

2.2 transition risks

Our ERM process encompasses risks typically identified as climate-related transition risks, including legal, policy, technology, market, and reputational risks. Risks that could materially impact our operations and financial condition are discussed in the Risk Factors section of our Annual Report on Form 10-K.

2.2.1 Policy risks

Policies addressing climate-related issues are evolving (see pages 14–20). The direct effects, as well as second- and third-order effects, of potential policy changes will depend on the type and timing of such changes. As disclosed on pages 21–23 of the Company's 2020 Annual Report on Form 10-K, significant changes in the regulatory environment, including those driven by climate-related issues, could affect our operations.

For example, legislation, regulation, and other government actions related to GHG emissions and climate change could continue to increase Chevron's operational costs and reduce demand for Chevron's hydrocarbon and other products.

working together

Trade associations serve as an important voice for the industry, working to identify issues that range across a broad spectrum of topics and to develop and promote sound policy.

1. We are committed to compliance, transparency, and accountability in our lobbying activities.
2. We have executive management and Board oversight of direct and indirect lobbying activities.
3. We are committed to having an honest conversation. This means sharing our perspective, listening to others, respecting differences, and working to find solutions.
4. Our climate lobbying activities are designed to support our commitment to delivering affordable, reliable, and ever-cleaner energy and to help advance the global energy transition.
5. We rarely agree 100 percent with any trade association, but we believe participation is important to advancing Chevron's view on the energy transition.

See our lobbying report at chevron.com/-/media/chevron/sustainability/documents/chevron-climate-lobbying-report.pdf for more information on our engagement with trade associations and page 49 for our climate policy positions.

Climate-related issues are integrated into the Company's strategy and planning, capital investment reviews, and risk management tools and processes, where applicable (see pages 30–31). They are also factored into the Company's long-range supply, demand, and energy price forecasts (see page 29).

2.2.2 Technology risks

Development and deployment of innovations and emerging technologies in pursuit of a lower-carbon economy may disrupt or displace portions of the current economic system. As disclosed on pages 19–20 of the Company's 2020 Annual Report on Form 10-K, technology advancements could affect the price of crude oil.

The Chevron Technical Center (CTC) supports Chevron's businesses through research, technology, and capability development. The CTC also helps bridge the gap between business unit needs and emerging technology solutions developed externally in areas affecting our business (see pages 21–22, 47). In 2018, Chevron established the Chevron Future Energy Fund with a commitment of $100 million, and a follow-up Future Energy Fund II in 2021 with a commitment of $300 million, to invest in breakthrough technologies that could enable the energy transition.

Our investments and partnerships have focused on areas such as alternative energy, transportation and infrastructure, capturing and reducing emissions, and energy storage.

2.2.3 Market risks

The potential impacts of climate change on markets are both complex and uncertain. As disclosed on page 19 of the Company's 2020 Annual Report on Form 10-K, Chevron is primarily in a commodities business that has a history of price volatility. Potential consumer use of substitutes to Chevron's products may impact our business.

We are focused on maintaining a strong balance sheet as well as maintaining prudent liquidity levels. Our policies and controls provide centralized governance over key enterprise processes, including banking, liquidity management, foreign exchange, credit risk, financing, and climate change–related risks and energy-transition opportunities (see pages 30–31).

litigation

In recent years, Chevron, along with many other investor-owned energy companies (comprising a small, select subset of the broader oil and gas industry), has been named in more than a dozen lawsuits brought by various U.S. cities, counties, states, and trade associations, all of which seek to hold these investor-owned companies financially responsible for changes in climate and the effects of those changes. To date, none of these cases has survived a motion to dismiss, and we will continue vigorously defending ourselves against claims that we believe are factually and legally without merit.

Suggesting that investor-owned energy companies, which are responsible for only a small amount of the overall global oil and gas production, and an even smaller portion of the overall global GHG inventory, should be held retroactively liable for the effects of the cumulative phenomena of climate change is illogical. First, the extraction, production, and sale of oil and gas have long been actively promoted by governments—by law and by express policy. Second, retroactive liability against a small subset of oil and gas companies ignores issues of legal causation, the history of how our complex energy system has developed, and national and international geopolitics. Moreover, any putative relief will neither have an effect on global demand for fossil fuels nor efficiently address global impacts of climate change. Focusing on investor-owned companies is arbitrary and opportunistic; it punishes successful companies who are often the most responsive, transparent, innovative, and responsible producers.

Claims that we have concealed superior knowledge of climate change from the public are false. The potential effects of greenhouse gases on the climate have been the subject of study and public discussion by prominent scientists and government officials for more than half a century.

Climate change is a global issue that requires a global solution by policymakers. We welcome meaningful efforts to address the issue of climate change and look forward to continuing to engage with governments and stakeholders to develop constructive solutions to help deliver a lower-carbon future. But litigation is neither an appropriate nor an effective tool for accomplishing that objective.

2.2.4 Legal risks

In recent years, a variety of plaintiffs have brought legal claims against various defendants alleging climate-related losses and damages. As disclosed on page 23 of the Company's 2020 Annual Report on Form 10-K, increasing attention to climate change may result in additional government investigations and private litigation against Chevron.

We have highly capable legal staff and associated safeguards through all levels of the enterprise to identify, evaluate, and actively address legal risks. Our legal experts review and report on emerging issues and trends that could impact the Company. They aim to provide consistent reviews of matters to identify, evaluate, and effectively manage risks associated with pending matters.

2.2.5 Reputational risks

As disclosed on page 23 of the Company's 2020 Annual Report on Form 10-K, increasing attention to climate change matters may impact our business. Organizations that provide information to investors on corporate governance and related matters have developed ratings processes for evaluating companies on their approach to environmental, social, and governance matters. Such ratings are used by some investors to inform their investment and voting decisions. Also, some stakeholders, including but not limited to sovereign wealth, pension, and endowment funds, have been promoting divestment of fossil fuel equities and urging lenders to limit funding to companies engaged in the extraction of fossil fuel reserves. Unfavorable ESG ratings and investment community divestment initiatives may lead to increased negative investor sentiment toward Chevron and our industry and to the diversion of investment to other industries. Refer to Section 1, Governance Framework (see pages 5–8).

Our Global Issues Committee actively stewards our reputation by ensuring alignment of key corporate policies, practices, and public positions related to climate change.

Our OEMS includes a Stakeholder Engagement and Issues Management process that facilitates engagement with local communities and stakeholders to identify and assess the unique risks for each business unit's operations. Potential social, political, and reputational risks are identified, leading to risk management strategies. We regularly engage with investors and other stakeholders to receive feedback on climate-related issues.

section 3

strategy

higher returns, lower carbon

As a global company, we operate in many jurisdictions that have enacted lower-carbon policies. In 2020, more than 60 percent of our total Scope 1 and Scope 2 equity GHG emissions were in regions with existing or developing carbon-pricing policies, in addition to other lower-carbon policies like mandates for biofuels and renewables, methane regulation, and emerging support for technologies like carbon capture, utilization, and storage (CCUS) and hydrogen. Under current and potential future market conditions, we seek to understand the impacts of climate-related actions and strategies and to advance opportunities to increase returns to investors.

Chevron's energy-transition strategy is to advance a lower-carbon future and we will leverage our capabilities, assets, and expertise to focus on three action areas that aim to deliver measurable progress that is both good for investors and good for society:

- Lowering carbon intensity cost-efficiently
- Increasing renewables and offsets in support of our business
- Investing in low-carbon technologies to enable commercial solutions

Our strategic and business planning processes guide our actions to deliver higher returns and lower carbon. We discuss our approach to each energy-transition opportunity in Section 4, Our Portfolio (see pages 37–52).

Our strategic and business planning process: Analyzing the fundamentals to drive strategic focus and action

Chevron's strategic and business planning processes bring together the Company's views on long-term energy market fundamentals to guide decision making by executives and facilitate oversight by the Board of Directors. We use proprietary models to forecast demand, energy mix, supply, commodity prices, and carbon prices—all of which include assumptions about future policy and technology developments.

The chart below details fundamental areas analyzed in our strategic planning process. These fundamentals help guide our decisions on strategy, portfolio management, business planning, and capital allocation.

The world's energy demands in recent years are greater than at any time in human history, and most published outlooks conclude that fossil fuels will remain a significant part of an energy system that increasingly incorporates lower-carbon sources of supply over the coming decades. Within this context, we align our strategy with areas in which we have a competitive advantage and in which we see potential to generate increased value for our investors.

Our strategic process supports our ability to operate in a lower-carbon policy environment. For example, we use carbon prices and derived carbon costs in business planning, investment decisions, impairment reviews, reserves calculations, and evaluation of carbon-reduction opportunities. We believe that lower-carbon-intensity oil and gas assets will remain economically competitive under a wide range of future scenarios. We believe our portfolio is resilient, and that our asset mix enables us to be flexible in response to potential changes in supply and demand, even in lower-carbon scenarios like the International Energy Agency's (IEA) Sustainable Development Scenario (SDS) (see pages 32–35).

Exhibit 1. A disciplined approach to strategy development

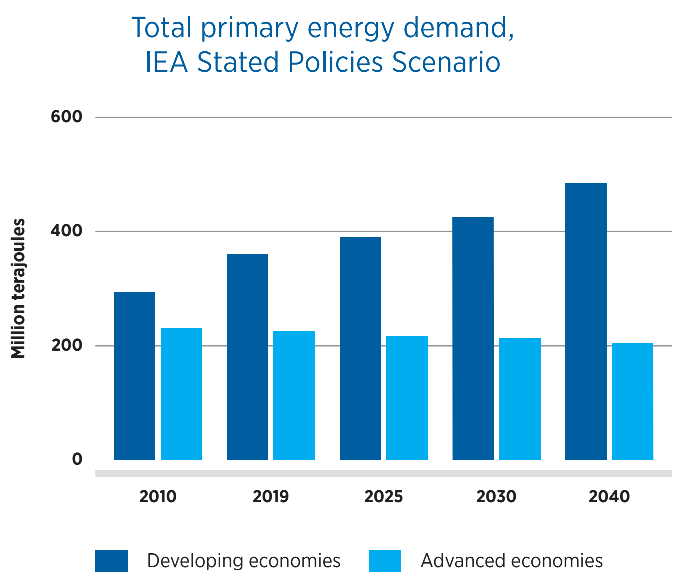
3.1 how we approach long-term fundamentals

We have a dedicated cross-functional team that tracks and forecasts long-term fundamentals to inform us of potential changes in market dynamics that could indicate the need for changes to strategy.

3.1.1 Macroeconomic and demographic drivers: Population growth, increasing standards of living, and consumer behaviors
Affordable, reliable energy enables economic development by facilitating modern production techniques, which ultimately leads to increased lifespans and a higher quality of life.[4] Individuals and society benefit from access to affordable, reliable, and ever-cleaner energy. As populations and incomes grow and billions of people in less-developed countries seek a higher standard of living, many experts forecast global energy demand to increase, even as the energy intensity of the world's economic output is declining.[5] As incomes improve, more economic growth comes from the service sector, which is often more energy and carbon efficient than manufacturing. In addition, technological advancements and ongoing improvements in energy efficiency will likely further reduce energy intensity. These effects may be less prevalent in nations that are in the process of industrialization and infrastructure development, as these activities require immense energy resources.[6]

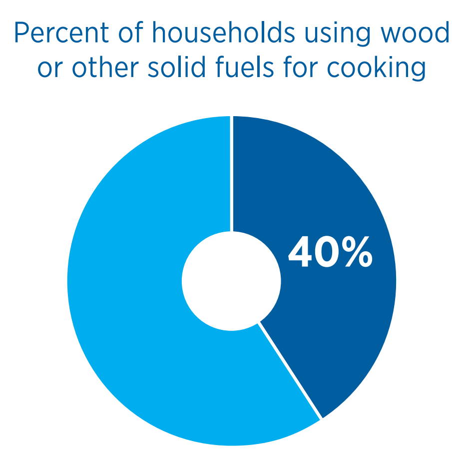
Changes in consumer behavior can also influence energy demand. Some behaviors, like remote working and videoconferencing, can lead to a decrease in energy demand. Other behaviors, like increased use of home delivery, can lead to an increase in energy demand. The impact of behavioral changes may be modulated by other demand drivers, such as government policies or the long life of existing infrastructure. For example, although some municipalities have passed ordinances prohibiting the inclusion of gas infrastructure in new buildings, natural gas still accounts for about 24 percent of household energy use in the United States.[7] Demand for natural gas is primarily driven by existing homes and buildings, which typically have very long service lives. Accordingly, the IEA's 2020 *World Energy Outlook* (WEO) expects behavioral changes to be "influential" but "not game-changers" in their scenarios (Stated Energy Policies Scenario and Delayed Recovery Scenario).[8]

Exhibit 2. A growing middle class drives demand for access to energy



Source: IEA, *World Energy Outlook 2020*, iea.org/reports/world-energy-outlook-2020.

Exhibit 3. Billions of people would benefit from affordable, reliable, and ever-cleaner energy



Source: World Bank, World Development Indicators, databank.worldbank.org/source/world-development-indicators.

4 International Energy Agency (IEA), *Defining energy access: 2020 methodology,* October 2020, iea.org/articles/defining-energy-access-2020-methodology.
5 U.S. Energy Information Administration (EIA), *Global energy intensity continues to decline,* July 2016, eia.gov/todayinenergy/detail.php?id=27032; Namit Sharma et al., *The decoupling of GDP and energy growth: A CEO guide*, April 2019, mckinsey.com/industries/electric-power-and-natural-gas/our-insights/the-decoupling-of-gdp-and-energy-growth-a-ceo-guide.
6 EIA, *Use of energy explained*, eia.gov/energyexplained/use-of-energy/.
7 EIA, *Natural gas explained*, eia.gov/energyexplained/natural-gas/use-of-natural-gas.php.
8 IEA, *World Energy Outlook 2020*, October 2020, iea.org/reports/world-energy-outlook-2020.

3.1.2 Policy: Trends, framework, and impact analysis

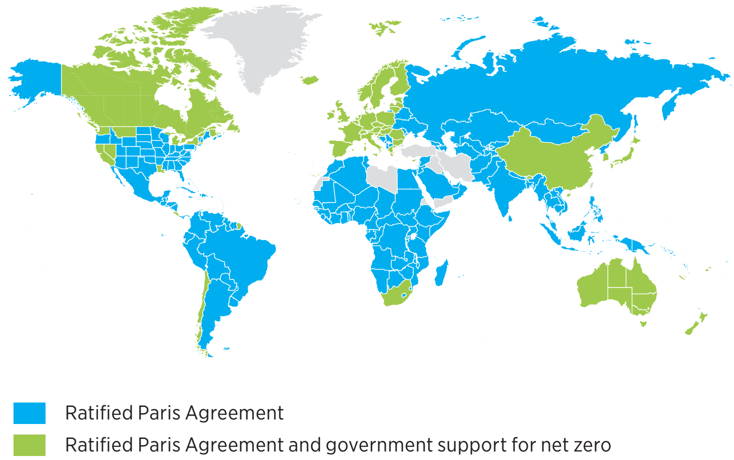
Policies, like those that support the Paris Agreement, can change the amount of energy consumed, the rate of energy-demand growth, the energy mix, and the relative economics of one fuel versus another. Tracking and anticipating policy trends helps us identify potential changes in energy mix and supply/demand scenarios and adjust our outlooks accordingly.

Policy trends: The Paris Agreement, which was ratified in 2016, aims to hold "the increase in the global average temperature to well below 2° C above pre-industrial levels and [to pursue] efforts to limit the temperature increase to 1.5° C above pre-industrial levels." Under the agreement, each country may pursue its own strategies for achieving its Nationally Determined Contributions (NDCs). According to the IEA, the current NDCs do not appear to enable achieving the goals of the Agreement,[9] although new, updated, or reconfirmed NDCs are intended to be submitted.

According to the IPCC, achieving the Paris Agreement's goals will require peaking emissions as soon as possible and global net-zero emissions by "around 2070" (2065–2080). The IPCC finds that achieving a 1.5° C scenario with high confidence and without any temporary overshoot would require net zero by "around 2050" (2045–2055). Other IPCC scenarios reach net zero later this century, but they achieve 1.5° C outcomes through greater adoption of carbon dioxide removal opportunities. Achieving a 1.5° C goal will require nations to reduce emissions across all sectors of the economy. It will also require increasing removals by sinks, such as nature-based solutions (e.g., forestry), and through technological solutions (e.g., CCUS).

The IPCC finds there are numerous potential pathways to achieving the goals of the Paris Agreement. All pathways include the continued use of oil and gas, even in rapid decarbonization scenarios. To achieve net-zero emissions by 2050, direct air carbon dioxide capture and storage and carbon capture and storage (CCS) are required to be scaled up and globally deployed. Without this technology, the IPCC climate models cannot achieve theoretical solutions to reach net zero in the desired time frame.

Exhibit 4. Nearly all countries have ratified the Paris Agreement and are supporting net-zero ambitions



As of March 2021.

Sources: United Nations Treaty Collection, treaties.un.org/Pages/ViewDetails.aspx?src=TREATY&mtdsg_no=XXVII-7-d&chapter=27&clang=_en; United Nations Framework Convention on Climate Change, unfccc.int.

to achieve global net zero, markets should be empowered to incentivize the most carbon-efficient producers

We support the Paris Agreement and its goal of "holding the increase in the global average temperature to well below 2° C above pre-industrial levels and pursuing efforts to limit the temperature increase to 1.5° C above pre-industrial levels," which per the IPCC implies reaching global net zero in the second half of this century. We believe that the optimal approach for society is to drive the most efficient and cost-effective reductions economywide, paired with negative emissions from man-made and natural sources. Narrow sectoral or geographic metrics are less efficient than broad economywide solutions, which are uniquely able to incentivize the most efficient and cost-effective reductions. Chevron supports a price on carbon, applied as widely and broadly as possible, as the best approach to reduce emissions. We work to encourage national policies to support international linkages (for example, through Article 6 of the Paris Agreement), with the goal of ultimately building up to a liquid and integrated global carbon market.

Individual companies contribute to achieving the goals of the Paris Agreement through their participation in policies that may be included in the NDCs of the countries in which the companies operate. We work with governments to encourage well-designed policies that can strengthen the NDCs, such as carbon pricing and rewarding the most efficient and least carbon-intensive producers. Most energy forecasts agree that oil and gas will continue to be a significant source of energy—even in a net-zero scenario. Therefore, it is critical that markets incentivize the most efficient and least carbon-intensive producers to provide oil and gas. Such an approach may not result in each individual company reaching net zero, but it is, we believe, the most promising path toward the ultimate goal of global net zero.

9 IEA, *World Energy Outlook 2020*, October 2020, iea.org/reports/world-energy-outlook-2020.

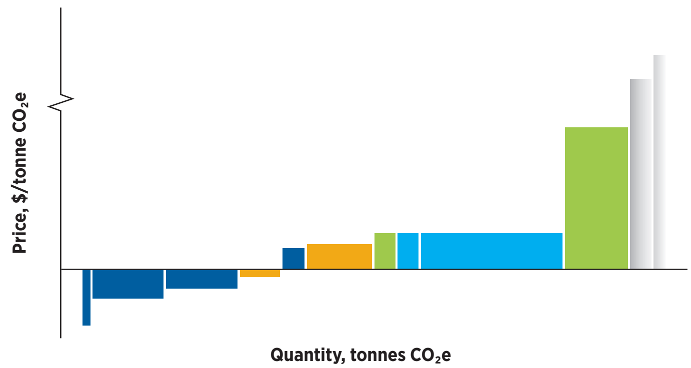
Policy organizational framework: Given the sheer scale of the global challenge to address climate change, allocation of limited resources as efficiently and effectively as possible is critical to creating the greatest opportunity for success. Prioritizing efforts that curtail emissions at the lowest cost per tonne, irrespective of where or in which sectors those abatements occur, is the most economically efficient approach. These efforts, grouped by category, can be ordered by cost of the reduction on a per-tonne basis in a graphical representation (Exhibit 5), often called a marginal abatement cost curve (MACC).[10]

Each bar represents one type of mitigation opportunity. The height of each bar represents the cost of abatement, generally expressed in a breakeven cost per tonne of carbon dioxide–equivalent (CO_2e), and the width of each bar represents the volume of abatement, usually in tonnes of CO_2e. Generally, efficiency and some renewable-power applications are less costly than nature- and land-based reductions, which are generally less costly than CCUS and other technologies still in early development. Potential carbon-reduction costs and volumes can also vary by geography or application.[11]

Because it is impossible to know the exact abatement cost and reduction available in order to design specific policies for targeted reduction opportunities, most economists believe the most efficient way to achieve economywide emissions reduction is through a price on carbon.[12] Carbon pricing incentivizes reductions across the economy and investment in reduction technologies for the future. A price in the form of either a tax—which sets the cost of reduction—or a cap-and-trade system—which sets the volume of reduction—can flexibly integrate additional information and solutions within a market-based framework, strengthening and compounding its comparative advantages over time (Exhibit 6). In addition, carbon prices could raise revenue that can either be invested in reduction technologies whose commercial application might otherwise be too distant to incentivize investment or returned to impacted communities and consumers.

The wider the coverage of a price, the more opportunities there are to find carbon reductions. For example, in non-OECD economies, it is often less expensive to reduce emissions because investment may not have been made in the most efficient technology. By linking OECD and non-OECD economies, financing can be mobilized to incentivize reductions from the lowest-cost area. It is estimated that

Exhibit 5. A MACC can be a helpful organizational framework for policy analysis and abatement-potential analysis



Note: Example of a marginal abatement cost curve; project ranking represents average prices, but specific projects within categories vary.

Exhibit 6. In markets with carbon pricing, the carbon cost often follows the cost of abatement in the market*

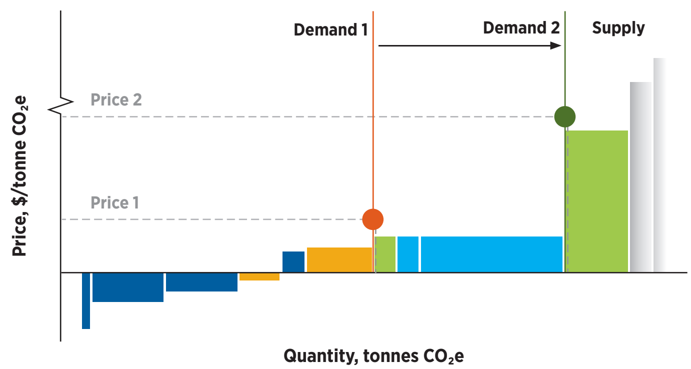
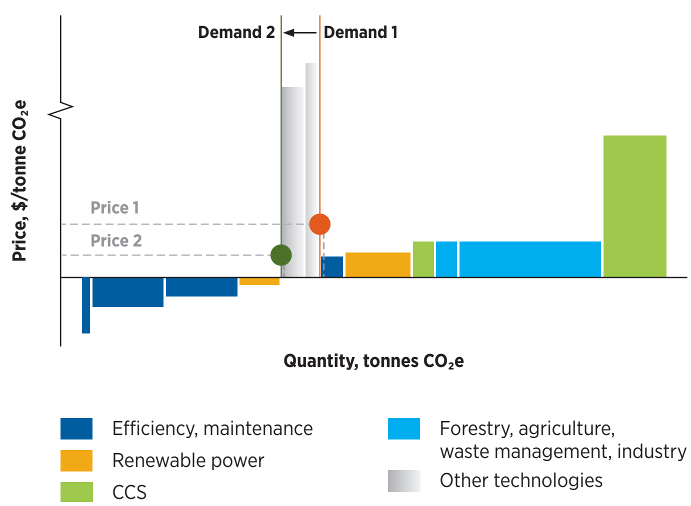


Exhibit 7. In markets with narrowly targeted policies, abatement opportunities may be reordered*



*For illustration only. Not drawn to scale.

10 Construction of a MACC requires detailed understanding of a wide range of technologies and mitigation options across the various sectors of the economy. Numerous decisions are also necessary, such as the grouping of technologies and the choice of discount rate, which can affect both the volume and cost calculations. MACCs should be taken as qualitative, rather than quantitative, representations of the costs and potential magnitudes of mitigation options unless done with facility- and project-specific information.

11 Kenneth Gillingham, "Carbon Calculus," *IMF Finance & Development*, December 2019, mf.org/external/pubs/ft/fandd/2019/12/pdf/the-true-cost-of-reducing-greenhouse-gas-emissions-gillingham.pdf; Kenneth Gillingham & James H. Stock, "The Cost of Reducing Greenhouse Gas Emissions," *Journal of Economic Perspectives*, Vol. 32 (4), Fall 2018, *aeaweb.org/issues/529*; Goldman Sachs Research, *Carbonomics: Innovation, Deflation, and Affordable Decarbonization*, October 2020, goldmansachs.com/insights/pages/carbonomics-innovation-deflation-and-affordable-de-carbonization.html; Taskforce on Scaling Voluntary Carbon Markets, November 2020, iif.com/tsvcm/.

12 World Bank Group, *State and Trends of Carbon Pricing 2016*, October 2016, openknowledge.worldbank.org/handle/10986/25160.

with global cooperation (for example through the Paris Agreement), reductions can be made at half the cost of an inefficient and unlinked system.[13]

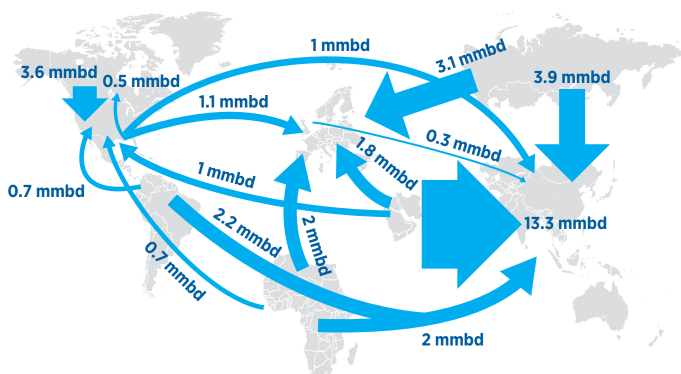
Policies narrowly targeted at specific geographic regions, sectors, or technologies can miss the efficiencies of a comprehensive market-based system. The impact of a targeted approach may be a reordering of the MACC-abatement opportunities—by shifting a higher-cost activity to the left on the graph (Exhibit 7). This typically achieves emissions reductions at greater overall costs to society and may distort price signals (e.g., lower the carbon price) by adding reductions, or supply, to the market.

Although carbon pricing is generally regarded as the most efficient way to widely reduce emissions, governments may want to support innovation by investing in technologies whose commercialization could unlock greater reduction opportunities even though they are currently more expensive and have a "green premium," which is the "additional cost of choosing a clean technology over one that emits a greater amount of greenhouse gases."[14] Similarly, targeted policies are sometimes helpful for addressing instances in which a desirable reduction activity would not otherwise occur because of a barrier. For example, although efficiency projects often are economic, the entity that needs to invest in the reduction activity may not be the same entity that receives the benefit from the investment (e.g., in situations that involve leased equipment).

Policy impacts: The timing, scope, scale, and design of policies to support the goals of the Paris Agreement will vary and could have direct and indirect impacts on the Company. Policies can change the amount of energy consumed, the rate of energy-demand growth, and the relative economics of one fuel versus another.

