

Why Net Zero Should Be the Standard for the E&P Sector

Why should the E&P industry target net zero?

Amid the debates over climate change and energy supply mix, most people want the same thing: reliable energy at the lowest possible cost with a net zero carbon footprint. What are the different paths to getting there? And how can *responsible* energy companies be part of the solution?

Some believe that the energy transition entails moving to a grid powered exclusively by renewables, with no role allowed for fossil fuels. But pragmatists realize that modifying our existing energy mix and infrastructure to take it to net zero may be far more economic and quicker than replacing it. Why? As renewables grow as a percentage of the energy mix, they require storage solutions, yet storage technology is nascent, expensive and slow to scale. When comparing the cost of solar and batteries *versus* natural gas and carbon offsets, you might be surprised which is the cheaper net zero option.¹

One thing is clear: if the goal is to mitigate the impact of carbon emissions, we are woefully behind, and the challenge is enormous. Some, including the IEA, will argue that we must dramatically slow or stop investing in oil and gas today. *That is a mistake.* It's the perceived ease of displacement—switching this (fossil fuels) for that (renewables)—and the sheer size of the pie—fossil fuels represent around 80% of global energy demand—that makes shirking fossil fuels a convenient silver bullet. Yet, this is not practical in the near to medium term, especially in a world where an estimated 940 million people don't have access to electricity, and 3 billion people don't have access to clean fuel for cooking.² Such a binary approach would undoubtedly lead to higher prices, increased volatility and accelerating inflation. With the lowest income members of society spending the most on energy, this in turn is a regressive tax on the most vulnerable and risks pushing millions into poverty, something neither side of the aisle wants to see.

The charge to the E&P sector, then, is to reduce its carbon footprint and improve the carbon competitiveness of the energy produced. **The goal should be to take net zero oil and gas production from the theoretical to the actual, allowing for a more fulsome discussion of climate tradeoffs in considering which type of net zero energy is truly preferable.** Setting net zero GHG emission targets is the clearest signal the industry can send that it is serious about being part of the global push to reduce emissions and align corporate strategies with the energy transition. Furthermore, properly set net zero goals can counter the narrative set by standards organizations that the only path forward for the E&P sector is winding down its business. The net zero ambition needs to be credible, which means net zero targets need to be well defined, complemented by interim targets and disclosures, and most importantly, accelerated. In short, net zero by 2030 should be the standard for the energy sector.

¹ Thunder Said Energy, June 20, 2022, report, *Levelized cost: ten things I hate about you?*

² <https://ourworldindata.org/energy-access>

Key Points

In this follow-up to our September 2020 paper, [Charting a Path to Net Zero](#), we acknowledge that energy sector leaders have made encouraging steps towards reducing the industry's environmental footprint. However, efforts to date have been inconsistent and difficult to compare between companies. To facilitate large-scale adoption of net zero targets and garner credibility, we need greater transparency around existing net zero targets and a clear understanding of the pathways and timelines.

Our recommendation for the E&P industry is to provide ambitious net zero commitments, which are supported by consistent and transparent disclosure with accountability that comes from the alignment of long term incentives.

- 1) Ambition:** It's time to get ambitious and push for net zero by 2030. This will require a greater sense of urgency around mitigating and avoiding emissions, innovating new solutions and leveraging partnerships, integrating the use of high-quality offsets and verifying performance data.
- 2) Consistent and Transparent Disclosure:** Ensure credibility by defining targets consistently. Use similar baseline years and performance metrics while disclosing a roadmap to achieve targets.
- 3) Accountability:** Drive alignment and accountability by incorporating milestone targets into long term incentives.

Terminology Used in this Report

Net zero	Greenhouse gases produced by the company's operations are eliminated or counterbalanced by removing (or sequestering) emissions from the atmosphere.
Scope 1 emissions	According to the Greenhouse Gas Protocol, scope 1 emissions are direct GHG emissions that occur from sources that are owned or controlled by the company. These are the emissions released into the environment and are attributable to the firm's activities. PlanA highlights four categories of scope 1 emissions: (1) stationary combustion (fuel usage), (2) mobile combustion (all vehicles owned or controlled by a firm), (3) fugitive emissions (leaks from greenhouse gases), and (4) process emissions (released during industrial processes or manufacturing). ³
Scope 2 emissions	Scope 2 refers to indirect GHG emissions from the consumption of purchased electricity for the firm's operations.
Scope 3 emissions	Scope 3 refers to indirect GHG emissions <i>not owned by the firm</i> . These emissions occur up and down the value chain and when individual's use the firm's products.

