TIDBITS

A variety of articles, excerpts and items of interest taken from Chevron's news releases and media reports compiled by the CRA Communications Committee

Our Operations

Explainer: Where Do Oil and Gas Come From?

Dec. 30, 2024--Oil and gas are fossil fuels used for nearly every aspect of modern life. They're formed from prehistoric plants and other organisms that died millions of years ago, via a process that involves heat, pressure and time.

How Oil and Gas are Formed

Many existing oil and gas fields were formed during the Mesozoic Era, between 252 and 66 million years ago. This era is also called the "Age of Dinosaurs," but it's a common misconception that fossil fuels were formed from their remains.

In fact, these fuels are derived from algae, plankton, bacteria and plants. These organisms lived both on land and in lakes and oceans.

When they died, they either sank to the lake and ocean floors or ended up there after being carried to the lake or ocean by a river. After sinking to the lake bottom or seabed, they were often buried by layers of sediment. Over time, this organic material and sediment were compacted and became what's known as *source rocks*.

Source rocks are sedimentary rocks—often shale or mudstone. They contain enough organic material that, when subjected to heat and pressure over millions of years, they can generate hydrocarbons.

Hydrocarbons are natural chemical compounds made up of hydrogen and carbon. Oil and gas are two types of hydrocarbons. The type of fuel generated by the source rock depends on the kind of organic matter it contains, as well as how much heat and pressure were involved in the rock's burial history.

Deep History

The use of crude oil in energy dates to 2000 B.C., when the Chinese began refining it for use in lighting and heating.

The modern oil era began in the 1850s, when a group of investors formed the Pennsylvania Rock Oil Company in search of a kerosene replacement. The first drilled oil well was completed near Titusville, Pennsylvania, in 1859. By the 1890s, there was mass demand for oil, driven by the rise in the use of automobiles and other gas-powered vehicles.

Natural gas has a rich history as well. The Chinese used it in 500 B.C. to boil seawater to make it drinkable.

In the 19th century, it was used primarily for lighting until other uses—such as heating homes and cooking food—were discovered.

Layers of Potential

In the U.S., oil- and gas-rich areas include the Permian Basin, which spans parts of West Texas and southeast New Mexico.

The Permian Basin got its name because it has one of the world's thickest deposits of rocks formed during the Permian geologic period, between 299 and 251 million years ago. During that time, all continents were combined in a single land mass, and the Permian Basin was underwater.

The geology of the Permian Basin is unique because it contains multiple stacked plays. A stacked play is where a single well can be used to produce oil and natural gas from several layers of rock in different geological zones. That multiplies the basin's natural resource potential.

Chevron's other hydrocarbon-rich areas of operation can be found all over the world. Examples include the DJ Basin, where Chevron has operations in Colorado, and the U.S. Gulf of Mexico.

Finding Oil and Gas
For geologists searching for the next promising oil and gas field to develop, source rocks are a key indicator.

Geologists find source rocks by gathering samples in the field or by collecting rock fragments—typically called cuttings—that are brought to the surface during the drilling process. Those samples are then analyzed.

"We have laboratory analytical techniques to determine the total organic carbon content in the rock because a source rock must meet a certain organic richness level," said Fang Lin, Chevron Technical Center's chapter manager of hydrocarbon charge and geochemistry.

The importance of exploring for oil and gas is not lost on Lin.

"I really appreciate the pivotal role it plays in supporting the development and prosperity of human society," she said. "Many lives are dependent on the energy industry."

People and Community
Energy Helps Power a Merry and Bright Season

Dec. 23, 2024-- Twinkling lights. Delicious meals with the family. Travel to see loved ones. Brown paper packages tied up with string and delivered to your doorstep.

These are a few favorite things during the holidays, and energy helps make them happen. Here are some fun facts about the power behind the season.

Going Home for the Holidays
Close to 80 million Americans were predicted to hit the road or take to the skies to visit loved ones over the Thanksgiving holiday, according to the American Automobile Association (AAA). Of these travelers, 71.74 million were expected to travel by auto, 5.84 million by air and 2.28 million by other modes of transportation such as buses, trains and cruise lines.

Giving More Gifts
'Tis the season to ship! The U.S. Postal Service (USPS) has been preparing for the holiday season, increasing its package processing capacity to 60 million packages a day, enough for

two packages per person in the whole state of Texas. That's triple what the USPS could process per day in 2020.

But What about Rudolph?
What do you do when reindeer power isn't an option? Use a jet engine, of course, preferably one that uses sustainable aviation fuel.

That takes a different kind of energy, and some students at the University of Leicester in Leicester, U.K., calculated just how much power it would take to get Santa's gift-laden sleigh off the ground: 38 million newtons of thrust.

That's about the same as 150 jumbo jet engines or what it took to launch the Saturn V rocket on the Apollo missions. That rocket, which carried the first humans to the moon, used 4,578,000 pounds of fuel.

The students didn't stop there. They figured Santa's sleigh would need to be speedy to keep aloft, moving at 5,500 meters per second. That's about 10 times the speed of sound!

Welcoming January First
It takes energy to keep the lights on at night to ring in the new year. It also takes a different kind of energy to stay awake until midnight. In the U.S., most adults stay up to see the clock strike 12, according to a survey by YouGov. While approximately 77% say they sometimes, usually or always stay up to greet the new year, the rest say they rarely or never do, with about 2% unsure of what state of wakefulness they're usually in at that time.