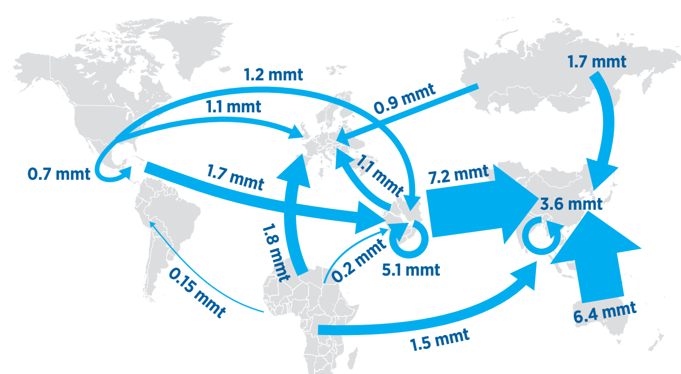
- Efficiency improvements are expected to have the largest impact on moderating energy-demand growth (e.g., consumers purchase more-efficient vehicles or more-efficient appliances). Efficiency policies, up to a point, are often some of the most cost-efficient on a per-tonne basis. You can read more about our actions on efficiency on page 41.
- Technology mandates, like renewable fuel and portfolio standards, and electric vehicle mandates, can change the economics of different energy sources and may change the energy mix. You can read more about our actions on renewables on pages 44–45.
- Carbon pricing and fuel taxes increase the cost of fossil fuels and can affect the relative economics of the fuel mix. In addition, carbon pricing can incentivize the most efficient producer of a particular product. You can read more about Chevron's approach to carbon pricing on page 29. You can read more about our approach to carbon-efficient production on page 41.
- Policy design in major demand centers and markets is increasingly important because of impacts on the relative economics of fuel choices, particularly for those that trade in global markets. Oil, gas, and associated products are globally traded commodities (Exhibits 8 and 9). Border carbon adjustment mechanisms, which are applied in carbon-pricing programs and import requirements under renewable fuels mandates to prevent offshoring of emissions to other jurisdictions (also known as leakage), can raise the cost of an imported product. Impact is often tied to the benchmarked carbon intensity of the product's production.

Exhibit 8. About 50 percent of global daily oil production crosses borders



Source: IHS Markit, ihsmarkit.com.
mmbd = millions of barrels per day

Exhibit 9. Virtually all LNG produced crosses borders

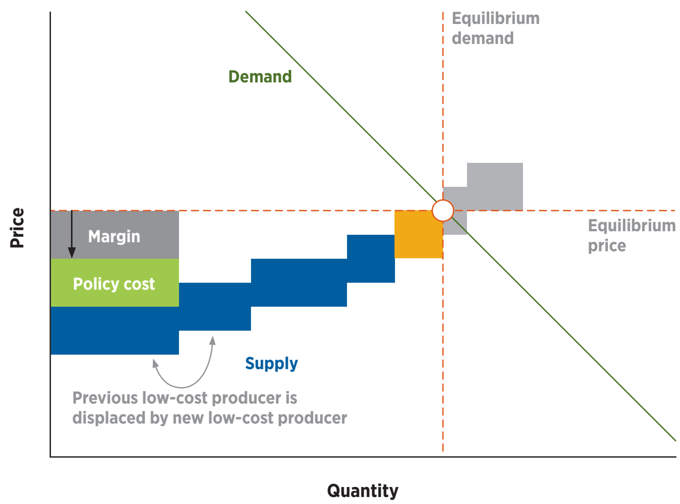


Source: IHS Markit October 2020 LNG flows.
LNG = liquefied natural gas
mmt = million metric tonnes

13 International Emissions Trading Association (IETA), University of Maryland, and Carbon-pricing Leadership Coalition (CPLC), *The Economic Potential of Article 6 of the Paris Agreement and Implementation Challenges*, September 2019, ieta.org/resources/International_WG/Article6/CLPC_A6%20report_no%20crops.pdf.
14 Breakthrough Energy, breakthroughenergy.org/.

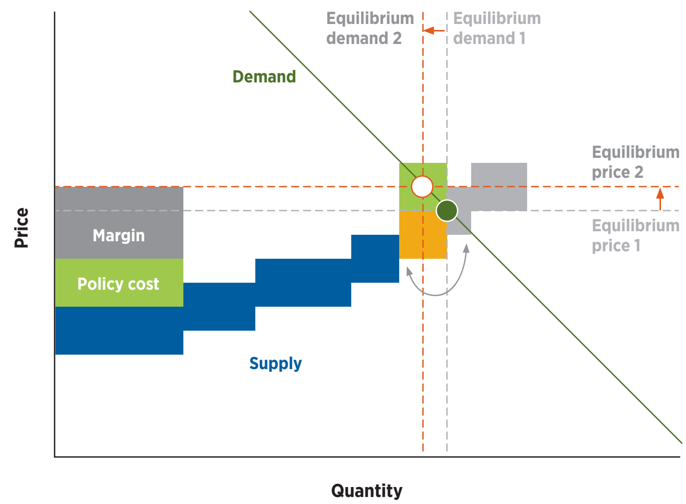
Direct policy cost impact analysis: The extent to which a policy can affect commodity prices and margins depends on the ability to recover the costs in the marketplace. Many jurisdictions take this into consideration in the context of local production and refining trade competitiveness.

Exhibit 10. Policy applied to producer below the marginal producer leads to the least ability to recover costs*



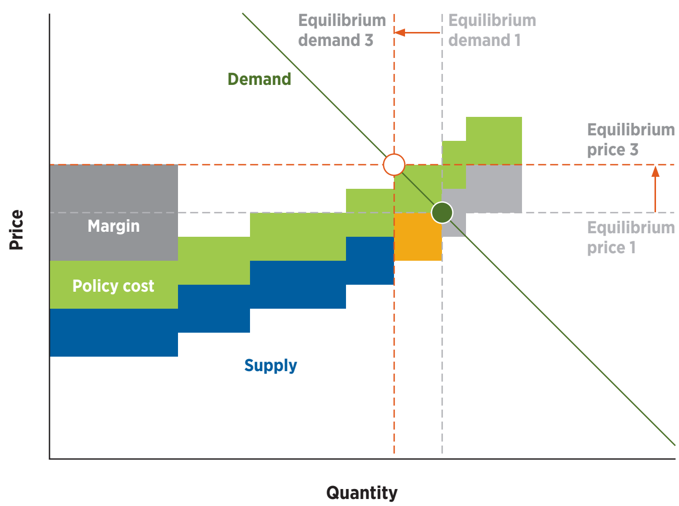
If a policy is applied to a single producer or jurisdiction, the cost can erode margins and may make the supply/refining/ sale uncompetitive.

Exhibit 11. Policy applied to the marginal producer leads to some ability to recover costs*



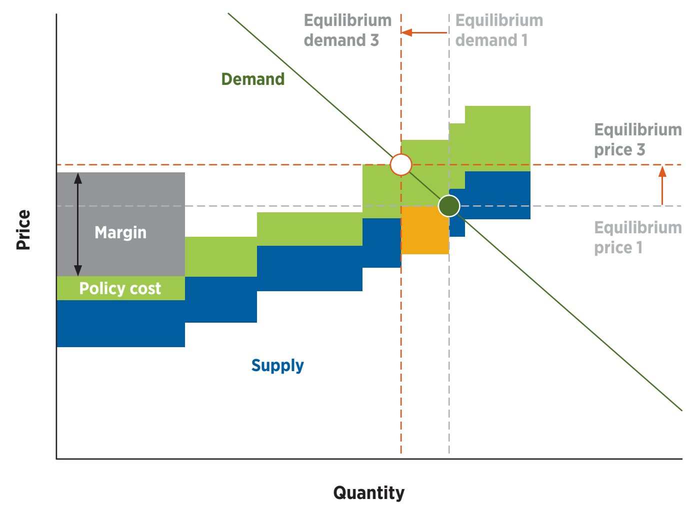
If a policy is applied to the marginal producer, the commodity price can rise to recover a portion of the cost or to the level at which the next producer becomes the marginal producer, whichever is less.

Exhibit 12. Policy applied to all producers leads to the greatest ability to recover costs*



If a policy is applied to all producers by the same amount per unit of production, the cost of supply rises, thus enabling the greatest cost recovery potential; however, less total supply is needed.

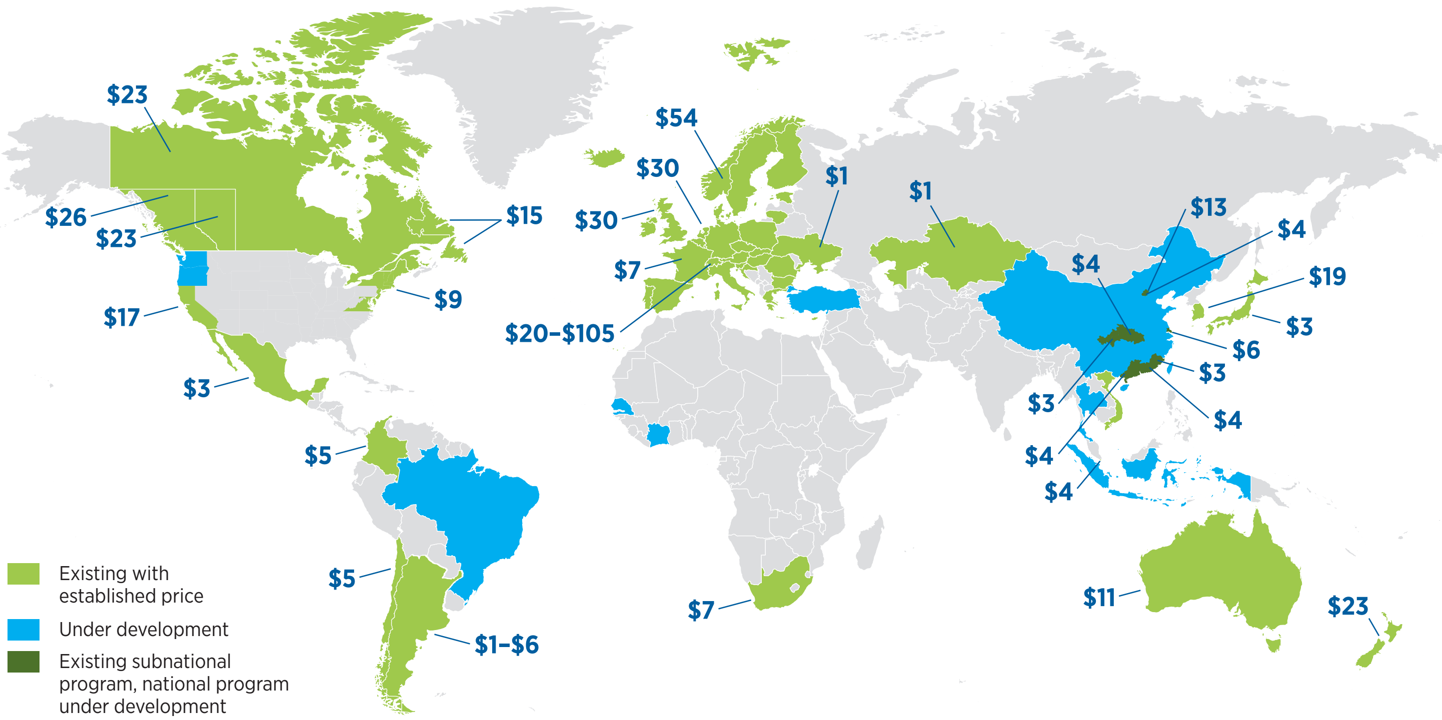
Exhibit 13. Policy applied to all producers; production efficiency incentivized and leads to the ability to recover more than costs*



If a policy cost is applied to all producers by the same amount per tonne of emissions, such as via a performance benchmark, those producers with more-efficient production have a greater ability to recover costs, which may increase margins even though less total supply is needed. Conversely, less-efficient producers may incur higher costs and be priced out of the market.

*For illustration only. Not drawn to scale.

Exhibit 14. Carbon-pricing mechanisms are in place or under development in 46 national and 35 subnational jurisdictions around the world



Sources, as modified by Chevron Corporation: World Bank, *Carbon-pricing Dashboard*, carbonpricingdashboard.worldbank.org; Energy Intelligence Group, *EI New Energy Global Carbon Prices*, January 2021; Government of Canada, canada.ca/en/services/environment/weather/climatechange/climate-action/pricing-carbon-pollution.

Last year, more than half of our Scope 1 and Scope 2 emissions were in regions with existing or developing carbon-pricing policies.

Alberta Our joint-venture Upstream assets are subject to the economywide carbon price of $22/tonne (CAD30). A price on carbon has been in effect in Alberta since 2007. A performance benchmark for large emitters was established under the Technology Innovation and Emissions Reduction program in 2020, and designed to protect the competitiveness of trade-exposed industries.

Atlantic Canada Atlantic Canada has a broad-based carbon-pricing program that tracks the federal program. Our joint-venture assets in Atlantic Canada are under this performance-based large-emitter program.

Australia Our Upstream facilities are regulated by the federal Safeguard Mechanism that took effect in 2016, which caps facility-level emissions and requires emissions above this cap to be offset, creating an indirect carbon-pricing policy. As of November 2020, the price for an Australian offset was $11/tonne (AUD17).

British Columbia Our Upstream interests are subject to the economywide carbon tax of $26/tonne (CAD35) for combustion emissions in effect since 2008.

California Our Upstream oil assets, refineries, and refined gasoline and diesel sales are regulated under a cap-and-trade policy that took effect in 2013. In Upstream and refining, allowance allocations are aligned with a performance benchmark to consider competitiveness of trade-exposed industries. All fuel suppliers are covered by the regulation for refined-product sales. As of November 2020, the price for an allowance in California was $17/tonne.

Canada Federal The government implemented a carbon tax of $15/tonne (CAD20) in 2019 that increases to $37/tonne (CAD50) in 2022, which may be met with an equivalent program at the provincial level. Provinces may use the revenue generated as they see fit, including to protect trade-exposed industries. The federal price acts as a backstop and is applied in provinces not deemed equivalent to provincial pricing programs.

Colombia Our fuel supplies, along with others sold in the country, are subject to a $5/tonne (COP19,500) carbon tax in effect since 2017. Alternatively, we can sell carbon-neutral fuel via the use of offsets.

European Union Our Oronite plant in France is regulated under the European Union cap-and-trade system in effect since 2005. It receives an allowance allocation that aligns with a performance benchmark that considers the competitiveness of trade-exposed industries. As of November 2020, the price for an EU allowance was $30/tonne (EUR26).

Kazakhstan Our joint-venture Upstream assets are regulated under a cap-and-trade policy that started in 2013. Allowance allocations are aligned with a performance benchmark to consider the competitiveness of trade-exposed industries.

Singapore A carbon tax of $4/tonne (SGD5), in effect since 2019, is being applied to our joint-venture refinery and Oronite additive facility.

South Korea Our joint-venture refinery is regulated under a cap-and-trade system in effect since 2015. Allowance allocations are aligned with a performance benchmark to consider the competitiveness of trade-exposed industries. As of November 2020, the price of a Korean allowance was $19/tonne (KRW22,560).

Others Jurisdictions such as China, Thailand, Brazil, and the states of Washington, New Mexico, and Oregon are in the process of analyzing or developing carbon-pricing programs. Coverage and other details regarding these programs are still under consideration.

We believe it is a competitive advantage to already operate in a lower-carbon policy environment. We have direct exposure to carbon pricing via our operations in some of these jurisdictions. In addition to carbon-pricing regulations, we operate in areas that incentivize low-carbon intensity via GHG regulations such as low-carbon fuel standards and methane regulations.

methane*

California Chevron's California Upstream operations are subject to a methane rule that requires leak detection and repair, and storage tank and other equipment controls. Most requirements have been in effect since 2018 and apply to both new and existing facilities.

Canada Federal The Canadian government published federal methane regulations in 2018 and works with provinces and territories to establish regulations equivalent to federal guidelines.

Newfoundland has agreed to work with the federal government to develop regulations, including limiting use of pneumatic devices, to reduce methane emissions by 45 percent by 2025. Proposals include leak detection and equipment controls, most of which would come into effect between 2020 and 2023.

In 2019, Alberta and British Columbia both finalized equivalency agreements with the federal government that allow the provinces to regulate province-level programs that will ultimately achieve the same objectives.

Colorado Chevron's Upstream operations are subject to methane rules that require leak detection and repair, and storage tank and other equipment controls. The rules apply to new and existing facilities and have been in effect since 2014, with recent updates in 2020 that added emissions-monitoring requirements on new flowback operations.

New Mexico *New Mexico has announced plans for two rules in 2021, one targeting volatile organic compounds and the other targeting waste of gas across upstream and midstream operations. Both rules are intended to reduce methane as a co-benefit and are part of the state's climate change strategy.*

U.S. Federal Starting in 2016, Chevron's Upstream and Midstream assets were regulated for volatile organic compounds with methane as a co-benefit under the Clean Air Act for new and modified sources, and in 2020, the U.S. Environmental Protection Agency (EPA) finalized revisions to no longer regulate methane. The Biden administration has indicated it is considering directly regulating methane. Currently, methane may be indirectly regulated as a co-benefit of volatile organic compound regulation in ozone non-attainment areas for both new and existing sources, as well as under several state rules.

**Italics* indicates a policy is under development.

biofuels*

Australia A renewable-fuel-blending mandate in the state of New South Wales, in effect since 2007, and in the state of Queensland, in effect since 2017, applies to all fuel suppliers and requires that volumes of biofuel be blended into diesel and gasoline fuels.

California A low-carbon-fuel mandate, in effect since 2011, applies to all fuel suppliers in California and sets carbon-intensity standards for gasoline, diesel, and the fuels that replace them.

Colombia A renewable-fuel-blending mandate, in effect since 2001, applies to all fuel suppliers and requires that volumes of biofuels, if available domestically, be blended into motor fuels.

Malaysia A renewable-fuel-blending mandate, in effect since 2014, applies to all fuel suppliers and requires that volumes of biofuel be blended into diesel fuel.

Oregon A renewable-fuel-blending mandate, in effect since 2009, did apply to all fuel suppliers and required that volumes of biofuels be blended into gasoline and diesel fuels. In 2016, a low-carbon-fuel mandate replaced the renewable-fuel-blending mandate.

Philippines A renewable-fuel-blending mandate, in effect since 2007, applies to all fuel suppliers and requires that volumes of biofuels be blended into gasoline and diesel fuels.

South Korea A renewable-fuel-blending mandate, in effect since 2012, applies to all fuel suppliers and requires that volumes of biodiesel be blended into diesel fuel.

Thailand A renewable-fuel-blending mandate, in effect since 2002, applies to all fuel suppliers and requires that volumes of biofuels, if available, be blended into gasoline and diesel fuel.

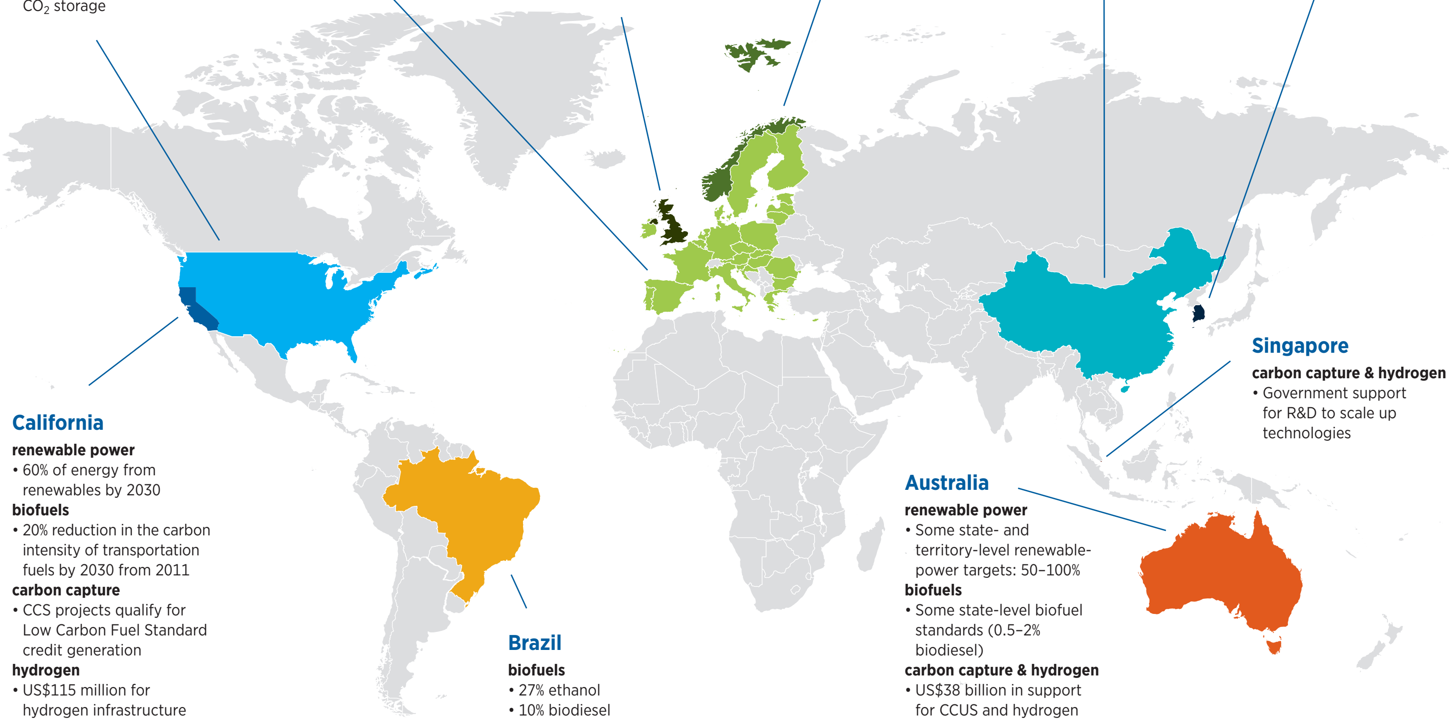
U.S. Federal A renewable-fuel-blending mandate, in effect since 2006, requires the introduction of increasing volumes of biofuels into the U.S. fuel supply. This obligation applies to all refiners/importers of gasoline and diesel fuels.

Washington A renewable-fuel-blending mandate, in effect since 2008, applies to all fuel suppliers and requires that volumes of biofuels be blended into gasoline and diesel fuels. *A low-carbon-fuel mandate is currently being discussed.*

**Italics* indicates a policy is under development.

other policies that incentivize energy-transition opportunities

Exhibit 15. From renewable portfolio standards to carbon capture regulations, policy-enabled markets are advancing around the world



United States

renewable power
- State-level renewable-power targets: 8.5–60%

biofuels
- The Renewable Portfolio Standard 2 requires increasing volumes of biofuels; approximately 20 billion gallons were required in 2020

carbon capture
- 45Q tax credit: US$50/tonne for permanent CO_2 storage

European Union

renewable power
- 32% of energy derived from renewables by 2030

biofuels
- 14% renewable fuels target by 2030; 3.5% from advanced biofuels

carbon capture & hydrogen
- US$13 billion between 2021 and 2030 to support technology scale-up

United Kingdom

renewable power
- 15% of energy consumption from renewable sources

biofuels
- 9.76% Renewable Transport Fuel Obligation by 2030
- Renewable aviation fuels and renewable fuels of non-biological origin are added into the program

carbon capture
- US$1.3 billion to support 4 CCUS hubs and clusters

Norway

biofuels
- 30% increase in aviation biofuels by 2030, from 2018 baseline

carbon capture
- $1.8 billion to support Longship CCS project

China

renewable power
- increase wind and solar generation capacity to 1,200 gigawatts by 2030

hydrogen
- Up to US$2.5 billion for cities to build out hydrogen infrastructure and promote fuel cell vehicle adoption

South Korea

renewable power
- 25% renewable-power targets by 2030

biofuels
- 3% renewable-fuel-blending ratio

hydrogen
- Roadmap to develop hydrogen and fuel cell economy

California

renewable power
- 60% of energy from renewables by 2030

biofuels
- 20% reduction in the carbon intensity of transportation fuels by 2030 from 2011

carbon capture
- CCS projects qualify for Low Carbon Fuel Standard credit generation

hydrogen
- US$115 million for hydrogen infrastructure

Brazil

biofuels
- 27% ethanol
- 10% biodiesel

Singapore

carbon capture & hydrogen
- Government support for R&D to scale up technologies

Australia

renewable power
- Some state- and territory-level renewable-power targets: 50–100%

biofuels
- Some state-level biofuel standards (0.5–2% biodiesel)

carbon capture & hydrogen
- US$38 billion in support for CCUS and hydrogen

Sources: European Commission, *CO_2 emission performance standards for cars and vans (2020 onwards)*, ec.europa.eu/clima/policies/transport/vehicles/regulation_en; IEA, *Global EV Outlook 2020*, webstore.iea.org/login?ReturnUrl=%2fdownload%2fdirect%2f3007; EU Energy Directive, *Renewable Energy Directive*, ec.europa.eu/energy/topics/renewable-energy/renewable-energy-directive_en; Lawrence Berkeley National Laboratory, *U.S. Renewables Portfolio Standards*, eta-publications.lbl.gov/sites/default/files/2017-annual-rps-summary-report.pdf; Singapore Ministry of Sustainability and the Environment, a-star.edu.sg/Research/funding-opportunities/lcer-fi-grant.

EV = electric vehicle; BEV = battery electric vehicle; FCEV = fuel cell electric vehicle; ZLEV = zero-/low-emissions vehicle

Australia Hydrogen: Australia released a national hydrogen strategy in 2019, and in May 2020, it directed the Clean Energy Finance Corporation to make approximately US$220 million available to support growth in the hydrogen industry.

Hydrogen and CCUS: Australia recently released its first Low Emissions Technology Statement, which aims to leverage co-investment from the private sector and other levels of government to drive at least US$38 billion of new investment over the decade. Priority areas include CCUS and hydrogen.

Europe *Hydrogen and CCUS: The European Union's green stimulus calls for accelerating funding for renewable hydrogen and CCUS projects. The EU innovation fund under the EU Emissions Trading System is expected to raise up to $13 billion (EUR11.5 billion) between 2021 and 2030, which will support scaling up hydrogen and CCUS projects. The United Kingdom has also announced over $1 billion (GBP800 million) to support four CCUS hubs and clusters.*

South Korea Hydrogen: In 2019, South Korea announced its national Hydrogen Economy Roadmap to support hydrogen and fuel cell development. In 2020, South Korea's National Assembly passed the Hydrogen Economy Promotion and Hydrogen Safety Management Law, which provides a legal framework for government efforts, including providing subsidies to industry.

United States CCUS: Starting from 2018, the United States expanded its federal 45Q tax credit, which provides $50/tonne for CO_2 stored permanently and $35/tonne if the CO_2 is put to use in support of CCUS applications. This can be combined with state-level programs, such as California's Low Carbon Fuel Standard, to incentivize CCUS deployment to produce lower-carbon-intensity fuels.

**Italics* indicates a policy is under development.

3.1.3 Technology trends: CCUS and hydrogen are key to a lower-carbon future

Improvements in technology can reduce energy costs, lower emissions, and influence the energy mix by changing the relative competitiveness of different energy types. Three of the most prominent areas of investment include carbon capture, utilization, and storage; hydrogen; and battery storage.

