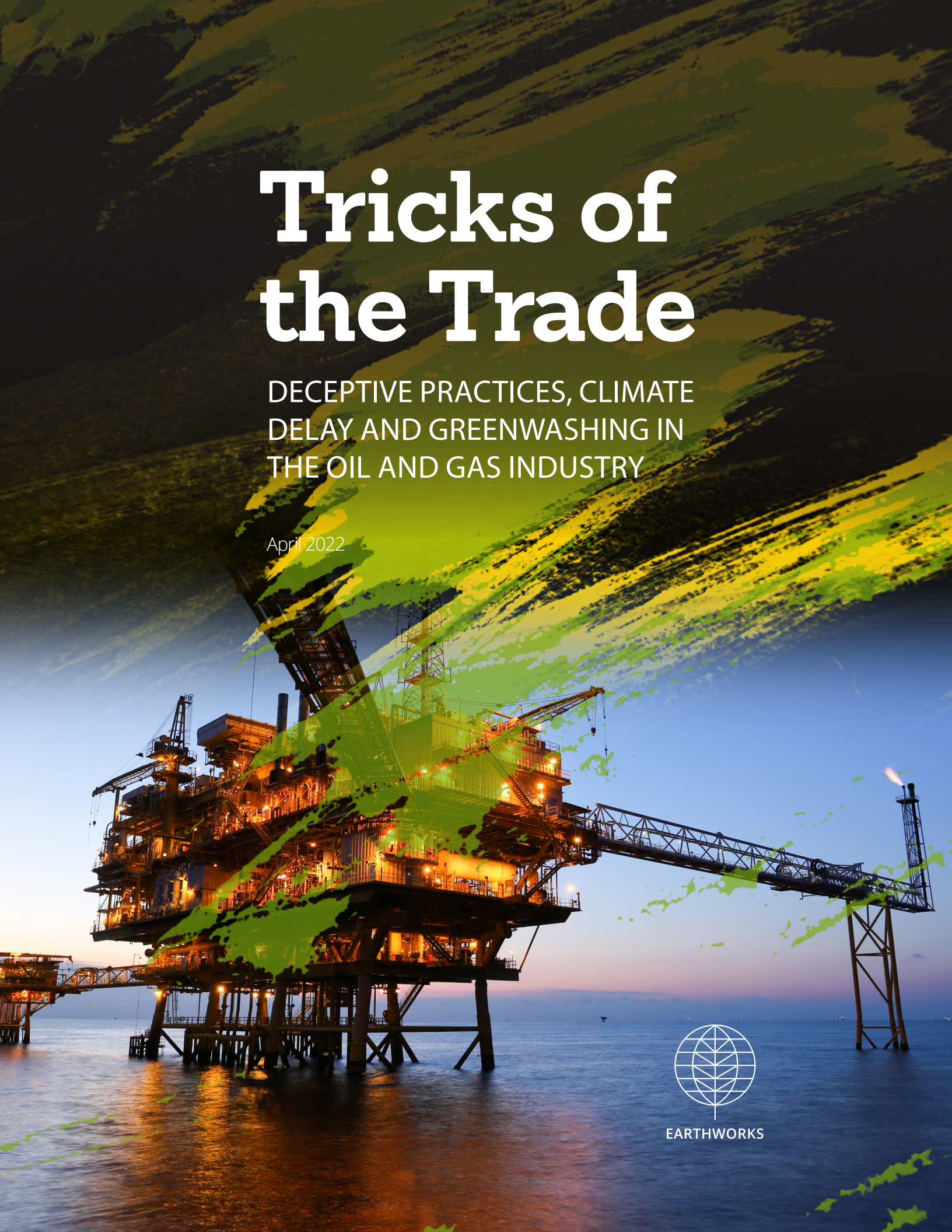
# Tricks of the Trade

## DECEPTIVE PRACTICES, CLIMATE DELAY AND GREENWASHING IN THE OIL AND GAS INDUSTRY

April 2022



EARTHWORKS

# Tricks of the Trade

## DECEPTIVE PRACTICES, CLIMATE DELAY AND GREENWASHING IN THE OIL AND GAS INDUSTRY

April 2022


AUTHORS, WITH EARTHWORKS:

Josh Eisenfeld
Raquel Dominguez
Raphael Breit

CONTRIBUTORS:

Alan Septoff—Earthworks



COVER AND TITLE PAGE PHOTO: Ek / Adobe Stock
Photos by Earthworks unless noted
Design by CreativeGeckos.com


EARTHWORKS


EARTHWORKS

Offices in California, Colorado, Maryland, Montana, Pennsylvania, New Mexico, New York, Texas, West Virginia

EARTHWORKS • 1612 K St., NW, Suite 904 Washington, D.C., USA 20006
earthworks.org • Report at earthworks.org/TricksoftheTrade2022


*Dedicated to protecting communities and the environment from the adverse impacts of mineral and energy development while promoting sustainable solutions.*

ENDORSED BY:

COLORADO RISING
Protect PT
Friends of the Earth
PSR Pennsylvania
FRACTRACKER ALLIANCE
CLIMATE MAMA
SIERRA CLUB
PUBLIC CITIZEN 50
CENTER FOR CLIMATE INTEGRITY
GREENLATINOS
FOSSIL FREE MEDIA
TEXAS CAMPAIGN FOR THE ENVIRONMENT
PRIVATE EQUITY STAKEHOLDER PROJECT
CENTER FOR COALFIELD JUSTICE

# Table of Contents

# Executive Summary

Over the last five years a small but growing number of oil and gas companies have made promises to reduce their greenhouse gas pollution. However, these promises have not amounted to much more than confusing words on paper.[1]

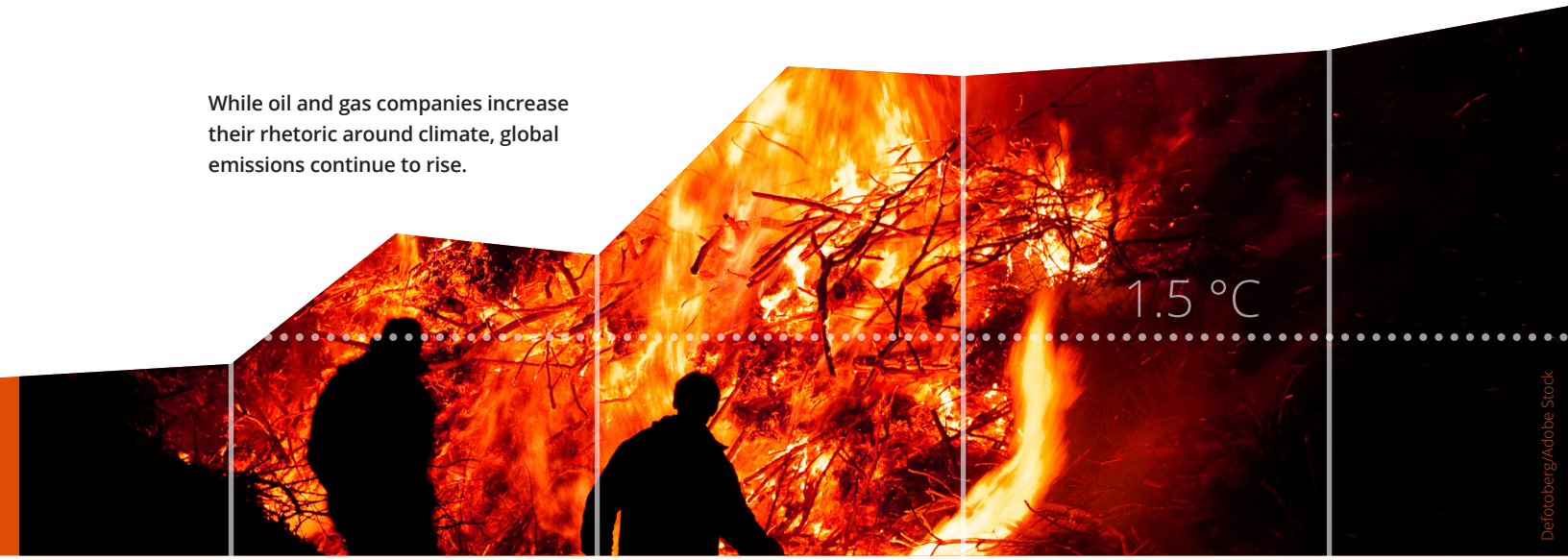
In this report we review the commitments and available emissions data of eight of the leading oil and gas producers in the United States: Shell, bp, ExxonMobil, Chevron, ConocoPhillips, Equinor, Occidental and TotalEnergies. While many of these companies claim to be progressing ahead of schedule towards their goals none provide the data necessary to hold them accountable to those claims.

**This report is divided into three parts:**

## PART 1—DECEPTIVE PRACTICES

First we review deceptive practices — confusing jargon, false solutions and misleading metrics — trending within industry which misrepresent oil and gas climate commitments and actions. This carbon accounting distorts the severity of ongoing harm to health and climate from the oil and gas sector by helping companies lower reported emissions and claim climate action without actually reducing emissions. More specifically, we find that:

- Every company's climate ambitions fall far short of the IPCC target of reducing emissions 50% by the end of the decade because they omit Scope 3 emissions, which make up between 75-90% of their total emissions.
- Their emissions reductions are calculated based on a reporting process which is known to underestimate emissions.
- At least four companies — Shell, bp, ConocoPhillips, and Equinor — are claiming divestiture of assets for a significant proportion of Scope 1 and 2 emissions reductions, though this tactic merely moves emissions from one company to another.