Brightening the Holidays
A 2015 report found that in the U.S., holiday lights use about 6.63 billion kilowatt hours of electricity each year. The average U.S. home consumes approximately 10,500 kilowatt hours of electricity a year. So that means holiday lights use more electricity than 631,000 homes—that's nearly enough to power all the households in Philadelphia for a year!

And those lights are going up with plenty of time to enjoy them. According to a survey by *This Old House*, approximately 70% of decorating Americans put up their holiday lights in November or even sooner.

At the Holiday Table
Americans consume around 46 million turkeys during the holiday season. Depending on the size of the bird and the type of oven, roasting a turkey can use between 8 and 11.5 kilowatt hours of energy. Multiply that by the number of turkeys, and you have between 368 million and 529 million kilowatt hours of energy spent on the centerpiece of many a holiday feast. That translates to about enough energy to power between 34,000 and 49,000 U.S. homes for a year.

Go Deeper
Chevron is proud to help power modern life, no matter what time of year it is. Our teams work diligently to provide the energy that keeps the lights on. And that means some employees spend holidays with their Chevron family. Take a look at how our employees celebrate the holidays when stationed offshore.

Our Operations
Gas Development Opportunities in Sub-Saharan Africa

Dec. 20, 2024--Despite market challenges and fluctuations, Chevron continues to see significant potential across sub-Saharan Africa (SSA). *Energy Intelligence Finance* recently highlighted Chevron's strategy to transition output to gas in the region.

Key Takeaways

- Chevron is reshaping Angola's value chain in pursuit of growth potential in the region.
- While many major players are exiting onshore and shallow offshore activities in Nigeria, Chevron remains committed to operating in the area.
- Chevron led the development of the West African Gas Pipeline (WAGP), a 700-kilometer pipeline that supplies gas to Benin, Togo and Ghana and helps to boost economic development in the region. The WAGP supplies approximately 170 million cubic feet per day of Nigerian gas to the region.
- The multi-country pipeline is the only one of its kind in SSA.

"We've been able to successfully navigate working in the region for quite a while. We see a lot of resource potential. There are a lot of things that haven't been fully developed."
Jim Swartz, Nigeria/Mid-Africa Managing Director

Growth through Partnerships

Chevron is working with partners in Africa to develop new projects, including:

- Angola LNG Limited, a 5.2-million-ton-per-year project that Chevron has an interest in.
- Project Panther, a joint venture between Chevron Nigeria and the Nigerian National Petroleum Company. Project Panther is a third-party-financed infill oil development project located in the NMA JV area with over $1.4 billion in total CAPEX spend. The project aims to deliver around 166 million barrels of oil and 97 million barrels of gas-equivalent by 2026.

Emissions Solutions
Chevron CEO Talks Growing Production, Efficient Spending

Dec. 18, 2024--In a wide-ranging interview, Chevron Chairman and CEO Mike Wirth and Frederick Kempe, president and CEO of the Atlantic Council, a nonpartisan think tank, touched on an array of topics, including the Permian Basin, deepwater U.S. Gulf of Mexico and hydrogen.

Watch the full interview for more on Wirth's take on the energy industry and its future.

Our Operations
AI Boosts Profitability in the Permian Basin

Dec. 18, 2024--Barron's Avi Salzman recently toured Chevron's operations in the Permian Basin. Following the visit, he wrote about how artificial intelligence (AI) is revolutionizing the oil industry and could lift its profits.

Key Takeaways

- Steady growth: Since 2012, Permian oil production has grown from approximately 1 million barrels of oil-equivalent per day (MMboe/d) to more than 6 MMboe/d.

- AI in action: AI helps Chevron extract more oil for less. It's driving productivity, reducing cycle times and revealing the best opportunities.
- Capital discipline: Efficiencies in drilling and completions are important in a cyclical commodity business.
- Environmental impact: AI is one of the tools helping Chevron lower the methane emission intensity of its upstream operations by 60%.

Did You Know?
Chevron has improved execution performance in the Permian by more than 80% since 2019.

Tech and Innovation

- Sensors and data: Fields are equipped with sensors that provide vital information and real-time data about pressure and heat.
- Remote operations: Technicians analyze historical data and control equipment from miles away, enhancing safety and efficiency.
- Enhanced oil recovery: Artificial lift implementations have improved the production output of existing wells.
- Autonomous adjustments: Complementary to AI, software adjusts valves and detects leaks in real-time, reducing the need for human intervention.
- Optimized drilling: Improved bottom hole assembly reliability and AI can deliver insights for continuous improvements.

"AI is revolutionizing the way we work by providing us with unprecedented access to data and insights, enabling us to make better, faster decisions and unlock value in our daily work and operations," said Balaji Krishnamurthy, vice president of Chevron Technical Center.

People and Community

Reducing Methane Emissions is Personal for Colorado Man

Dec. 16, 2024--Having grown up near Colorado's DJ Basin, Zach Yearous considers the state home—and that's a term he doesn't take lightly.

"I feel personally responsible for taking care of it," he said. "I want to make sure it's clean, in good order and running efficiently."