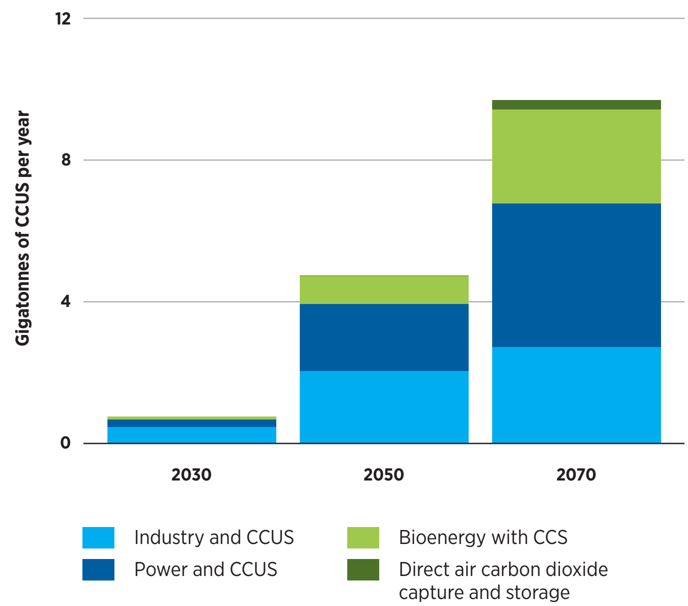
Carbon capture, utilization, and storage: According to the IEA and the IPCC, carbon capture will be an essential tool in mitigating GHG emissions and meeting the goals of the Paris Agreement (Exhibit 16).[15] The IPCC 1.5° C report pointed out that many pathways to achieving the <2° C goal will require "negative emissions" approaches, such as combining bioenergy power generation with CCUS. According to the IEA's *Energy Technology Perspectives 2020* report, CCUS is expected to play a central role as one of four key pillars of global energy transitions, alongside renewables-based electrification, bioenergy, and hydrogen. CCUS may also unlock faster decarbonization of carbon-intensive production processes such as cement manufacturing.

Hydrogen: Hydrogen is a versatile energy carrier, with potential as a lower-carbon fuel, particularly in sectors that are hard to decarbonize. Under some scenarios, hydrogen demand could more than triple by 2050[16] if costs come down and infrastructure is built out (Exhibit 17). Targeted policies can encourage research and development to drive down costs and improve performance so hydrogen can become commercially viable. Policy can also help lower the risk of investment for first movers by enabling development of supply chains and infrastructure that drive down costs and enable economies of scale.

Battery storage: Over the past decade, there has been notable cost reduction and performance improvement in lithium-ion (Li-ion) batteries and other storage technologies. Such progress, combined with a drop in the cost of producing renewable energy and advancements in other technologies, such as smart-grid and demand-management innovations, has the potential to increase electrification in sectors like light-duty passenger transportation. These advances facilitate increased use of renewable energy in electricity generation and help mitigate the problem of intermittency.

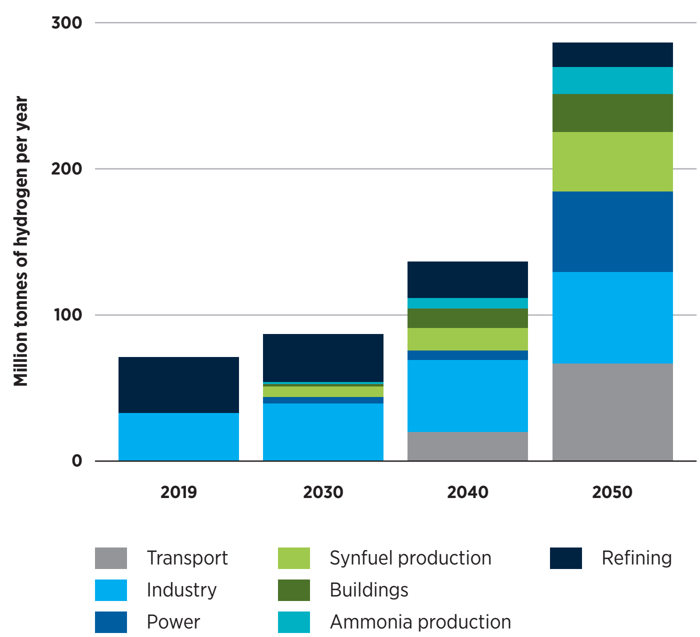
However, even with these improvements in energy storage, most leading energy experts agree that additional technology breakthroughs are needed to enable wider scaling of renewables and decarbonization in other hard-to-abate sectors. CCUS and hydrogen are the among the most promising of these other technologies.

Exhibit 16. Under the IEA's SDS, CCUS is an important technology that could make a long-term contribution toward reducing GHG emissions



Source: IEA, *Energy Technology Perspectives 2020*, iea.org/reports/energy-technology-perspectives-2020.

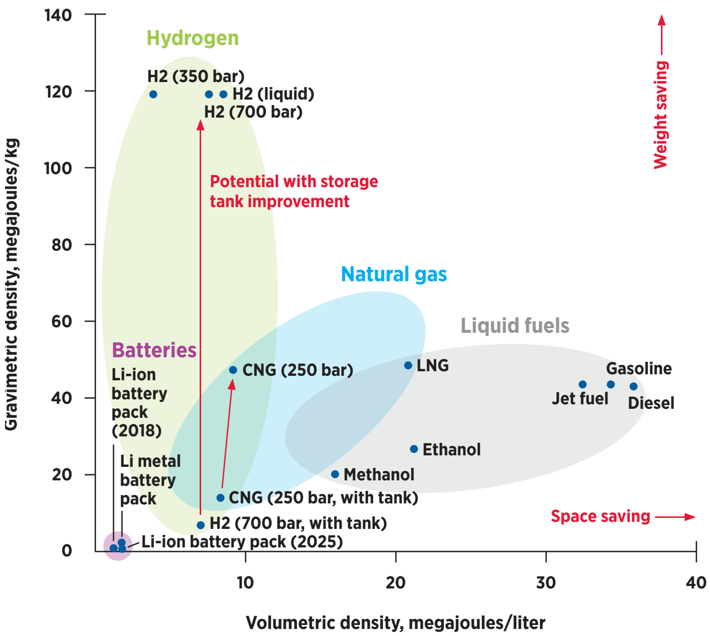
Exhibit 17. Under the IEA's SDS, hydrogen demand could more than triple by mid-century



Source: IEA, *Energy Technology Perspectives 2020*, iea.org/reports/energy-technology-perspectives-2020.

15 IEA, *Energy Technology Perspectives 2020,* September 2020, iea.org/reports/energy-technology-perspectives-2020; UN Intergovernmental Panel on Climate Change (IPCC), *Special Report: Global Warming of 1.5° C*, 2018, www.ipcc.ch/sr15/.
16 Ibid.

Exhibit 18. Energy density of different fuel sources (shown with tank) can drive the attractiveness of fuel types



Sources: Argonne National Laboratory, GREET model fuel specifications; AABC (Advanced Automotive Battery Conference) for Li-ion battery performance; with Chevron internal compilations.

Energy density of different fuels: The energy density and portability of a fuel are among the most important characteristics when considering viability for use in transportation. Two important aspects are as follows:

- **Gravimetric density**, the energy contained in a unit mass of fuel, determines how far one can travel with a given amount of fuel. Higher gravimetric density means less weight is required to be carried as fuel, meaning more weight capacity is available for carrying people and freight.
- **Volumetric density**, the energy stored in a unit volume of fuel, determines how much space the fuel takes up. Higher volumetric energy density means less space is required to store the fuel, and thus more space is available for carrying people and freight.

Fundamental differences in energy densities are a major obstacle to using alternative fuels for some modes of transport, such as long-distance shipping and air travel. To date, few alternative fuels or energy storage systems can surpass the energy densities of liquid fuels.

Gaseous fuels like compressed natural gas and hydrogen currently require large and heavy tanks for on-board vehicle storage. Further research and development are needed to reduce the weight and size of such storage tanks. Li-ion battery systems have achieved considerable progress in light-duty vehicle applications in the past decade, but some trade-offs in range, which is dictated by energy density, still exist.[17]

17 Argonne National Laboratory, GREET model fuel specifications, greet.es.anl.gov/; Advanced Automotive Battery Conference (AABC) for Li-ion battery performance, advancedautobat.com/us; with Chevron internal compilations.

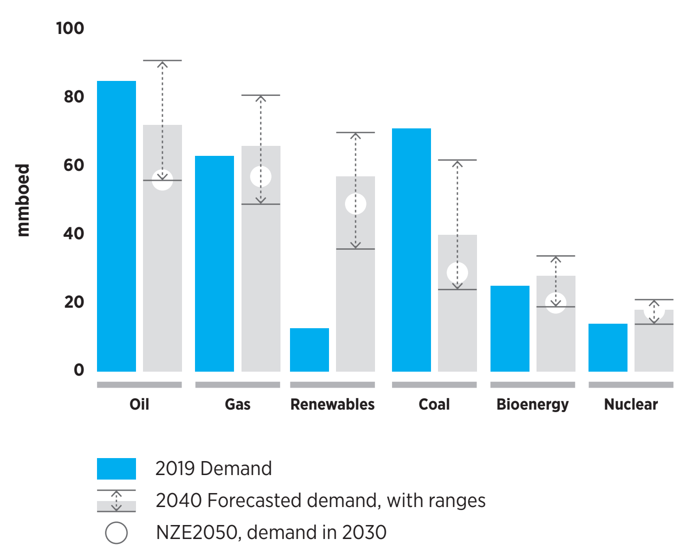
3.2 how we approach the future energy mix

We have a dedicated cross-functional team that forecasts the energy system decades into the future. We track and analyze energy demand and mix drivers to understand which sources of energy supply are likely to meet expected demand. We believe the energy mix will continue to be primarily determined by the economics of each energy supply source, which are influenced by the intersection of macroeconomic and consumer, policy, and technology trends. The relative importance of these factors can vary by region and over time.

Oil and gas currently account for a majority of global energy supply, at approximately 350 exajoules. We utilize signposts to help us track key demand indicators to test our reference case views and to help determine whether the world is headed in a different direction. In 2040, oil and gas demand is projected to be 46 percent of the energy mix in the IEA's SDS and 54 percent in the IEA's Stated Energy Policies Scenario (STEPS). In the IEA's Net-Zero 2050 (NZE2050) scenario, oil and gas demand fall to the SDS 2040 levels by 2030.

Oil and gas have a diverse set of end uses. In some uses, like aviation, marine, freight, and petrochemicals, there are few, if any, cost-effective and scalable alternatives to oil. Although the future is uncertain, and oil and gas may fall below today's share, most energy experts agree that these commodities will still be required to satisfy global energy demand under almost any future market scenario—even one in which policies increasingly aim to limit fossil fuel use and reduce GHG emissions. For example, in the IEA's lower-carbon SDS case, oil and gas make up nearly half of the global total primary energy mix in 2040.

Exhibit 19. Most forecasts show a range of energy sources will make up the future energy mix

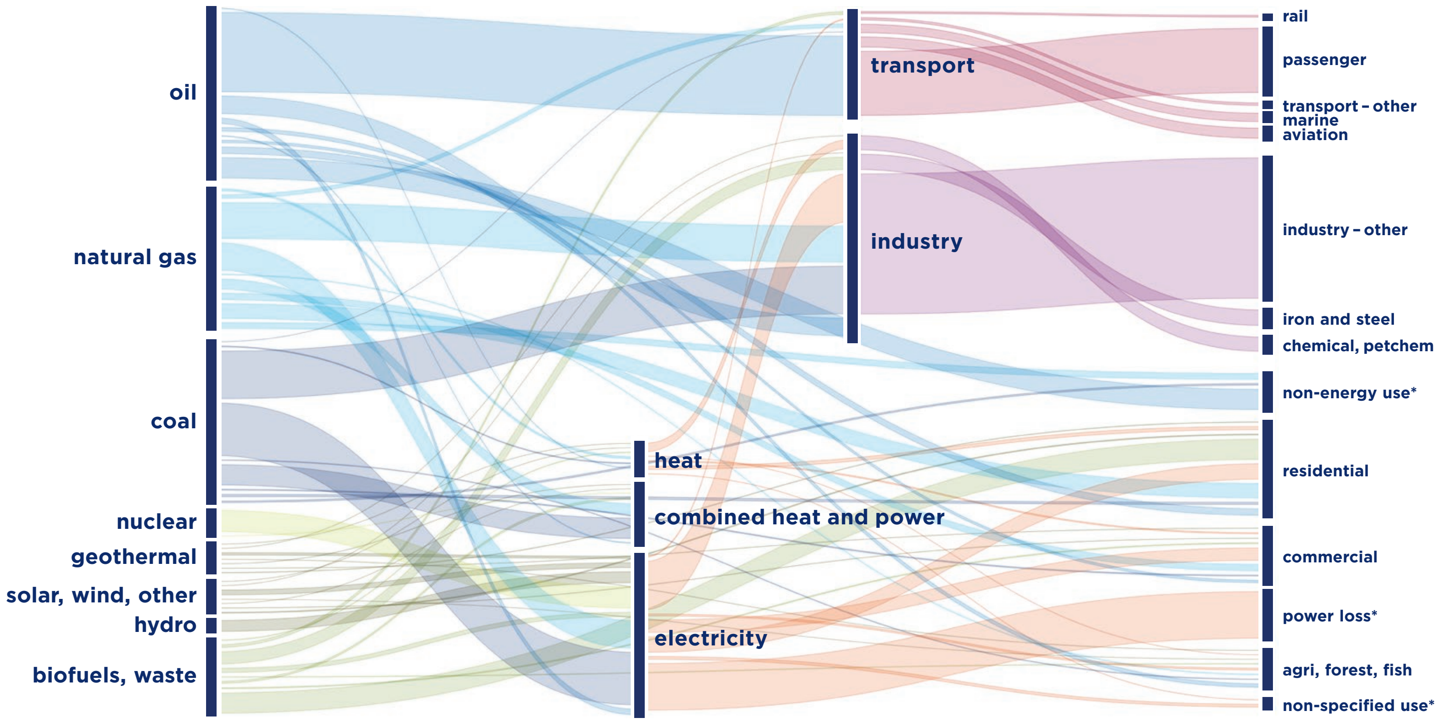


Sources: IEA, *World Energy Outlook 2020*, iea.org/reports/world-energy-outlook-2020; IHS Markit 2020 Scenarios; Wood Mackenzie, *Energy Transition Outlook 2020: Highlights*.

mmboed = millions of barrels of oil-equivalent per day

Exhibit 20. Oil and gas have many important and diverse uses, as shown in world energy flows

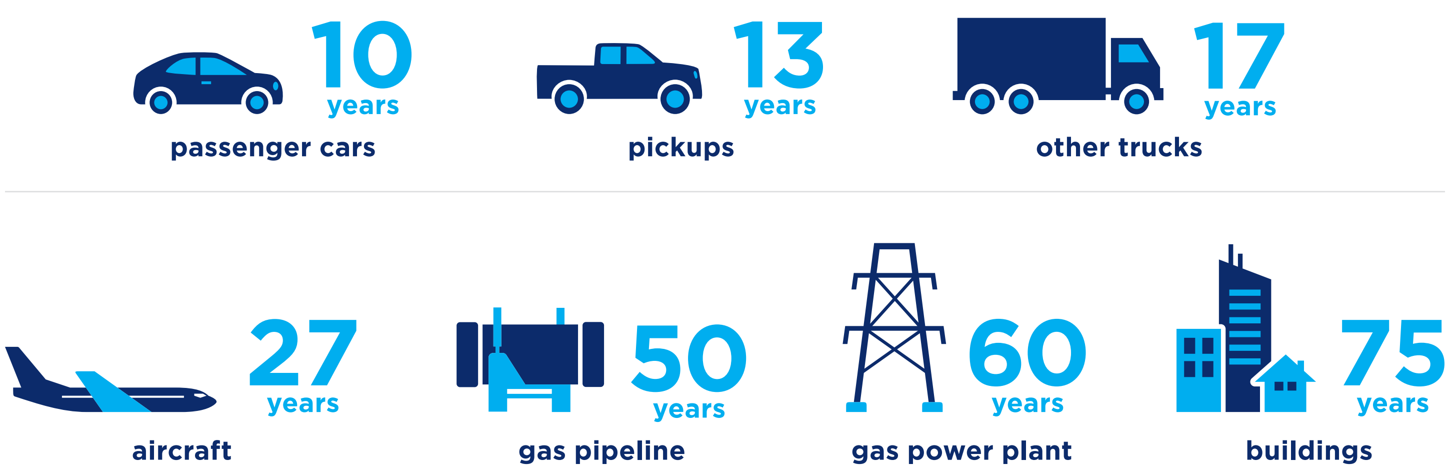
The IEA estimates that primary energy demand in 2020 declined by approximately 6 percent.



*__Power loss__ = Loss in gas distribution, electricity transmission, and coal transport. **Non-energy use** = Those fuels that are used as raw materials in the different sectors and are not consumed as a fuel or transformed into another fuel. Non-energy use is shown separately in final consumption under the heading *non-energy use*. **Non-specified use** = All fuel use not elsewhere specified, as well as consumption in the above-designated categories for which separate figures have not been provided. Military fuel use for all mobile and stationary use is included here (e.g., ships, aircraft, roads, and energy used in living quarters), regardless of whether the fuel delivered is for the military of that country or for the military of another country.

Based on data from: IEA, *2018 World Balances*, excluding "Other Energy Sector" balances, iea.org/sankey/, modified by Chevron Corporation.

Exhibit 21. Turnover of energy infrastructure will influence the pace of change



Sources: EIA, Today in Energy page, *Natural gas generators make up the largest share of overall U.S. generation capacity*, rb.gy/mkqtf2; Bureau of Transportation Statistics (BTS), *Average Age of Automobiles and Trucks in Operation in the United States*, bts.gov/content/average-age-automobiles-and-trucks-operation-united-states; BTS, *Average age of aircraft 2019*, bts.gov/average-age-aircraft-2019; National Renewable Energy Laboratory (NREL), *Useful Life | Energy Analysis*, nrel.gov/analysis/tech-footprint.html; *Assumptions to the Annual Energy Outlook 2021: Commercial Demand Module*, eia.gov/outlooks/aeo/assumptions/pdf/commercial.pdf; Massachusetts Institute of Technology, *Buildings Life Cycle Assessment (LCA) | Concrete Sustainability Hub*, cshub.mit.edu/buildings/lca.

3.3 our approach to demand and supply

How we approach demand: Our views on short- and long-term demand are based on analysis of macroeconomic and demographic trends, technological pathways, consumers' behavioral patterns, and policy impacts, among other factors. Growing populations, rising incomes, and urbanization are the principal forces behind energy-demand growth, as they typically lead to greater use of transportation, heating, cooling, lighting, and refrigeration. Policies will continue to play a large role in aggregate energy demand and fuel mix. Given the range of uncertainty across key demand drivers, we analyze multiple demand scenarios as part of our annual planning cycle.

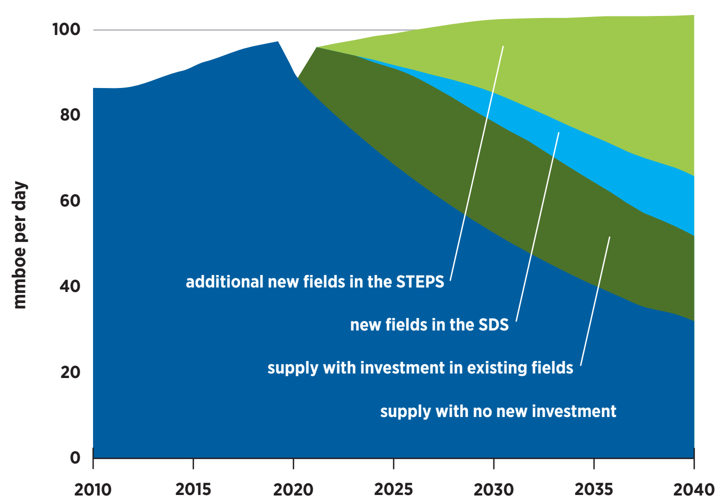
As the world recovers from the COVID-19 pandemic, we expect energy demand to return to pre-crisis levels, although the timing of recovery may vary by region and type of demand.

How we approach supply: Every year we develop a range of long-term oil, gas, and refined-product supply scenarios to inform our views on prices, test our strategies, and assess business risks. The process involves our proprietary view of the principal drivers of supply growth, including resource supply curves, production constraints, capacities at secondary processing facilities, fiscal and financial requirements, and geopolitical trends and shifts. Given the complex set of variables and uncertainties associated with forecasting long-term supply, we routinely examine multiple scenarios and assess our forecasts against third-party perspectives.

3.3.1 View on oil demand

In 2019, global liquid fuel demand was approximately 100 million barrels per day (MMBD). In 2020, the COVID-19 pandemic reduced demand by approximately 8 MMBD, to about 92 MMBD.[18] The IEA's STEPS predicts oil demand to recover to pre-crisis levels by 2023.[19] Although global oil demand has grown at a rate of about 1 MMBD, or 1 percent per year, over the past several decades, the STEPS shows global oil demand growth slowing to about 750,000 barrels per day through 2030, due to economic impacts from COVID-19; slower long-term structural economic growth; aging populations in traditional oil-consuming centers like Europe, Japan, and the United States; and policy-driven efforts to increase vehicle efficiency and alternative-fuel penetration. The STEPS forecasts that growth in demand will then plateau, with a growth rate of less than 100,000 barrels per day through 2040.[20]

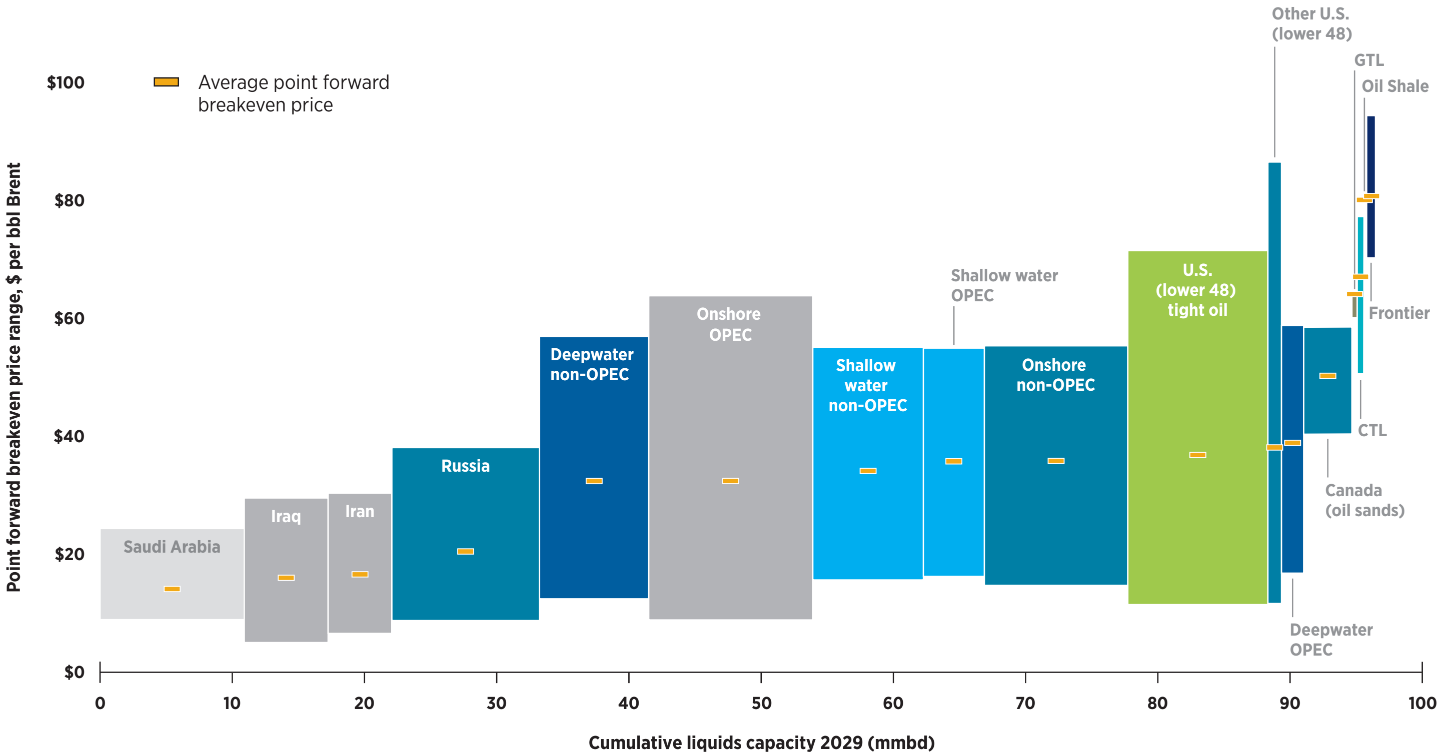
Exhibit 22. Realized decline rates determine the size of the supply gap and opportunities for new investment



Source: IEA, *World Energy Outlook 2020*, iea.org/reports/world-energy-outlook-2020; production decline rates based on data from Rystad Energy UCube, December 2020.
mmboe = millions of barrels of oil-equivalent

18 EIA, *Short-Term Energy Outlook*, January 2021, eia.gov/outlooks/steo/report/global_oil.php.
19 IEA, *World Energy Outlook 2020*, October 2020, iea.org/reports/world-energy-outlook-2020.
20 Ibid.

Exhibit 23. Global liquids long-term supply curve and average point forward breakeven prices in 2029 show the supply curve is relatively flat, implying increased competition among producers



Liquids supply shown above includes crude oil, natural-gas liquids, coal-to-liquids (CTLs), and gas-to-liquids (GTLs).

Point forward breakeven is the amount of capital needed to produce the resource from today forward. This differs from full-cycle breakeven, which includes all costs for developing a new field. For a further discussion of breakeven calculations, see Energy Economics, *Tight oil market dynamics: Benchmarks, breakeven points, and inelasticities*, 2017.

Source, as modified by Chevron Corporation: Wood Mackenzie, *Oil Supply Tool*, May 2020.

mmbd = millions of barrels per day

bbl = barrel

3.3.2 View on oil supply

At a macro-level, oil supply is significantly impacted by producers' strategies to manage near- and long-term uncertainties. For example, producers respond to demand expectations by adjusting investment levels. The IEA estimates that upstream oil and gas investments will have fallen by a third globally in 2020 due to COVID-related demand shocks. Further, geopolitical factors can drive production levels, evidenced by the breakdown of cooperation among OPEC+ (OPEC plus 11 non-OPEC members) in spring 2020, which severely disrupted global oil markets.

Capital spending on oil and gas is also impacted by the continued need for maintenance and investment in existing assets to manage decline rates. The production profile for a well, a field, or a geography depends on geological circumstances, engineering practices, and government policies, among other factors.

Although non-OPEC decline rates have been estimated to be about 3 percent[21] over the past decade, recent cost-cutting efforts and the shift in project base to higher portions of shale and tight oil have led to higher decline rates. Price declines stemming from COVID-19 demand shocks and OPEC+ tensions, uncertainty about the nature of demand recovery from the pandemic, limited price recovery, and a more constrained capital market could lead to inad-equate investment, future supply shortages, and price volatility.

Although oil markets are well supplied in the short term, in the medium term, more investment would be required to meet increased demand—often referred to as the supply gap. We analyze this gap in order to forecast which types of resources will be needed in the future. Typically, the most economical barrels are produced from reinvesting in existing production to minimize natural decline.