**While oil and gas companies increase their rhetoric around climate, global emissions continue to rise.**

Defotoberg/Adobe Stock

## PART 2—CLIMATE COMMITMENTS

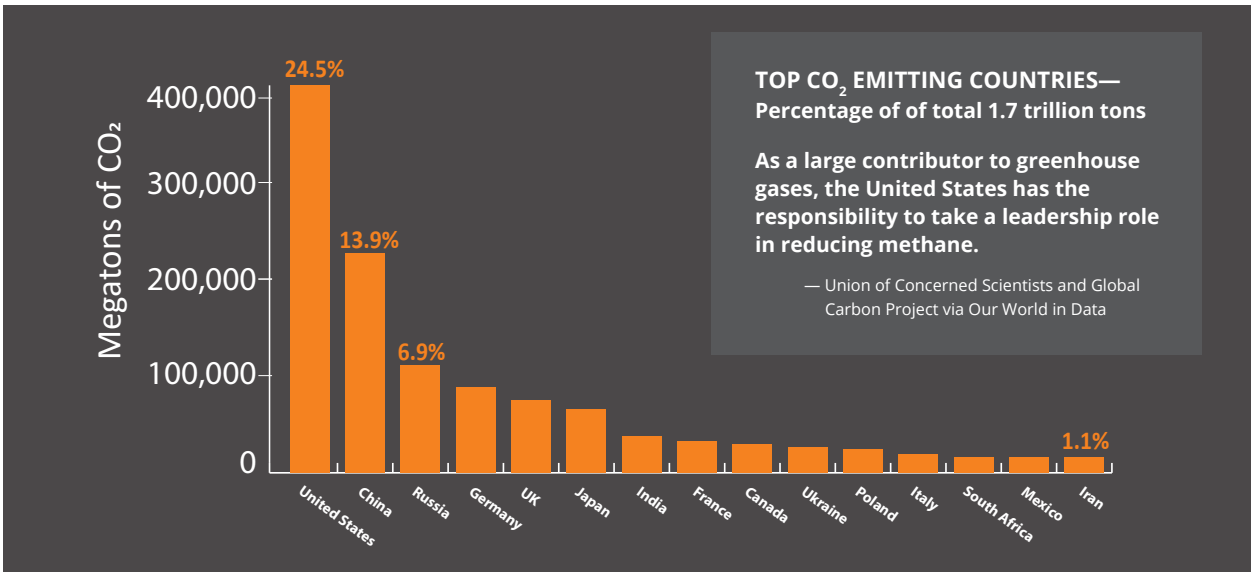
Part two reviews the most up-to-date climate commitments of these eight companies, clarifies what they actually mean or what data is missing to assess what they mean with respect to their total greenhouse gas emissions. We then compare our best estimate of each company's commitments to what science tells us we must do and share actions from these companies that are in conflict with these commitments. In doing so we have found that:

- No company is providing the data necessary to compare its commitments to reality or to understand what they are committing to in terms of total emissions, especially for their most immediate and critical 2030 goals.
- None of these companies have set goals in line with the Paris Agreement, though all of them mention the agreement in their public climate reports.
- Every company is falling short of achieving the goals they have set.
- All climate commitments lack consistency in terminology and reporting, making accountability extremely difficult.

## PART 3—CONCLUSION

The conclusion explains why none of these eight companies are doing enough to reduce global climate pollution and, further, explains how and why strong government intervention is necessary to protect health and meet our national climate commitments.

Deception and misleading data from the industry have serious consequences. Communities living closest to this pollution are suffering from serious health impacts related to oil and gas pollution exposure. The climate crisis will worsen until governments at all levels take adequate action. The United States is historically the largest greenhouse gas contributor[2] — along with other nation-states in the Global North—and therefore has a critical responsibility to take a leadership role in reducing oil and gas methane pollution. It should immediately do this by managing the decline of fossil fuel use and increasing investment in equitable and clean energy alternatives.



# Seeing is Believing

Earthworks has advocated for solutions to cut oil and gas methane pollution for over a decade. Methane is a greenhouse gas that is 86 times more potent than carbon dioxide in the short-term.[3] Climate change projections are quickly growing worse and the most recent IPCC report signals we may soon cross the climate tipping point.[4] Only "immediate, rapid and large-scale reductions" will allow our global community to avoid the most catastrophic impacts.[5]

Methane is the main component of "natural" gas: it is polluted (often intentionally) during the extraction, processing, transportation, storage, and distribution of oil and gas. Oil and gas operations also pollute the places where people live, work, learn, and play with volatile organic compounds (VOCs) and other health-hazardous substances that can cause cancer, respiratory illness, headaches, and a range of other health problems.[6] Earthworks' certified thermographers have led thousands of investigations documenting evidence of pollution in the oil and gas fields of the United States. Our optical gas imaging (OGI) equipment makes visible normally invisible oil and gas pollution, making clear the widespread pollution caused by the industry.

**Earthworks' certified thermographers use optical gas imaging cameras to record oil and gas pollution. he pollution is invisible to the naked eye, but is documented by the OGI cameras, showing the widespread pollution from the industry. At left, the color photos is flaring at a Texas gas well; the black and white is the OGI image, shows hows volatile organic compounds including methane are released when the same flare is unlit.**


**Earthworks' Optical Gas Imaging cameras reveal invisible oil and gas pollution happening at alarming rates.**

# Part 1

# Keeping Emissions Off the Books

Oil and gas companies aren't reducing emissions in line with the Paris Agreements. Instead, they are using accounting tricks which creatively reclassify, bury, and entirely exclude their total emissions. Consequently, this has misled the public and provided an escape from accountability that oil and gas companies are using to improve their image without actually reducing global emissions.

## Leaving out the main source of emissions

All corporate climate emissions are organized into three categories: Scope 1 (direct emissions), Scope 2 (indirect and owned emissions), and Scope 3 (indirect and unowned emissions)—see below. For oil and gas companies Scope 1 and Scope 2 emissions could include emissions polluted while extracting, transporting, and refining their fossil fuel and petrochemical products, as well as emissions from their headquarters, company vehicles, or flights. Together they make up between 10-25% of their total emissions. Scope 3 emissions represent the emissions associated with using (burning) their product and make up between 75-90% of total emissions.

### SCOPE 1, 2, AND 3 EMISSIONS FOR OIL AND GAS EXPLAINED

**SCOPE 1 (direct) emissions** result from company-owned operations. For oil and gas companies this includes, but is not limited to, emissions from drilling activities and equipment owned by the company, fugitive emissions from company owned equipment (gases that escape during extraction which are not captured), company owned vehicle emissions, or any emissions from onsite energy generation.

**SCOPE 2 (indirect, owned) emissions**[7] are the category of emissions that come from energy purchased by the company from an offsite source and delivered in the form of electricity, heat, steam, or cooling associated with owned, leased, and contracted operations. For oil and gas companies this includes, but is not limited to, emissions from energy and utilities purchased from another company to heat, cool, or electrify, energy used by other contracted parties transmission and distribution to market, emissions associated with the refining and processing of their product before sales.

**SCOPE 3 (indirect, unowned) emissions** are the category of emissions that come from the use of a company's product. For oil and gas companies this largely comes from the combustion of the fossil fuel products it sells. Scope 3 emissions make up between 75-90% of emissions associated with oil and gas production.

## Science says we must halve emissions by 2030

Global climate science consensus — i.e. the IPCC — tells us that we must halve global greenhouse gas emissions (compared to 2017 levels) by the end of the decade in order to meet the Paris Agreement goal of keeping global temperature rises below 1.5 degrees Celsius.[8]

**While all of the eight companies reviewed in this report have set intermediate (2030 or sooner) emissions goals, none of them have set goals that include Scope 3 emissions and only five companies (Shell, bp, Equinor, TotalEnergies, and Occidental) have "net-zero" targets that cover any (but not all) Scope 3 emissions by 2050.**

Many, if not all of these companies have made public facing statements about their alignment with the Paris Agreements, however they are not making commitments that meet the most immediate and critical goal. There is no way to reach the goal of halving emissions by 2030 without the oil and gas companies tackling their Scope 3 emissions. Global emissions from the use and production of fossil fuels make up 73% of all global greenhouse gas emissions. Given Scope 3 emissions make up 75-90% of emissions, even if every oil and gas company eliminated all of their Scope 1 and 2 emissions by 2030 that would only account for somewhere between 12-18% of the global emissions.

**Excluding Scope 3 emissions allows oil and gas companies to make goals that sound like real progress while pushing off responsibility for most of their emissions onto consumers and allowing them to continue to grow their operations.**

Excluding Scope 3 emissions allows oil and gas companies to make goals that sound like real progress while pushing off responsibility for most of their emissions onto consumers and allowing them to continue to grow their operations. bp acknowledged this in their climate report saying Scope 3 emissions are "directly linked with reduction in oil and gas production."[9] Other companies use phrases like "in step with society"[10] (Shell) or "together with society"[11] (TotalEnergies) within the language of any net-zero targets that include Scope 3 emissions to caveat their ambitions.

**Companies also make it very difficult to evaluate their performance on overall emissions reductions.** Of the eight companies in this report only four have publicly available data for Scope 1, 2 and 3 emissions between 2016-2019 (TotalEnergies, Shell, Equinor, and Chevron) of which only one company (TotalEnergies) actually reduced overall emissions, and that by less than 5%. The other three companies increased their emissions by an average of nearly 6%.

Net-zero, originally conceived to measure an entire country's emissions balanced against its offsetted carbon,[12] has been appropriated by corporations including the oil and gas industry to justify continued fossil fuel production. Similarly, the oil and gas industry created the term "intensity" to apply to either carbon or methane emissions to justify activities that produce emissions through the facade of "sustainability." bp's report states that if "all companies in the oil and gas sector chose to set only intensity reduction targets, then the associated absolute emissions could grow even if all targets were met".[13] In 2020 Chevron celebrated meeting all of their intensity-based metrics set in 2016. While meeting these goals they also increased their emissions from 607 million metric tons (Mmt) CO2e in 2016 to 645 Mmt CO2e by the end of 2020.[14]

The oil and gas industry's use of net-zero and "intensity" are a complement to the exclusion of Scope 3 emissions. Together they allow oil and gas companies to make commitments that provide them cover to continue exploring, producing, and selling oil and gas. As good as the climate commitments sound, their results will not reduce total emissions in line with science, if they reduce emissions at all.

## Using a flawed system to their advantage

An EPA greenhouse gas reporting system which allows half of the oil and gas industry's methane pollution to go unreported has helped the industry to portray itself as a climate solution.

The EPA tracks the annual greenhouse gas data from facilities that emit more than 25,000 MT CO2e per year across all US industries using its Greenhouse Gas Reporting Program (GHGRP).[15] According to the EPA, facilities determine whether they are required to report based on the types of industrial operations located at the facility and its emission levels. About 8,000 facilities report their emissions in the GHGRP every year, approximately 2,400 of which are from the oil and gas sector.[16,17]

To be accurate, EPA's oil and gas greenhouse gas reporting would need to count every facility and require direct measurements of individual components (e.g. well, stacks, tanks, valves, dehydrators).