Yearous channels his passion for protecting the environment into his work with Chevron, where he's tasked with identifying ways of reducing methane emissions. His efforts are part of a larger team effort to mitigate these emissions.

"I believe in working hard today to make tomorrow better."
Zach Yearous, Operations Advisor

Looking to the Future
Yearous knows that no person can solve the challenge of mitigating methane emissions alone. When he identifies a potential solution, he brings it to a team of similarly dedicated coworkers to help execute.

Recently, he helped identify a new way to prevent methane from escaping into the atmosphere when workers are dealing with wells that contain too much liquid.

The issue: When fluid builds up in a well, it prevents the well from producing. Traditionally, the remedy has involved emptying the well to reestablish flows.

Yearous and his team found a solution involving a compressor that pulls liquids through faster and prevents buildups, eliminating the need for workers to open the well—which would allow methane to be released.

“When we actually get something across the line that keeps those methane molecules in the pipe, that’s fantastic,” Yearous said. “That’s what drives us to a better tomorrow.”

Why it Matters
Solutions such as the portable low-pressure well compressor are helping companies like Chevron advance their methane reduction strategies.

Methane accounts for 12% of human-made U.S. greenhouse gas emissions. It accounts for 16% worldwide.

The Bigger Picture
Yearous’ efforts are in line with the many ways Chevron is working to reduce methane emissions and help achieve a lower carbon future. Other work includes:

- Detecting emissions by satellites, airplanes, drones and other devices.
- Having a find-and-fix strategy.

United Front
Recognizing that he can’t do it alone, Yearous is passionate about educating others on the importance of mitigating methane emissions.

“We have enormous horsepower when it comes to collective problem-solving and getting complicated projects across the finish line,” Yearous said. “Teamwork is where real change comes from.”

Learn more about Chevron’s methane emissions reduction efforts in the company’s most recent Corporate Sustainability Report.

IEA 2025 Oil Demand Report

Dec. 12, 2024--The IEA Oil Market Report (OMR) is one of the world's most authoritative and timely sources of data, forecasts and analysis on the global oil market. Highlights of the December report include:

- World oil demand growth is set to accelerate from 840 kb/d in 2024 to 1.1 mb/d next year, lifting consumption to 103.9 mb/d in 2025. Increases in both years will be dominated by petrochemical feedstocks, while demand for transport fuels will continue to

be constrained by behavioural and technological progress. While non-OECD demand growth, notably in China, has slowed markedly, emerging Asia will continue to lead gains in 2024 and 2025.

- Global oil supply rose by 130 kb/d m-o-m to 103.4 mb/d in November, up 230 kb/d y-o-y, on a continued recovery in Libyan and Kazakhstan output. Total oil supply is on track to increase by 630 kb/d this year and 1.9 mb/d in 2025, to 104.8 mb/d, even in the absence of unwinding of OPEC+ cuts. Non-OPEC+ supply rises by about 1.5 mb/d in both years, led by the United States, Brazil, Guyana, Canada and Argentina.

- Refinery throughputs will reach an annual peak of 84.3 mb/d in December, nearly 3 mb/d more than in October when maintenance and economic run cuts constrained activity. Crude runs will average 82.7 mb/d in 2024 and 83.3 mb/d in 2025, up by 520 kb/d and 620 kb/d, respectively. Margins improved in Asia in November as middle distillate cracks strengthened, but lower gasoline and naphtha values muted them in the Atlantic Basin.

- Global observed oil inventories drew by 39.3 mb in October, led by an exceptionally sharp decline in oil products (-82.3 mb) as low refinery activity coincided with a rise in global oil demand. OECD industry stocks declined by 30.9 mb to 2 778 mb, 91.6 mb below the five-year average. Preliminary data for November show global inventories rebounded, led by oil on water and non-OECD crude oil.

- Benchmark crude oil futures were largely unchanged in November, at around $73/bbl for ICE Brent. Prices traded in a relatively narrow $5/bbl range, as concerns oscillated between oil supply security and faltering oil demand growth. Volatility slumped to six-month lows, with the front-month Brent futures moving by a daily $0.87/bbl on average during November.

Chevron Upgrades Pasadena Refinery to Increase Capacity, Feedstock and Product Flexibility

Facility increases equity Permian crude processing capacity, bolstering American energy value chain

Dec. 10, 2024-- Chevron U.S.A., Inc. (CUSA) has completed a retrofit of its refinery in Pasadena, Texas, which is expected to increase product flexibility and expand the processing capacity of lighter crudes by nearly 15 percent to 125,000 barrels per day.

Chevron acquired the Pasadena Refinery in 2019 with the strategic intent to expand its Gulf Coast refining system. This project is expected to allow the company to process more equity crude from the Permian Basin, supply more products to customers in the U.S. Gulf Coast and realize synergies with the company's Pascagoula refinery.

The Light Tight Oil (LTO) Project aims to enhance facility reliability and safety and will ultimately result in an increase in the supply of refined products domestically. The refinery will also begin producing jet fuel and exporting gas oil.

"The Pasadena Refinery is on a journey to maximize value for Chevron and the community it serves by driving progress in safety and reliability," said Chevron Manufacturing President Chris Cavote. "This refinery now firmly integrates our upstream and downstream businesses as we aim to optimize the value chain."