A common way to visualize oil supply is via a supply curve by resource type, in which the width of the bar represents the amount of total production for a given year and the height of the bar indicates a representative price range over which that resource is economical to produce (Exhibit 23). Similar types of resources, or resources from certain regions, are grouped together and thus show a range of prices instead of a single price. In a more detailed and expanded version, every field would be its own line on the supply stack. Assets can move relative to one another when their breakeven values change due to technology, geopolitical or policy changes, fiscal terms, or other reasons. The supply stack is a useful way to gauge trends in the overall cost of supply and whether there have been shifts through time. However, care should be taken when drawing detailed conclusions from a supply stack, as the exact annual values depend on forecasts, such as project timing and performance.

21 Rystad Energy, rystadenergy.com/, as analyzed by Chevron.

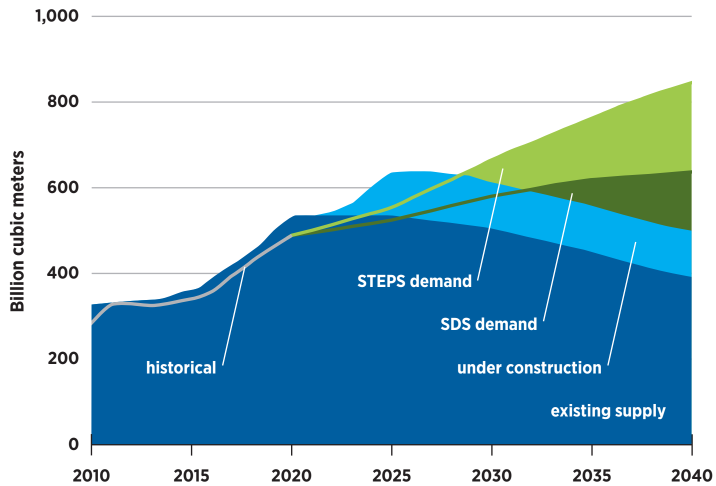
3.3.3 View on natural-gas demand

In 2019, global demand for natural gas was approximately 4,000 billion cubic meters, of which approximately 354 billion cubic meters was liquefied natural gas (LNG). LNG accounted for approximately 38% of natural-gas exchanges.[22] North America makes up more than 27 percent of demand, followed by Asia Pacific at 21 percent, and Europe at 15 percent. Gas markets are priced regionally, and Asia continues to be the market with the largest forecasted growth. Growth in natural-gas demand is driven by its status as a relatively cost-competitive resource, a desire among key energy consumers to diversify fuel sources, and efforts in some jurisdictions to reduce air pollution (e.g., China's Blue Sky Action Plan, which includes coal-to-gas objectives). Demand in Asia is expected to grow by 40 to 50 percent from 2019 to 2030.[23] There is not enough pipeline gas to satisfy the projected demand; thus, it is expected that Asia will continue to be a major importer of LNG. There are potential risks to the growth of gas in the power sector, including lower-cost coal and renewables penetration. Nevertheless, we see sustained growth for gas, particularly in the industrial sector, where gas is better positioned to provide high-temperature heat, compared with renewables. Gas has the advantage over refined products on price and over coal on emissions. Early indications of interest are emerging for lower-carbon-intensity gas.

3.3.4 View on natural-gas supply

As with oil, we analyze future gas-supply needs against demand growth in the context of a supply curve to forecast future economically competitive sources of supply. For global natural-gas markets, the IEA projects there will be enough capacity from producing assets and projects under construction to satisfy global demand through 2025 (Exhibit 24).[24] In the medium- to long-term, a supply gap could open up as soon as the mid-2020s or beyond 2030, depending on the shape of the pandemic recovery, the adoption of gas in emerging economies, and the pace of renewable penetration. Asia is expected to experience the greatest demand growth, and with limited pipeline capacity, the region is forecasted to import more LNG. This is one reason LNG is predicted to be the fastest-growing source of supply within the gas sector.

Exhibit 24. LNG supply and demand could balance post-2030



Source: IEA, *World Energy Outlook 2020*, iea.org/reports/world-energy-outlook-2020.

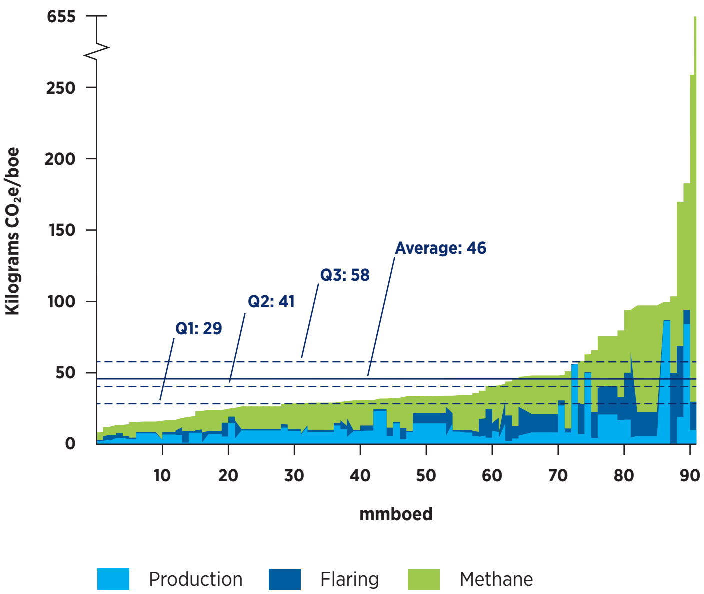
22 IEA, *Natural Gas Information: Overview*, July 2020, iea.org/reports/natural-gas-information-overview.

23 Wood Mackenzie, *Global gas market long-term outlook—Asia gas and LNG—H1 2020*, September 2020, woodmac.com/reports/gas-markets-global-gas-market-long-term-outlook-asia-gas-and-lng-h1-2020-433743.

24 IEA, *World Energy Outlook 2020*, October 2020, iea.org/reports/world-energy-outlook-2020.

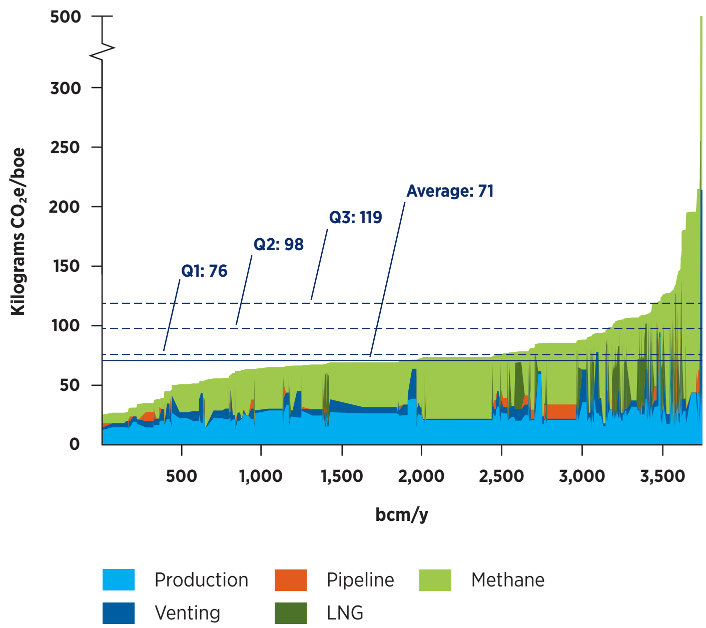
Carbon intensity of upstream production: Carbon intensity, or CO_2e per unit of production, of each resource type is loosely correlated to the resource's position, or cost of production, on the supply curve. Like the wide distribution of supply cost for each resource type, carbon intensity for each resource type is widely distributed and can be influenced by the producer. The charts from the IEA's *World Energy Outlook 2018* presented in Exhibits 25 and 26 represent the IEA's estimates for global carbon intensity supply stacks for oil and gas with the methane global warming potential converted to the IPCC AR4 values. The IPCC AR4 is currently used by the U.S. EPA, the European Commission, and common oil and gas industry calculations.[25, 26, 27]

Exhibit 25. The global average oil production carbon intensity is 46 kg CO_2e/boe



Source: IEA, *World Energy Outlook 2018*, iea.org/reports/world-energy-outlook-2018.
boe = barrels of oil-equivalent
mmboed = millions of barrels of oil-equivalent per day

Exhibit 26. The global average gas production carbon intensity is 71 kg CO_2e/boe



Source: IEA, *World Energy Outlook 2018*, iea.org/reports/world-energy-outlook-2018.
boe = barrels of oil-equivalent
bcm/y = billion cubic meters per year

Higher-cost production is often correlated with more energy- and emissions-intensive production. For example, some heavy oil may require steam for production, which can impact both cost and emissions.

LNG is generally more carbon intensive than gas supplied via pipeline. Decisions about electrification, recovering waste heat, avoiding fugitive and vented emissions and flaring, and deploying CCUS technology can all impact the carbon intensity of gas.

25 IEA, *World Energy Outlook 2018*, November 2018, iea.org/reports/world-energy-outlook-2018.
26 International Petroleum Industry Environmental Conservation Association (IPIECA), *IPIECA Sustainability Reporting Guidance for the oil and gas industry*, ipieca.org/our-work/sustainability-reporting/sustainability-reporting-guidance/.
27 As part of the IPCC review process, climate change scientists regularly review the Global Warming Potential (GWP) of different greenhouses gases and update their perspective on the current scientific consensus of the GWPs. Governments and industry then often use these GWPs in the development of their greenhouse gas inventories. Global warming is considered to be a long-term issue by the IPCC, and it is common practice to use a GWP time horizon consistent with that of the scenario analysis done by the IPCC. The AR4 100-year Global Warming Potential (GWP-100) assigns a GWP of 25 to convert the mass of methane to its carbon dioxide–equivalent value. AR5, released in 2014, assumes a GWP-100 of 30 for fossil sources of methane. AR6 is currently under development and scheduled for release in 2022.

3.3.5 View on refined-products demand

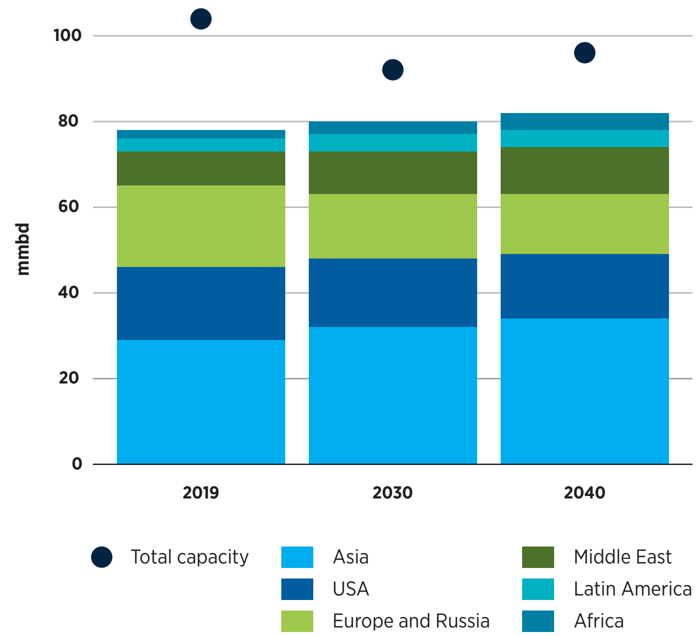
Transportation fuels and petrochemicals have accounted for all of the growth in global oil demand since 2000 and are expected to underpin sustained growth in demand over the next decade. According to the IEA's outlook, product-demand growth continues as increases in demand for transportation services and petrochemicals offset lower demand due to improved vehicle efficiency, greater use of biofuels, and electrification. Demand for high-value petrochemicals, used to produce plastics, resins, and fibers (among other products), is projected to rise by 25 percent between 2019 and 2030 in the STEPS. Policies and technologies aimed at reducing plastic waste and increased chemical recycling could reduce demand for oil and gas feedstocks. A delayed pandemic recovery could lead to a delay or weakening of these policies, although it could also lead to a dampening of demand growth for transport fuels.

3.3.6 View on refined-products supply

Global refining capacity stood at a little over 102 MMBD as of 2019. However, utilization was less than 75 percent during the second half of 2020, with about 1.2 MMBD of capacity closures since the start of 2020 due to impacts from the pandemic.[28] With a little less than 5 MMBD of additional capacity scheduled to come online over the next few years, it is expected that further closures are likely, with the bulk of them happening in Europe.[29] Most capacity additions are expected in Asia, where the majority of demand growth is expected to occur. Additional capacity growth is expected in the Middle East. Some refiners in the United States and Europe may convert to biofuels production to take advantage of existing and emerging policies. Biofuels production is expected to increase by 25 percent from 2019 to 2024.[30]

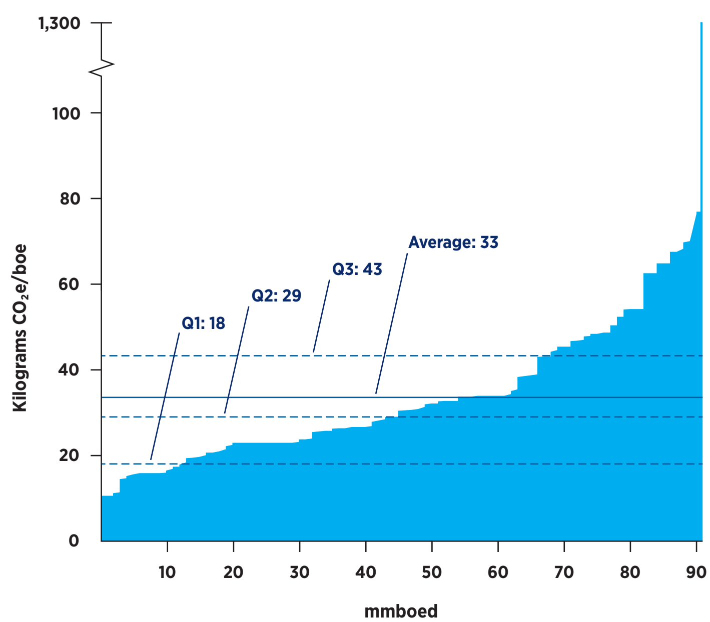
Carbon intensity of refining: Generally, more complex refineries are more carbon intensive per unit of throughput than simpler refineries. More complex refineries also have the ability to produce higher-value products like gasoline, diesel, and jet fuel. The chart presented in Exhibit 28 represents the IEA's estimates for global carbon intensity supply stacks for refining on a throughput basis.

Exhibit 27. The gap between refinery runs and total capacity is expected to narrow in the next decade



Source: IEA, *World Energy Outlook 2020*, iea.org/reports/world-energy-outlook-2020.
mmbd = millions of barrels per day

Exhibit 28. The global average refining carbon intensity is 33 kg CO_2e/boe



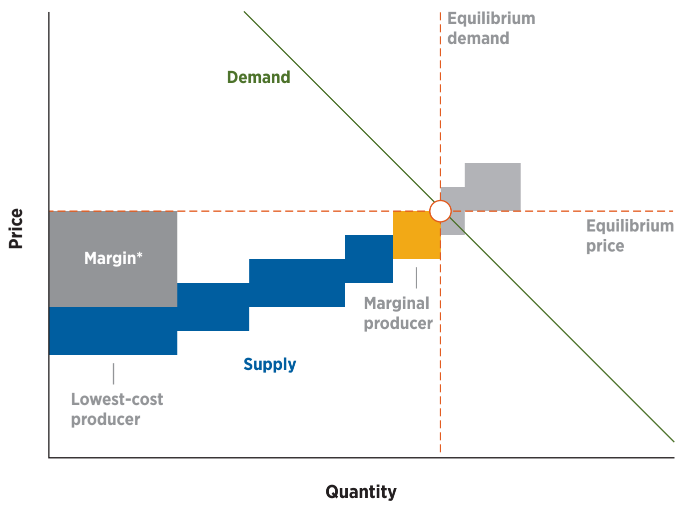
Source: IEA, *World Energy Outlook 2018*, iea.org/reports/world-energy-outlook-2018.
boe = barrels of oil-equivalent
mmboed = millions of barrels of oil-equivalent per day

28 IHS Markit, *Global Fundamentals Refining and Marketing Short-Term Outlook*, October 2020, ihsmarkit.com/products/refining-and-marketing.html.
29 Ibid.
30 IEA, *Transport Biofuels*, June 2020, iea.org/reports/transport-biofuels.

3.4 how we approach prices: near term and long term

We analyze near- and long-term commodity prices with climate change policies and other regulatory and policy impacts. We utilize various quantitative methods to combine our supply-and-demand views and solve for equilibrium commodity prices at which the marginal producer can enter the market and still earn a reasonable rate of return.

Exhibit 29. Price is set where supply crosses demand



Note: For illustration only. Not drawn to scale.

Producers with costs lower than the marginal producer—lower and to the left on the blue stack—produce more and have larger margins than the marginal producer, in yellow. Producers with costs higher than the marginal producer—higher and to the right on the gray supply stack—typically would not develop assets.

*Margin is shared between all parties involved in production.

Near term: Markets are primarily characterized by the existing fixed capital stock, which was determined by past capital investment decisions. For conventional oil and gas assets, a new investment cannot immediately bring new supply to the market to affect price. For a new conventional oil field, "first oil" may take three to 10 years, depending on multiple factors, including the asset type and regulation. Tight oil has shorter development times; however, as discussed on page 25, uncertainties about shale operators' access to capital could limit tight oil's impact on near-term prices.

Long term: Competitive markets are characterized by mobility of capital investment. Over the long term, prices are determined where long-term supply and long-term demand curves intersect at a point that reflects the marginal operating costs, the investment costs on both the supply side and the demand side, and a minimum rate of return.

commodity-price forecasts

Our comprehensive, proprietary forecasts of commodity prices significantly influence our strategic and business planning. Because price is determined in a competitive marketplace, scenarios are used to reflect market uncertainties, generating multiple price trajectories. Our price outlooks include carbon-price forecasts and cover a wide range of oil prices, natural-gas prices, and costs of goods and services, among other considerations. These forecasts reflect long-range effects from population and economic growth, renewable fuel penetration, energy efficiency standards, climate-related policy actions, and demand response to oil and natural-gas prices.

difference between carbon price and carbon cost

Although the terms are sometimes used interchangeably, a carbon price, a carbon cost, and a shadow or proxy carbon price are different. For example, the term *carbon cost* is sometimes used to refer to carbon pricing and sometimes used to refer to the societal impacts from carbon emissions. A *shadow* or *proxy* carbon price is a hypothetical, aggregated price of carbon, which may include estimates for non-pricing regulations, published for investment analysis purposes.

For us, the term *carbon price* refers to an external price resulting from a policy like a carbon tax or cap-and-trade system, and for us, a *carbon cost* is generally a function of a jurisdiction-specific carbon-price forecast and asset-specific characteristics that represent the cost for compliance the asset would face. Like oil price forecasts, the proprietary information and the analysis that go into carbon-price forecasts and carbon-cost calculations are important to our strategy. Disclosure of our carbon-price forecasts or carbon-cost calculations could compromise commercially and competitively sensitive information. Consistent with our proprietary oil- and gas-price forecasts, we do not disclose our carbon-price forecasts or carbon costs.

We use, but do not disclose, carbon costs.
We have not published a proxy carbon price.
We support a carbon price.

In this section, we outline how climate change risks are strategically managed, and we provide examples of how we have aligned specific segments of our portfolio in response to current market conditions.

3.5 strategic processes and action areas

We aim to deliver industry-leading results and superior stockholder value in any business environment. As discussed, oil and gas are declining resources and investment is needed to maintain them in order to fulfill projected demand, even in lower-carbon scenarios. Given this, we will continue to develop resources to fulfill the world's demand for energy. At the same time, we will continue to maintain flexibility in our portfolio and will continually examine ways to adapt investment patterns in response to changing policy, demand, and energy-transition opportunities. Our experience indicates that superior financial performance is more achievable through active portfolio management—including allocating capital where highest returns are forecasted—than through presetting targets for certain types of assets.

chevron strategy and sustainability

For more than 140 years, we have strived to build a track record of operating with integrity and holding ourselves accountable to the high expectations of our stakeholders. We take this responsibility seriously and are proud of our role in delivering the affordable, reliable, ever-cleaner energy that is vital to human progress. Refer to Section 1, Governance, on pages 5–8, to learn more about organizational changes we have made to reflect the importance we place on sustainability.

3.5.1 Our strategic processes: Decision Analysis, business planning, capital-project approvals, business-development screening, and the marginal abatement cost curve process

Our Decision Analysis process: The scale of investment and time involved in finding, extracting, and processing oil and gas requires long-term planning and decision making to effectively manage the uncertainties inherent in these opportunities. Our Decision Analysis (DA) process is underpinned by a systematic, analytical approach that leads to clarity of action in support of a decision. The DA process is structured for developing, evaluating, and comparing alternatives, including future options, in the face of risk and uncertainty. It uses deterministic and probabilistic analyses and economic and financial-analysis tools, along with debiasing techniques, to improve the quality of all decisions. Our DA function is engaged throughout the organization to achieve high decision quality and decision clarity. DA concepts and tools are used in many of the processes described below.

Business planning: Business units incorporate carbon costs and anticipated capital and operating expenditures related to carbon issues in multiple ways.

- Business plans: In jurisdictions with regulations that impose a carbon price, carbon costs are included in business plans; in jurisdictions that do not yet have such regulations, but that are projected to implement them in the future, carbon costs are included in the business plan the year the prices are forecasted to start.

- Carbon management plans: Business units in jurisdictions with regulations that impose a carbon price go through an annual compliance-planning process with the goal of achieving the most efficient manner of compliance. Where we have multiple assets in a single jurisdiction, integrated plans are developed to optimize total compliance costs across the business. We develop MACCs for our facilities and compare the cost of internal reduction options with the carbon price or fees and purchasing offsets or allowances. The anticipated compliance costs, including investments to generate internal emissions reductions, are included in business plans.

stranded assets

High-profile publications have stated that the portfolios of many oil and gas companies are not competitive in a "well below 2° C world," implying that companies and their investors have significant exposure to "stranded" assets because a company's value is tied to these undeveloped assets. An oil and gas company's primary valuation comes from the oil and gas reserves it holds. Per the U.S. Securities and Exchange Commission, the definition of "reserves" requires that those assets be economically producible as of a given date. The commodity price used in these calculations is the average of the first-of-the-month pricing of the prior year, projected forward as a "flat" unescalated price for the life of the field. For example, the 2019 commodity price used in reserve calculations is similar to the lower price indicated in the IEA's SDS, thus, current estimated reserves would not be stranded even in a scenario such as the IEA's SDS.

Proved reserves: Oil and gas judged to be economically producible in future years from known reservoirs under existing economic and operating conditions and assuming continuation of current regulatory practices using conventional production methods and equipment.

Probable reserves: Additional reserves that analysis of geoscience and engineering data indicates are less likely to be recovered than proved reserves, but are more certain to be recovered than possible reserves. When probabilistic methods are used, there should be at least a 50 percent probability that the actual quantities recovered will equal or exceed estimated values.

Possible reserves: Additional reserves that analysis of geoscience and engineering data suggests are less likely to be recoverable than probable reserves. When probabilistic methods are used, there should be at least a 10 percent probability that the actual quantities recovered will equal or exceed estimated values.

Oil and gas assets that do not meet one of these requirements fall into the category known as "resources" and are not generally used when calculating a company's value. Further, these assets represent a static snapshot of a company's current portfolio mix and do not necessarily represent the long-term strategy for a company. As discussed in this report, we continually evaluate climate-related risks and energy-transition opportunities as part of our decision-making around future investments and portfolio composition.

- Impairment reviews: Impairment reviews are triggered when events test market assumptions upon which our business plans and long-term investment decisions are made. Impairments could occur, for example, due to changes in national, state, or local environmental laws, including those designed to stop or slow the production of oil and gas. When triggering events arise, we perform impairment reviews to determine whether any write-down in the carrying value of an asset is required. Carbon costs are included in impairment reviews.

- Reserves: When calculating reserves, we incorporate a carbon cost in jurisdictions with enacted carbon-pricing regulations. For reserves accounting, per guidance in Accounting Standards Codification 932, our carbon-cost estimates are based on enacted regulations, not carbon-price forecasts, and follow reserve-accounting principles.

Capital-project approvals: Individual investments are developed, approved, and implemented in the context of the strategic plan, segment-specific business plans, and commodity price forecasts. Investment proposals are evaluated by management and, as appropriate, reported to the Executive Committee and the Board of Directors. Our final investment decisions are guided by a strategic assessment of the business landscape. Our internal carbon-price forecast and derived carbon costs are considered in the economic evaluations supporting major capital-project appropriations. In addition, a number of GHG-related factors are considered in project-appropriation assessments, such as:

- The annual profile of anticipated project GHG emissions and emissions intensity (both Scope 1 and Scope 2)

- The identification and assessment of the options for reducing GHG emissions and optimizing carbon intensity

Business-development screening: We continue to enhance our screening processes to assess opportunities for portfolio fit, including assessing energy-transition opportunities and current and future opportunities' impact on the carbon intensity of our portfolio.

Marginal abatement cost curve process: Our MACC process is a disciplined and value-driven approach to reduce the carbon intensity of our operations and assets by optimizing carbon-reduction opportunities and integrating GHG-mitigation technologies across the enterprise (see page 41).

3.6 scenario test

the resilience of our portfolio under the IEA's SDS and the IPCC's representative concentration pathway (RCP) 8.5

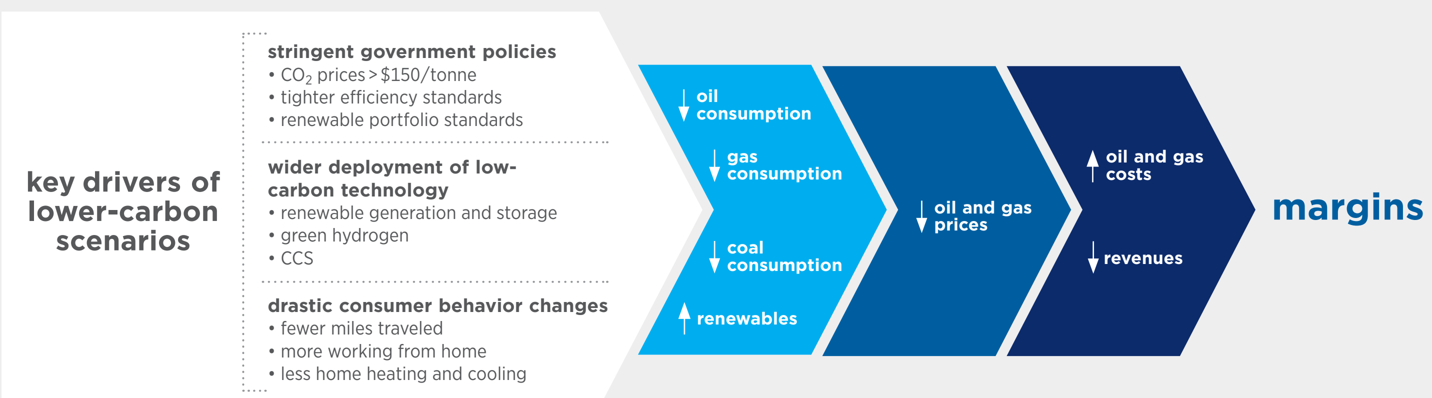
We use long-term energy-demand scenarios and a range of commodity prices to test our portfolio, assess investment strategies, and evaluate business risks to strive to deliver results under a range of potential futures. We analyze alternative scenarios to stress-test our portfolio and integrate learnings into our decision making to remain competitive and resilient in any environment.