For this report, we analyzed the sustainability disclosures, including GHG emissions and targets (as applicable), for 33 publicly traded E&P companies. This group is referenced throughout the report:

Antero	Devon	Murphy
Apache	Diamondback	Northern
Callon	Enerplus	Oasis
Centennial	EOG	Occidental
Chesapeake	EQT	Ovintiv
Civitas	Hess	PDC
CNX Resources	Kosmos	Pioneer
Comstock	Laredo	Range
ConocoPhillips	Magnolia	SM Energy
Continental	Marathon	Southwestern
Coterra	Matador	Whiting

³ PlanA Earth, <https://plana.earth/academy/what-are-scope-1-2-3-emissions/>

What's Wrong with Current Net Zero Frameworks for the Energy Sector?

Establishing best practices for net zero targets is a booming business, and several organizations and research institutions have outlined principles and frameworks for setting credible net zero targets. These institutions include the NewClimateInstitute, the World Resources Institute, the Net Zero Initiative, the Science Based Target Initiative (SBTi)—and for the oil and gas sector specifically, the Institutional Investors Group on Climate Change (IIGCC), which published the Net Zero Standard for Oil & Gas in September 2021. Additionally, SBTi and CDP published *Guidance on setting science-based targets for oil, gas and integrated energy companies* in August 2020.

The guidance put forth by SBTi, CDP and the IIGCC assume that oil and gas companies seeking net zero intend to (1) generate different energy sources, including biomass, hydrogen and other products (which are likely outside of the core competitive strengths of today's E&P companies), (2) transition to carbon capture, (3) manage the decline of existing producing assets and/or (4) pursue a new business model in a new sector. Note that in March 2022, the SBTi announced that it will no longer accept commitments or validate targets from fossil fuel companies, citing the ongoing development of its method.⁴

We don't think this is the right way to think about net zero for E&Ps. **The point should be for the business to become net zero while doing what it does, not changing what it does.** Wholesale changes to our energy system will not happen overnight—the world will continue to rely on fossil fuels to power the global economy for years to come. Compelling E&P companies to abandon their core business to validate their net zero commitments stands to raise the cost of capital for E&Ps, further reduce energy investment and supply, increase energy costs and undermine the sector's emissions reduction efforts and the important role the sector can play in fighting climate change. Furthermore, *it runs the risk of leaving oil and gas production to companies that don't prioritize environmental performance.*⁵

Frameworks shouldn't discourage target setting and progress or serve as a box-checking exercise, they should drive better targets and therefore better results. **Instead of saying E&Ps should stop being E&Ps, we lay out a plan for how E&Ps can think about becoming net zero E&Ps in the near term.**

⁴ <https://sciencebasedtargets.org/sectors/oil-and-gas#what-is-the-sb-tis-policy-on-fossil-fuel-companies>

⁵ <https://business.edf.org/insights/transferred-emissions-risks-in-oil-gas-ma-could-hamper-the-energy-transition/>

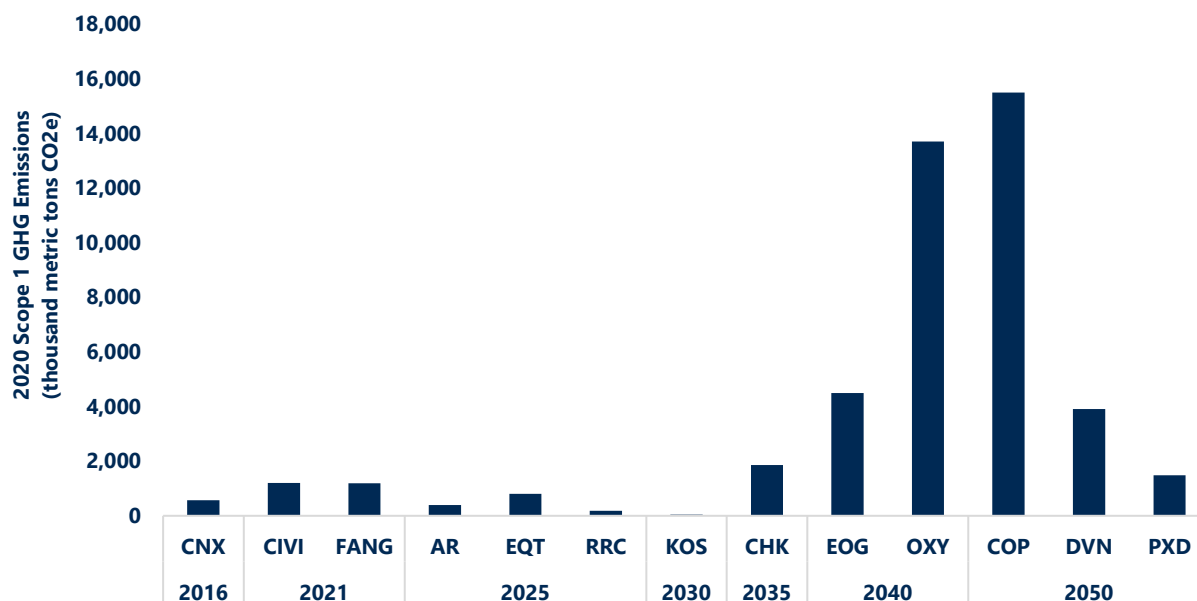
It's Time to Get Ambitious and Push for Net Zero by 2030