Planning for the LTO Project began in 2019 with work beginning in early 2020.

“I’m extremely proud of our employee and contractor workforce, which logged over 4 million hours to complete this complex project in an operating refinery. Our safety program reinforced the focus on working safely throughout the project,” said Refinery General Manager Tifanie Steele. “We are investing in the refinery to help it be successful in the long-term, which we hope will support continuing positive economic impact to our community.”

The phased start-up of the asset is expected to last through Q1 of 2025 as project team members work to confirm all plants are operating as planned and products are developed to specification.

Chevron Announces 2025 Capex Budget & 4Q24 Interim Updates

- Organic capex budget of $15 billion; affiliate capex budget of $2 billion
- Restructuring and other charges expected to be $1.1 to $1.5 billion in 4Q24

Dec. 5, 2024-- Chevron Corporation today announced an organic capital expenditure range of $14.5 to $15.5 billion for consolidated subsidiaries (capex) and an affiliate capital expenditure (affiliate capex) range of $1.7 to $2.0 billion for 2025.

The company’s 2025 capex and affiliate capex budgets represent a $2 billion year-over-year reduction. "The 2025 capital budget along with our announced structural cost reductions demonstrate our commitment to cost and capital discipline," said Chevron Chairman and CEO Mike Wirth. "We continue to invest in high-return, lower-carbon projects that position the company to deliver free cash flow growth."

Capex
Upstream spending is expected to be about $13 billion, of which roughly two-thirds is allocated to develop Chevron’s U.S. portfolio. Permian Basin spend is lower than the 2024 budget and anticipated to be between $4.5 and $5.0 billion as production growth is reduced in favor of free cash flow. The remaining U.S. investment is split between the DJ Basin and the Gulf of Mexico, where deepwater growth projects continue to ramp and are expected to deliver offshore production of 300 mboed in 2026. In International, about $1.0 billion is allocated to Australia, which include Gorgon backfill investments.

Downstream capex is expected to be approximately $1.2 billion, with two-thirds allocated to the U.S. Within total upstream and downstream budgets, about $1.5 billion of capex is dedicated to lowering the carbon intensity of our operations and growing New Energies businesses. Corporate and other capex is expected to be around $0.7 billion.

Affiliate Capex
Tengizchevroil LLP’s budget is less than half of the affiliate capex as the Future Growth Project is projected to achieve first oil in the first half of 2025. The remaining affiliate spend primarily supports Chevron Phillips Chemical Company LLC, which includes the Golden Triangle Polymers and Ras Laffan Petrochemical Projects.

4Q24 Interim Update
In connection with recently announced plans to achieve $2 to $3 billion in structural cost reductions by the end of 2026, the Company expects to recognize a restructuring charge of $0.7 to $0.9 billion after-tax in the fourth quarter, with associated cash outflows over the next two years. The Company also anticipates recognizing non-cash, after-tax charges related to

impairments, asset sales, and other obligations of $0.4 to $0.6 billion in the fourth quarter. The Company expects to treat these as special items and exclude them from adjusted earnings. It is possible that the financial impact of these items may differ from the estimates provided, including differences due to final accounting determinations, changes in facts, circumstances or assumptions or other developments in the interim.

Our Operations

New California Legislation Misleading, Chevron Exec Says

Nov. 26, 2024--California Governor Gavin Newsom approved Assembly Bill (AB) X2-1 last month. The bill authorizes the California Energy Commission (CEC) to set regulations on the state's refineries and energy infrastructure.

In a letter to state representatives, Andy Walz, Chevron's president of Downstream, Midstream and Chemicals, outlined why he believes that the legislation is flawed.

Three Key Takeaways

- Claims made about the refining industry in support of the legislation are misleading. Multiple factors, including economic and market behavior, can force prices up when demand outstrips supply. High gasoline prices in California could impact consumers in Nevada and Arizona, which import gas from that state.
- Energy suppliers must go to great lengths to meet consumer demand. Operating a refinery and efficiently managing inventory is a complex process. In addition, creating artificial shortages through minimum inventory thresholds could cost Californians more at the pumps.
- The new policy could create more risk. This legislation could have a negative impact on California's energy infrastructure, including supply shortages and higher gasoline prices. Labor unions also raised concerns that state regulations could risk worker safety. These new policies may cause refiners to rethink how capital is used, which could lead to California becoming "uninvestible."

Letter to California State Legislature

Chevron is concerned by the recent Committee and Assembly passages of ABX2-1 and seek to address some of the inaccurate and flawed arguments made by its proponents. As the Senate prepares to vote, it is crucial that it makes a fact-based decision. The political posturing that has characterized these proceedings must stop, including baseless and frankly ridiculous claims that the industry is engaging in price gouging. Let us have a balanced, fact-grounded conversation about the state of California's fuels marketplace, a marketplace weakened by misguided policy decisions, driven by misleading rhetoric.

Across the three dozen states in which we work, the California government remains unique in its focus on marketplace interference with negative effects on consumers resulting in the highest U.S. gasoline prices. California has investigated the industry numerous times for price gouging and come up with no evidence or charges. Chevron has been a trusted partner to California consumers for 140 years. We value that trust as we strive to reliably provide ever-cleaner fuel to Californians and our neighbors.