For longer-term scenarios, we routinely use external views to both inform and challenge our internal views. This includes scenarios that keep global warming to well below 2° C above pre-industrial levels, as well as scenarios forecasting net-zero emissions by 2050.[31] In addition, we use the scenarios from the IPCC to inform our physical and financial exposure to climate change. Some suggest the abrupt reduction in demand from the COVID-19 pandemic has presented a real-world stress test for our portfolio and the industry. The pandemic's impact on energy markets illustrates the scale of changes and disruption that would accompany a reordering of the economy and behavior in order to meet the goals of the Paris Agreement.[32]

3.6.1 The IEA's SDS: Energy demand, oil, natural gas, refined product, and portfolio analysis

One example of a lower-carbon scenario against which we test our portfolio is the IEA's SDS. The SDS outlines one potential path to 2040 that reflects the objectives of recent energy policies, including the Paris Agreement, of keeping global average temperatures well below 2° C above pre-industrial levels and putting the world on track to achieve net-zero emissions by 2070. The SDS achieves lower emissions mainly through policies aimed at increasing efficiencies and renewable energy sources, which limit energy-demand growth. In this scenario, declines in long-term oil and gas demand put downward pressure on prices. The estimated market price reductions will be dependent on specific supply curves, as discussed earlier. It is possible, for example, that declines in oil and gas demand will place the market on a relatively flat portion of the supply curve, resulting in fairly small price changes in response to changes in long-term demand expectations. The TCFD provides guidance on evaluating business impacts and on disclosure.[33, 34] To test the effects of the IEA's SDS, we input its demand projections into our proprietary model of supply and commodity prices and tested our portfolio against the new price tracks generated to meet the SDS level of demand.[35]

Exhibit 30. Potential industry impacts of lower-carbon scenarios



31 Network for Greening the Financial System (NGFS), *Guide to Climate Scenario Analysis*, June 2020, ngfs.net/sites/default/files/medias/documents/ngfs_guide_scenario_analysis_final.pdf; Principles for Responsible Investment, *Inevitable Policy Response*, June 2020, unpri.org/inevitable-policy-response/what-is-the-inevitable-policy-response/4787.article; IEA, *World Energy Outlook 2020, SDS, NZE2050*, October 2020, iea.org/reports/world-energy-outlook-2020.

32 IEA, *World Energy Outlook 2020, SDS, NZE2050*, October 2020, iea.org/reports/world-energy-outlook-2020.

33 TCFD, *Recommendations of the Task Force on Climate-related Financial Disclosures*, June 2017, assets.bbhub.io/company/sites/60/2020/10/FINAL-2017-TCFD-Report-11052018.pdf.

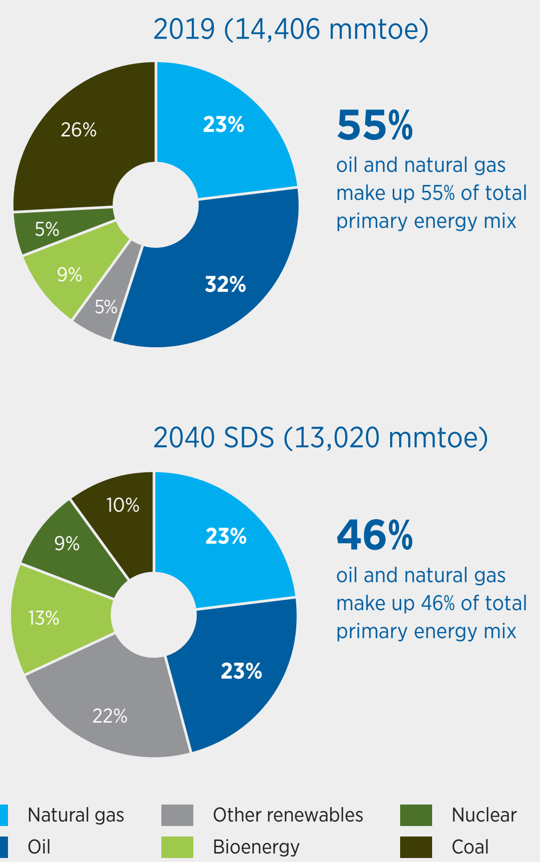
34 TCFD, *The Use of Scenario Analysis in Disclosure of Climate-related Risks and Opportunities*, June 2017. assets.bbhub.io/company/sites/60/2020/10/FINAL-TCFD-Technical-Supplement-062917.pdf.

35 Our Corporate Audit Department, which performs the internal audit function at Chevron, conducted an independent review of the reporting processes related to the SDS scenario test. This review was conducted in accordance with the principles espoused by the Institute of Internal Auditors. The Corporate Audit Department found that, in developing the SDS scenario disclosures, our reporting processes were reasonably performed in accordance with the reporting process for the IEA's SDS. Moreover, our Corporate Audit Department verified that our procedures in developing the NZE2050 scenario statements followed applicable procedure to the extent developed to date by the IEA.

Energy demand: The SDS results in global energy demand in 2040 that is roughly 10 percent lower than 2019 levels. The SDS assumptions relevant to the oil and gas sector are as follows:

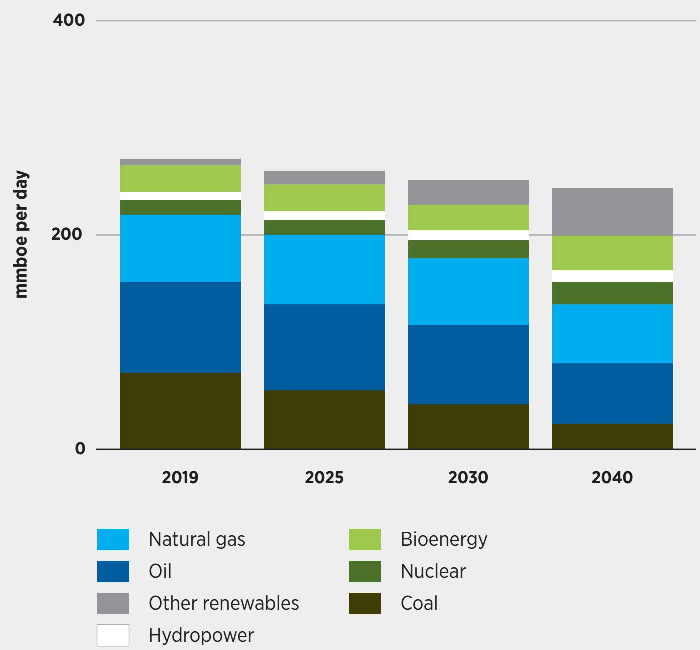
- Efficiency playing a central role, with a significant share of spending across transportation, buildings, and industry sectors going to efficiency measures
- Behavioral changes leading to 30 million fewer internal combustion engine vehicles being sold per year
- Renewable share of the power sector reaching more than 50 percent and natural gas dropping to approximately 15 percent
- Increased electrification and efficiency improvements in industrial processes
- Policies promoting production and use of alternative fuels and technologies such as hydrogen, biogas, biomethane, and CCUS across sectors
- Existing buildings undergoing extensive retrofitting to move them away from fossil fuels
- Carbon pricing reaching more than $140/tonne

Exhibit 31. IEA 2019 world total primary energy mix vs. SDS in 2040



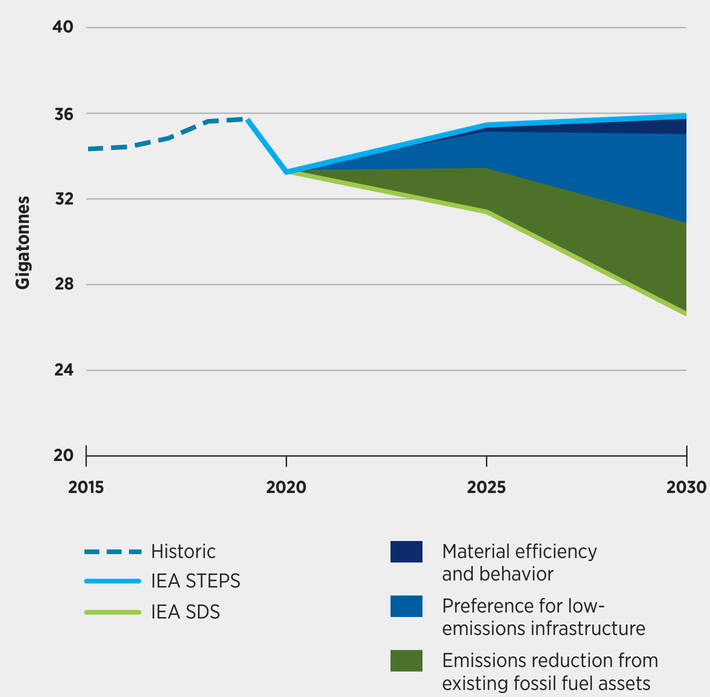
Source: IEA, *World Energy Outlook 2020*, iea.org/reports/world-energy-outlook-2020.
mmtoe = million tons of oil-equivalent

Exhibit 32. Total primary energy demand in the IEA's SDS



Source: IEA, *World Energy Outlook 2020*, iea.org/reports/world-energy-outlook-2020.
mmboe = millions of barrels of oil-equivalent

Exhibit 33. Global CO_2 emissions from energy reductions in the IEA's SDS



Source: IEA, *World Energy Outlook 2020*, iea.org/reports/world-energy-outlook-2020.

Oil

- **Oil demand:** In the SDS, oil demand decreases by about 28 MMBD by 2040 relative to 2019. The SDS still projects oil to make up about 23 percent of the total energy demand. Relative to the STEPS, there is less demand for oil in all uses except petrochemicals, which is expected to increase by about 33 percent relative to 2019. Oil demand for transport, meanwhile, is expected to drop by almost 60 percent.

- **Oil supply:** Lower demand implies that less supply is required. However, because of the natural decline inherent in oil production, investment in the most cost-competitive assets, such as existing production and brownfield opportunities, is still needed. Assuming the previously discussed global decline rates, the supply gap in the SDS is 9 MMBD by 2040.

- **Oil price:** We estimate the SDS demand reduction to be large enough that it lowers oil prices. Although this lower price leads to lower development and operating costs, it also intensifies cost competition in a smaller marketplace. The outcome is similar to the low-price track against which we analyze our portfolio. The low-price track still provides profitability to those producers that remain in the market.

Natural gas

- **Natural-gas demand:** Gas demand in the SDS plateaus by the end of this decade before declining by approximately 500 billion cubic meters per year compared with 2019. Although gas demand declines across Europe, the Americas, and the Middle East, it continues to grow in Asia. Natural gas accounts for approximately 23 percent of global energy demand in 2040.

- **Natural-gas supply:** In the SDS, there is an ongoing need from 2021 to 2040 for about $2.7 trillion to be invested in gas infrastructure. For LNG, existing and planned developments are enough to meet demand through the remainder of this decade, with a supply gap opening up beyond 2030.

- **Natural-gas price:** In the SDS, gas prices are lower globally, although there is regional variation. The resulting gas prices, in the Americas and Asia, are comparable with those assumed in our low-price scenario, against which we analyze our portfolio.

Refined products

- **Refined-product supply and margins:** In the SDS, global demand for gasoline, diesel fuel, and jet fuel does not return to 2019 levels and continues to decline over the next two decades. However, the shape of this decline differs by region, with demand in Asia continuing to grow through the first half of this decade. Excess refining capacity dampens refinery margins until additional closures happen. Refineries able to shift production to petrochemical feedstocks and biofuels may gain a competitive advantage, as both of these products see increased demand in the SDS. However, the increased use of natural-gas liquids as direct petrochemical feedstock supply could limit this upside. Refineries able to shift into other areas, such as chemical recycling or hydrogen production, may be reconfigurable to avoid full closure in the SDS. In a perfectly competitive market, the least-efficient and least-profitable refineries close, leaving a balanced market. However, nonfinancial factors could prolong the overcapacity or lead to continued operation of less-efficient refineries at the expense of more-efficient refineries. Upstream and Downstream value-chain optimization could be more important to maximizing enterprise value.

Portfolio analysis: We test our portfolio against projected prices under the SDS. Given our focus on the most competitive assets in our Upstream portfolio and actions to align Downstream & Chemicals around scaled, efficient, flexible, integrated, and higher-margin value chains, we believe our portfolio should be resilient even under the SDS.

- **Short-term impact (0–10 years), Upstream:** Chevron's diverse portfolio mitigates risk and enables us to take advantage of opportunities that may arise from changes in industry economics.
  - > Today, much of our Upstream investment is focused on unconventional assets in the Permian Basin, Argentina, Canada, and the DJ Basin. The presence of these short-cycle assets in the portfolio gives us the flexibility to efficiently manage commodity price volatility, cash flow, and earnings, even in a low-price environment like the IEA's SDS.
  - > In addition to these unconventional assets, our strong Upstream base businesses in Kazakhstan, the Deepwater Gulf of Mexico, and Nigeria will continue to generate cash flow and earnings in the short term at lower crude prices based on investments made largely in the past. These assets will provide opportunities for investment in brownfield projects that are typically higher return and lower risk because they leverage existing assets and infrastructure. The startup of the Future Growth Project in Kazakhstan in 2022 or 2023 will increase the cash-generation power and earnings of our base business.
  - > Our LNG assets in Australia will generate cash flow and earnings in an environment that lacks substantial price growth with just our existing asset base and select brownfield investments. Our gas assets in the eastern Mediterranean region represent an additional and sizable source of cash flow and earnings during this period with only limited investment.
  - > In a low-price environment like the SDS, operating costs decline across the portfolio, driven by efficiency initiatives and portfolio rationalization, and there is a general reduction in industry cost structures due to reduced demand for goods and services.
- **Short-term impact (0–10 years), Downstream & Chemicals:** Although there is declining demand for transport fuels in the United States, the Downstream portion of our portfolio remains resilient due to actions we have taken over the past decade to enhance refinery competitiveness. Our investments in biofuels and renewables provide new opportunities in support of our Downstream business as demand for these commodities increases. Petrochemical demand continues increasing in the SDS, which will help maintain earnings from the chemicals business.
- **Long-term impact (10-plus years), Upstream:** Production and cash generation from our existing assets plus select brownfield investments remain robust into the 2030s, even at the SDS prices. Competition for new production opportunities is intense as companies look to offset natural field declines with lower-cost assets that could be profitable at sustained lower prices. These same lower prices, however, continue to push other industry costs lower. Margins and cash flow settle at levels that ensure there is enough supply to meet the world's continued need for energy through the period. Lower prices may challenge assets in disadvantaged parts of the supply stack, which may lead to changes in our portfolio in the long term. In this environment, we use our portfolio's scale, efficiency, diversity, and flexibility to maintain the business; we continue to exhibit capital discipline in our investment decisions; and we lower our cost base to maximize the value of our portfolio.
- **Long-term impact (10-plus years), Downstream & Chemicals:** Declining demand for all hydrocarbon transport fuels results in margins dropping globally. Lighter crudes and lower runs lead to less feed for conversion units in more-complex refineries, which, in the absence of flexibility, efficiency, and reconfiguration, could disadvantage high-conversion refineries (e.g., coking) relative to simpler refineries. Refining investments remain curtailed, although select investments, including in petrochemicals, could continue.

net-zero emissions by 2050

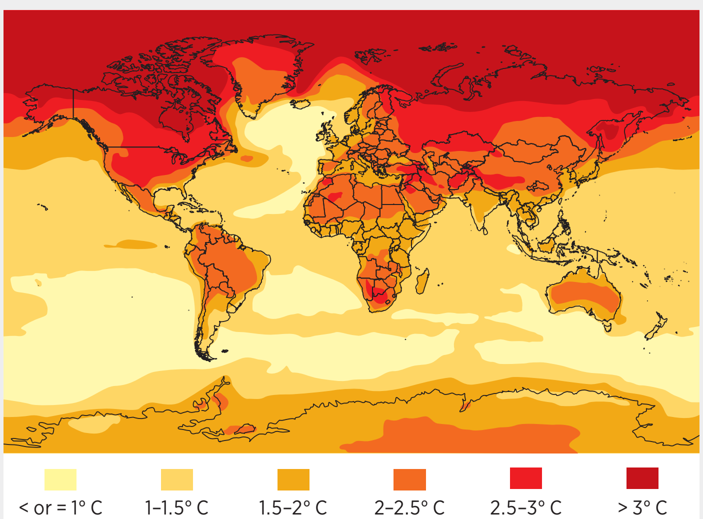
The IEA's Net-Zero Emissions by 2050 scenario puts the world on a pathway to achieve net-zero emissions by 2050 through more rapid deployment of low-carbon energy technologies and significant behavioral changes that reduce energy use. Putting the world on a net-zero 2050 path results in a more rapid decline in demand than depicted in the SDS. In 2030, oil and gas constitute approximately 50 percent of the primary energy mix in the NZE2050 scenario, compared with 66 percent in the SDS. Oil demand in NZE2050 is nearly 25 percent below SDS levels in 2030, whereas gas demand is about 8 percent below SDS levels in 2030. Incremental upstream investment remains required in the NZE2050 scenario as mature field decline outpaces projected demand reductions. The more rapid demand decline in NZE2050 implies increased market competition for supply and rationalization of refining capacity. Overall market and portfolio impacts under NZE2050 are expected to be similar to those in the SDS on a more accelerated time horizon. Further detail on the demand profiles by region and fuel that extend beyond 2030 for the NZE2050 scenario are needed to understand specific energy price and portfolio impacts similar to the SDS analysis. We update our analysis of scenarios as information is released by the IEA.

3.6.2 The IPCC's RCP8.5: Physical risk and adaptation analysis

We have existing practices that identify and manage risks associated with the impacts of ambient conditions and extreme weather events on our operations (see page 9). Recognizing that climate models continue to evolve, in 2020, we undertook a stress-test exercise for our operated assets with regard to the potential upper bound of physical risks that third parties model as potentially related to climate change using a time horizon of 30 years. Our assessment used third-party tools and methodologies[36] and evaluated IPCC Representative Concentration Pathways (RCPs).

RCPs are GHG concentration scenarios "that include time series of emissions and concentrations of the full suite of greenhouse gases and aerosols and chemically active gases, as well as land use/land cover" that are used for climate modeling and research as part of the IPCC's AR5.[37] RCP scenarios are not predictions. Among the full set of RCPs, RCP8.5 is the pathway with the highest greenhouse gas emissions. RCP8.5 assumes continued accumulation of GHG concentrations with an increase in radiative forcing greater than 8.5 W/m^2 and a projected temperature increase by 2100 of 2.6° C to 4.8° C relative to the beginning of this century. See Exhibit 34. Although the high-emissions RCP8.5 scenario is viewed by some as representing a higher temperature change than implied by current emission trends and is not meant to be predictive, we used RCP8.5 to enable assessment of the upper bound of inherent risk in the absence of further expected decarbonization.

Exhibit 34. Example of modeled potential changes in 2050 mean temperature compared with 1986–2005 under IPCC RCP8.5



Notes: Based on RCP8.5. Spatial resolution is 25 km.

Sources: Lower-carbon-NEX-GDDP CMIP5 ensemble; ACRE.

We assessed acute hazards (lethal heat waves, wildfires, droughts, coastal flooding, riverine flooding, and severe storms) as well as chronic hazards (mean ambient temperature and outdoor workability conditions) to 2050. The analysis drew on emerging methods[38] in climate science to create modeled outcomes from public data.[39] Limitations include the desktop nature of analysis, uncertainties around emissions pathways and the pace of warming, climate model accuracy and natural variability, and uncertainties inherent in predicting outcomes that could be related to climate change and relating those outcomes to potential impacts on us.

Portfolio analysis: Because of the global nature of our business, our assets do not all share the same physical attributes and would not all be impacted in the same way. We observed that, under the modeled outcomes, our asset portfolio is generally resilient to acute and chronic hazards under RCP8.5 through 2030. Assuming modeled outcomes are realized, maintaining a high level of resilience to acute hazards beyond 2030 may require additional hardening for specific assets. We would expect this hardening to be managed in the ordinary course of our business through facilities management and business planning processes. Based on modeled outcomes, chronic hazards could increase impacts on some assets beyond 2030. We would expect that financial impact would be limited and could be mitigated if we were to undertake appropriate adaptation measures in the future. For example, under modeled RCP8.5 outcomes, Pascagoula, Mississippi, could face increases in temperature and humidity, which if unmitigated could lead to labor productivity losses. Yet, we would expect such productivity loss could be reduced by adjusting scheduled maintenance work to cooler seasons and adjusting the timing of daily worker shifts. Under modeled outcomes, we would expect our operated facilities to be generally resilient to modeled physical risk. There may, however, be dependencies on third-party-owned and third-party-operated assets, like local infrastructure, that could affect operations. Notably, these dependencies already exist and are managed in the ordinary course of our business.

36 McKinsey Global Institute, *Climate Risk and Response: Physical Hazards and Socioeconomic Impacts*, January 2020.

37 Commonwealth Scientific and Industrial Research Organisation, *Climate Change in Australia*, climatechangeinaustralia.gov.au/en/climate-campus/modelling-and-projections/climate-models/; Geophysical Fluid Dynamics Laboratory, *Climate Model Downscaling*, gfdl.noaa.gov/climate-model-downscaling/.

38 University of California, Merced, *Multivariate Adaptive Constructed Analogs Datasets*, climate.northwestknowledge.net/MACA/index.php; NASA Center for Climate Simulation, nccs.nasa.gov/services/data-collections/land-based-products/nex-gddp; NASA NEX-GDDP multi-model ensemble; Copernicus, *CMIP5 Daily Data on Single Levels*, cds.climate.copernicus.eu/cdsapp#!/dataset/projections-cmip5-daily-single-levels?tab=overview; World Resources Institute, Aqueduct Floods, wri.org/resources/websites/aqueduct-floods; WindRisk Tech, *Hurricane Risks*, windrisktech.com/.

39 IPCC, *Climate Change 2014: Synthesis Report*, 2014, ipcc.ch/report/ar5/syr/.

summary of scenario test

We believe our portfolio is resilient, although some assets could be exposed if we were to take no action. Our processes for tracking leading indicators and managing these changes, combined with our asset mix, enable us to be flexible in response to potential changes in supply, demand, and physical risk.

section 4

our portfolio

our strategic focus areas: upstream, downstream, and lower carbon

Our primary objective is to deliver higher returns, lower carbon, and superior shareholder value in any business environment. We have a long history of managing complex engineering projects and processes, world-class subsurface management, application of chemistry in manufacturing, and innovation in customer-facing activities. We are optimizing Upstream and Downstream value chains to maximize enterprise value.

$239.8 billion total assets**

$94.5 billion sales and other operating revenues*

3.08 million barrels net oil-equivalent daily production*

11.1 billion barrels net oil-equivalent proved reserves**

* Year ended December 31, 2020. ** At December 31, 2020.

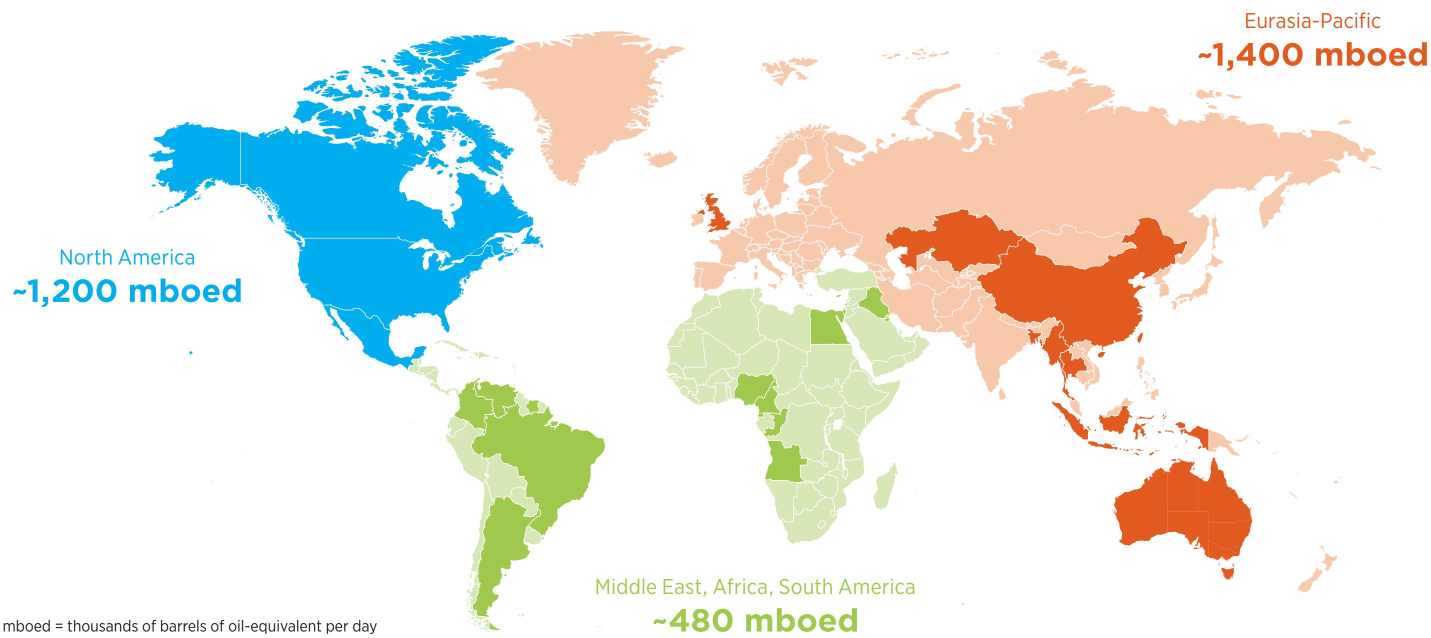
4.1 upstream

We strive to ensure our Upstream business provides competitive returns, regardless of commodity prices. We are focused on expanding cash and earnings margins by reducing operating costs, building efficiency into day-to-day operations, increasing reliability, lowering carbon intensity, and completing major capital projects under construction.

Our Upstream portfolio is anchored by key assets, including oil and gas in Kazakhstan, LNG in Australia, shale and tight oil in the U.S. onshore, deepwater assets in the U.S. Gulf of Mexico, and natural gas in the eastern Mediterranean. These assets are supplemented by other competitive assets globally.

We believe that the most appropriate approach for measuring the emissions performance of an Upstream asset is GHG intensity by commodity on an equity basis—the same method we use to report production. This is aligned with the intent to provide useful GHG information to help stakeholders make decisions. Based on a comparison of the IEA's WEO 2018 data, we estimate that more than 75 percent of our production of both oil and gas is below the global average carbon intensity for each commodity.

Exhibit 35. A diverse and advantaged Upstream portfolio



mboed = thousands of barrels of oil-equivalent per day

4.2 downstream

We seek to grow earnings across the Downstream & Chemicals value chain by making targeted investments to shift our exposure to higher-return segments while strengthening our refining and marketing value chains.

The targeted investments are designed to strengthen our value chain, eliminate costs, and improve efficiencies. We continually examine ways to meet demand and policy changes.