Hearing the call for action from stakeholders and investors, E&Ps have taken important steps to improve their business models and reduce emissions. However, there is more work to do—a lot more work. GHG emissions, and in particular methane emissions, jeopardize the industry's license to operate and potentially society's access to affordable and reliable energy. Methane has 28-times the heat-trapping potential of carbon dioxide over a 100-year period; and, according to a recent McKinsey report, 20-25% of methane emissions from human activity is attributable to the oil and gas industry.⁶ To say there should be a sense of urgency around the matter would be an understatement. Reducing operated emissions is the most pressing challenge for the energy sector today, which is why we encourage companies to get ambitious, set net zero goals now and achieve them in the very near future. As we argued earlier, net zero oil and gas production can—and should—be part of the world's energy transition, but only if the sector is serious about its net zero plans.

We observe that only 13 E&Ps have established net zero targets—with varying definitions, pathways and timelines, which range from “now” to 2050. In fact, these targets cover more than 45 million metric tons of Scope 1 GHG emissions, or more than half of the Scope 1 GHG emissions reported for 2020 by 33 public E&Ps. Our goal is to urge more operators to set net zero targets, improve the comparability of the industry's existing net zero targets and accelerate the timeline to execute.

Getting to net zero is not a pie-in-the-sky idea—there are already companies within the space that are *net zero now*, including Civitas, CNX Resources and Diamondback. There are other companies that have made near term net zero commitments, including Antero, EQT and Range.

E&P Net Zero Targets Currently Cover ~45mm metric tons CO₂e of Scope 1 Emissions⁷
(E&P Net Zero Targets, Target Dates & 2020 GHG Emissions)



⁶ <https://www.mckinsey.com/business-functions/sustainability/our-insights/curbing-methane-emissions-how-five-industries-can-counter-a-major-climate-threat>

⁷ Kimmeridge; company reports

The most important message we want to impart is urgency. Make net zero a reality by 2030, if not sooner.

Global consulting firm Korn Ferry analyzed the tenures of C-suite members at the 1,000 largest U.S. companies. CEOs in energy and industrial sectors had the shortest tenure at 6.5 years.⁸ As such, it is difficult to take long-dated net zero targets like 2040 or 2050 seriously. It's tantamount to leaving climate change to the next generation to solve. Accelerating net zero targets to a 2030 timeframe demonstrates that today's energy sector leaders are *engaged and accountable* for mitigating, avoiding and/or offsetting the sector's Scope 1 and Scope 2 GHG emissions. Moreover, a quicker timeline empowers employees as their efforts can affect change today that will have lasting implications for the sustainability and durability of the energy industry.

In the next section, we detail five key principles for setting and delivering on net zero targets:

1. Measure & Report Emissions
2. Mitigate & Avoid Emissions
3. Innovate & Leverage Partnerships
4. Integrate High-Quality Offsets
5. Verify

⁸ <https://www.kornferry.com/insights/this-week-in-leadership/where-have-all-the-long-tenured-ceos-gone#:~:text=CEOs%20in%20financial%20services%20had,shortest%20tenure%20at%206.5%20years>

Measure & Report Emissions

It is difficult to tackle emissions and therefore commit to net zero if companies aren't effectively measuring and reporting their emissions.

Technology is a key driver in improving GHG emissions monitoring and measuring. We're quickly moving beyond stationary and handheld cameras to sophisticated mobile systems, drones, aircraft and satellites. Each tool has its pros and cons related to monitoring frequency, timeliness of data availability, coverage, accuracy, sensitivity to weather or other environmental conditions and granularity of data. Given the scale and importance of detecting and quantifying emissions, all categories of technologies will likely be necessary.

Academia, non-governmental organizations (NGOs), government and industry are working together to fund, develop and promote leading edge technology to measure methane emissions. Given the momentum and breadth of projects underway, the clock is ticking for operators to get their operations in order before plume images and quantification studies become mainstream and bad actors will be more easily identified.

For example, in June 2020, NASA's Jet Propulsion Laboratory identified methane "super-emitters"—sources that emit more than 10kg of methane per hour—in the Permian Basin, which is home to nearly half of the approximately 750 rigs running in the Lower 48 today.⁹ The month-long study used airborne imaging spectrometers to detect the sites. The study observed that "about half of the biggest sources of the potent greenhouse gas methane in the Permian Basin oilfield are likely due to malfunctioning oilfield equipment."¹⁰ Additionally, in a recent report assessing methane measurement and monitoring technologies, CO2EFFICIENT noted that Carbon Mapper is collecting data on super emitters in the Permian Basin and will make the data available publicly.¹¹

New and emerging technologies aim to improve the transparency and credibility of emissions data, which will facilitate compliance with the assurance requirements put forth by natural gas certification efforts and potentially those included in the U.S. Securities and Exchange Commission's (SEC) proposed climate-related disclosure rules. Perhaps most importantly, the better the data quality, the better we can assess the industry's progress vis-à-vis short and long term targets.