Two propositions ostensibly justifying the emergency regulations are wrong. First, the claim that regulation is justified because "price spikes are profit spikes" is misleading. Second, the claim that "refiners did not adequately prepare for [planned maintenance events] by increasing

inventories and imports," while we do not speak for other refiners, we believe this to be uninformed and not how we operate.

Economic fundamentals force prices up when demand outstrips supply. This signals the need to bring in more expensive finished gasoline or blending components. These statements about price spikes also overlook that supply shortages are an outcome of California's regulatory policy and fail to reflect the energy industry's cyclical nature. While we do not purport to speak for the industry, quite apart from the unfounded allegation of price gouging, there are many instances where net refining margins are negative, causing refineries to operate at a loss.

The suggestion that refiners mishandle inventory prior to shutdowns is likewise an ill-informed generalization. We have contractual obligations to supply our customers and go to great lengths to meet them. It is common sense that refiners use the available tankage infrastructure to store as much product as they can, so that they have inventory on hand to meet California's high demand, particularly during the summer driving season.

Ill-considered regulation on top of 20 years of bad policy is risky under normal order; to do so under the rush of special session is folly. California's policy choices have led to a gasoline shortage by driving suppliers away. We have a shortage of incentivizing policy for additional refiners and supply. California, stop making consumer conditions worse.

Now that we have addressed the rhetoric behind this action, let's discuss the bill's specific issues. The bill still shifts maintenance safety standards to bureaucrats who lack refining experience, taking it away from knowledgeable experts and regulatory agencies responsible for protecting refinery workers and our community. This undermines the decades of expertise our teams maintain for ensuring safety in refining operations.

Prior to the Assembly's vote, you asked industry to present a case to refute the alleged costs savings of billions of dollars for consumers - claimed by the policy advocates. We contend that enforcing a mandatory minimum inventory requirement will likely result in two negative outcomes: an increased frequency and duration of supply shortages, and a permanent rise in gasoline prices for consumers. Both risks extend beyond California, which should create the need for the legislature to proceed with caution, as policies that raise prices for the state could also affect neighbors in Arizona and Nevada.

How does this bill potentially exacerbate shortage events long enough to form lines at gas stations? We ask this because DPMO and CEC have not analyzed the existing capacity constraints available to refiners. The graph that DPMO presented as their sole evidence of viable refiner inventory footprint ignores the potential capacity constraints related to fuel specification seasonality, available marine shipment capacity and blending tank working capacity. These capacity constraints may reduce storage available during higher demand months. Furthermore, mandatory inventory thresholds remove significant supply from the market that refiners would otherwise sell, creating an economic fundamental of driving up wholesale prices. When refiners build and maintain inventories, it reduces the quantity available for immediate sale, thus restricting supply.

How does this bill create permanent gasoline costs to consumers? There is significant cost involved in building and sustaining a mandatory inventory threshold that is not included in the proponents' cost analysis. Costs to consumers can occur either by creating the shortage of supply which shifts the marketplace fundamentals as described in Appendix B or because refiners must secure additional storage. For example, just 20 cents per gallon in carrying costs

leads to billions of dollars per year in extra expenses for Californians and our neighbors. Costs to hold extra inventory would be on top of the prices paid during the price volatility seen when demand outstrips supply.

That ABX2-1 lacked additional amendments, despite extensive stakeholder feedback during the hearings, demonstrates that the Assembly chose to act based on politics— under the veil of a thinly studied basis fabricated by CEC and DPMO. Assemblymembers shared concerns regarding the bill's language. They provided critical feedback and recommendations such as addressing safety concerns by removing the CEC's authority to limit timing for planned maintenance; ensuring a robust process for drafting regulations; ensuring a shorter timeline for requirement sunset; and establishing an independent review panel to participate in regulatory decision-making. These suggestions and other opportunities for improvement were ignored. This bill makes bad policy worse—it suffers from the dearth of debate and informed analysis needed to address the complexity of the issue.

I leave you with final thoughts to consider. Without investment in the critical energy infrastructure that allows California consumers to live their daily lives, your body will ensure these products become more expensive and less reliable. The California gasoline marketplace is constrained, and government manipulation will only increase prices. To boost supply and reduce consumer costs, we need to rethink the policies that limit supply. We urge consumers in California, Arizona and Nevada to contact their governments to ask about the cost of any new or amended energy policy. We will do our part to ensure California consumers are informed about your role in shaping policies making life even more unaffordable.

Responsible refiners make investment decisions every time equipment becomes closer to their end-of-life and requires routine maintenance to sustain safe and reliable production capacity, for example Chevron spends nearly $800 million dollars in annual capital to maintain our refining facilities. These policy decisions can cause the idling of units as refiners consider whether to reduce the on-going capital needed to maintain capacity infrastructure or pursue opportunities to expand production and capacity in other states. Voters will hear about how you've made the state "uninvestable" by reducing refiners' incentive to invest the annual capital needed to maintain the fuel production capacity needed to keep California, Arizona and Nevada energy costs affordable, reliable and ever-cleaner.

Sincerely,
Andy Walz
President, Downstream, Midstream and Chemicals

Our Operations

The Power of Collaboration: Teaming Up with Microsoft, SLB

Nov. 25, 2024--A collaboration between Chevron, SLB (formerly Schlumberger) and Microsoft has allowed Chevron to increase efficiency, via the creation of a collaborative IT platform where Chevron can store and analyze different types of data.