Chevron's Downstream portfolio is focused in areas of manufacturing strength on the U.S. West Coast, on the U.S. Gulf Coast, and in Asia. We have created tightly integrated value chains in the markets where we operate and are well-positioned to supply growing markets. As our focus is on value, not volume, we will continue to improve our operations, lower carbon intensities, and grow margins across the value chain. In our petrochemicals business, our portfolio focus is on world-scale facilities, proprietary technology, and low-cost feedstocks.

Complex refineries play an important role in transforming crude into high-value products. Complex refineries tend to have a higher carbon intensity when measured on a throughput basis, sometimes referred to as a "simple barrel" basis. We are working to develop a product output–based methodology and in the interim have set a 1 to 2 percent emissions intensity reduction target on a throughput basis from 2016 to 2023. While the methodology is under development, we are using a refinery throughput metric to provide our current performance information transparently. Based on data from the IEA's WEO 2018, approximately 25 percent of our refinery capacity is below the global average of refinery throughput carbon intensity, which is expected when using a throughput basis and taking into account our portfolio of complex refineries.

Exhibit 36. Optimizing Downstream & Chemicals value chains to maximize value

U.S. West Coast

U.S. Gulf Coast

Asia-Pacific

Products and intermediaries

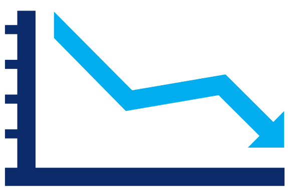
4.3 lower-carbon strategy and investments

Chevron's energy-transition strategy is to help advance a lower-carbon future. We aim to leverage our market position, assets, organizational capability, technology, and venture capital to pursue lower-carbon opportunities and seek progress toward the ambitions of the Paris Agreement. We strive to apply our capabilities toward developing and commercializing breakthrough technologies, helping create lower-carbon solutions that can compete effectively in the marketplace and ultimately achieve global scale.

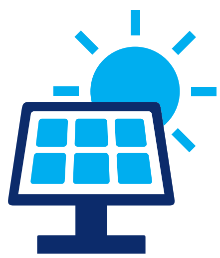
Our strategy focuses on actions and investments in three areas that can deliver measurable progress today and for the future: we will lower carbon intensity cost-efficiently; increase renewables and offsets in support of our business; and invest in low-carbon technologies to enable commercial solutions.

Exhibit 37. Energy-transition action areas to advance a lower-carbon future

lower carbon intensity
cost-efficiently



increase renewables and offsets
in support of our business



invest in low-carbon technologies
to enable commercial solutions

4.3.1 Lower carbon intensity cost-efficiently

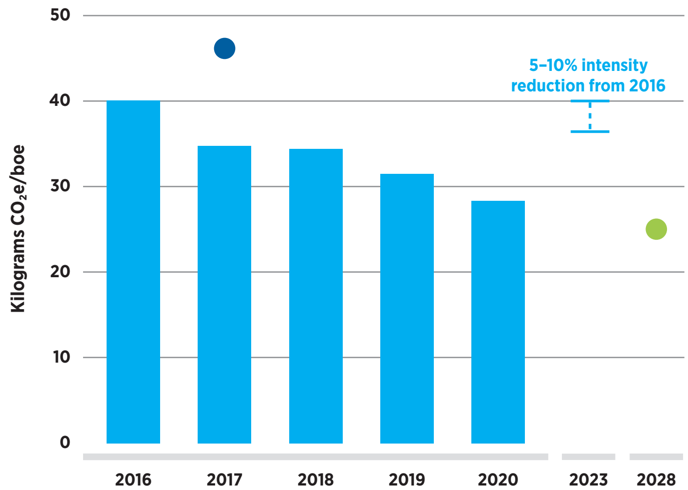
In our first action area, we set metrics that communicate performance in the activities in which we participate. We establish our Upstream metrics on an equity basis and then on an individual commodity basis. We have established targeted carbon intensities for oil, gas, flaring, and methane to communicate our targeted performance transparently. In alignment with the Paris Agreement requirement that governments report their performance in five-year stocktakes, we have set metrics for 2023 and 2028 and intend to do so every five years thereafter. We have set 2016 as our baseline to align with the year the Paris Agreement came into force.

Our actions and progress are linked to virtually all employees' compensation as part of the corporate scorecard, which determines a component of variable compensation through the Chevron Incentive Plan.

extending upstream production carbon-intensity metrics to 2028

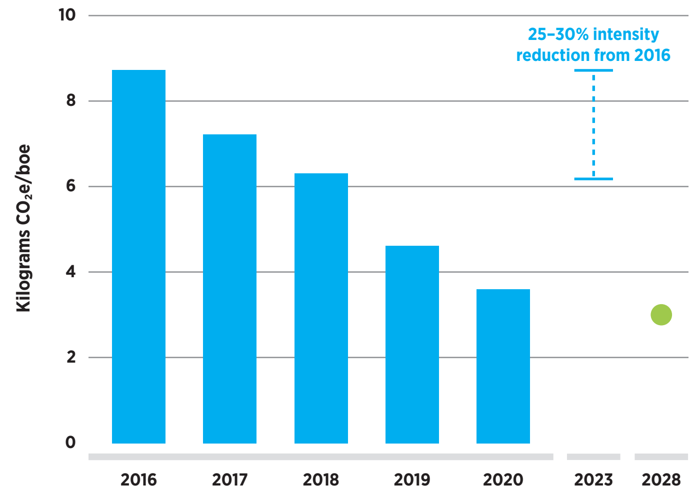
oil	gas	flaring	methane
24 kg CO_2e/boe	24 kg CO_2e/boe	3 kg CO_2e/boe	2 kg CO_2e/boe

Exhibit 38. Targeting a 40 percent reduction in oil carbon intensity*



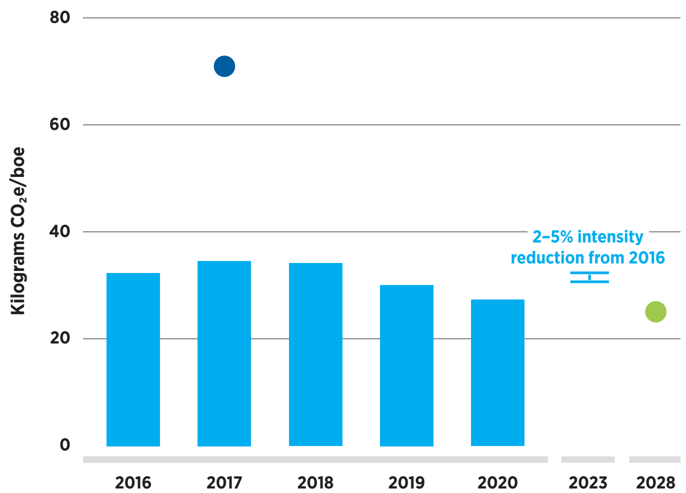
boe = barrels of oil-equivalent

Exhibit 39. Targeting a 66 percent reduction in flaring carbon intensity**



boe = barrels of oil-equivalent

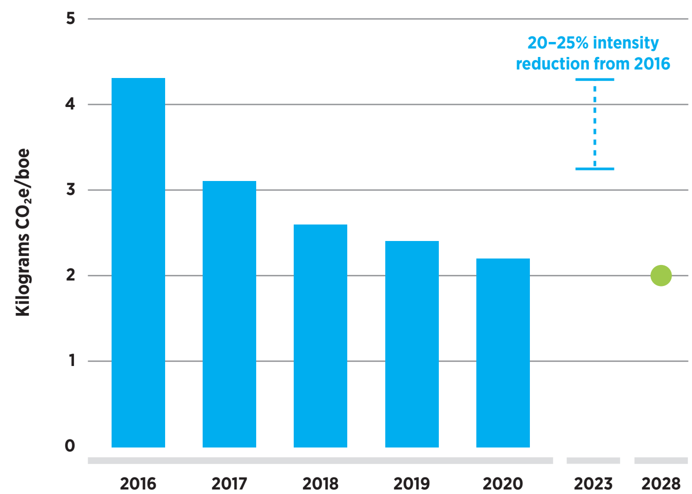
Exhibit 40. Targeting a 26 percent reduction in gas carbon intensity*



boe = barrels of oil-equivalent

*Metrics are baselined to 2016. Emissions reported are net Scope 1 and Scope 2. The emissions included in the metrics generally represent the equity share of emissions, which are emissions from operated and nonoperated joint-venture (NOJV) assets. The scope may include sources outside traditional scoping of equity emissions, including captive emissions from processes like drilling and completions and tolling agreements up to the point of third-party custody transfer of the oil or gas product. For oil and gas production intensity metrics, allocation of emissions between oil and gas is based on the fraction of production represented by liquids or gas. Production is aligned with values reported as net production in the *Chevron Corporation Supplement to the Annual Report*. Oil and gas production intensities use liquids production and natural-gas production, respectively.

Exhibit 41. Targeting a 53 percent reduction in methane intensity**



boe = barrels of oil-equivalent

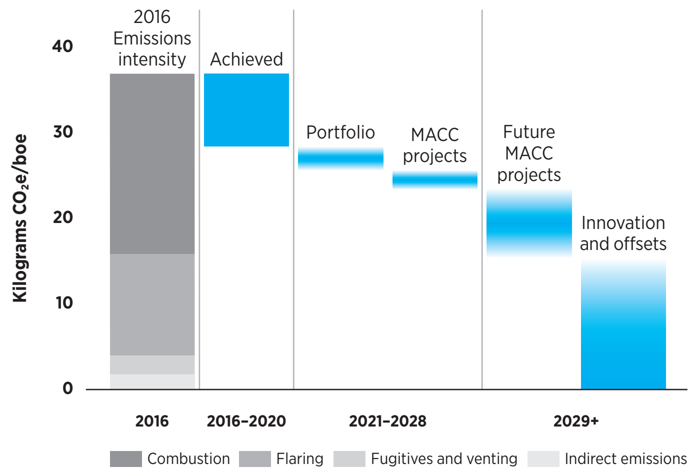
**Metrics are baselined to 2016. Emissions reported are net Scope 1 and Scope 2. The emissions included in the metrics generally represent the equity share of emissions, which are emissions from operated and NOJV assets. The scope may include sources outside traditional scoping of equity emissions, including captive emissions from processes like drilling and completions and tolling agreements up to the point of third-party custody transfer of the oil or gas product. Flaring and methane intensities use the total of liquids and gas production.

● IEA WEO 2018 global average ● 2028 metric

Our approach to driving down GHG emissions intensity: good for the investor, good for society: We are building on our strengths to reduce the carbon intensity of our operations and assets by optimizing carbon-reduction opportunities, and integrating GHG-mitigation technologies across the enterprise. These efforts drive progress on metrics, enabling us to update progress on a timeline aligned with the Paris Agreement.

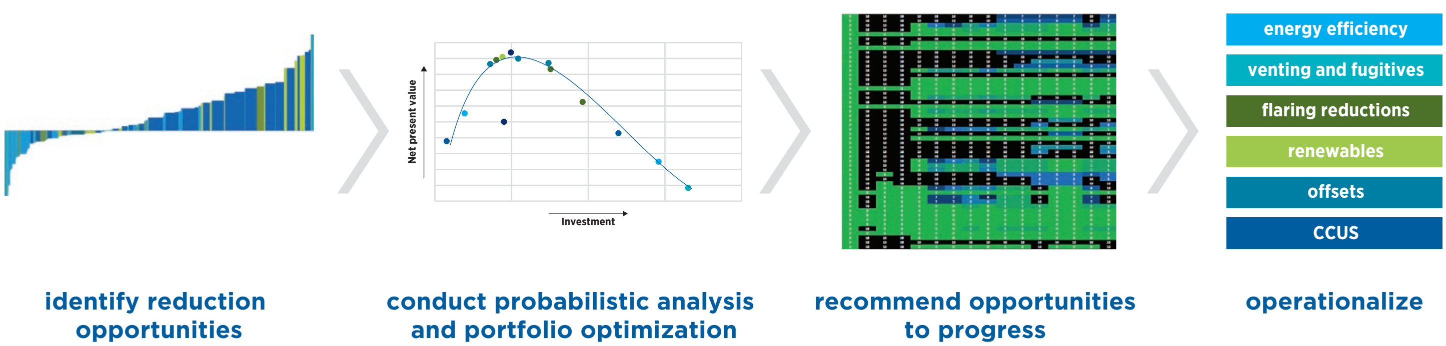
Like supply stacks, MACCs can enable a visualization of abatement opportunities, showing their relative cost and abatement potential on a similar basis. In our enterprise-wide effort to aggregate opportunities, we sourced opportunities from assets that represent approximately 70 percent of our equity GHG emissions. Most of our Scope 1 emissions are combustion-related, which can be addressed via energy efficiency measures, fuel switching to lower-carbon sources (e.g., from diesel to gas), CCUS, or offsets.

Exhibit 42. Working toward a net-zero future



boe = barrels of oil-equivalent

Exhibit 43. A MACC approach to emissions reduction presents opportunities that are good for investors and society



The next-largest source category of our Scope 1 emissions is from flaring, fugitive, and venting activities, which can be addressed by identifying fugitive emission sources, actioning reduction activities, and reducing venting and flaring activities. Scope 2 emissions, a type of indirect emissions associated with imported power or steam, can be addressed by efficiency measures and activities such as fuel switching to lower-carbon sources like using renewable power purchase agreements. Finally, technology innovations in areas such as CCUS and use of offsets can help address emissions in any source category.

We aggregated all the opportunities in key focus areas of energy efficiency, flare reductions, venting and fugitive reductions, renewables, and CCUS. We then applied both deterministic and probabilistic analysis to assess emissions reduction opportunities, consistent with our Decision Analysis practices discussed on page 30. We modeled portfolios and used efficient frontier analysis to identify a portfolio of opportunities to fund across the technology spectrum, segments, and business units.

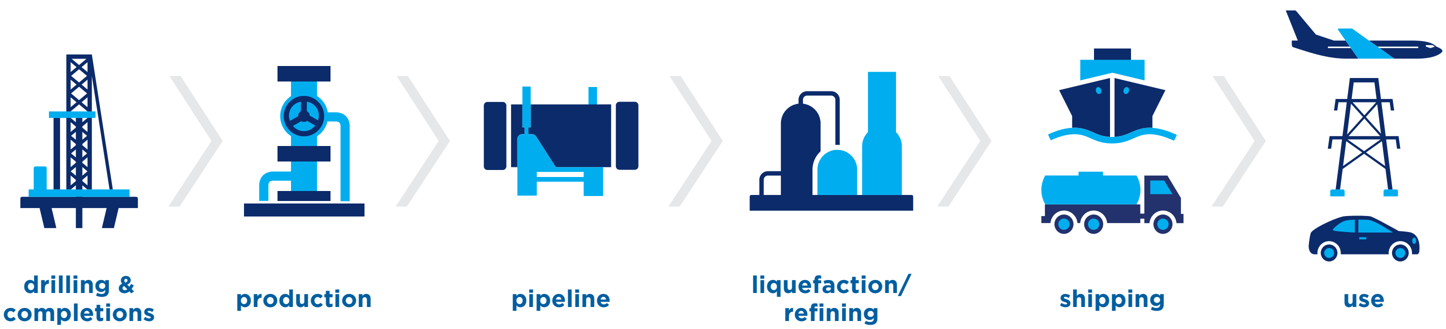
We selected more than 60 projects to advance to execution, and plan to spend more than $100 million in 2021. We expect to spend approximately $2 billion through 2028, on the path to deliver our 2028 performance metrics. Further out, we have additional MACC opportunities identified that have the potential to lower our Upstream carbon intensity into the mid-teens. Significant technology advancements and the development of large offset markets could enable reductions to net zero by mid-century.

Energy efficiency

Emissions associated with our own energy use make up about 70 percent of our Scope 1 and Scope 2 emissions, which is why energy management is a key focus area for driving down emissions intensity. Aggregated at a corporate level, such projects contribute significant reduction opportunities. We are progressing approximately 35 projects forecasted to reduce more than 1 million tonnes of CO_2e per year once fully implemented. In addition to our internal efforts, we also support external efforts to contribute to the advancement of energy management. For example, we have a long-standing collaboration with the University of California at Davis Energy Efficiency Institute.

Longer-term tracking standards
Digital forms a critical foundation for enabling our lower-carbon strategy. We have already made important strides in modernizing our information technology and digital systems and continue to invest, directly and through partnerships, in developing critical digital products such as for carbon tracking and tracing. By partnering with those who share this aspiration, we can bring life-cycle carbon-footprinted products to market, which will enable a supply chain of affordable, reliable, and ever-cleaner products. Access to reliable, verifiable carbon-footprinted data is important for buyers to make informed decisions, enabling contributions toward meeting Paris Agreement goals. In addition, carbon-footprinted data can enable price discovery, a comparison of the "green premium" and alternatives, and potentially incentivize reducing both carbon intensity and the "green premium" cost-efficiently.

Exhibit 44. Working to track the carbon footprint through the value chain



wbcsd

World Business Council for Sustainable Development—Carbon Transparency Pathfinder: End-to-end value-chain transparency on primary GHG emissions at a product level provides important data to help organizations make informed decisions as they work toward a lower-carbon future to achieve the goals of the Paris Agreement. Within the Pathfinder, Chevron is working together with other committed stakeholders from across the value chain, independent industry bodies such as GHG Protocol, and technology companies to develop the methodological and technical infrastructure required to create such transparency.

PAVILION ENERGY

LNG GHG value-chain emissions reporting: Pavilion Energy Trading and Chevron have signed a five-year LNG sale and purchase agreement under which each LNG cargo delivered will be accompanied by a statement of its GHG emissions. The parties are committed to co-developing and implementing a GHG quantification and reporting methodology for LNG based on internationally recognized standards and covering emissions from the well-to-discharge terminal, including LNG transportation.

chevron's approach to scope 3 emissions

Chevron believes the world's demand for oil and gas should be supplied by the cleanest and most efficient producers.

Chevron addresses Scope 3 emissions by: (1) supporting a price on carbon through well-designed policies; (2) transparently reporting Scope 3 emissions from the use of our products; and (3) enabling customers to lower their emissions through increasing renewable products, offering offsets, and investing in low-carbon technologies.

These contributions support a global approach to achieve the goals of the Paris Agreement as efficiently and cost-effectively as possible for society.

Scope 1 refers to direct emissions.

Scope 2 refers to indirect emissions from imported electricity and steam.

Scope 3 includes all other indirect emissions, such as the combustion of gasoline or diesel in cars and of natural gas in electricity generation and industrial use.

Methane emissions

Methane accounts for approximately 5 percent of our CO_2e emissions. Methane's higher global warming potential relative to that of carbon dioxide makes it a key focus area. For our industry, methane comes from three main sources: (1) vents; (2) fugitive emissions; and (3) flares. We are actively addressing the reduction of methane emissions by using data, technology, and innovation to prioritize opportunities and execute the most efficient detection and reduction strategies. For example, we continue to field-test various detection technologies, including aerial and satellite technologies. As a part of our update to the methane metric, we are deploying a global methane detection campaign that will utilize proven and emerging detection technologies at assets representing 80 percent of our equity methane emissions.

Methane emissions detection and reduction and flare reductions should be a shared goal that industry works collaboratively and proactively to achieve. We work to share effective solutions, which include stronger regulation, technological innovation, and broad voluntary adoption of best practices.

- **Fugitive emissions:** We continue to design, construct, and operate facilities with an eye toward limiting fugitive emissions. For example, onshore U.S. operations have reduced fugitive methane and volatile organic compound emissions through leak detection and repair, low-/no-emissions pneumatic devices, and centralized production batteries where practical. We were among the first in the industry to remove or retrofit all continuous high-bleed pneumatic controllers at our U.S. onshore facilities and have installed more than 1,000 lower-emitting pneumatic controllers at these facilities since 2013. Recently, we completed a pilot in Angola to optimize the gas usage in a deaeration unit, showing the potential to reduce methane venting from the process unit by as much as 70 percent.

- **Flare management and avoidance:** We flare natural gas only when necessary for safety and operational purposes and in areas where pipelines and other alternatives for transporting gas do not exist.

We have developed internal country-specific plans to minimize gas flaring. Since 2013, we have reduced flaring and associated emissions by 22 percent. In the Permian Basin, we are an industry leader in reducing flaring. We consider gas-takeaway availability in development planning, just as we would a permitting condition. This integrated approach to operations promotes gathering and takeaway systems that operate reliably, efficiently, and in coordination with production teams, resulting in some of the lowest methane intensities among those operating in the Permian Basin.

Internationally, we also look at ways to reduce flaring. For example, our Angola LNG joint venture was built to provide a use for associated gas. It has reduced annual flare volumes in Upstream production by more than 70 percent since 2016, contributing to the elimination of gas flaring in the country.

THE ENVIRONMENTAL PARTNERSHIP
An Initiative of the U.S. Natural Gas and Oil Industry

CH4 COLLABORATORY TO ADVANCE METHANE SCIENCE

GGFR Global Gas Flaring Reduction Partnership

OGCI OIL AND GAS CLIMATE INITIATIVE

The Environmental Partnership: Chevron is a founding partner of The Environmental Partnership, an industry initiative aimed at accelerating the adoption of practices that reduce methane emissions. To date, companies in this initiative have conducted more than 184,000 leak-detection surveys and replaced more than 13,000 pneumatic controllers with lower- or non-emitting technologies. In December 2020, The Environmental Partnership adopted a program to advance best practices that reduce flare volumes, promote beneficial use of associated gas, improve flare reliability and efficiency when flaring does occur, and collect data to calculate flare intensity as the key metric to gauge progress from year to year.

Project ASTRA: Advancing Next Generation Methane Innovation: Chevron is a participant in Project ASTRA, a partnership led by the University of Texas at Austin that aims to demonstrate a novel approach to measuring methane emissions from oil and gas production sites, using advanced technologies to help minimize releases into the atmosphere. Project ASTRA will establish a sensor network that will leverage advances in methane-sensing technologies, data sharing, and data analytics to provide near-continuous monitoring.

World Bank's Zero Routine Flaring Initiative: Chevron is a signatory of the World Bank's Zero Routine Flaring Initiative, which brings together governments, oil companies, and development institutions that agree to cooperate to eliminate routine flaring by no later than 2030.

Collaboratory to Advance Methane Science (CAMS) and Methane Emissions Test and Evaluation Center (METEC): Chevron is a founding member of CAMS, a joint industry project to conduct peer-reviewed research around methane emissions. Chevron also serves on the Industrial Advisory Board of the METEC, a facility that provides realistic oil-field settings to test new methane detection and abatement technologies and supports the Methane Guiding Principles.

World Bank's Global Gas Flaring Reduction Public-Private Partnership (GGFR): Chevron is an active participant in the World Bank's GGFR voluntary standard. The GGFR recently partnered with the Payne Institute for Public Policy at the Colorado School of Mines to develop a transparent web platform to support real-time mapping and tracking of global gas flaring data. Chevron supported a $1 million commitment to this partnership through our membership in the Oil and Gas Climate Initiative (OGCI).

Oil and Gas Climate Initiative (OGCI): OGCI member companies, including Chevron, have a methane-intensity target to reduce collective average upstream methane intensity to 0.20 percent as a share of marketed gas, by 2025. As of October 2020, member companies' collective methane intensity was 0.23 percent.

4.3.2 Increase renewables and offsets in support of our business

In our second action area, we are advancing opportunities to develop renewables and offsets that improve returns and help reduce Scope 2 and, in some cases, Scope 3 emissions. We are investing in renewable fuels, products, and power to reduce the carbon intensity of our operations and make energy and global supply chains more sustainable.

Our strategy to deploy mature, renewable power-generation solutions is focused and selective. We invest in wind and solar projects that have the greatest ability to cost-efficiently lower carbon emissions. We are increasing the use of renewables in a number of our products with the aim of reducing life-cycle emissions, as well as working to provide verified, low-cost, high-quality offsets to our customers around the world in an effort to help them achieve their own lower-carbon goals.

Renewable power

By sourcing more electricity from renewable sources, such as our 65 megawatt wind-power purchase agreement in the Permian Basin, we are switching to a lower-carbon fuel source and working toward optimizing between purchased and self-generated power. These types of efforts can reduce the direct and indirect emissions associated with our operations and lower the overall life-cycle carbon intensity of our products.

Energy storage

Energy storage is an important component to help address intermittency with renewable generation. By combining energy storage solutions with lower-carbon fuel sources, we can lower the overall carbon intensity of our products.

Algonquin

SPEAR POWER SYSTEMS

SUNPOWER®

Natron Energy

Algonquin: Chevron is partnering with Algonquin Power & Utilities Corporation to co-develop renewable-power projects that provide electricity to strategic assets across our global portfolio. This builds upon our prior use of renewable power in operations in Texas and California. Under the four-year agreement, we will source 500 megawatts of existing and future electricity demand from renewables, and expect to make up to $250 million in investments by 2025. We are prioritizing opportunities in the U.S. Permian Basin (Texas and New Mexico), Argentina, Kazakhstan, and Western Australia. Projects will be jointly owned and co-developed by both parties. Algonquin will lead the design, development, and construction of the renewable-power assets. We will purchase electricity through power purchase agreements. This represents the latest, and largest, advance in our efforts to integrate renewable power in support of our operations.

Spear Power Systems: Chevron has invested in Spear Power Systems, who designs and manufactures energy storage system solutions for marine, aircraft, and industrial applications.

SunPower: Chevron and our partner SunPower completed construction in 2020 on a solar power project that supplies our Lost Hills production facilities in California with solar energy. We expect that the project will provide more than 1.4 billion kilowatt-hours of solar energy over the potential 20-year term of the agreement.

Natron Energy: Chevron's investments in battery technology include Natron Energy, which is developing a new generation of sodium-ion battery products that offer potential performance advantages over current technologies.

Chevron

Renewable fuels

Renewable fuels can play an important role in reducing the life-cycle carbon intensity of transportation fuels while meeting the world's growing energy needs. Over the next few years, we expect to invest more than $500 million pursuing opportunities to make these fuels scalable and affordable for consumers. Our efforts include evaluating options for biomass processing and leveraging our current manufacturing facilities to co-process biofeedstock.

Co-processing biofeedstock: Our El Segundo Refinery in California is set to become the first refinery in the U.S. to ratably co-process biofeedstock in a fluid catalytic cracker unit to make gasoline, jet fuel, and diesel fuel with renewable content. El Segundo supplies more than 20 percent of all motor vehicle fuels consumed in Southern California and is expected to start supplying consumers in the area with biofuel products by mid-2021.

Renewable natural gas (RNG): Biomethane often comes from animal waste and other biomass sources. Capturing the biomethane and converting it into RNG produces a GHG benefit by combusting methane and converting it into CO_2, which has a lower global warming potential than methane. In addition to its GHG benefits, RNG can provide heavy-duty vehicles with an affordable and reliable alternative to conventional diesel fuel.

Brightmark LLC: Chevron and Brightmark LLC announced the formation of a joint venture, Brightmark RNG Holdings LLC, to develop projects across the United States to produce RNG. The joint venture will fund the construction of infrastructure and the commercial operation of dairy biomethane projects in multiple states, from which we will purchase RNG and market the volumes for use in vehicles operating on renewable compressed natural gas.

Clean Energy Fuels Corporation: Chevron has partnered with California natural-gas retailer Clean Energy Fuels Corporation on Adopt-a-Port, an initiative that provides truck operators serving the ports of Los Angeles and Long Beach with RNG. Truck operators participating in the program, which supports the ports' Clean Trucks Program and Clean Air Action Plan, agree to fuel up at the Clean Energy stations supplied by Chevron. Truck operators and their import and export customers will help local communities by reducing smog-forming NO_x emissions by 98 percent, compared with diesel trucks.