Several industry initiatives have attempted to standardize ESG reporting for the E&P industry, including reporting templates published by the American Petroleum Institute, or API, and the American Exploration & Production Council, or AXPC. While both API and AXPC templates have improved the industry's reporting practices, it is still difficult to compare performance across companies. Our analysis of emissions performance data across the same universe of 33 E&P companies illustrates this point: methane emissions were reported using six different units of measurement. For example, some companies report methane emissions in CH₄ methane units, such as metric tons (mt) of CH₄, the carbon dioxide equivalent (CO₂e) for methane, or as a percent of total GHG emissions. A review of methane intensity metrics is even more confounding, with companies using as many as nine different variations, including CH₄/MBoe, kg CO₂e/MBoe, CH₄ MMscf/MMscf, and methane released/methane produced—to name a few. And to further emphasize the point, 13 E&P companies have announced GHG emissions intensity targets, and no

⁹ Baker Hughes, June 24, 2022

¹⁰ NASA Global Climate Change, June 2, 2021, <https://climate.nasa.gov/news/3087/study-identifies-methane-super-emitters-in-largest-us-oilfield/>

¹¹ <https://co2efficient.com/>

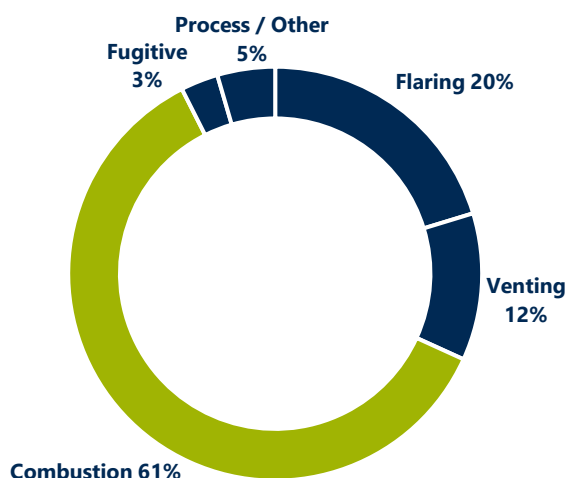
two targets are created equal. While this is understandable given a host of considerations—for example, capital availability for abatement measures, operating regions, commodity mix, and baseline emissions—when combined with inconsistent reporting, it highlights the challenges of sizing up the industry’s carbon footprint and gauging the effectiveness of net zero targets. While we recognize the shortcomings of voluntary reporting, we encourage E&Ps to utilize the AXPC reporting template, including the measurement units, as well as the Sustainability Accounting Standards Board’s (SASB) Oil & Gas Exploration & Production standard.

Mitigate & Avoid Emissions

We categorize mitigating or avoiding emissions into two buckets: the low-hanging fruit and the high-hanging fruit. The discovery of methane super-emitters in the Permian Basin highlights the importance of tackling the low-hanging fruit like malfunctioning equipment to capture big wins towards reducing overall GHG emissions, and in particular methane emissions. Using the latest technology for continuous monitoring enables firms to proactively manage fugitive emissions and improves data quality for emissions reporting.

The largest source of Scope 1 GHG emissions is combustion, such as running portable equipment or diesel engines. In fact, for the 24 E&P companies that detail their emissions sources, more than 60% of Scope 1 GHG emissions come from combustion sources, such as running diesel engines. We encourage companies to disclose the factors contributing to combustion emissions and how they plan to mitigate these emissions. For example, several E&P companies are on the leading edge of electrifying their operations—this effort has the potential to dramatically reduce combustion emissions. However, a lack of confidence in the medium to long term role that U.S. production will play in the energy supply mix has been an impediment for oilfield service companies to make new investments in electric frac spreads. Net zero commitments will be a critical signal that upstream producers are prioritizing environmental performance and will encourage investment in new electric frac equipment.

E&P Scope 1 GHG Emissions Sources
(Average % of Total Scope 1 GHG Emissions)¹²



The second largest source of Scope 1 GHG emissions is flaring. The World Bank’s Zero Routine Flaring initiative catalyzed companies to eliminate routine flaring. We find that 19 E&P companies (nearly 60% of companies reviewed) have aligned with the World Bank’s initiative. It is noteworthy that five companies—Antero, Civitas, EQT, Ovintiv, Range Resources and Southwestern—have announced that they have already eliminated routine flaring across their operations, well in advance of the World Bank’s 2030 target. Ending routine flaring generates material benefits by attacking a major emissions source and reducing potent methane emissions.