In place of accuracy, operators self-report to the EPA using predetermined specifications for particular equipment, known as "emissions factors," multiplied by hours in use, quantity of fuel burned, compositions of gas emitted (estimated), and other weather factors (also estimated).[18] Emissions factors are numbers representing the average emissions of individual sources of pollution during normal pollution releasing operations at a site, calculated on the engineering specifications of particular equipment and other factors.[19] EPA provides default emission factors that operators use in their estimates.[20]

EPA provides the following basic equation for estimating emissions using emissions factors as an example:[21]

$$E = A \times EF \times (1-ER/100)$$

*Where:*

E = emissions

A = activity rate

EF = emission factor

ER = overall emission reduction efficiency %

This database is consistently used by regulators and policymakers to judge individual sector emissions and to track emission trends over time.[22] It is the test by which industries, such as oil and gas, are graded on climate progress.

EPA claims that the GHGRP covers 85-90% of total U.S. GHG emissions.[23] But the inventory does not track emissions from thousands of oil and gas wells or mid-size oil and gas facilities that don't meet the emissions reporting threshold of 25,000 MT CO2e per year.

Additionally, 20 years of research on natural gas emissions in the U.S. and Canada found that official inventories consistently underestimate methane emissions in the oil and gas sector, with super-emitting events and higher system leakage rates being the two biggest causes.[24] The EPA reporting formulas assume that equipment is fully functioning, operating under normal conditions, and following all set rules; however, real time measurements from satellites and on the ground evidence collected by Earthworks field team consistently shows "normal" operations are not so normal at all. Being legally and technically in accordance with regulations is not enough to save people from the serious health consequences of both oil and gas pollution exposure as well as the long-term health impacts associated with climate change.

## Real life data collection

In 2021 Earthworks' Texas field team sampled 200 sites in the Permian Basin and discovered that between 69-84% of the well sites had flares in operation without permits and therefore completely off the books.[25] Even when well sites are properly permitted in the Permian, most issues arising go completely unreported. Another 2021 paper[26] found that previous studies that used direct field measurements of methane emissions found methane levels "1.5 - 2x greater compared to official greenhouse gas inventory (GHGI) estimates, with the production-segment as the dominant contributor to this divergence."[27]

Earthworks also has found inconsistent estimations reported by the same company to different entities. We reviewed the methane emissions that the operators of several facilities report to the EPA's GHGRP and the Pennsylvania Department of Environmental Protection's oil and gas emissions inventory and discovered major variations in the reporting. Despite considerable effort, Earthworks was unable to determine why the numbers were different or which reported numbers were accurate.

EPA GHGRP's high reporting threshold, loose enforcement, and replacement of direct measurement with "emission factor" estimates effectively allow companies to keep much of their pollution completely off the books. Whether intentional or not, thousands of wells, compressor stations, and other facilities are going underreported[28] or are exempt entirely,[29] but nonetheless collectively produce significant pollution.[30] This allows the industry to hide behind the illusion of progress — peer reviewed studies indicate that including the unmeasured methane pollution makes natural gas as climate damaging, or even more so, than coal for energy production.

**Earthworks' direct field observations of methane emissions of 200 sites in the Texas Permian Basin found up to 84% of the sites were flaring without a permit. These emissions are never tallied and are not "on the books."**

## Counting emissions reductions that don't actually reduce emissions

One of the most common ways oil and gas companies are reducing emissions is by selling off their assets, i.e. their unextracted oil and gas. In fact, four of the companies in this report that provided this data publicly last year (Shell, bp, ConocoPhillips and Equinor) divested assets made up more than 50% of their claimed emissions reductions.[31,32,33,34] But selling assets doesn't reduce pollution, it merely moves them from one company to another.

According to the Science Based Target Initiative (SBTI), which developed the Greenhouse Gas Protocol Corporate Accounting and Reporting Standard, asset divestiture does not constitute emissions reduction. Instead divestitures require a recalculation — subtracting divested assets' emissions from the base year (the year that companies chose to compare emissions reductions to) before calculating the current year's emissions — essentially acting as if the asset were never in the company's possession.[35]

It is not exactly clear how oil and gas companies plan to handle the sale of assets because data on the exact breakdown of emissions reductions from oil and gas companies is limited. Only four companies in this report disclosed this data in 2021. What information is available though, suggests that companies are counting divestiture as reduction in their reported reductions and will continue to do so.

**To accurately assess how much companies are relying on divestiture to inflate their emissions reductions totals would require much more than just a year of information, but it is important to evaluate just how much of their reported reductions have come from divestiture and sales of assets and make the case for further disclosure and investigation of this strategy.**

### How these four companies used divestiture of assets in their claimed emissions reductions:

**Shell** In its 2021 CDP questionnaire, which covered 2020 emissions, Shell reported that its total Scope 1and 2 emissions reductions were 9,440,000 Mt CO2e (Metric tons of Carbon dioxide or carbon dioxide equivalent), but of those emissions 4,800,000.00 Mt CO2e or 50.85% came from divestiture.[36] This included the sale of their Martinez refinery[37] and all of its upstream assets in the Appalachian Basin[38] in the United States and in Canada's tar sands,[39] which are notoriously carbon intensive.[40]

We expect this trend to continue for Shell. In early 2021 they announced the company's strategy to meet climate targets would include "divestments averaging $4 billion a year" and have since sold all of their assets in the Permian Basin — the United States' highest-producing and most polluting basin due to methane emissions from flaring, venting, and intentional releases — to ConocoPhillips for a reported $9.5 billion.[41,42]

**bp** In 2020 bp reported that its total Scope 1 and 2 emissions reductions were 9,300,000 Mt CO2e of which 5,400,000 Mt CO2e or 58.06% came from divestiture.[43] Reductions from divestiture came from the sale of "Alaska operations and some bpx energy assets" according to their submission to CDP's 2021 Climate Survey.[44] Additionally since 2020, bp sold assets in the North Sea, Oman, and the Permian Basin of the United States and divested heavily from its petrochemical projects.[45] This could indicate an intention to continue a reliance on divestiture to meet its climate targets.

**ConocoPhillips** In 2020 ConocoPhillips reported that its total Scope 1 and 2 emission reductions were 4,500,000 Mt CO2e of which 2,100,000 Mt CO2e or 46.67% came from divestiture.[46] Though ConocoPhillips does not specify which assets it has sold it indicates that its strategy to meet climate targets includes divesting from "some of our higher-emissions-intensity natural gas and oil sands fields."[47]

**Equinor** In 2020 Equinor reported that its total Scope 1 and 2 emission reductions were 1,545,529 Mt CO2e of which 309,814 Mt CO2e or 20.05% came from divestiture. But these numbers also included temporary shutdowns due to emergencies which made up a large portion of their reductions despite being only temporary.[48] If those emissions were left out Equinor's total Scope 1 and 2 emission reductions would have come to 695,581 Mt CO2e of which 309,814 Mt CO2e or 44.54% would have come from divestiture.[49]

Some of the emissions Equinor avoided from divestiture came from the sale of its assets in the Bakken Basin in the United States.[50] In 2021 Equinor continued its divestment efforts, selling off its stake in assets in Canada's Tar Sands.[51]

**2021 Scope 1 and 2 Emissions Avoided**

| Company | From Divestment (Mt CO2 Eq.) | From all other means (Mt CO2 Eq.) | All Emissions Avoided (Mt CO2 Eq.) | Percentage Avoided by Divestiture |
|---|---|---|---|---|
| **bp** | 5,400,000.00 | 3,900,000.00 | 9,300,000.00 | 58.06% |
| **Shell** | 4,800,000.00 | 4,640,000.00 | 9,440,000.00 | 50.85% |
| **ConocoPhillps** | 2,100,000.00 | 2,400,000.00 | 4,500,000.00 | 46.67% |
| **Equinor** *This number does not include temporary shutdowns due to emergencies* | 309,814.00 | 1,235,715.00<br>385,767.00 | 1,545,529.00<br>695,581.00 | 20.05%<br>44.54% |

## Going in the wrong direction

Not only does divestiture shift the energy off the books, it shifts companies with less incentive to reduce their emissions.

While the SBTI (Science Based Targets Initiative) makes the case that divestiture or sales of assets do not reduce global pollution, merely move pollution from one company to another, that is understating the issue. When considering the global emissions impacts of divestiture as an emission reductions strategy, it is important to consider who these assets are going to. For instance, in an effort to reduce its emissions, bp sold its Alaskan assets to Hilcorp, a private company backed by private equity with no climate commitments. Therefore, Hillcorp has no shareholders to answer to, no public image to maintain and far less incentive to reduce its emissions. It is not unreasonable to believe that emission from those assets may actually increase with the divestiture.

Part 2

# Climate Commitment Word Games

To date, climate commitments from oil and gas companies have lacked consistency and transparency. There is no standardized reporting structure for climate commitments and therefore terminology and metrics vary greatly from company to company. Neither is there a single source for current commitments of major oil and gas companies. This creates a confusing and rapidly changing landscape for those seeking to discern the significance of industry claims or to hold any one company accountable.

In this section we have compiled the climate commitments of eight of the leading U.S. oil and gas producers as they were published. We describe what each commitment means in plain language and directly compare each commitment to relevant actions each company has taken. The evidence of this action comes from a combination of methane pollution documented by Earthworks' thermographers, publicly announced acquisitions and/or transactions, published reports, and the latest direct measurements publicly available.

IPCC reports and the Paris Agreements both establish two important dates with respect to emission reduction targets: 2030 and 2050. In order to keep global warming below 1.5 °C the world must halve global greenhouse gas emissions (from 2017 levels) by 2030 and then hit "Net-zero" or carbon neutrality by 2050. While many companies have focused on their commitments on the latter goal, it is actually the former which is most pressing. In other words, if the world does not halve greenhouse gas emissions by 2030 we will not keep global warming below 1.5 °C, even if we hit net-zero by 2050.[52]

For that reason we have organized each company's commitments into two categories: *intermediate* and *long term*. Intermediate commitments refer to any commitment for 2030 or sooner, while longer-term commitments are those set for 2050. We also use the best publicly available emissions data to illustrate each company's climate goals compared to IPCC targets if they were applied to the *company* rather than the *globe*. **What we have found is that no company has commitments in line with the IPCC target goal of halving greenhouse gas emissions by the end of the decade.**


Mbruxelle / Adobe Stock


## Long Term Commitments—Year 2050

Shell has a long term goal that does promise to reach net-zero for 100% of its emissions by 2050, but it caveats this goal with the line "in step with society." It is unclear what Shell means by this caveat but it could imply that the company will not take leadership in reducing emissions and instead allow global demand for its products to dictate how close it comes to meeting its goals. To understand Shell's true commitment it should clarify what they mean and how they may or may not have influence on the steps society takes.