Now in its fifth year, the three-way collaboration has helped Chevron connect subsurface professionals with enormous amounts of information. It has also provided ways for Chevron to work smarter.

Why it Matters

Before Chevron engaged in this initiative, some subsurface employees were found to be spending as much as 75% of their time looking for data.

“When you think about that from the lens of an engineer or scientist, that leaves very little time for them to do the actual science,” said Jacob Umbriaco, Chevron subsurface digital platform manager. “We were trying to figure out how to remove that barrier—and we are succeeding in doing that.”

Data at Work
The collaboration is focused on three products: FDPlan, DrillPlan and DrillOps.

FDPlan leverages the power of high-performance computing to bring subsurface models together. By doing so, it helps employees use the best data available to make faster and better decisions in highly complex environments.

In the U.S. Gulf of Mexico, FDPlan allows Chevron to quickly analyze different options for developing a reservoir, to ensure that its teams focus on the best scenario.

DrillPlan is used by engineers who are developing drilling plans, and DrillOps is a platform used by the teams that drill the wells.

With DrillPlan, Chevron has cut 30 days off its deepwater well planning process. In Argentina, the tool has helped the company reduce its well planning cycle time for an eight-well pad from two weeks to less than a day.

Competitive Advantage
Collaborations like these can create a competitive advantage.

“By leveraging the strengths of Microsoft and SLB, we are setting new standards,” Umbriaco said.

“This collaboration allows us to make smarter decisions, faster.”
Jacob Umbriaco, Subsurface Digital Platform Manager

People and Community
Restoring Colombia’s Coral Reefs

Nov. 20, 2024--Colombia is known for its fragrant coffee and beautiful landscapes, but there is a hidden treasure off the coast.

Under the country’s busy shipping lanes and cruise routes lie more than 440,000 acres of endangered coral reef. In 2021, Colombia began a reef restoration program to save this important natural habitat for corals—colonial organisms composed of hundreds to hundreds of thousands of individual animals called polyps.

The reefs targeted for restoration include those at Isla Fuerte, Providencia, Santa Marta, Rincón del Mar and Varadero.

Alejandro Riveros, Chevron’s corporate affairs advisor for Colombia and Central America, and a team of Chevron volunteers saw a chance to help. They collaborated with Corales de Paz, a science-based reef protection group. Together, they started the Energy Reefs program.

“Community involvement is so important to the protection of these ecosystems. We have the third-largest reef formation in the world,” said Riveros.

The project started with a single growing tank for coral. It soon expanded to include coral reef monitoring and school programs to help restore the coral forest.

1 million Corals
In 2022, UNESCO reported that nearly 80% of the Caribbean reef had been lost because of coastal development and other factors.

As Energy Reefs came together, so did the largest coral reef rebuilding plan in the Americas. One Million Corals for Colombia aimed to restore more than 494 acres of reef. To get there, they needed to grow one million coral pieces.

It was a big task—494 acres is nearly the size of 374 football fields.

To help tackle the challenge, the Energy Reefs team gathered community members, experts, journalists and local leaders. Chevron volunteers also joined dives to measure the reef’s condition.

While at sea, these citizen scientists learned how to recognize coral bleaching—damage caused by rising sea temperatures.

“We want the communities that live near coral reefs to be educated in the care of marine biodiversity, to be empowered by their ecosystem and to become the main protectors, so they continue to carry out monitoring and apply the knowledge acquired.”
Juliana Rodríguez,
Communication Manager, Corales de Paz

Benefits Beyond the Sea
In June 2023, the Colombian Ministry of Environment and Sustainable Development reported that, at that time, thanks to the One Million Corals for Colombia project, 735,822 new fragments of more than 30 coral species had been obtained in 12 coral areas of the Caribbean and Colombian Pacific.

Energy Reefs volunteers observed approximately 17,000 feet of reef during the sponsored dives. By monitoring the condition of the coral, they could identify areas that needed extra help. The program also supported the local community by:

- Educating more than 1,000 children about marine protection through school visits sponsored by Energy Reefs.
- Creating nearly 120 jobs.
- Establishing a coral growing station that became a genetic bank to save Caribbean coral.

In October 2023, the project earned four recognitions for its work:

- Best Project for Biodiversity from the British Embassy in Colombia
- Best Project for Water Care from the British Embassy in Colombia
- Hechos de Sostenibilidad Award (Alliances for Sustainability Development category) from World Social Marketing
- Recognition as a Successful Case (Climate Change and Sustainability category) from World Social Marketing

Our Operations
Chevron VP Talks Technology and Energy Transition

Nov. 14, 2024 -- With oil and gas expected to play a crucial role in the global energy mix for decades, Chevron is finding new ways to lower the carbon intensity of today's energy while building new, lower carbon solutions for tomorrow.

"From powering homes and industries to driving economic growth, energy is integral to everyday life," said Balaji Krishnamurthy, vice president of Chevron Technical Center.