¹² Kimmeridge; company reports

The role of acquisitions & divestitures in reducing GHG emissions

During 2021, \$66 billion of U.S. upstream oil and gas M&A transpired.¹³ We support industry consolidation that is rooted in strong industrial logic, while recognizing that acquisitions and divestitures present several challenges when keeping tally of the industry's GHG emissions footprint. Asset acquisitions can drive scale and enable operational synergies, including sharing best practices for mitigating and eliminating GHG emissions. Company boards of directors and management teams should consider the environmental impact of acquiring assets, the path to reducing absolute emissions across the new, combined portfolio and appropriately adjust emissions targets (both absolute and intensity targets) for the new assets. Kimmeridge encourages companies to disclose this evaluation process.

Asset sales are an efficient means of shrinking the GHG emissions profile of the seller, but the potential for assets to fall in the hands of less capitalized, less ESG-focused operators exists. A recent report by EDF examined these challenges in detail:

Assets are increasingly moving away from companies with environmental commitments. In 2018, deals that moved assets away from companies with environmental commitments accounted for only 10% of transactions. By 2021, these deals accounted for 15% of transactions. During this same period from 2018 through 2021, more than twice as many deals moved assets away from operators with net zero commitments than the reverse.¹⁴

With the EPA's GHG emissions reporting threshold of 25,000 metric tons or more of CO₂e per year, there is also the risk that emissions for the assets that were sold fall below the reporting threshold and therefore fall off the industry's GHG emissions ledger. Kimmeridge encourages operators selling assets to disclose absolute GHG and methane emissions attributable to asset sales. Further, the seller should rebase any GHG and methane emissions performance targets to take the asset sale into consideration.

Innovate & Leverage Partnerships

The path to net zero should be an inclusive effort, enhanced by companies engaging with their peers, supply chain, industry trade groups, policy makers and NGOs, among other stakeholders. Below are practices that we believe support a more comprehensive and inclusive approach to net zero for the industry:

- **Sharing best practices with peers** scales the ambition across the industry, supporting a collective drive towards improving the industry's performance, credibility and cost of capital.
- **Partnering with suppliers** drives powerful solutions to reduce GHG emissions across the value chain while improving operational efficiency.
- **Collaborating with industry trade groups** expands a firm's reach to a broader group of industry experts, encouraging the exchange of best practices for combatting emissions.

¹³ Enverus, January 7, 2022

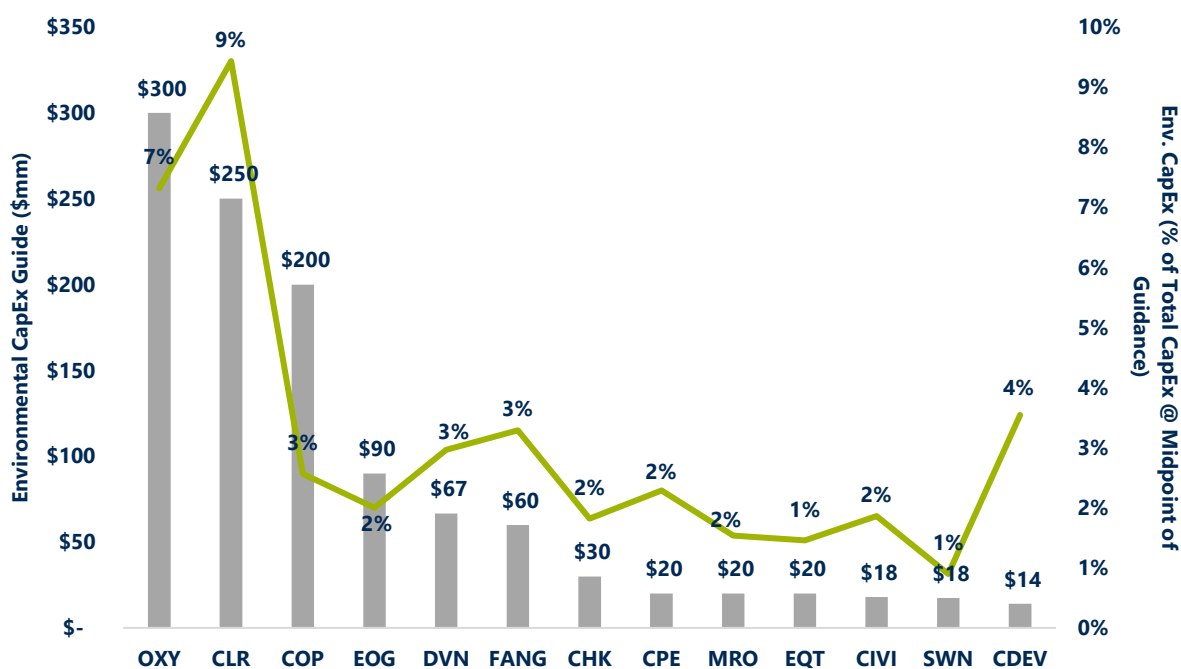
¹⁴ <https://business.edf.org/files/Transferred-Emissions-How-Oil-Gas-MA-Hamper-Energy-Transition.pdf>

- **Engaging with policymakers** advances the discussion around effective measures to encourage sustainable development of domestic oil and gas resources. This engagement also yields greater transparency around the potential risks associated with regulations aimed at eliminating GHG emissions, which better assists E&P companies and their boards in evaluating planning scenarios.
- **Working with NGOs** helps frame how forward-thinking stakeholders are approaching important ESG topics.