> SHELL SAYS: "Shell's target is to become a net-zero emissions energy business by 2050, in step with society's progress in achieving the goal of the UN Paris Agreement on climate change."[53]
>
> "Becoming a net-zero emissions energy business means that we are reducing emissions from our operations, and from the fuels and other energy products we sell to our customers."

WHAT THAT MEANS: Unknown emissions reduction total

Shell seems to be committing to net-zero by 2050 for Scope 1, 2, and 3 emissions but the caveat of "in step society" must be explained further.

This is supported by a Dutch court ruling that said Shell's climate plan is " not concrete, has many caveats and is based on monitoring social developments rather than the company's own responsibility for achieving a CO2 reduction."[54]

## Intermediate Commitments—Year 2030

Shell's intermediate goals do not provide enough information to accurately quantify what exactly it is promising. All three of its intermediate goals are intensity based and therefore can't be estimated without also knowing production levels (or projected levels) for those years as well. If production were to remain steady it could be estimated that these goals commit to roughly 20% absolute emissions reductions, still far short of IPCC targets to limit global warming to 1.5 °C. However many signs point towards the company increasing production over the remainder of the decade.

> SHELL SAYS: "We have set…targets to reduce the carbon intensity of the products we sell, in step with society."

Our…reduction targets are 20% by 2030 and 45% by 2035."

WHAT THAT MEANS: Unknown (not enough information to calculate), but short of IPCC 1.5 °C targets.

Intensity-based commitments aim to reduce the amount of greenhouse gas pollution associated with producing a unit of oil and gas. This commitment does not put any limits on production.

> SHELL SAYS: "By 2030, we will end routine flaring of gas from the assets we operate."

WHAT THAT MEANS: Unknown (not enough information to calculate), but short of IPCC 1.5 °C targets.

This is not a commitment to end flaring and the word "routine" does not have a standard meaning. Flaring could still happen frequently but not routinely under this climate commitment.

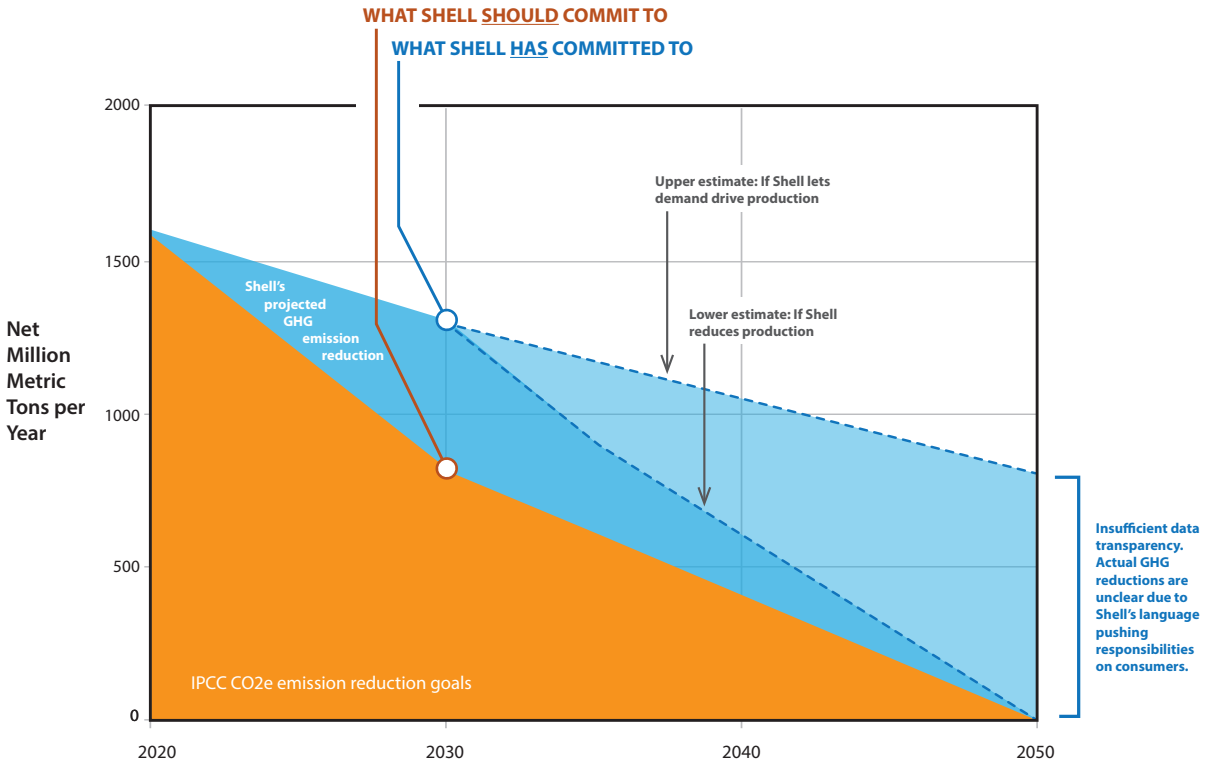
> SHELL SAYS: "By 2025 [Shell] expects the methane emissions intensity for Shell-operated assets to be below 0.2%."

WHAT THAT MEANS: Unknown (not enough information to calculate), but short of IPCC 1.5 °C targets.

This is a commitment to reduce the amount of methane pollution associated with producing a unit of oil and gas without any limits on production. This is not a commitment to reduce methane pollution.

## What Shell is Actually Doing:

- Shell continues to explore for new oil projects that will last far into the future including multiple offshore projects in the Gulf of Mexico[55] and the North Sea.[56]
- Shell plans to increase natural gas production by 55% or more by 2030.[57]




**NOTE:**

Science tells us emissions should be cut in half from 2017 levels by 2030 and then hit net-zero by 2050 to limit temperature rise to 1.5 °C. On the graph these targets and the pathway towards them are labeled "What Shell *should* commit to." We also track the pathway of Shell's current commitments which is labeled "What Shell *has* committed to."

This graph is rough estimate and does not reflect a true comparison to IPCC pathways because companies do not disclose the necessary data.

## Long Term Commitments—Year 2050

bp has separated its long term goals into three separate "aims" however these aims aren't complementary and do not provide proper transparency for holding bp accountable to these commitments. While all of bp's long term goals are for 2050 they all promise different levels of emissions reductions. It is unclear whether some are aspirations (net-zero by 2050) while others are hard commitments (50% intensity reduction by 2050) or whether they plan to meet them all. bp has commited to reducing its Scope 3 emissions for "upstream oil and gas" but bp does not distinguish the difference between Scope 3 emissions from upstream oil and gas and total Scope 3 emissions, so we do not know how many emissions they are leaving out. bp does report a statistic they call "marketed emissions" which they state are "lifecycle GHG emissions associated with bp's marketed energy products." We assume that bp's marketed emissions are their total Scope 3 emissions however, because marketed emissions is not standard report terminology, we cannot be sure this is what it means. It also does not include emissions from Rosneft in its commitments and does not disclose Rosneft emissions data in any reporting.[a] bp should provide further insight on these matters to allow the public proper information to judge these commitments.

### BP SAYS: "Net zero across our entire operations on an absolute basis by 2050 or sooner"[58]

> "This aim relates to our Scope 1 (from running the assets within our operational control boundary) and Scope 2 (associated with producing the electricity, heating and cooling that is bought in to run those operations) GHG emissions on an operational control boundary. These emissions were around 55 Mt CO2e in 2019."

### WHAT THAT MEANS: 14% reduction by 2050

Net-zero by 2050 for Scope 1 and 2 emissions excluding bp's share in Rosneft's production (roughly 30% of the oil and gas bp invested in producing in 2019)[59] made up less than 14% of its total emissions.

This includes reductions from divestiture (explored further in section 2) and decarbonization as well as offsets from blue hydrogen, and Carbon Capture and Storage.

a) While bp has publicly said it would divest from its shares in Rosneft, they have yet to do so and have yet to publish new climate commitments since that announcement. So for the purposes of this analysis we will not be excluding mentions of Rosneft, though we are aware of the changes.

## BP SAYS: "Net zero on an absolute basis across the carbon in our upstream oil and gas production by 2050 or sooner."

"This is our Scope 3 aim and is on a bp equity share basis excluding Rosneft (around 361 Mt CO2e in 2019). It is associated with the CO2 emissions from the combustion of upstream production of crude oil, natural gas and natural gas liquids (NGLs)."

### WHAT THAT MEANS: Unknown (not enough information to calculate)

This is a commitment to get to net-zero (equity basis) Scope 3 emissions by 2050 for the use of bp's crude oil, natural gas, natural gas liquids only. It does not include bp's petrochemical business or bp's share in Rosneft's production (roughly 30% of the oil and gas bp invested in producing in 2019).[60]

Bp clearly only reports Scope 3 emissions from upstream oil and gas to its stakeholders however it is unclear what their full Scope 3 emissions totals are. bp does report a metric they call "marketed emissions" which represent life time emission of all of their products. In 2019 their total marketed emissions was ~990 Mt CO2e.

## BP SAYS: "cut the carbon intensity of the products we sell by 50% by 2050 or sooner."

"This is a life cycle carbon intensity approach, per unit of energy. It covers marketing sales of energy products and potentially, in future, certain other products, for example, associated with land carbon projects (79.3g CO2e/MJ in 2019)."

"...This aim relates to the rate of GHG emissions estimated on a life cycle basis from the use, production and distribution of marketed energy products per unit of energy (MJ) delivered."

### WHAT THIS MEANS: Unknown (not enough information to calculate), but short of IPCC 1.5 °C targets.

This is a commitment to reduce the amount of pollution associated with producing a unit of oil and gas without any limits on production. It is not a commitment to reduce total emissions.