Getting to Zero Coalition: Chevron has joined more than 120 companies in the Getting to Zero Coalition, a partnership between the Global Maritime Forum, the Friends of Ocean Action, and the World Economic Forum. It brings together participants from across the shipping value chain to get commercially viable deep-sea zero-emissions vessels into operation by 2030 to support the International Maritime Organization's ambition to reduce GHG emissions from shipping by at least 50 percent by 2050.

CalBio: Chevron has partnered with CalBio and dairy farmers to form a joint-venture company, CalBioGas LLC, which produces and markets biomethane as a fuel for heavy-duty trucks and buses. These efforts mitigate dairy methane emissions and reduce waste. In 2020, we announced the first renewable natural-gas production from dairy farms in the California Central Valley.

Novvi LLC: Chevron is an equity investor in Novvi LLC, a California-based company that engages in the development, production, marketing, and distribution of high-performance base oils from renewable sources. We entered into an agreement to jointly develop and bring to market novel renewable base oil technologies, and in 2020, Novvi reached first production of 100 percent renewable base oil from its Deer Park (Houston) facility. This partnership leverages the complementary technologies of Chevron's long-standing expertise in hydroprocessing, particularly ISODEWAXING, with Novvi's innovative use of renewable feedstocks to produce and market high-performance, synthetic, and renewable premium base oils.

San Francisco International Airport: Chevron was a part of the San Francisco International Airport (SFO) 2019 landmark agreement for the use of sustainable aviation fuels (SAFs), a lower-carbon alternative to jet fuel. SFO worked with a group of eight airlines and fuel producers to expand the use of SAFs at the airport in what is the first project of its kind to include fuel suppliers, airlines, and airport agencies. Before the pandemic, airlines at SFO used more than 1 billion gallons of jet fuel annually.

Offsets

In multiple lower-carbon scenarios, offsets are expected to make up a notable portion of global reductions, especially in sectors that do not have cost-effective reduction opportunities or for activities that are hard to abate. They are a complementary lever in our multipronged strategy to drive down our GHG-emissions intensity and can provide a mechanism for our customers to achieve their emissions reduction goals. Offsets can provide a path toward avoiding and removing emissions. Additionally, they provide an indirect link between countries and companies to collaborate in achieving the goals of the Paris Agreement. We participate in offsets markets in Colombia, the United States, and Canada, and partner with associations to enhance the global scaling-up of offsets, particularly those from natural climate solutions (NCSs).

World Bank: Chevron is party to a memorandum of understanding with the World Bank. The World Bank's goal is to enhance global climate ambitions in mitigation actions and activities to facilitate the development of carbon and climate markets and associated infrastructure based on emerging international and national regulatory frameworks. Specifically, we seek to collaborate on activities that promote the establishment by the World Bank of facilities that may generate, warehouse, acquire, sell, and/or otherwise transfer mitigation outcomes in support of the Paris Agreement.

Oil and Gas Climate Initiative (OGCI): Chevron participates in the OGCI's Natural Climate Solutions workstream, exploring ways to enhance the scientific, technological, and operational basis for a global scaling-up of NCSs.

Markets for Natural Climate Solutions Initiative: Chevron is a founding member of the Markets for Natural Climate Solutions Initiative to boost climate action. NCSs provide a potentially cost-effective form of carbon management that can contribute to the goals of the Paris Agreement. In collaboration with the International Emissions Trading Association, Chevron is working with members and stakeholders on a policy roadmap and market strategy.

University of Maryland: Chevron supports the University of Maryland's modeling and analysis to promote carbon markets and transferability of emissions credits.

Institute of International Finance Taskforce on Scaling Voluntary Carbon Markets: Chevron is a consultative group member of the Institute of International Finance Taskforce on Scaling Voluntary Carbon Markets (TSVCM). A large, transparent, verifiable, and robust voluntary carbon market can help deliver carbon-reduction goals and is key to ensuring the integrity of reductions. The TSVCM brings together experts across the carbon market value chain to help build consensus on how best to scale up voluntary carbon markets.

Acorns and One Tree Planted: In collaboration with Acorns, a saving and investing app in the United States, Chevron is piloting a new program in California to have five trees planted via the One Tree Planted organization every time a customer fills up at the pump. While not an offset credit–generating activity, the program provides an opportunity to better understand consumer interest in offsetting emissions from use of our products.

IHS Markit: Chevron is an advisory board member of the IHS Markit Carbon Meta Registry. IHS Markit is leading a consortium of stakeholders in the global carbon markets to develop the market infrastructure needed to support the realization of Paris Agreement carbon-emissions targets. The Carbon Meta Registry will provide a network to connect voluntary and government carbon credit programs, market participants, and service providers. It will leverage distributed ledger technology and reduce the risk that credits are counted or claimed more than once.

4.3.3 Invest in low-carbon technologies to enable commercial solutions

Our third strategic focus is an integrated approach toward commercial solutions and technology. This includes supporting innovation and venture capital investment, deploying technologies that could be a part of a lower-carbon future, and developing new commercial opportunities.

Research and development: We have a long history of supporting innovation through research and development, innovation ecosystems, and university partnerships. Additionally, Chevron's global businesses support lower-carbon research and development within their markets, such as partnerships with the U.S. Department of Energy and the Singapore National Research Foundation.

Venture: Chevron Technology Ventures (CTV) investments target technology in areas such as CCUS, hydrogen, energy optimization, digitization, energy storage and management, and emerging power technologies. Chevron has more than two decades' experience with venture investing, with eight funds that have supported more than 100 startups, and has worked with more than 200 co-investors.

We have committed $100 million to our Future Energy Fund, $300 million to our Future Energy Fund II, and $100 million to the OGCI Climate Investments fund. This brings the Company's total low-carbon funds commitment to $500 million, along with the more than $300 million invested in our Core Venture Fund. In addition to our own managed funds, Chevron makes investments indirectly through funds such as the OGCI Climate Investments fund, targeting the decarbonization of oil and gas, industry, and commercial transportation; Emerald Ventures, targeting energy, water, industrial IT, advanced materials, and more; and HX Venture Fund, targeting Houston high-growth startups.

Deployment: Chevron Technical Center (CTC) develops and deploys technology across the entire business, including integrating lower-carbon technology into our operations.

Commercial opportunities: We have commercial opportunities focused in our strategic lower-carbon areas, such as our active carbon capture projects, emerging power investments, and hydrogen fueling efforts.

Rice Alliance for Technology and Entrepreneurship: Chevron is a founding supporter of the Rice Alliance Clean Energy Technology Accelerator, which develops programs to support early-stage energy startups.

Greentown Labs: Chevron partnered with Greentown Labs, the largest climate technology startup incubator in North America, to support opening a Houston, Texas, location. This builds on our support for Greentown Labs in Boston since 2013.

MIT: Chevron is a sustaining member of the MIT Energy Initiative, which fosters new research and education to develop innovative tools, technologies, and solutions to address global energy needs and challenges.

Emerging power technologies: Emerging power technologies such as fusion technology and advanced geothermal are promising lower-carbon energy sources with less intermittency than other renewable sources. These technologies have the potential to change the way we produce and use energy.

Baseload Capital: Chevron is invested in Baseload Capital, a private-investment company focused on the development and operation of lower-temperature geothermal and heat power assets.

Zap Energy: Chevron is invested in Zap Energy, a startup developing a next-generation modular nuclear reactor with an innovative approach to advancing cost-effective, flexible, and commercially scalable fusion.

Eavor Technologies: Chevron is invested in Eavor Technologies, a company that provides a closed-loop geothermal technology for both power and direct heat markets. Eavor's innovative system has dispatchability for power load balancing, which is becoming more essential as intermittent renewables saturate more power grids.

Carbon capture, utilization, and storage

We are leveraging existing and building new commercial relationships with technology companies, pipeline companies, power providers, refiners, and other emitters to advance CCUS in key geographies.

We have invested more than $1 billion in CCUS research, development, and deployment opportunities to reduce our GHG-emissions intensity. Project investments were primarily in Canada and Australia and include the Gorgon CO_2 injection project, one of the world's largest integrated CCUS projects. These projects are expected to reduce GHG emissions by nearly 5 million tonnes per year, approximately equivalent to the GHG emissions from the average annual electricity usage in 660,000[39] U.S. homes.

Kern River Carbon Capture Project: Chevron was awarded a project from the U.S. Department of Energy (DOE) to pilot technology that captures CO_2 from post-combustion gas. In collaboration with Svante and the National Energy Technology Laboratory, we are planning to test the technology at our Kern River facility in San Joaquin Valley, California, with a 30-tonne-per-day plant for a six-month operational trial.

National Research Foundation: Chevron is a member of a consortium with the Singapore National Research Foundation and other companies. We are working jointly to develop the first end-to-end decarbonization process in Singapore. This collaboration is aimed at accelerating the development of a highly integrated, energy-efficient CCUS system that can lead to a low-carbon economy and potential commercial developments for Singapore, as well as help the country meet its Paris pledge.

Carbon Engineering: Chevron is invested in Carbon Engineering to accelerate the commercialization of Carbon Engineering's direct air capture (DAC) technology, which removes CO_2 directly from the air. The technology is expected to be used as a mechanism to reduce emissions from transportation and enable permanent capture of existing atmospheric CO_2.

Blue Planet: Chevron is invested in Blue Planet, which uses CO_2 as a raw material for making carbonate rocks used in place of quarried limestone in building material. Additionally, we are exploring opportunities to collaborate on potential pilot projects and commercial development in key geographies.

NovoNutrients: NovoNutrients, a startup focused on using carbon dioxide emissions to make inputs, like protein flours, for the food system, is part of Chevron's Catalyst Program, which is focused on accelerating early-stage companies working on innovative technologies.

Mendota BECCS project: Chevron is collaborating with Schlumberger New Energy, Microsoft, and Clean Energy Systems (CES), to work toward developing a bioenergy with carbon capture and sequestration (BECCS) project in Mendota, California. The project is designed to utilize agricultural waste from California to produce renewable power using CES's oxy-combustion technology, while capturing and permanently storing CO_2 produced in the process in the geologic formation below the project site. The project is expected to result in net-negative emissions when fully operational, storing 300,000 tonnes of CO_2 annually—equivalent to the emissions from the annual electricity usage of more than 65,000 U.S. homes.[40]

Hydrogen

We are advancing hydrogen opportunities through strategic partnerships and by investing in demonstration projects and technologies related to production, transport, and storage.

Chevron is a board member of the California Fuel Cell Partnership. The organization supports a long-term vision for hydrogen in California and will be expanding across the United States in 2021. Chevron has partnered with the DOE on a hydrogen study that is exploring the potential of RNG to manufacture hydrogen. Chevron joined the Hydrogen Council, the industry's leading international trade association. Through membership on the council, we gain access to industry best practices and are better positioned to explore hydrogen opportunities. Chevron is also a member of the OGCI transportation workstream focusing on hydrogen as a fuel.

As a proof of concept, Chevron's affiliate GS Caltex launched the first all-in-one fuel station in 2020, providing hydrogen, electric vehicle charging, liquefied petroleum gas, gasoline, and diesel fuel.

Additionally, we participated in the California Energy Commission's Clean Transportation Program and, as a result, plan to develop hydrogen stations.

40 This assumes average household emissions of 4.4 tonnes of CO_2 associated with electricity generation. According to the U.S. EPA, the U.S. average residential electricity consumption is 10,649 kWh, eia.gov/tools/faqs/faq.php?id=97&t=3; the average U.S. GHG emissions is 0.92 pounds of CO_2 per kWh, eia.gov/tools/faqs/faq.php?id=74&t=11.

chevron supports well-designed climate policy

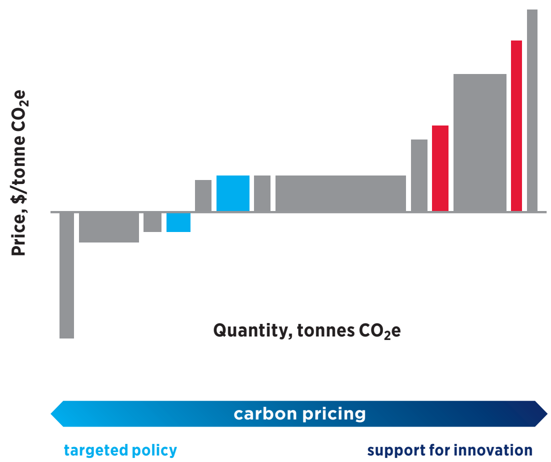
Chevron supports the Paris Agreement and is committed to addressing climate change while continuing to deliver energy that supports society. Climate policy should achieve emissions reductions as efficiently and effectively as possible, at the least cost to economies.

chevron supports carbon pricing, innovation, and efficient policies

chevron supports:

- **Global engagement:** Build up an integrated global carbon market that creates a level playing field and mitigates trade distortions. Incentivizing the lowest-cost abatement on the widest scale possible is critical to mitigating climate change.
- **Research and innovation:** Support promising pre-commercial technologies designed to spur innovation and mitigation across all sectors of the economy. Research, development, and deployment for pre-commercial technologies to enable scalable solutions that are economic without subsidy within a carbon-pricing program.
- **Balanced and measured policy:** Involve all sectors to maximize efficient and cost-effective reductions while allocating costs equitably, gradually, and predictably; avoid duplicative and inefficient regulations; balance economic, environmental, and energy needs.
- **Transparency:** Ensure transparency and efficiency in measuring and driving the lowest-cost emissions reductions. Policy benefits, costs, and trade-offs should be transparently communicated to the public.

marginal abatement cost curve



innovation support

Continued research and innovation are essential. Investments in pre-commercial early-stage abatement technologies can enable breakthroughs that lead to scalable technologies that are commercially viable without subsidy under a carbon-pricing program.

carbon pricing

Carbon pricing should be the primary policy tool to achieve greenhouse gas emissions reduction goals. It incentivizes the most efficient and cost-effective emissions reductions while enabling support to affected communities, consumers, and businesses.

targeted policies

Regulations should be efficiently targeted to enable cost-effective lower-carbon opportunities not addressed by carbon-pricing or innovation policies (e.g., apartment efficiency standards, since the owner pays for efficiency improvements, but the renter pays the utility bill).

chevron supports well-designed methane policy

Chevron is proud to be a U.S. industry leader in managing methane emissions and responsibly producing oil and gas. We believe methane emissions reductions are possible in the energy industry, and in other key sectors, through adoption of industry best practices and well-designed regulation.

chevron supports well-designed and properly enacted methane regulation, in the energy industry and in other key emitting sectors

chevron supports:

- **Performance-based regulation:** Policy should set appropriate methane metrics while providing flexibility for companies to determine the optimal way to meet those metrics.
- **Technological innovation:** Policy should flexibly incorporate new and future technologies, such as aerial and drone monitoring, that can identify and address methane emissions most effectively.
- **Industry best practices:** Methane emissions are disproportionately concentrated among a small number of operators, sites, and equipment. Reasonable minimum equipment standards help ensure all operators are working to curtail methane emissions.
- **All sectors contributing:** Improving methane performance is important for oil and natural gas (28 percent of U.S. methane emissions), as well as other sectors, which make up the remaining 72 percent. Policy should apply to all key sectors.

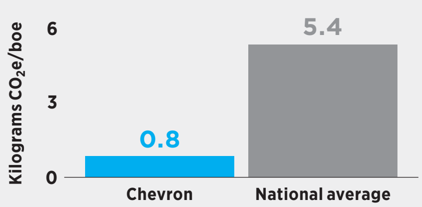
partnerships

- Chevron is a member of the Oil and Gas Climate Initiative (OGCI), which is committed to industry-leading methane performance with a collective upstream methane intensity target below 0.25 percent, with the ambition to achieve 0.2 percent by 2025.
- Chevron partners with CalBio and Brightmark to produce and market renewable natural gas, helping reduce agricultural methane emissions while providing lower-carbon fuels, on a life-cycle basis, to our customers.
- We are a proud co-founder/chair of The Environmental Partnership, a voluntary industry effort to cut U.S. methane emissions that has conducted 184,000 leak-detection surveys and replaced more than 13,000 pneumatic controllers with low-/non-emitting technology.

performance

- In 2019, Chevron's U.S. onshore production methane intensity was 85 percent lower than the U.S. industry average.
- We continue to take action to further reduce methane emissions and have set a metric to reduce methane intensity by 53 percent by 2028.
- Actions to support achieving this metric are tied to the compensation of all our executives and nearly all of our employees worldwide.

U.S. production methane intensity



technology

- Chevron supports development of innovative technologies to reduce emissions, including through our combined $400 million Future Energy Funds and a $100 million commitment to the $1 billion OGCI Climate Investments fund.
- As part of the Collaboratory to Advance Methane Science, Chevron has worked with other operators to understand the potential for aerial leak-detection surveys in the Permian Basin.
- Chevron partnered with the NASA Jet Propulsion Laboratory to test one of the first aerial detection technologies for methane, which has been used in studies throughout the United States.

chevron supports innovation to advance and scale climate solutions

Chevron is investing in innovative technologies to address climate change. We also support government investment in promising pre-commercial technologies, from research to early deployment, to help deliver scalable solutions to climate change that are economic without subsidy within a carbon-pricing program.

chevron supports research, development, demonstration, and deployment for emerging technologies to address climate change

chevron supports:

- **A focus on emissions:** Public research, development, and deployment should be based on opportunity for scalable emissions reduction, supporting the most promising pre-commercial opportunities, irrespective of energy source.
- **Balanced and transparent policies:** Policy should be balanced to enable research, development, and demonstration of promising technologies while minimizing market distortions. Policy should be transparent to build public trust and communicate benefits, costs, and trade-offs to the public.
- **Pre-commercial support:** To maximize limited public resources and minimize harmful market distortions, innovation policy should focus on advancing emerging technologies, so they become commercially scalable without subsidy within a carbon-pricing program. Subsidies for existing commercial opportunities that distort markets and create unfair competition should be avoided.
- **Scalable solutions:** Innovation policy should leverage scientific research to advance promising technologies that can offer scalable economic solutions to climate change. Policy should aim to drive down costs so these opportunities are commercially scalable.

research & development

- Chevron is investing in low-carbon technologies to enable commercial solutions. Our combined $400 million Future Energy Funds invest in promising opportunities such as carbon capture, utilization, and storage (CCUS), next-generation battery storage, hydrogen, and emerging power technologies.
- We committed $100 million to the more than $1 billion OGCI Climate Investments fund, which invests in solutions to decarbonize oil and gas, industrials, commercial transport, and buildings.
- We partner with leading researchers, such as the U.S. Department of Energy's National Laboratories and Singapore's National Research Foundation, to develop new carbon capture technologies.

demonstration

- Chevron is advancing collaborative efforts with the U.S. Department of Energy and Svante, as well as Blue Planet and others, on projects demonstrating innovative technologies to drive down carbon capture costs.
- We are investing in hydrogen fueling demonstration projects and technologies, launching the first "all in one" station accommodating hydrogen, electricity, liquefied petroleum gas, gasoline, and diesel with our affiliate GS Caltex.
- We are investing in innovative storage opportunities, including in Natron Energy, which is developing and scaling production of rapid-charging batteries for data centers, EVs, and dispatchable grid storage.

deployment

- Chevron invested more than $1 billion in CCUS, reducing emissions by nearly 5 million tonnes per year. Our Gorgon facility is one of the world's largest integrated carbon sequestration and storage projects.
- We are partnering with CalBio and Brightmark to produce and market renewable natural gas, helping reduce agricultural methane emissions while providing renewable lower-carbon fuels on a life-cycle basis.
- We are investing in renewable fuels, products, and power to reduce the carbon intensity of our operations, including sourcing over 500 megawatts of renewable generation by 2025.

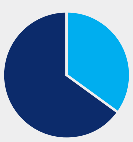
chevron supports well-designed emissions reduction metrics

Our approach is designed to facilitate carbon accounting that not only reduces our own emissions, but also sets a framework that facilitates the possibility of achieving global net zero as efficiently and effectively as possible, and at least cost to society. Achieving these metrics is directly tied to the compensation of our executives and most of our employees worldwide.

chevron upstream emissions intensity reduction metrics for 2028:

24	kg CO_2e/boe for oil (global industry averages 46)	40% reduction from 2016
24	kg CO_2e/boe for gas (global industry averages 71)	26% reduction from 2016
2	kg CO_2e/boe for methane and a global methane detection campaign	53% reduction from 2016
0	routine flaring by 2030 and 3 kg CO_2e/boe for overall flaring	66% reduction from 2016

equity basis



aligned with financial reporting

commodity basis

oil

gas

aligned with end use, enabling value-chain reporting

up to point of sale

aligned with influence/ control to incentivize action along the value chain

verifiable

aligned with accurate value-chain emissions reporting

tradable

aligned to offer the marketplace premium lower-carbon products

updated every 5 years

aligned with Paris Agreement's global stocktake updates (2023, 2028)

This approach, coupled with our view of Scope 3—supporting a price on carbon through well-designed policies; transparently reporting emissions from the use of our products for nearly two decades; and enabling customers to lower their emissions through increasing our renewable products, offering offsets, and investing in low-carbon technologies—supports a global approach to achieve the goals of the Paris Agreement as efficiently and cost-effectively as possible for society.

section 5

metrics

we demonstrate our commitment to transparency by reporting metrics and performance data annually

In the *2019 Corporate Sustainability Report*, we enhanced our reporting by aligning our performance data table with the recommendations of the Sustainable Accounting Standards Board (SASB) voluntary framework as reflected in the SASB index. This enhancement to our environmental, social, and governance reporting helps provide comparable and decision-useful information for investors and other stakeholders. We are a leader in reporting and were among the first companies to produce a report on climate change resilience and a supplemental report aligned with the Financial Stability Board's Task Force on Climate-related Financial Disclosures framework. We have also disclosed our environmental, social, and governance data, including GHG-emissions data, in the IHS Markit ESG Reporting Repository to enable investors and other stakeholders to efficiently compare ESG data across sectors and reporting frameworks. We will continue to hold ourselves accountable for achieving real results and transparently communicating progress on our performance.

chevron's equity GHG intensity, kilograms CO_2e/boe

upstream oil intensity

$$\frac{\left(\text{Direct emissions (Scope 1)} + \text{Indirect emissions associated with imported electricity and steam (Scope 2)} - \text{Emissions associated with exported electricity and steam}\right)}{\text{Net production of liquids}}$$

← Allocated to liquids on a production basis (mboe)

upstream gas intensity

$$\frac{\left(\text{Direct emissions (Scope 1)} + \text{Indirect emissions associated with imported electricity and steam (Scope 2)} - \text{Emissions associated with exported electricity and steam}\right)}{\text{Net production of gas (including LNG and GTL)}}$$

← Allocated to gas on a production basis (mboe)

upstream flaring intensity

$$\frac{\text{Direct flaring emissions as } CO_2e \text{ (Scope 1)}}{\text{Net production of liquids and gas (including LNG and GTL)}}$$

upstream methane intensity

$$\frac{\text{Direct methane emissions as } CO_2e \text{ (Scope 1)}}{\text{Net production of liquids and gas (including LNG and GTL)}}$$

equity emissions

	2016	2017	2018	2019	H1* 2020	SASB[1]	IPIECA[2]
upstream[3] (kilograms CO_2e/boe)							**CCE4: C4**
Oil intensity[4]	**40.0**	**34.7**	**34.3**	**31.4**	**28.3**		
Gas intensity[5]	**32.3**	**34.5**	**34.1**	**30.0**	**27.3**		
Flaring intensity[6]	**8.7**	**7.2**	**6.3**	**4.6**	**3.6**		
Methane Intensity	**4.3**	**3.1**	**2.6**	**2.4**	**2.2**		

*First half of year.

equity emissions table continues on page 54

equity emissions, continued

	2016	2017	2018	2019	H1* 2020	SASB[1]	IPIECA[2]
direct GHG emissions (Scope 1)[7,8,9,10]							
direct GHG emissions (Scope 1) (million tonnes CO_2e)	**64**	**62**	**65**	**61**	**—**		**CCE4: C1/A1**
Upstream (million tonnes CO_2e)	**34**	**34**	**36**	**34**	**15**	**EM-EP-110a.1**	**CCE4: C3**
CO_2 (million tonnes)	30	31	33	31	14		
CH_4[11] (million tonnes CH_4)	0.16	0.12	0.11	0.11	0.05		
CH_4[11] (million tonnes CO_2e)	4.1	3.1	2.8	2.7	1.2		
Other GHG (million tonnes CO_2e)	0.1	0.1	0.1	0.1	0.1		
Midstream (million tonnes CO_2e)	**2**	**2**	**2**	**1**	**1**	**EM-MD-110a.1**	**CCE4: C3**
CO_2 (million tonnes)	1	2	2	1	1		
CH_4[11] (million tonnes CH_4)	<0.01	<0.01	<0.01	<0.01	<0.01		
CH_4[11] (million tonnes CO_2e)	<0.1	<0.1	<0.1	<0.1	<0.1		
Other GHG (million tonnes CO_2e)	<0.1	<0.1	<0.1	<0.1	<0.1		
Downstream[12] (million tonnes CO_2e)	**21**	**21**	**20**	**19**	**9**	**EM-RM-110a.1**	**CCE4: C3**
CO_2 (million tonnes)	21	20	20	19	9		
CH_4 and other GHG (million tonnes CO_2e)	0.1	0.1	0.1	0.1	0.1		
Chemicals[13] (million tonnes CO_2e)	**5**	**5**	**5**	**5**	**—**		**CCE4: C3**
CO_2 (million tonnes)	5	5	5	5	—		
CH_4 and other GHG (million tonnes CO_2e)	<0.1	<0.1	<0.1	<0.1	—		
Other[14] (million tonnes CO_2e)	**2**	**1**	**2**	**1**	**<1**		**CCE4: C3**
CO_2 (million tonnes)	2	1	2	1	<1		
CH_4 and other GHG (million tonnes CO_2e)	<0.1	<0.1	<0.1	<0.1	<0.1		
select breakdowns of GHG emissions[7]							
Upstream flaring (million tonnes CO_2e)	**8**	**7**	**7**	**5**	**2**	**EM-EP-110a.2****	**CCE7: C4****
CO_2 (million tonnes)	7	7	6	5	2		
CH_4[11] (million tonnes CH_4)	0.03	0.03	0.03	0.02	0.01		
CH_4[11] (million tonnes CO_2e)	0.8	0.6	0.6	0.4	0.2		
Other GHG (million tonnes CO_2e)	<0.1	<0.1	<0.1	<0.1	<0.1		
Volume of flares (MMSCF)	130,000	110,000	100,000	70,000	30,000		**CCE7: A1**

*First half of year.
**Upstream flaring emissions closely represent the contribution of flaring to Chevron's total GHG emissions.