We believe the energy sector is poised to generate record free cash flow in 2022. Industry balance sheets are in good shape, foreshadowing a windfall of cash that companies plan to return to shareholders via dividends and share repurchases. While the sector is still working to repair its credibility after a decade of poor investment returns, healthy free cash flow generation positions the industry to invest in new technologies for eliminating, capturing and storing carbon emissions. A disciplined approach to investing in carbon innovation can play an important part in a company’s net zero strategy. In addition, these initiatives—if successful and scalable—could be vital to the industry at large.

During the first half of 2022, Kimmeridge observed more than a dozen companies specifying the amount of capital that they plan to allocate to environmental and/or carbon capture projects. In aggregate, these companies plan to spend more than \$1.1 billion on projects that will support emissions reduction efforts. We encourage companies to outline their strategic investments as well as the board’s role in evaluating the investment risks and opportunities for these new ventures.

2022e E&P Environmental Capital Expenditure Plans (\$mm)¹⁵



¹⁵ Kimmeridge; company reports; assumes (1) OXY’s net zero pathway capital of \$300 million (midpoint) as environmental capex, (2) CLR’s \$250 million investment Summit Carbon Solutions as environmental capex (3) one-third of DVN’s environmental, midstream & other capital guide as environmental capex, (4) one-half of FANG’s infrastructure & environmental capital guide as environmental capex and (5) MRO’s earmarked \$100 million for emission reduction projects over 2021-2025 is deployed ratably over that period.

Integrate High-Quality Offsets

Certain emissions will prove too difficult—either due to the abatement cost or the lack of readily available technology—to remove. These emissions will need to be offset to reach net zero. Carbon offsets represent the reduction or removal of carbon emissions to counterbalance the emissions an E&P company can't eliminate itself. As E&P companies determine their own strategies for achieving net zero, they should be realistic and transparent about the role carbon offsets will play. Key considerations for integrating carbon offsets into net zero plans include:

- What are the current and anticipated future costs of purchasing carbon offsets?
- Is the carbon mitigation potential of the underlying project measurable?
- Will the carbon removal project be verified by a third-party?
- Is the carbon removal permanent? If not, what is the expected duration?
- What steps will the company take to ensure that carbon offsets are credible and high-quality?

In addition to evaluating these considerations when pursuing carbon offsets, we encourage E&P companies to include this information in their sustainability disclosures.

Simply purchasing the lowest-cost offsets will not drive the industry, or the world, to net zero. Today's supply of offsets has a wide range of additionality (in other words, they are *additional* to what would have occurred if the project had not been executed), driving significant dispersion among offset prices. For example, the average offset in the voluntary carbon market traded at approximately \$3/ton in 2021, with high quality offsets reportedly fetching more than \$30/ton. We believe the market will gravitate toward high-quality offsets with true additionality. To Kimmeridge, this means focusing on offsets with the following traits:

- 1) **Additionality:** Ensuring projects would not have been possible in the absence of a carbon market is critical in maintaining the integrity of offsets.
- 2) **Verifiable:** Obtaining certification and meeting rigorous standards for quantification across the major registries (e.g., Verra, American Carbon Registry, Climate Action Reserve, Gold Standard), along with third-party verification of projects.
- 3) **Permanence:** Establishing projects that are multi-decade in duration as opposed to short-term deferrals of carbon emissions.

An example project meeting this criterion would be afforestation in areas that have not been forested for more than a decade and would not be forested in the absence of a carbon market (e.g., land that has been in pasture but was once forested). The project will be listed on one of the major registries and verified by an independent auditor. Furthermore, the landowner will commit to long term conservation, managing the property for carbon sequestration and biodiversity as opposed to timber harvesting. As companies internalize carbon pricing, we believe carbon offsets will play an important role in the calculus behind short and long term net zero targets. Ultimately, we want to create the lowest-cost transition to prevent what would otherwise be akin to a regressive tax on the consumer. To the extent carbon offsets are more cost-effective than alternative business practices, and the carbon offsets are additional, verifiable and permanent, they should play an important role in decarbonization.

Verify

In Kimmeridge's 2020 report, *Charting a Path to Net Zero*, we highlighted the scrutiny that the industry faces regarding its contribution to climate change. Further, the industry doesn't have the social capital to rely on long-dated "net zero hero statements" that lack accountability and credibility. Independent, third-party verification of ESG data, including emissions performance data, will enhance the credibility of the data being provided. We believe this is particularly important given the increasing role sustainability is playing in determining executive compensation. Additionally, verification will be an important resource to comply with the SEC's proposed rules for obtaining assurance of Scope 1 and Scope 2 emissions data. We believe that performance verification and certification, like responsibly sourced gas (RSG), will differentiate producers.