## Intermediate Commitments—Year 2030

Bp intermediate goals once again conflict with each other (committing to what seem like different levels of reductions for the same dates) yet do not provide enough information to know exactly what kind of emissions reductions they are committing to. They list a goal to hit 30-40% emissions reductions by 2030 which by itself is short of the IPCC targets to limit global warming to 1.5 °C, however this number does not include the emissions from its stake in Rosneft (a russian state operated oil company) or its emissions from petrochemical production. bp does not report data for either of these exclusions so figuring out the actual emissions reductions they are aiming to achieve is not currently possible.

> BP SAYS: "We're targeting a 20% reduction in our aim 1 operational emissions by 2025 and will aim for 30-35% reduction by 2030 against our 2019 baseline."

WHAT THAT MEANS: Less than 3% overall by 2025, less than 4-5% by 2030

This goal only covers Scope 1 and 2 emissions excluding bp's share in Rosneft's production (roughly 30% of the oil and gas bp invested in producing in 2019)[61] made up less than 14% of its total emissions.

> BP SAYS: "We are targeting a 20% reduction by 2025 and will aim for 35-40% by 2030 against our 2019 baseline."

WHAT THAT MEANS: Unknown (not enough information to calculate), but short of IPCC 1.5 °C targets.

This is a commitment for Scope 1, 2, and 3 emissions (equity basis) for the use of bp's crude oil, natural gas, natural gas liquids only. It does not include bp's petrochemical business or bp's share in Rosneft's production (roughly 30% of the oil and gas bp invested in producing in 2019).[62]

bp only reports Scope 3 emissions from upstream oil and gas to its stakeholders.

> WHAT BP SAYS: "We're targeting a 2025 carbon intensity reduction of 5% and aim to reduce it by 15% by 2030, against our 2019 baseline."

WHAT THAT MEANS: Unknown (not enough information to calculate), but short of IPCC 1.5 °C targets.

This is a commitment to reduce the amount of pollution associated with producing a unit of oil and gas. It does not set any limits on production so it is not a commitment to reduce total emissions.

## What BP is Actually Doing:

- Increasing proved reserves by nearly a billion barrels.

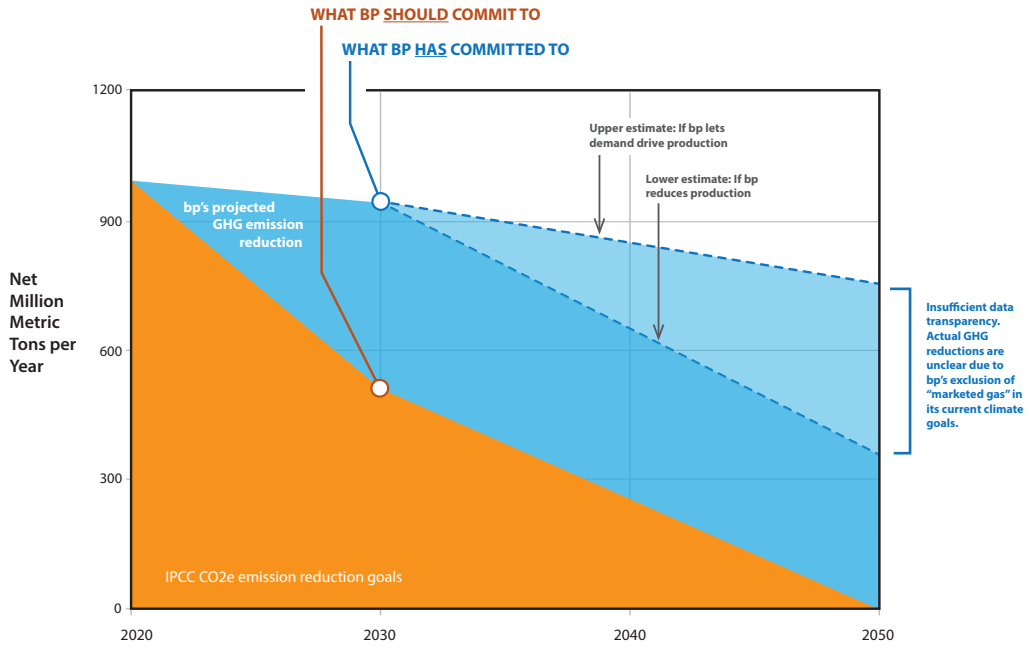
  From 2015 to 2020 bp has increased proved reserves by nearly a billion barrels of oil equivalent (mmboe) and its annual production by 200 thousand barrels of oil equivalent per day (Mboe/d).[63,64]

  While some of these acquisitions happened prior to bp setting net-zero goals, the general trend is an indicator of the future emissions bp will be responsible for—either by extracting from these reserves or selling to someone else who will.

- From 2015 to 2020 bp has increased proved reserves by nearly a billion barrels of oil equivalent (mmboe) and its annual production by 200 thousand barrels of oil equivalent per day (Mboe/d).[65,66]

  While some of these acquisitions happened prior to bp setting net-zero goals, the general trend is an indicator of the future emissions bp will be responsible for—either by extracting from these reserves or selling to someone else who will.

- In 2020 bp spent $750 million (5% total capital expenditures) on low carbon technology.




**NOTE:**

Science tells us emissions should be cut in half from 2017 levels by 2030 and then hit net-zero by 2050 to limit temperature rise to 1.5 °C. On the graph these targets and the pathway towards them are labeled "What bp *should* commit to." We also track the pathway of bp's current commitments which is labeled "What bp *has* committed to."

This graph is rough estimate and does not reflect a true comparison to IPCC pathways because companies do not disclose the necessary data.

ExxonMobil

## Long Term Commitments—Year 2050

ExxonMobil was the last company in this report to make a net-zero 2050 commitment (January 2022). This is a Scope 1 and 2 goal only and so it falls far short of IPCC targets to limit global warming to 1.5 °C. While the goal is insufficient it is clear and comes without any significant caveats.

> WHAT EXXONMOBIL SAYS: "ExxonMobil aims to achieve net-zero emissions from its operated assets by 2050 and is taking a comprehensive approach centered on developing detailed emission-reduction roadmaps for major operated assets."[67]
>
> "This ambition applies to Scope 1 and Scope 2 greenhouse gas emissions."

### WHAT THAT MEANS: ~17% reduction by 2050

ExxonMobil's Scope 1 and 2 emissions make up roughly 17% of the company's total emissions (652 Mmt CO2e) in 2020. So this commitment to net-zero leaves out 83% of its emissions.

Exxon does not plan to set a Scope 3 target stating reducing these emissions will require "changes in society's energy use coupled with the development and deployment of affordable lower-emission technologies".

This goal is based on 2016 levels.

## Intermediate Commitments—Year 2030

ExxonMobil provides enough data to estimate emissions reductions for two of its intermediate goals, both of which are not in line with any IPCC targets to limit global warming to 1.5 °C. The two remaining 2030 goals are intensity based and would require production goals for 2030 in order to calculate what exactly they are committing to.

> EXXONMOBIL SAYS: "Our 2030 emission-reduction plans are consistent with Paris-aligned pathways, the U.S. and European Union's Global Methane Pledge, and the U.S. Methane Emissions Reduction Action Plan. Compared to 2016 levels, these plans are expected to achieve..."
>
> "20-30% reduction in corporate-wide greenhouse gas intensity and an absolute reduction of approximately 20% (or approximately 23 Mmt)."

### WHAT THAT MEANS: ~3.4% reduction by 2030

This goal is based on 2016 levels. Exxon suggests it will reduce its Scope 1 and 2 emissions from 124 Mmt CO2e in 2016 to roughly 101 Mmt CO2e in 2030. Scope 1 and 2 emissions made up 17% of the total emissions produced by ExxonMobil in 2020.[68]

Due to a global pandemic 2020 numbers do not accurately indicate emissions reductions.

Exxon announced plans to increase shale production in the Permian Basin by 25% in 2022 on top of a 25% increase in 2021 from the previous year.[69]

# ExxonMobil

> EXXONMOBIL SAYS: "[By 2030,] 40-50% reduction in upstream greenhouse gas intensity and an absolute reduction of approximately 30% (or approximately 15 million metric tons)."

WHAT THAT MEANS: ~2% reduction by 2030 (Need more data for accuracy)

This goal is based on 2016 levels. Exxon suggests it will reduce Scope 1 and 2 emissions of upstream operations from 58 Mmt $CO_2e$ in 2016 to roughly 41 Mmt $CO_2e$ in 2030. In 2016 Exxon did not report its Scope 3 emissions so it is unclear what that reduction represents as a percentage of its total emissions. In 2020 upstream Scope 1 and 2 emissions made up 7.6% so we use that metric to estimate the total above.[70]

> EXXONMOBIL SAYS: "[By 2030,] 70-80% reduction in corporate-wide methane intensity."

WHAT THAT MEANS: Unknown (not enough information to calculate), but short of IPCC 1.5 °C targets.

This is a commitment to reduce the methane emissions per unit of product produced. However, it is not a commitment to reduce total methane emissions and it does not set any limits on production.

This goal is based on 2016 levels but it is unclear what metric ExxonMobil is using. In the past Exxon has reported methane intensity as methane emitted expressed as percent of natural gas production and methane emitted expressed as percent of total hydrocarbon production. These are both measurements of upstream methane intensity and would not cover the "corporate-wide" figure that Exxon refers to in this commitment.

As of 2020 ExxonMobil's production outlook was a 52% increase in oil production and a 27% increase in its production of natural gas.[71]

> EXXONMOBIL SAYS: "[By 2030] 60-70% reduction in corporate-wide flaring intensity."