equity emissions table continues on page 55

footnotes are on page 59

equity emissions, continued

	2016	2017	2018	2019	H1* 2020	SASB[1]	IPIECA[2]
select breakdowns of GHG emissions,[7] continued							
Emissions associated with exported electricity and steam[15] (million tonnes CO_2e)	**1**	**1**	**1**	**1**	**<1**		**CCE4: C3/A6**
Upstream (million tonnes CO_2e)	<1	<1	<1	<1	<1		
Midstream (million tonnes CO_2e)	0	0	0	0	0		
Downstream[12] (million tonnes CO_2e)	<1	<1	<1	<1	<1		
Chemicals[13] (million tonnes CO_2e)	0	0	0	0	0		
Other[14] (million tonnes CO_2e)	1	1	1	1	<1		
indirect (Scope 2) – imported electricity and steam[7,16]							
Scope 2 – market-based[17] (million tonnes CO_2e)	**3**	**2**	**3**	**2**	**1**		**CCE4: C2/C3**
Upstream (million tonnes CO_2e)	1	1	1	1	1		
Midstream (million tonnes CO_2e)	<1	<1	<1	<1	<1		
Downstream[12] (million tonnes CO_2e)	2	1	1	1	1		
Chemicals[13] (million tonnes CO_2e)	<1	<1	<1	<1	<1		
Other[14] (million tonnes CO_2e)	<1	<1	<1	<1	<1		
CO_2 sales, storage, purchase, or injection (million tonnes CO_2e)							**CCE3: A6**
Sales or storage of company CO_2[18] (million tonnes CO_2e)	**<1**	**<1**	**<1**	**1**	**1**		
Purchase or injection of third-party CO_2[19] (million tonnes CO_2e)	**1**	**1**	**1**	**1**	**<1**		
offsets							
Offsets purchased/developed outside the inventory boundary and retired by company[20] (million tonnes CO_2e)	**4**	**4**	**3**	**1**	**2**		
Offsets developed within the inventory boundary and sold/transferred to third parties[21] (million tonnes CO_2e)	**<1**	**<1**	**<1**	**<1**	**—**		
indirect emissions – all other (Scope 3)[22]							**CCE4: A2**
Use of sold products – production method (million tonnes CO_2e)	**364**	**377**	**396**	**412**	**207**		
Use of sold products – throughput method (million tonnes CO_2e)	**368**	**377**	**392**	**391**	**185**		
Use of sold products – sales method (million tonnes CO_2e)	**598**	**613**	**628**	**639**	**291**		

*First half of year.

equity emissions table continues on page 56

equity emissions, continued

	2016	2017	2018	2019	H1* 2020	SASB[1]	IPIECA[2]
third-party verification[23]							
Assurance level	**Limited**	**Limited**	**Limited**	**Limited**	**Anticipated to be limited[24]**		
Assurance provider	**ERM CVS**	**ERM CVS**	**ERM CVS**	**ERM CVS**	**ERM CVS**		

operated emissions

	2016	2017	2018	2019	H1* 2020	SASB[1]	IPIECA[2]
direct GHG emissions (Scope 1)[7,8,25]							
direct GHG emissions (Scope 1) (million tonnes CO_2e)	**65**	**65**	**66**	**61**	**28**		**CCE4: C1/A1**
Upstream (million tonnes CO_2e)	**45**	**46**	**47**	**44**	**20**	**EM-EP-110a.1**	**CCE4: C3**
CO_2 (million tonnes)	39	41	43	41	18		
CH_4[11] (million tonnes CH_4)	0.22	0.17	0.15	0.14	0.06		
CH_4[11] (million tonnes CO_2e)	5.6	4.3	3.7	3.4	1.4		
Other GHG (million tonnes CO_2e)	0.1	0.2	0.1	0.1	0.1		
Midstream (million tonnes CO_2e)	**2**	**2**	**2**	**1**	**1**	**EM-MD-110a.1**	**CCE4: C3**
CO_2 (million tonnes)	1	2	2	1	1		
CH_4[11] (million tonnes CH_4)	<0.01	<0.01	<0.01	<0.01	<0.01		
CH_4[11] (million tonnes CO_2e)	<0.1	<0.1	<0.1	<0.1	<0.1		
Other GHG (million tonnes CO_2e)	<0.1	<0.1	<0.1	<0.1	<0.1		
Downstream[12] (million tonnes CO_2e)	**16**	**16**	**15**	**14**	**7**	**EM-RM-110a.1**	**CCE4: C3**
CO_2 (million tonnes)	16	16	15	14	7		
CH_4 and other GHG (million tonnes CO_2e)	0.1	0.1	0.1	0.1	<0.1		
Chemicals[13] (million tonnes CO_2e)	**<1**	**<1**	**<1**	**<1**	**<1**		**CCE4: C3**
CO_2 (million tonnes)	<1	<1	<1	<1	<1		
CH_4 and other GHG (million tonnes CO_2e)	<0.1	<0.1	<0.1	<0.1	<0.1		
Other[14] (million tonnes CO_2e)	**2**	**1**	**2**	**1**	**<1**		**CCE4: C3**
CO_2 (million tonnes)	2	1	2	1	<1		
CH_4 and other GHG (million tonnes CO_2e)	<0.1	<0.1	<0.1	<0.1	<0.1		

*First half of year.

operated emissions table continues on page 57

footnotes are on page 59

operated emissions, continued

	2016	2017	2018	2019	H1* 2020	SASB[1]	IPIECA[2]
select breakdowns of GHG emissions[7]							
Upstream flaring (million tonnes CO_2e)	**15**	**13**	**11**	**9**	**3**	**EM-EP-110a.2****	**CCE7: C4****
CO_2 (million metric tonnes)	13	12	10	8	3		
CH_4[11] (million tonnes CH_4)	0.06	0.04	0.04	0.03	0.01		
CH_4[11] (million tonnes CO_2e)	1.6	1.1	0.9	0.7	0.2		
Other GHG (million tonnes CO_2e)	<0.1	<0.1	<0.1	<0.1	<0.1		
Volume of flares (MMSCF)	230,000	200,000	170,000	120,000	50,000		CCE7: A1
Emissions associated with exported electricity and steam[15] (million tonnes CO_2e)	**1**	**1**	**1**	**1**	**<1**		**CCE4: C3/A6**
Upstream (million tonnes CO_2e)	<1	<1	<1	<1	<1		
Midstream (million tonnes CO_2e)	0	0	0	0	0		
Downstream[12] (million tonnes CO_2e)	<1	<1	<1	<1	<1		
Chemicals[13] (million tonnes CO_2e)	0	0	0	0	0		
Other[14] (million tonnes CO_2e)	1	1	1	1	<1		
indirect (Scope 2) – imported electricity and steam[7,16]							
Scope 2 – market-based (million tonnes CO_2e)	**2**	**2**	**2**	**1**	**1**		**CCE4: C2/C3**
Upstream (million tonnes CO_2e)	1	1	1	1	<1		
Midstream (million tonnes CO_2e)	0	0	0	0	0		
Downstream[12] (million tonnes CO_2e)	1	1	1	<1	<1		
Chemicals[13] (million tonnes CO_2e)	0	0	0	0	0		
Other[14] (million tonnes CO_2e)	<1	<1	<1	<1	<1		
CO_2 sales, storage, purchase, or injection (million tonnes CO_2e)							**CCE3: A6**
Sales or storage of company CO_2[18] (million tonnes CO_2e)	**–**	**<1**	**<1**	**1**	**2**		
Purchase or injection of third-party CO_2[19] (million tonnes CO_2e)	**1**	**1**	**1**	**1**	**<1**		
offsets							
Offsets purchased/developed outside the inventory boundary and retired by company[20] (million tonnes CO_2e)	**4**	**4**	**3**	**1**	**2**		
Offsets developed within the inventory boundary and sold/transferred to third parties[21] (million tonnes CO_2e)	**0**	**0**	**0**	**0**	**–**		

*First half of year.
**Upstream flaring emissions closely represent the contribution of flaring to Chevron's total GHG emissions.

operated emissions table continues on page 58

operated emissions, continued

	2016	2017	2018	2019	H1* 2020	SASB[1]	IPIECA[2]
indirect emissions – all other (Scope 3)[22]							**CCE4: A2**
Use of sold products – production method (million tonnes CO_2e)	**539**	**608**	**617**	**622**	**300**		
Use of sold products – throughput method (million tonnes CO_2e)	**330**	**372**	**392**	**394**	**173**		
energy efficiency[26]							
Total energy consumption, operated assets, and nonoperated joint-venture refineries (trillion BTUs)	**830**	**823**	**922**	**894**	**418**		
Total energy consumption, operated assets (trillion BTUs)	671	667	760	736	341		
Total energy consumption, operated assets, and nonoperated joint-venture refineries (million gigajoules)	**876**	**868**	**973**	**943**	**441**		
Total energy consumption, operated assets (million gigajoules)	708	704	802	776	360		
Manufacturing Energy Index (refining) (no units)[27]	84.6	85.0	85.0	84.9	87.1		
Upstream energy intensity (thousand BTUs per barrel of oil-equivalent)	308	305	349	352	329		
Pipeline energy intensity (BTUs per barrel of oil-equivalent-mile)	**20**	**13**	**11**	**8**	**9**		
Shipping energy intensity (BTUs per metric ton-mile)	**43**	**70**	**75**	**70**	**73**		
Non-Manufacturing Energy Index (Oronite, Lubricants, etc.) (no units)[28]	**75**	**75**	**74**	**67**	**72**		
natural resources – water[29]							**E6**
Fresh water withdrawn (million cubic meters)	**80**	**74**	**71**	**71**	**29**	**EM-EP-140a.1 EM-RM-140a.1**	**E6/C1**
Fresh water consumed (million cubic meters)	**79**	**73**	**70**	**70**	**29**	**EM-EP-140a.1 EM-RM-140a.1**	**E6/C2**
Nonfresh water withdrawn (million cubic meters)	**36**	**41**	**39**	**45**	**18**	**EM-EP-140a.2**	**E6/O2 E6/O7**

*First half of year.

footnotes are on page 59

notes to pages 53–58

1 Indicators and terminology in the *Oil and Gas Industry Guidance on Voluntary Sustainability Reporting* (2015) by the International Petroleum Industry Environmental Conservation Association (IPIECA), the International Oil and Gas Producers (IOGP) Association, and the American Petroleum Institute (API) to determine which data to include in the table, the content for this table, and the larger report were identified through prior issue prioritization processes and current-year external engagements with stakeholders. Our 2020 performance data table includes an index column that maps Chevron's data to the corresponding relevant 2015 IPIECA standards.

2 We used the general SASB topics to organize Chevron's table and provide an index column to identify common reporting elements between our current reporting data and the related SASB standards. The SASB index is based solely on Chevron's interpretation and judgment. The inclusion of the SASB index does not indicate the application of definitions, metrics, measurements, standards, or approaches set forth in the SASB framework. Please refer to the notes for information about Chevron's data reporting basis. As reflected in the table, Chevron currently discloses data on a number of issues recommended in the SASB Oil and Gas Exploration and Production, Midstream, and Refining and Marketing standards. Further, there are many topics on which Chevron discloses data beyond the SASB framework. SASB recommendations not addressed in the data table are being studied by Chevron for potential future inclusion. Chevron could determine that some SASB recommendations do not reflect useful sustainability performance information or would be overly burdensome to implement on a global basis; such disclosures will not be included in a future data table. We strive to continually improve our data performance reporting, and we believe that our SASB index is a positive step in further aligning our ESG reporting to SASB framework recommendations. We also continue to assess alignment with other emerging frameworks.

3 Emissions reported are net (Scope 1 and Scope 2). The emissions included in the metrics generally represent Chevron's equity share of emissions, which are emissions from operated and nonoperated joint-venture (NOJV) assets. The scope may include sources outside traditional scoping of equity emissions, including captive emissions from processes like drilling and completions, and tolling agreements up to the point of third-party custody transfer of the oil or gas product. For oil and gas production intensity metrics, production is aligned with net production values reported in the *Chevron Corporation Supplement to the Annual Report*, which represent the company's equity share of total production after deducting both royalties paid to landowners and a government's agreed-upon share of production under a Production Sharing Agreement. Chevron's equity-share emissions include emissions associated with these excluded royalty barrels in accordance with IPIECA guidance. Also in accordance with IPIECA guidance, Chevron's equity-share emissions do not include emissions associated with royalty payments received by the Company. Allocation of emissions between oil and gas is based on the fraction of production represented by liquids or gas. Flaring and methane intensities use the total of liquids and gas production. Oil and gas production intensities use liquids production and natural-gas production, respectively.

4 Upstream oil intensity restated for 2016, 2017, and 2018.

5 Upstream gas intensity restated for 2016 and 2017.

6 Upstream flaring intensity restated for 2017.

7 Numbers in table may not sum due to rounding.

8 Scope 1 includes direct emissions. Direct GHG emissions related to production of energy in the form of electricity or steam exported or sold to a third party are included in the reported Scope 1 emissions to align with IPIECA's *Sustainability Reporting Guidance for the Oil and Gas Industry* (2020). Chevron's Scope 1 includes emissions of six Kyoto GHGs—carbon dioxide (CO_2), methane (CH_4), nitrous oxide (N_2O), sulfur hexafluoride, perfluorocarbons, and hydrofluorocarbons. Calculation methods are based on API's *Compendium of Greenhouse Gas Emissions Methodologies for the Oil and Natural Gas Industry* (2009) or, where relevant, local regulatory reporting methodologies.

9 Where limited emissions information is available for NOJVs, Chevron's equity share of total CO_2-equivalent (CO_2e) emissions is allocated to Scope 1 CO_2 emissions.

10 Scope 1 equity emissions are restated for 2016–2019. Restated 2016–2019 Scope 1 equity emissions include Chevron's equity-share emissions for Chevron Phillips Chemical Company LLC (CPChem) and reporting improvements. Additionally, restated 2019 Scope 1 emissions include Chevron's equity-share emissions for NOJVs in which Chevron has less than a 16 percent equity share (where previously excluded). H1 2020 Scope 1 equity emissions do not include Chevron's equity-share emissions for CPChem and NOJVs in which Chevron has less than a 16 percent equity share (where previously excluded), with these emissions to be captured in full-year 2020 voluntary emissions reporting.

11 As governments update their Global Warming Potentials (GWPs), we anticipate updating methane data reporting in our environmental tables and the associated performance evaluation. For transparency, and to enable stakeholders to make their own calculations based on their preferred timeline and GWPs, we provide methane emissions data and intensity performance as a mass of methane as well as its conversion under the AR4 100-year GWP to a carbon dioxide–equivalent. Although we strive to provide consistent data from our operated and nonoperated assets, some nonoperated assets may provide their data only on a CO_2e basis. Given the common industry practice of using the AR4 100-year GWP, we have assumed that those nonoperated assets that did not provide methane mass data use a 100-year GWP of 25. We continue to work with our joint-venture partners to provide information on a standardized basis to increase transparency.

12 Downstream includes emissions from refineries and terminals. Chemical and base oil facilities located within refineries are included in refinery emissions.

13 Chemicals includes emissions from stand-alone chemical, additive, and lubricant facilities.

14 Other emissions include GHG emissions from Chevron Power and Energy Management, Corporate Aviation, Chevron Environmental Management and Real Estate Company, and North American Data Center.

15 Exported emissions are direct GHG emissions related to production of energy in the form of electricity or steam that are exported or sold to a third party.

16 Scope 2 includes indirect emissions from imported electricity and steam. CO_2, CH_4, and N_2O are accounted for in Chevron's Scope 2 emissions. Scope 2 emissions are accounted for using the market-based approach as described in the World Resources Institute's *GHG Protocol Scope 2 Guidance* (2015).

17 Indirect emissions restated for 2017.

18 For equity reporting, sales or storage of company CO_2 (Chevron and NOJV) includes both CO_2 sold to third parties and CO_2 (and other gas) injected for carbon storage. Credits generated from CO_2 injection by NOJV partners may be sold. For operated reporting, sales or storage of company CO_2 (Chevron) includes both CO_2 sold to third parties and CO_2 (and other gas) injected for carbon storage.

19 For equity reporting, purchase or injection includes third-party CO_2 purchased and injected for enhanced oil recovery, excluding equity-share NOJV data. For operated reporting, purchase or injection includes third-party CO_2 purchased and injected for enhanced oil recovery.

20 Includes offsets retired in compliance programs. For programs with multiyear compliance periods, offsets are apportioned according to the compliance obligation for each year.

21 Excludes offsets sold as part of a divestiture. Offsets are reported for the year in which the offset was generated (vintage year) only if subsequently sold.

22 Chevron calculates emissions from third-party use of our products in alignment with methods in Category 11 of IPIECA's *Estimating Petroleum Industry Value Chain (Scope 3) Greenhouse Gas Emissions* (2016). Emissions are based on aggregate production, throughput, and sales numbers that include renewable fuels.

23 Annual third-party verification covers Scope 1 and Scope 2 equity emissions as first reported in Chevron's *Corporate Sustainability Report* for each reporting year, but generally does not cover subsequent restatements and does not include Chevron equity-share emissions for CPChem.

24 In the course of normal business processes, Chevron seeks limited assurance of prior-year GHG emissions data for publication in its *Corporate Sustainability Report*.

25 Scope 1 operated emissions are restated for 2016–2019 to include reporting improvements.

26 2017 energy efficiency data have been restated to include reporting improvements.

27 Refining energy performance is measured by the Manufacturing Energy Index (MEI), which is calculated using the Solomon Energy Intensity Index methodology. MEI includes operated assets and NOJV refineries.

28 Energy performance for Chemicals, Americas, and International Fuels & Lubricants is measured by the Non-Manufacturing Energy Index, which is the energy required to produce Chevron products compared with the energy that would have been required to produce the same products in 1992 (the index's base year).

29 Fresh water withdrawn from the environment is defined per local legal definitions. If no local definition exists, fresh water is defined as water extracted, directly or indirectly, from surface water, groundwater, or rainwater that has a total dissolved solids concentration of less than, or equal to, 2,000 mg/L. Fresh water withdrawn does not include effluent or recycled/reclaimed water from municipal or other industrial wastewater treatment systems, as this water is reported under nonfresh water withdrawn. Nonfresh water withdrawn could include seawater, brackish groundwater or surface water, reclaimed wastewater from another municipal or industrial facility, desalinated water, or remediated groundwater used for industrial purposes. Produced water is excluded from fresh water withdrawn, fresh water consumed, and nonfresh water withdrawn.

climate-related disclosure

Chevron recognizes climate change is a growing area of interest for our investors and stakeholders. The table below shows how the disclosures in this report align with the recommendations of the Financial Stability Board's Task Force on Climate-related Financial Disclosures, as the TCFD has described the categories, and where the relevant information can be found in this report. Further information can be found in Chevron's 2020 Annual Report on Form 10-K, *Climate Change Resilience: A Framework for Decision Making* (2019), and Chevron's Corporate Sustainability reports.

TCFD recommendation*		disclosure	location
Governance			
Disclose the organization's governance around climate-related risks and opportunities.	(a) Describe the organization's governance around climate-related risks and opportunities.	Board oversight	1.1
		Public Policy and Sustainability Committee	1.1.1
		Other Board-level committees	1.1.2–1.1.4
		Director qualifications and nominating process	1.1.4
	(b) Describe management's role in assessing and managing climate-related risks and opportunities.	Executive management of climate risks	1.2
		Global Issues Committee	1.2.2
		Chevron Strategy & Sustainability organization	1.3
Strategy			
Disclose the actual and potential impacts of climate-related risks and opportunities on the organization's business, strategy, and financial planning where such information is material.	(a) Describe the climate-related risks and opportunities the organization has identified over the short, medium, and long terms.	Chevron's strategic and business planning processes	3.1–3.4
	(b) Describe the impact of climate-related risks and opportunities on the organization's businesses, strategy, and financial planning.	Business planning	3.5
		Capital-project approvals	3.5
		Our portfolio	4
	(c) Describe the resilience of the organization's strategy, taking into consideration different climate-related scenarios, including a 2° C or lower scenario.	The resilience of our portfolio under the IEA's SDS and the IPCC's RCP8.5	3.6
Risk management			
Disclose how the organization identifies, assesses, and manages climate-related risks.	(a) Describe the organization's processes for identifying and assessing climate-related risks.	Physical risk	2.1
		Transition risk	2.2
	(b) Describe the organization's processes for managing climate-related risks.	Physical risk	2.1
		Transition risk	2.2
	(c) Describe how processes for identifying, assessing, and managing climate-related risks are integrated into the organization's overall risk management.	Risk management	2
Metrics and targets			
Disclose the metrics and targets used to assess and manage relevant climate-related risks and opportunities where such information is material.	(a) Disclose the metrics used by the organization to assess climate-related risks and opportunities in line with its strategy and risk management process.	Lower-carbon strategy and investments	4.3
	(b) Disclose Scope 1, Scope 2, and, if appropriate, Scope 3 GHG emissions and the related risks.	Approach to Scope 3	4.3
		Metrics	5
	(c) Describe the targets used by the organization to manage climate-related risks and opportunities and performance against targets.	Lower-carbon strategy and investments	4.3

*See Section 6: About This Report.

section 6

about this report

This report covers our owned and operated businesses and does not address the performance or operations of our suppliers, contractors, and partners unless otherwise noted. In the case of certain joint ventures for which Chevron is the operator, we exercise influence but not control. Thus, the governance, processes, management, and strategy for those joint ventures are known to differ from those detailed in this report. On October 5, 2020, we announced the completion of the acquisition of Noble Energy, Inc. (Noble); the integration of Noble operations into our operations is ongoing. This report does not speak to Noble's historic governance, risk management, strategy approaches, or emissions performance unless specifically referenced. All financial information is presented in U.S. dollars unless otherwise noted.

This report contains forward-looking statements relating to the manner in which Chevron intends to conduct certain of its activities, based on management's current plans and expectations. These statements are not promises or guarantees of future conduct or policy and are subject to a variety of uncertainties and other factors, many of which are beyond our control, including government regulation and oil and gas prices. See the Forward-Looking Statements Warning at the end of this report.

Therefore, the actual conduct of our activities, including the development, implementation, or continuation of any program, policy, or initiative discussed or forecasted in this report, may differ materially in the future. As with any projections or estimates, actual results or numbers may vary. Many of the standards and metrics used in preparing this report continue to evolve and are based on management assumptions believed to be reasonable at the time of preparation but should not be considered guarantees. The statements of intention in this report speak only as of the date of this report. Chevron undertakes no obligation to publicly update any statements in this report.

This report contains information from third parties, such as the IEA. Chevron makes no representation or warranty as to the third-party information. Where necessary, Chevron received permission to cite third-party sources, but the information and data remain under the control and direction of the third parties. Where Chevron has used information, such as displaying data from third parties in graphical form, it has noted the source. This report contains terms used by the TCFD, as well as information about how the disclosures in this report align with the recommendations of the TCFD, as it has described the categories. In doing so, Chevron does not intend to endorse or adopt and is not endorsing or adopting these phrases or recommendations. In using these terms and referencing the recommendations, Chevron is not obligating itself to use the terms in the way defined by the TCFD, nor is it obligating itself to comply with any specific recommendations or to provide any specific disclosure. Chevron makes no representation or warranty as to the TCFD's use or definition of specific terms or recommendations. For example, with respect to the use of the term *material*, individual companies are best suited to determine what information is *material*, under the long-standing U.S. Supreme Court definition of that term, and whether to disclose this information in U.S. Securities and Exchange financial filings.

As used in this report, the term *Chevron* and such terms as *the Company*, *the Corporation*, *their*, *our*, *its*, *we*, and *us* may refer to one or more of Chevron's consolidated subsidiaries or affiliates or to all of them taken as a whole. All of these terms are used for convenience only and are not intended as a precise description of any of the separate entities, each of which manages its own affairs.

this report and additional information on how we view and address climate change–related issues can be found at www.chevron.com/sustainability/environment/energy-transition

our energy-transition approach

set ambitions and favor results

shape a lower-carbon economy for all

lead in transparency

drive commercial solutions

build partnerships to achieve impact

forward-looking statements warning

CAUTIONARY STATEMENTS RELEVANT TO FORWARD-LOOKING INFORMATION FOR THE PURPOSE OF "SAFE HARBOR" PROVISIONS OF THE PRIVATE SECURITIES LITIGATION REFORM ACT OF 1995

This report contains forward-looking statements relating to Chevron's operations that are based on management's current expectations, estimates, and projections about the petroleum, chemicals, and other energy-related industries. Words or phrases such as "anticipates," "expects," "intends," "plans," "targets," "forecasts," "projects," "believes," "seeks," "schedules," "estimates," "positions," "pursues," "may," "could," "should," "will," "budgets," "outlook," "trends," "guidance," "focus," "on schedule," "on track," "is slated," "goals," "objectives," "strategies," "opportunities," "poised," "potential," and similar expressions are intended to identify such forward-looking statements. These statements are not guarantees of future performance and are subject to certain risks, uncertainties, and other factors, many of which are beyond the company's control and are difficult to predict. Therefore, actual outcomes and results may differ materially from what is expressed or forecasted in such forward-looking statements. The reader should not place undue reliance on these forward-looking statements, which speak only as of the date of this report. Unless legally required, Chevron undertakes no obligation to update publicly any forward-looking statements, whether as a result of new information, future events, or otherwise.

Among the important factors that could cause actual results to differ materially from those in the forward-looking statements are: changing crude oil and natural-gas prices and demand for our products, and production curtailments due to market conditions; crude oil production quotas or other actions that might be imposed by the Organization of Petroleum Exporting Countries (OPEC) and other producing countries; public health crises, such as pandemics (including coronavirus [COVID-19]) and epidemics, and any related government policies and actions; changing economic, regulatory, and political environments in the various countries in which the company operates; general domestic and international economic and political conditions; changing refining, marketing, and chemicals margins; the company's ability to realize anticipated cost savings, expenditure reductions, and efficiencies associated with enterprise transformation initiatives; actions of competitors or regulators; timing of exploration expenses; timing of crude oil liftings; the competitiveness of alternate-energy sources or product substitutes; technological developments; the results of operations and financial condition of the company's suppliers, vendors, partners, and equity affiliates, particularly during extended periods of low prices for crude oil and natural gas during the COVID-19 pandemic; the inability or failure of the company's joint-venture partners to fund their share of operations and development activities; the potential failure to achieve expected net production from existing and future crude oil and natural-gas development projects; potential delays in the development, construction, or startup of planned projects; the potential disruption or interruption of the company's operations due to war, accidents, political events, civil unrest, severe weather, cyber threats, terrorist acts, or other natural or human causes beyond the company's control; the potential liability for remedial actions or assessments under existing or future environmental regulations and litigation; significant operational, investment, or product changes required by existing or future environmental statutes and regulations, including international agreements and national or regional legislation and regulatory measures to limit or reduce greenhouse gas emissions; the potential liability resulting from pending or future litigation; the company's ability to achieve the anticipated benefits from the acquisition of Noble Energy, Inc.; the company's future acquisitions or dispositions of assets or shares or the delay or failure of such transactions to close based on required closing conditions; the potential for gains and losses from asset dispositions or impairments; government-mandated sales, divestitures, recapitalizations, industry-specific taxes, tariffs, sanctions, changes in fiscal terms, or restrictions on scope of company operations; foreign currency movements compared with the U.S. dollar; material reductions in corporate liquidity and access to debt markets; the receipt of required Board authorizations to pay future dividends; the effects of changed accounting rules under generally accepted accounting principles promulgated by rule-setting bodies; the company's ability to identify and mitigate the risks and hazards inherent in operating in the global energy industry; and the factors set forth under the heading "Risk Factors" on pages 18 through 23 of the 2020 Annual Report on Form 10-K. Other unpredictable or unknown factors not discussed in this report could also have material adverse effects on forward-looking statements.

learn more > www.chevron.com/sustainability/environment/energy-transition

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