Independent certification companies provide third-party assurance that natural gas has been produced according to certain environmental standards, with a focus on emissions monitoring and measuring. MiQ, for example, currently certifies 10 Bcf/d, which equates to 2.5% of the global market (and 23% of European gas consumption).¹⁶ RSG is the best example of helping producers help themselves. By certifying their natural gas production, operators may more easily secure supply agreements with downstream users, garner higher prices for their production and over time we expect differentiation to emerge in underlying equity valuations and cost of capital.

¹⁶ <https://miq.org/>

Transparent and Consistent Disclosure

We believe that net zero targets should apply to Scope 1 and Scope 2 GHG emissions from a company's operated assets. This is consistent with the preponderance of net zero ambitions set by E&Ps. Our primary concern regarding Scope 3 is there is no reliable way to calculate Scope 3 emissions from the E&P sector as it is near impossible to accurately account for the end use of the hydrocarbon molecules generated by E&Ps. Even if everyone was capable of tracking and attributing their own emissions, there would still need to be a mechanism for assigning responsibility of downstream combustion across the entire value chain.

We need more than hero statements. Providing a roadmap so that stakeholders can better understand an E&P company's path for achieving net zero is essential for setting credible targets. Not all the solutions for detecting, measuring, abating or sequestering carbon emissions are technologically viable (or perhaps even available) yet. However, building and disclosing an action plan—even as it is evolving—gives stakeholders insight into how the company's board of directors and management team are addressing emissions reduction.

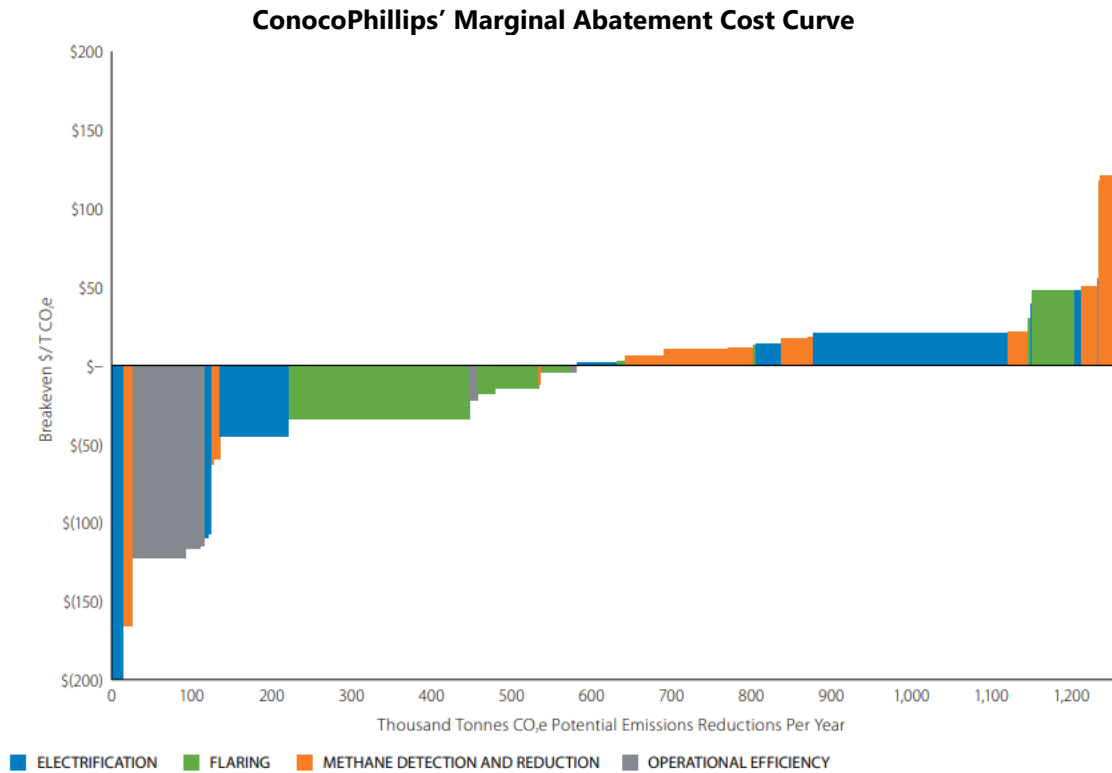
A marginal abatement cost (MAC) curve is essential to the net zero strategy. The MAC curve plots the abatement cost (\$/metric ton of CO₂e) relative to the abatement potential (millions of metric tons of CO₂e per year). Granularity is essential to provide visibility into the GHG reduction projects (e.g., eliminating flaring and replacing pneumatics), including: the capital required, sustaining operating costs and revenue against the forecasted reduction in GHG emissions and the cost of carbon. This analysis, in turn, informs the net zero strategy and capital allocation priorities, with hard-to-abate emissions standing out as candidates for offsets.