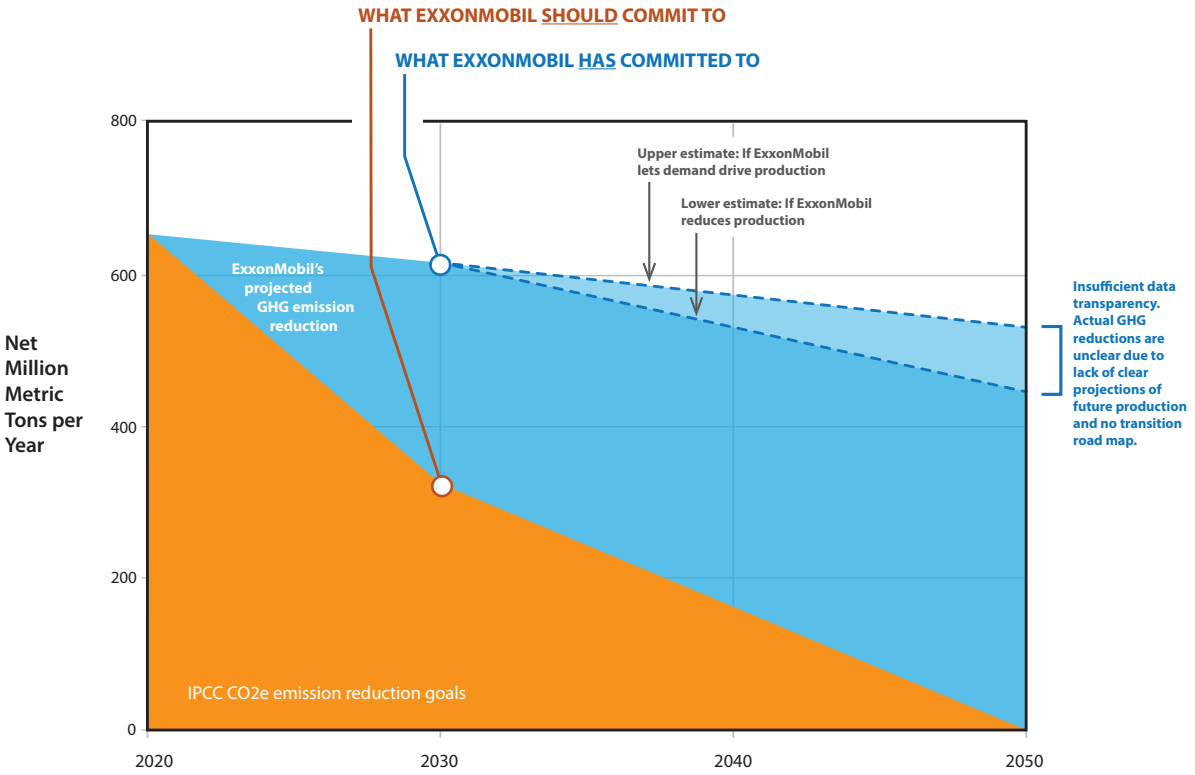
WHAT THAT MEANS: Unknown (not enough information to calculate), but short of IPCC 1.5 °C targets.

This is a commitment to reduce the flaring emissions per unit of product produced. However, it is not a commitment to reduce emissions and it does not set any limits on production.

ExxonMobil

## What ExxonMobil is Actually Doing

- Just weeks after making this announcement ExxonMobil began operation on its ethane steam cracker plant in Corpus Christi, Texas which is permitted to emit 3.5 MT of CO2 per year, or 3% of its 2020 Scope 1 emissions.
- ExxonMobil has decreased its Scope 1 and 2 emissions by roughly 5% between 2016 and 2019 though these numbers are based on emissions factors estimates (explained further in section 2) not direct measurements.




**NOTE:**

Science tells us emissions should be cut in half from 2017 levels by 2030 and then hit net-zero by 2050 to limit temperature rise to 1.5 °C. On the graph these targets and the pathway towards them are labeled "What ExxonMobil *should* commit to." We also track the pathway of ExxonMobil's current commitments which is labeled "What ExxonMobil *has* committed to."

This graph is rough estimate and does not reflect a true comparison to IPCC pathways because companies do not disclose the necessary data.


## Long Term Commitments—Year 2050

Chevron was one of the last companies in this report to make a net-zero commitment (fall of 2021) but it has only committed to reducing Scope 1 and 2 emissions. While Chevron's goals fall well short of the IPCC targets to limit warming to 1.5 °C, it still caveats its commitment with the use of the term "aspiration" in its commitments. It is unclear what the use of that word means in this context. **Chevron does provide fairly transparent emissions data, allowing for a fairly accurate estimate of what its goals mean in terms of real emissions reductions.**

> CHEVRON SAYS "We aspire to achieve net zero Upstream emissions (Scope 1 and 2) by 2050."[72]
>
> WHAT THAT MEANS: ~9% total emissions reductions by 2050, not inline with IPCC 1.5 °C targets.
>
> Chevron's Scope 1 and 2 emissions made up roughly 9% of the company's total emissions in 2020 (59 Mmt $CO_2e$ out of 647 Mmt $CO_2e$) so this commitment to net-zero leaves out 91% of its emissions.

## Intermediate Commitments—Year 2030

Unlike its longer term goals, Chevron's intermediate goals do not provide enough information to accurately quantify what exactly it is promising. Both of its intermediate goals are intensity based and therefore can't be estimated without also knowing production levels (or projected levels) for those years as well. However, given that Chevron's 2050 goal of ~9% reductions would be short of IPCC 2030 1.5 °C targets we can infer that these goals will fall far short of them as well, even if production were to decrease substantially.

> CHEVRON SAYS: "Chevron UCI (scope 1 and 2) reduction targets for 2028:"
>
> "2 kg $CO_2e$/boe for methane and a global methane-detection campaign 53% reduction from 2016."[73]
>
> WHAT THAT MEANS: Unknown (not enough information to calculate), but short of IPCC 1.5 °C targets.
>
> This is a commitment to reduce the methane emissions per unit of product produced. However, it is not a commitment to reduce total methane emissions and it does not set any limits on production. In order to know exactly what this means in terms of real emissions changes, Chevron would also need to set production goals for 2028.
>
> Chevron continues to expand their oil and gas production including the buy out of Noble Energy in 2021.[74]

Chevron

CHEVRON SAYS: "Chevron UCI (scope 1 and 2) reduction targets for 2028:"

"24 kg CO2e/boe for oil (global industry averages 46) 40% reduction from 2016."

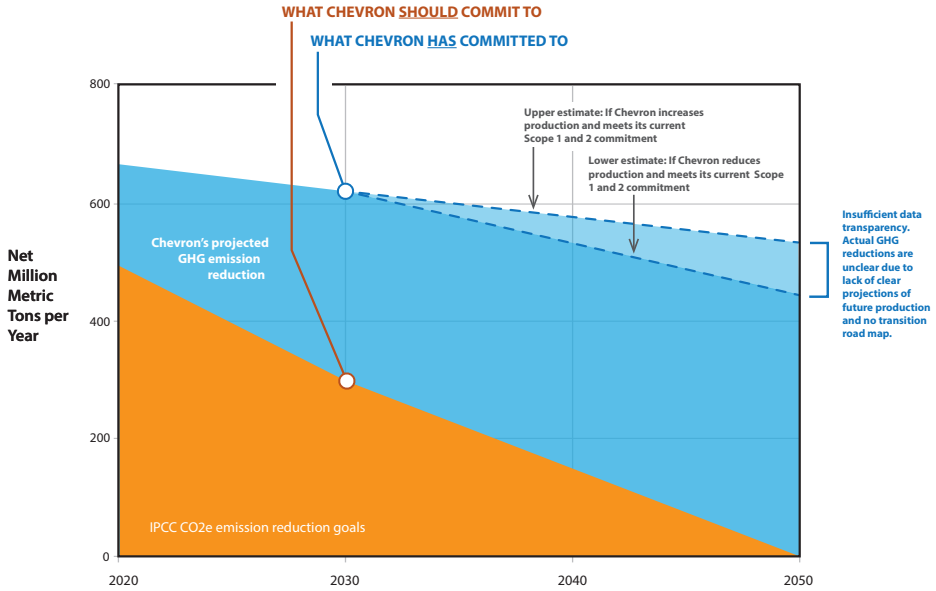
"24 kg CO2e/boe for gas (global industry averages 71) 26% reduction from 2016."[75]

WHAT THAT MEANS: Unknown (not enough information to calculate), but short of IPCC 1.5 °C targets.

Both of these are commitments to reduce the GHG emissions per unit of product produced. However, it is not a commitment to reduce total GHG emissions and it does not set any limits on production. In order to know exactly what this means in terms of real emissions changes, Chevron would also need to set production goals for 2028.

## What Chevron is Actually Doing:

- **Chevron has increased its overall emissions (including Scope 3) between 2016 and 2020 by 40 Mmt CO2e.**
- **Chevron has increased its daily production since 2016 by nearly half a million barrels a day (from 2.6 million barrels per day[76] to 3.08 million barrels per day by the end of 2020)[77] despite a global pandemic.**




**NOTE:**

Science tells us emissions should be cut in half from 2017 levels by 2030 and then hit net-zero by 2050 to limit temperature rise to 1.5 °C. On the graph these targets and the pathway towards them are labeled "What Chevron should commit to." We also track the pathway of Chevron's current commitments which is labeled "What Chevron has committed to."

This graph is rough estimate and does not reflect a true comparison to IPCC pathways because companies do not disclose the necessary data.


## Long Term Commitments—Year 2050

Equinor has a long term goal that at first seems to promise to reach net-zero for Scope 1, 2 and 3 emissions by 2050, but there are some exclusions that should be further explained and quantified to understand just how much they are leaving out. While most companies calculate emissions on an operations equity basis, Equinor only includes emissions from operations in which they are 100% operators. **To better understand this exclusion, Equinor should provide a comparison between operational equity and 100% operational emissions totals.**

---

"

WHAT EQUINOR SAYS: "Net-zero emissions and 100% net carbon intensity reduction [by 2050]"[78]

WHAT THAT MEANS: Close to full net-zero reductions by 2050, but with some exclusions.

The first part of this commitment is a commitment to reach net-zero for the Scope 1 and 2 emissions only where it has a 100% operational control. So this excludes any operations where they have 99% or lower. It also excludes the emissions from the energy products that Equinor buys and sells (but does not produce themselves). Equinor does not quantify these exclusions.

It also includes Scope 3 emissions on an equity basis.

Equinor's definition of net carbon intensity is a complicated equation. First it adds Scope 1 and 2 emissions above and all Scope 3 emissions from operations where they own 100% as well as the emissions from joint ventures and subsidiaries as a percent of their equity subtracted by any carbon removal. Then that number is divided by the total energy produced. It does not include equity ownerships or franchises where Equinor does not have operational control and it does not include any oil and gas bought and then sold, but not produced by Equinor.[79]

---

"

WHAT EQUINOR SAYS: "Absolute emissions in Norway to near zero by 2050"[80]

WHAT THAT MEANS: Unknown (not enough information to calculate), but short of IPCC 1.5 °C targets.