In a recent interview with ADIPEC News, Krishnamurthy shared that many technology pathways and breakthroughs are needed to support a balanced energy transition while continuing to meet growing demand. Some recent innovations include:

- Deploying the industry's first 20,000 psi (pounds per square inch) deepwater technology to help unlock resources in the U.S. Gulf of Mexico, where Chevron's production is some of the lowest carbon intensity production in the world.
- Achieving a 64% decrease in upstream methane intensity since 2016 through advanced technologies in upstream operations.
- Partnering to scale new solutions, such as a new technology developed by Svante Inc. to capture carbon dioxide.

More on That

Chevron Technology Ventures has invested in more than 140 startups, piloting technology from 80% of those companies. And 50% of those companies are part of Chevron's supply chain today.

"Our industry shares the world's ambition for reducing emissions, a challenge larger than what any one company, industry or country can achieve alone. I am optimistic that we can overcome hurdles to energy progress through collaboration and technology advancements."
Balaji Krishnamurthy, Vice President of Chevron Technical Center

To learn more about Chevron's innovative approaches, read the full interview on Energy Connects.

Emissions Solutions
Satellite-Monitoring Campaign Highlights Power of Collaboration

Nov. 11, 2024--Blair Blackwell has seen firsthand how oil and gas companies can collaborate to work toward a lower carbon future.

A recent Oil and Gas Climate Initiative (OGCI) report showed that this kind of teamwork can help mitigate methane emissions when paired with the right technology.

The OGCI report detailed a 2022–2023 OGCI satellite-monitoring campaign and how data gained from it helped operators identify and address emission sources.

"It shows how we can use better data and advanced technologies to support methane mitigation efforts," said Blackwell, a Chevron lower carbon advisor.

"Companies like ours want to take this data and use it to continually improve."
Blair Blackwell, Lower Carbon Advisor

Satellite Vision
OGCI consists of 12 of the world's largest oil and gas companies, including Chevron. Its satellite campaign collects data and shares it with local operators.

Operators can then lean into OGCI's knowledge base for guidance on how to best reduce or eliminate identified emissions.

"It's not just about detecting or reporting," Blackwell said. "It's about working with operators to see what can be done to keep methane in the pipe."

More on That
The campaign monitored 18 preselected sites in Egypt, Algeria and Kazakhstan.
The report detailed several success stories, including how it helped two operators mitigate three methane leaks in these regions.

Why it Matters
When emitted directly into the atmosphere, methane accounts for 12% of human-made U.S. greenhouse gas emissions, according to the EPA in 2022. Worldwide, it accounts for 50% to 65%, according to the EPA. Preventing and reducing these emissions are important for a lower carbon future.

Chevron believes that adopting best practices such as flaring reduction can help in these efforts.

From 2016 to 2023, the company has reduced its methane intensity by more than 60%.

View from Above
Chevron has a thing or two to share about satellite detection best practices.

After all, it previously used satellites to monitor operations in Kazakhstan, to determine whether Chevron could detect methane emissions from the non-operated Tengizchevroil (TCO) joint venture facilities. The attempts were successful. As a result, these satellites became tools in Chevron's emerging methane management toolbox.

"There's not always a one-size-fits-all solution. But by using technology and collaborating, we can work to make progress."
Blair Blackwell, Lower Carbon Advisor

Chevron SEC Form 10-Q Quarterly Report Filing

Nov. 7, 2024 (Excerpt) --*Acquisition and Disposition of Assets* - The company continually evaluates opportunities to dispose of assets that are not expected to provide sufficient long-term value and to acquire assets or operations complementary to its asset base to help augment the company's financial performance and value growth. The company is targeting $10-15 billion of asset sales over the 5-year period ending in 2028. Asset dispositions and restructurings may result in significant gains or losses in future periods. In addition, some assets are sold along with their related liabilities, such as abandonment and decommissioning obligations. In certain instances, such transferred obligations have reverted, and may in the future revert, to the company and result in losses that could be significant. For example, in fourth quarter 2023, the

company recognized an after-tax loss of $1.9 billion related to abandonment and decommissioning obligations from previously sold oil and gas production assets in the U.S. Gulf of Mexico, because the companies that purchased these assets have filed for protection under the U.S. bankruptcy courts. The company is not currently aware of any additional potential material exposure that is reasonably possible.

In October 2024, the company announced that Chevron Canada Limited, an indirect subsidiary, and its related entity entered into a definitive agreement to sell their 20 percent non-operated interest in the Athabasca Oil Sands Project and 70 percent operated interest in the Duvernay shale in Alberta, Canada, to Canadian Natural Resources Limited for $6.5 billion before taxes. The sale is expected to close in fourth quarter 2024, and upon close of the sale, the buyer will assume the asset retirement obligations. In 2023, these assets produced 84 thousand barrels of oil-equivalent per day and generated over $2.3 billion of sales and approximately $700 million of net income. As part of the sale, the company expects to recognize a reduction of approximately 700 million barrels of oil-equivalent proved reserves.