We encourage companies with near and long term targets to:

- Provide their abatement curve; and
- Quantify the potential added costs associated with reducing emissions (i.e., include the \$USD amounts on the y-axis and potential emission reduction p.a. on the x-axis).

We believe the MAC curve is essential to a company's net zero strategy. It high grades a company's action plan. Importantly, disclosing the company's MAC curve will improve stakeholders' understanding of the range of reduction projects identified and the economics associated with those projects relative to the cost of carbon. This facilitates better dialogue with stakeholders around the projects and economics associated with emissions mitigation and substantiates the company's net zero strategy.

Below is an example MAC curve from ConocoPhillips' 2021 Sustainability Report, which shows the company's current estimates of emissions reductions and breakeven cost of carbon projects sanctioned for 2022.¹⁷



In addition to providing transparency around the operational strategies and costs for achieving net zero, establishing interim goals are key. Emission intensity milestones are helpful and normalize emissions for production and operating regions, thereby enhancing comparability across companies. However, we believe GHG intensity targets have their limitations. In any two-part equation, the numerator or denominator can distort underlying performance. Growing the denominator via development or acquisitions can underrepresent an expanded emissions footprint. On the other hand, selling high carbon emitting assets shifts the emissions footprint to the buyer. **Absolute emissions targets that complement intensity targets will support the firm's overarching net zero ambition better than intensity targets alone.** Ultimately, by focusing on net zero as the goal rather than other metrics, there will be multiple paths to success.

¹⁷ <https://static.conocophillips.com/files/resources/conocophillips-2021-sustainability-report.pdf>

Accountability through Alignment of Incentives

Designing pay programs that hold E&P teams accountable for climate-related performance brings enterprise-wide focus to sustainably reducing emissions towards net zero. Aligning operational practices with the principles outlined above—measure and report, mitigate and avoid, innovate, offset, and verify—elegantly feeds into elements of short and long term pay programs. Addressing key questions about integrating emissions KPIs into compensation programs is warranted:

- How does the company's board and management team ensure integrity of reporting?
- Does the company plan to provide transparency around the metric, the calculation and the outcome in the company's compensation disclosure and analysis within the proxy statement?
- Will boards re-evaluate the metrics in the event of asset acquisitions and dispositions, and inform shareholders on any changes to the metrics?

Kimmeridge encourages aligning:

- The specific metrics included in corporate emission targets with the performance metrics in incentive programs.
- The scope of emissions verification with the emissions KPIs included in compensation plans.
- The duration of targets with the performance time horizons for incentive metrics.

To promote accountability around net zero targets we believe longer term emission reduction metrics should be incorporated into long term incentive programs, and we highlight EQT's net zero modifier¹⁸ as a novel approach:

Under the 2022 Incentive Performance Share Unit Program, the Company's CO₂ equivalent emissions generated in 2024 from existing production segment assets, measured on a Scope 1 and Scope 2 basis, must be equal to (or less than) zero after accounting for carbon offsets generated and carbon credits purchased during 2024.

Additionally, the Committee designed the Net Zero Goal modifier to prioritize environmentally responsible operations and carbon offset generation by the Company in achieving net zero.

The scoring of the modifier will result in (x) reduced incentive compensation opportunity if the Net Zero Goal is either (i) not achieved or (ii) achieved through purchases of carbon credits that exceed the benchmark set by the Committee and (y) increased incentive compensation opportunity for achieving the Net Zero Goal with purchases of carbon credits that are less than the benchmark set by the Committee...

¹⁸ <https://ir.eqt.com/investor-relations/financials/sec-filings/default.aspx>

Superfluous? No

On March 21, 2022, the U.S. SEC proposed rules that would require registrants to provide narrative and quantitative climate-related information, including disclosing Scope 1 and Scope 2 emissions (and Scope 3 emissions for all filers—except for small reporting companies—if Scope 3 emissions are material or if the company has set a target or goal that includes Scope 3 emissions) and describing climate-related targets or goals, if applicable.¹⁹ Substantially all the aforementioned guidance falls within the scope of the SEC's proposed rules.

In Short, Net Zero is Critical

The resurgence of U.S. oil and natural gas production over the last decade and a half has demonstrated the industry's technological and manufacturing innovation. Where policy and regulatory frameworks provided a conducive environment for upstream development and infrastructure expansion, U.S. supply growth ushered in an era generally characterized by energy reliability and affordability. The third point of the energy "tri-lemma" is clean—all E&Ps will have to become net zero to be viable in our low carbon future.

Over the past few months, the world has been reminded how important energy security is to the livelihood of nations. The dialogue around energy security has led to a reexamination of traditional forms of energy, including oil and natural gas. There has never been a more critical time to demonstrate that U.S. oil and gas production can be net zero.

Ambitious net zero targets enhance the carbon competitiveness of the volumes produced and solidify a long term role for E&Ps within the broader transition to a low carbon energy system.

¹⁹ <https://www.sec.gov/rules/proposed/2022/33-11042.pdf>

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