This commitment is to reduce Scope 1 and 2 emissions to near zero from operations where Equinor has 100% control within the country of Norway. Equinor does not quantify these emissions and therefore it is not possible to know exactly what they are committing to in terms of emissions reductions.

equinor

## Intermediate Commitments—Year 2030

Only one of Equinor's intermediate goals provides enough information to estimate emissions reductions and this goal falls far short of IPCC targets to limit global warming to 1.5 °C. Equinor's two other short term goals we reviewed are intensity based and therefore need more data (production targets for the goal's year) to quantify what they are actually committing to in terms of real emissions reductions. In addition to the goals listed here, Equinor has a number of other supplemental commitments. We chose these three because they were most relevant to this report.

---

WHAT EQUINOR SAYS: "Carbon neutral global operations by 2030"[81]

WHAT THAT MEANS: ~6% Total emissions reductions by 2030, short of IPCC 1.5 °C targets.

Equinor's Scope 1 and 2 emissions made up only 6% of its total emissions in 2020 (15.8 Mmt CO2e out of 265.8 Mmt CO2e)

---

WHAT EQUINOR SAYS: "Near zero methane intensity by 2030"

WHAT THAT MEANS: Unknown (not enough information to calculate), but short of IPCC 1.5 °C targets.

This is a commitment to reduce the methane emissions per unit of product produced. However, it is not a commitment to reduce total methane emissions and it does not set any limits on production.

---

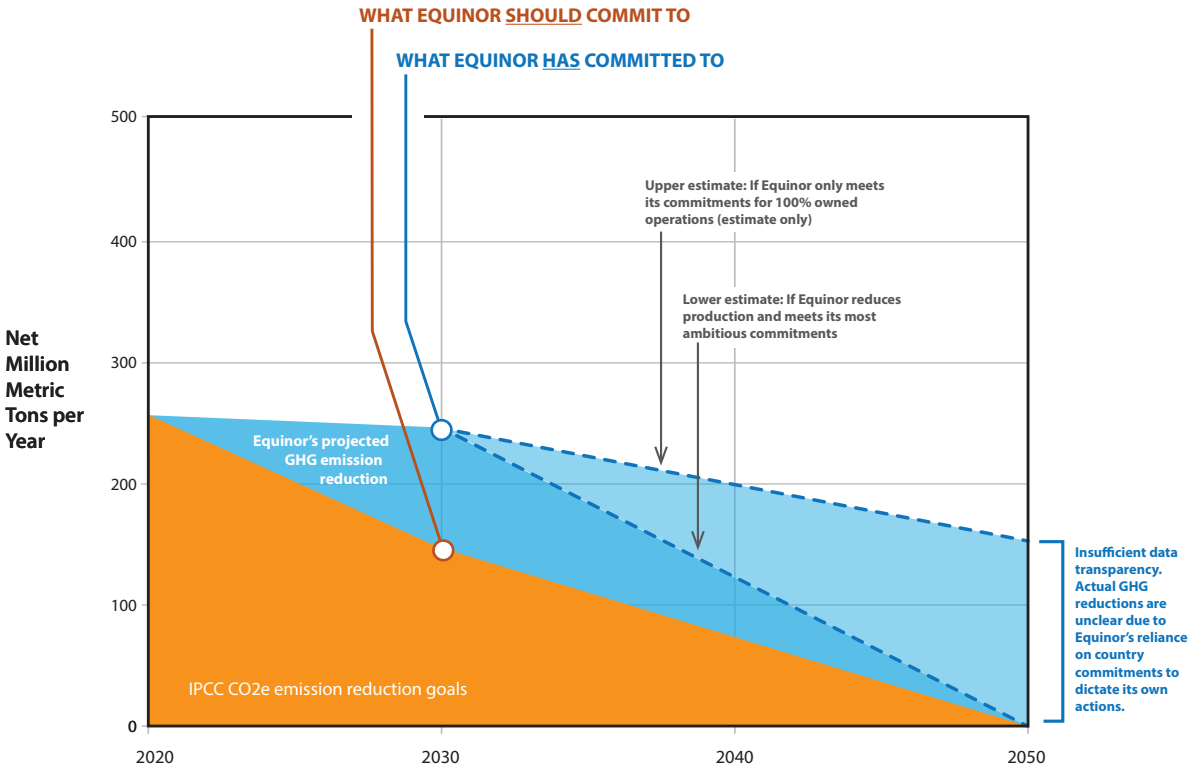
WHAT EQUINOR SAYS: "Equinor aims to reduce the upstream CO2 intensity of our globally operated oil and gas production to below 8kg CO2/barrel of oil equivalent (boe) by 2025." ~6kg CO2e/boe by 2030

WHAT THAT MEANS: Unknown (not enough information to calculate), but short of IPCC 1.5 °C targets.

This is a commitment to reduce the GHG emissions per unit of product produced. However, it is not a commitment to reduce total GHG emissions and it does not set any limits on production.

## What Equinor is Actually Doing:

- Equinor has increased their production by nearly 100 million barrels of oil equivalent between 2016 and 2020 resulting in an increase of Scope 3 emissions of more than 10 Mmt CO2e.[82]
- In February 2022 Equinor began production on its first offshore platform off the Norwegian coast. The project is projected to produce 260 million barrels of oil equivalent through its lifetime.[83]




**NOTE:**

Science tells us emissions should be cut in half from 2017 levels by 2030 and then hit net-zero by 2050 to limit temperature rise to 1.5 °C. On the graph these targets and the pathway towards them are labeled "What Equinor *should* commit to." We also track the pathway of Equinor's current commitments which is labeled "What Equinor *has* committed to."

This graph is rough estimate and does not reflect a true comparison to IPCC pathways because companies do not disclose the necessary data.

## Long Term Commitments—Year 2050

Occidental Petroleum has a true 2050 net-zero target, but has yet to include Scope 3 emissions data in their annual reports (though it does report this data with the CDP). It should also be noted that during the Trump administration, Occidental had a very different tone on climate and actually supported the U.S. backing out of the Paris Agreement.[84]

> WHAT OCCIDENTAL SAYS: "Net-zero for our total emissions inventory including product use (Scope 1, 2 and 3) with an ambition to achieve before 2050"[85]

WHAT THAT MEANS: ~ 100% net emissions reduction by 2050

This is a commitment to reduce Scope 1 and 2 emissions on an operated basis and Scope 3 emissions on an equity basis to net-zero before 2050. It is unclear how much this commitment relies on offsets.

## Intermediate Commitments—Year 2030

Oxy's three intermediate targets, only one was accompanied by the data needed to determine what it means in terms of real emission reductions. We found that this target does not meet any of the IPCC pathways to limit warming to 1.5 °C.

> WHAT OCCIDENTAL SAYS: "Net-zero for our operational and energy use emissions (Scope 1 and 2) before 2040, with an ambition to achieve before 2035"[86]

WHAT THAT MEANS: ~15% reduction between 2035-2040, short of IPCC 1.5 °C targets.

In 2020 Scope 1 and 2 emissions made up 15% of Occidental's total emissions (24.4 Mmt CO2e out of 159.4 Mmt CO2e) so this commitment to net-zero leaves out 85% of its emissions.

> WHAT OCCIDENTAL SAYS: "Occidental has set the following 2025 GHG emissions-reduction targets for operations:"
>
> "Total direct and indirect GHG emissions intensity to 0.02 MT CO2e/boe"
>
> "Methane emissions intensity of <0.25% of marketed gas"[87]

WHAT THAT MEANS: Unknown (not enough information to calculate), but short of IPCC 1.5 °C targets.

This is a commitment to reduce the methane emissions per unit of product produced. However, it is not a commitment to reduce total methane emissions and it does not set any limits on production. Production goals for 2025 (target year) must be provided in order to determine exactly what is being promised in terms real emissions reductions.

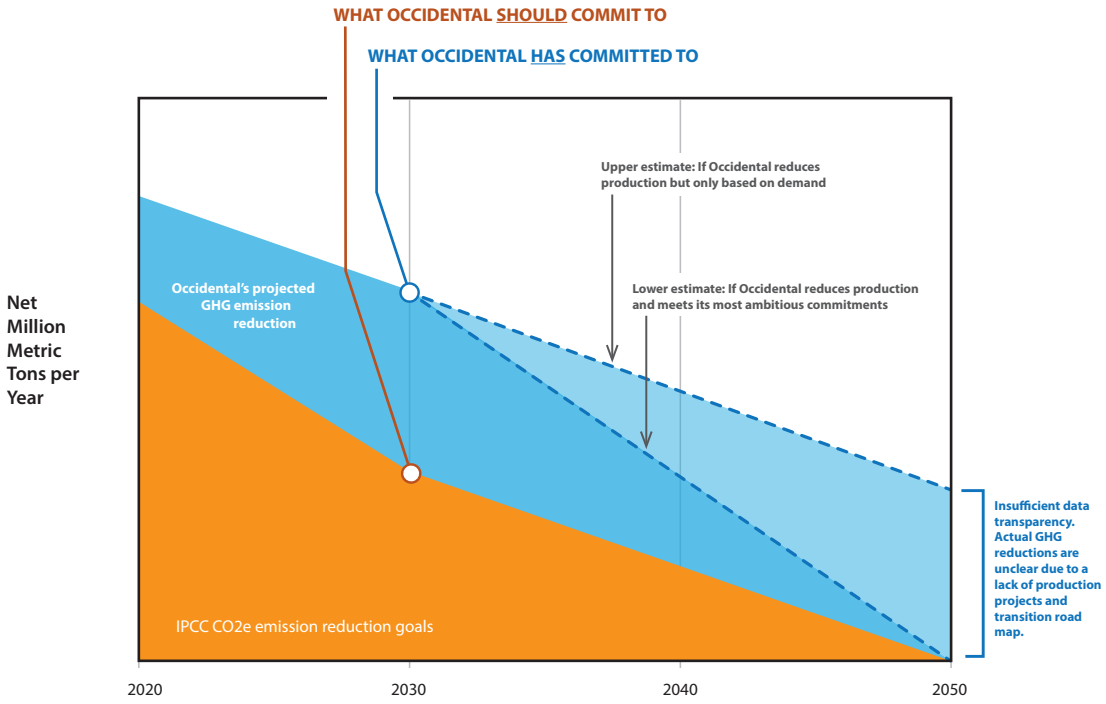
## WHAT OCCIDENTAL SAYS: "Routine flare elimination by 2030"[88]

### WHAT THAT MEANS: Unknown (not enough information to calculate), but short of IPCC 1.5 °C targets.

This is not a commitment to end flaring and the word "routine" does not have a standard meaning. Flaring could still happen frequently but not routinely under this climate commitment.