Noteworthy Developments - Certain noteworthy developments in recent months included the following:
• Australia - Completed major turnaround at Gorgon's Train 2 plant ahead of schedule.
• Australia - Received an offshore greenhouse gas assessment permit, covering an area of approximately 8,467 km_2, to assess future CO_2 storage.
• Canada - Announced a $6.5 billion sale of the company's interest in the Athabasca Oil Sands Project and Duvernay shale assets that is expected to close in fourth quarter 2024.
• India - Announced the establishment of an engineering and innovation center in India to provide technical and digital solutions for the enterprise.
• Kazakhstan - Completed major turnaround at TCO's Complex Technology Line (KTL-1) ahead of schedule.
• Nigeria - Successfully extended the offshore Meji field with a near-field discovery.
• United States - Cleared Federal Trade Commission antitrust review of the company's pending merger with Hess Corporation, satisfying a key closing condition for the transaction.
• United States - Started production at the Anchor project in the Gulf of Mexico, marking successful delivery of an industry-first high-pressure deepwater technology.
• United States - Began water injection operations to boost production from company operated Jack/St. Malo and Tahiti fields in the Gulf of Mexico.

Our Operations
Marking a Milestone in US Gulf of Mexico

Nov. 6, 2024--Steven Larkin was just beginning his career when he experienced something unforgettable.

That experience? Helping discover the oil and gas potential of an offshore field, now called Tahiti, in the U.S. Gulf of Mexico. This feat remains a professional highlight, 26 years later.

"I had a mentor who said to me, 'I want you to understand that this doesn't happen very often, and it may never happen again in your career,'" recalled Larkin, who was a geophysicist at the time. "I took that to heart."

Larkin, now a Chevron subsurface assurance earth science consultant, has since moved on from Tahiti. But he remains impressed with all that Chevron has accomplished there since those early days.

"When you get an opportunity to participate in a success, it is very exciting."
Steve Larkin, Subsurface Assurance Earth Consultant

What's New?
In June, the Chevron-operated Tahiti Field produced its 500 millionth barrel of oil-equivalent. The total production from the field is enough to power 11.5 million homes for one year.

This makes it the sixth-largest asset—by total oil-equivalent output—in the deepwater U.S. Gulf of Mexico to date.

How it Happened
Chevron started production at Tahiti in 2009. However, maintaining a high level of output there has required extensive development over the past 15 years.

This has included projects involving water injection, infill drilling and new reservoir drilling. Most recently, Chevron has started injecting water into its first deepwater Gulf injection wells that have been converted from production wells.

With these upgrades in place, Tahiti could continue producing through approximately 2045.

Why it Matters
The global need for energy is growing, and Chevron is working to meet that need through ongoing oil and gas production. Oil and gas produced by Chevron in the U.S. Gulf of Mexico are among the lowest carbon intensity barrels in the industry.

Dive Deeper
Tahiti is among six offshore platforms operated by Chevron in the U.S. Gulf of Mexico. That figure includes Chevron's newest addition, Anchor, which achieved first oil in August.

Chevron's U.S. Gulf of Mexico production, including contributions from projects at Tahiti, Jack/St. Malo and Anchor, is expected to reach 300,000 net barrels of oil-equivalent per day by 2026.

That's an increase of more than 50% over 2020 levels.

Want to learn more about Chevron's new Anchor Platform? Read "Energy Everywhere: A New Frontier in Deepwater Development."

Alternative Fuels
Hydrogen Project Tour Highlights Expertise, Role in Energy Market

Nov. 04, 2024 -- Chevron Chairman and CEO Mike Wirth recently toured the Advanced Clean Energy Storage (ACES) project in Delta, Utah. The project will convert renewable energy to hydrogen and store it for later use.

The tour—hosted by Austin Knight, Chevron's vice president of hydrogen—showcased how the project, a joint venture by Chevron and Mitsubishi Power Americas, is combining innovation and expertise to develop hydrogen storage and transportation infrastructure in the western United States.

Here are three key takeaways from the tour:

- The ACES project can demonstrate hydrogen's potential at scale. The unique geology of the Delta region means that hydrogen can be stored in two massive salt caverns at the site.
- The hydrogen stored in those caverns will be dispatchable, meaning that it can be adjusted to meet demand. The project will first supply Intermountain Power Agency in Utah. Because Chevron is well positioned to connect this energy to its existing value chains, the project is expected to expand to supply other sectors in the western U.S.
- With ACES Delta, Chevron is bringing together renewable power, storage and power generation in one location and helping to lead the way in meeting the demand for hydrogen in the U.S.

Humor Section – Keep Learning…

Anyone who stops learning is old, whether at twenty or eighty.
Anyone who keeps learning stays young. -- **Henry Ford**

I've decided that whatever age I am is the new 30!

If you're not called crazy when you start something new, then you're not thinking big enough.

Don't worry about getting old, worry about thinking old.

What is the difference between school and life?
In school, you're taught a lesson and then given a test.
In life, you're given a test that teaches you a lesson – **Tom Bodett**

I'm still waiting patiently for the wisdom that supposedly comes with old age.

January 1st, is the first blank page of a 365-page book. Write a good one.

To be old and wise, you must first have to be young and stupid.

It's easier to learn new tricks if you watch it first on You Tube.

I wish I was 18 again, not that I don't like the age I'm at right now, but at 18 years old I knew everything – **Michael Nuccio**

The problem is I can't tell the difference between a deeply wise, intuitive nudge from the Universe and one of my own bone-headed ideas!

My body knows how old I am, but my mind refuses to believe it….

You are never going to be this young again, so make your mistakes, run free, and don't be afraid to fail.

Lifelong learning is good for the brain, mental well-being, and self-esteem. Cheers to a fresh start and a year full of exciting possibilities!