## What Occidental is Actually Doing:

- **In October 2021, Occidental announced a plan to invest $1.4 billion in projects off the shore of Colombia.[89]**
- **Occidental increased their overall emissions by 28 Mmt CO2e between 2019 and 2020, despite a global pandemic.**




**NOTE:**

Science tells us emissions should be cut in half from 2017 levels by 2030 and then hit net-zero by 2050 to limit temperature rise to 1.5 °C. On the graph these targets and the pathway towards them are labeled "What Occidental *should* commit to." We also track the pathway of Occidental's current commitments which is labeled "What Occidental *has* committed to."

This graph is rough estimate and does not reflect a true comparison to IPCC pathways because companies do not disclose the necessary data.

ConocoPhillips

## Long Term Commitments—Year 2050

ConocoPhillips does not have a true net-zero target and has not indicated any plan to set any climate commitment that includes its Scope 3 emissions (although it does report them publicly). Instead, ConocoPhillips claims it will tackle Scope 3 emissions through support for a price on carbon.[90]

---

" WHAT CONOCOPHILLIPS SAYS: "Net-zero ambition for operational (scope 1 and 2) emissions by 2050"[91]

WHAT THAT MEANS: ~9.5% reduction by 2050

ConocoPhillips Scope 1 and 2 emissions made up roughly 9.5% of the company's total emissions in 2019 (20.5 Mmt CO2e out of 215.66 Mmt CO2e)[92] and 9% of the company's total emissions (16.15 Mmt CO2e out of 178.15 Mmt CO2e)[93] so this commitment to net-zero leaves out about 90% of its emissions.

## Intermediate Commitments—Year 2030

ConocoPhillips does not provide enough data to determine what any of its intermediate goals mean in terms of real emission reductions. Instead they choose to focus on intensity based metrics only, allowing for increased production (their actions indicate they plan to do so). Although exact estimates can't be calculated it can be determined that none of its goals will align with IPCC pathways to limit global warming to 1.5 °C based on future project plans and past production levels.

---

" WHAT CONOCOPHILLIPS SAYS: "35–45% reduction target for operational emissions intensity by 2030"[94]

WHAT THAT MEANS: Unknown (not enough information to calculate), but short of IPCC 1.5 °C targets.

This is a commitment to reduce the carbon emissions per unit of product produced. However, it is not a commitment to reduce total emissions and it does not set any limits on production.

---

" WHAT CONOCOPHILLIPS SAYS: "10% reduction target for methane emissions intensity by 2025, in addition to the 65% reductions we have made since 2015."[95]

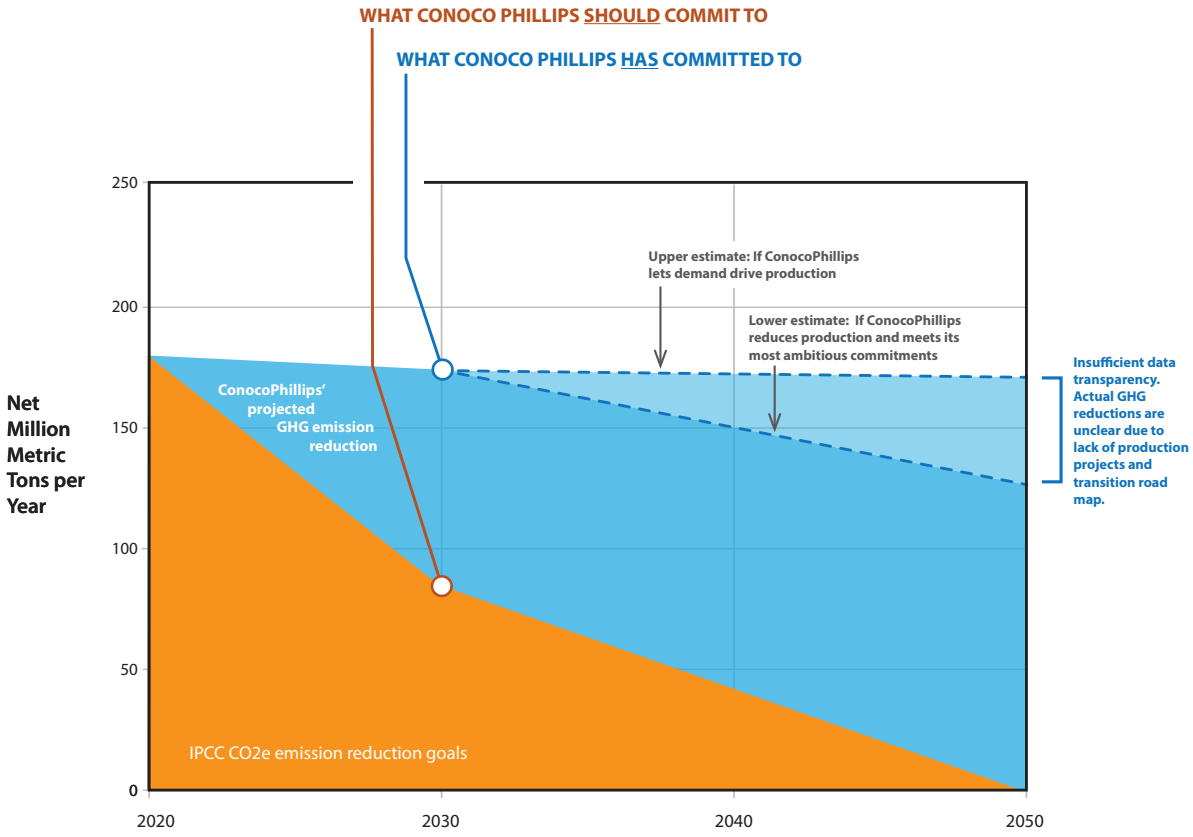
WHAT THIS MEANS: Unknown (not enough information to calculate), but short of IPCC 1.5 °C targets.

This is a commitment to reduce the methane emissions per unit of product produced. However, it is not a commitment to reduce total methane emissions and it does not set any limits on production.

ConocoPhillips

## What ConocoPhillips is Actually Doing

- Heavily pressed the Biden administration to open up land for drilling in Alaska in order to begin its Willow Project which could produce up to 530 million barrels of oil over the next 30 years.[96]
- In 2021 ConocoPhillips purchased $9.5 million of Shell's Permian assets. The Permian Basin is the most methane intensive oil and gas field in the United States.




**NOTE:**

Science tells us emissions should be cut in half from 2017 levels by 2030 and then hit net-zero by 2050 to limit temperature rise to 1.5 °C. On the graph these targets and the pathway towards them are labeled "What ConocoPhillips *should* commit to." We also track the pathway of ConocoPhillips' current commitments which is labeled "What ConocoPhillips *has* committed to."

This graph is rough estimate and does not reflect a true comparison to IPCC pathways because companies do not disclose the necessary data.

## Long Term Commitments—Year 2050

TotalEnergies claims to have a Net-zero commitment that covers all emissions (Scope 1, 2 and 3) but they make this commitment with a major caveat by adding the line "together with society." Unlike other companies that use this caveat, however, they actually attempt to define what that means. According to their 2020 climate report, TotalEnergies will only commit to net-zero by 2050 in countries that do the same (in their Nationally Determined Contributions to the Paris Agreements). Additionally TotalEnergies adds to the confusion around its commitments by laying out what it calls "intermediate goals" which commit to less in terms of emissions reductions but on the same 2050 timeline. This could suggest that the big picture goal is more of an aspiration than a commitment. TotalEnergies should clarify how all of these goals play out and why it has set different goals for the same years.

> WHAT TOTALENERGIES SAYS: "Reach carbon neutrality for all of its operations, from production to the energy products used by its customers (Scope 1+2+3), by 2050 together with society."
>
> "To achieve that ambition, where Governments in a given region commit to take policies and regulations aiming at Net Zero, TotalEnergies will commit to achieve Net Zero emissions by 2050 across all its production and energy products used by its customers in such a region."[97]

### WHAT THAT MEANS: ~ 100% net emissions reduction by 2050

In this commitment TotalEnergies has committed to achieving net-zero across Scope 1, 2 and 3 emissions by 2050 by location and they will only make the commitment if that country has also made a commitment to net-zero as well. In their most recent climate report TotalEnergies only identified the European Union as a country/region that they would make an all emission net-zero commitment.

> TOTALENERGIES SAYS: "Net Zero across TotalEnergies's worldwide operations by 2050 or sooner (Scope 1+2)."[98]

### WHAT THAT MEANS: ~ 9.9% reduction by 2050

TotalEnergies's Scope 1 and 2 emissions made up roughly 9.9% of the company's total emissions in 2019 (45 Mmt CO2e out of 455 Mmt CO2e)[99] so this commitment to net-zero leaves out about 90% of its emissions.

> TOTALENERGIES SAYS: "Net Zero across all its production and energy products used by its customers in Europe by 2050 or sooner (Scope 1+2+3)."[100]

### WHAT THAT MEANS: ~ >60% reduction by 2050

According to TotalEnergies' climate report, European Scope 3 emissions make up 60% of their total Scope 3 emissions. However, they do not list how much European Scope 1 and 2 emissions make up.[101]

TOTALENERGIES SAYS: "60% or more reduction in the average carbon intensity of energy products used worldwide by Total customers by 2050...(Scope 1+2+3)."[102]

WHAT THAT MEANS: Unknown (not enough information to calculate), but short of IPCC 1.5 °C targets.

This is a commitment to reduce the carbon emissions per unit of product produced. However, it is not a commitment to reduce total methane emissions and it does not set any limits on production.

## Intermediate Commitments—Year 2030

TotalEnergies's two 2030 goals do not provide enough information to accurately determine what exactly they are committing to in terms of real emissions reductions. It is clear however, that both fall short of IPCC pathways to limit global warming to 1.5 °C.

TOTALENERGIES SAYS: "Total ambition is to reduce the average carbon intensity of energy products used by its customers [by 15%] between 2015 and 2030."[103]

WHAT THAT MEANS: Unknown (not enough information to calculate), but short of IPCC 1.5 °C targets.

This is a commitment to reduce the carbon emissions per unit of product produced. However, it is not a commitment to reduce total methane emissions and it does not set any limits on production.

In September of 2021 TotalEnergies signed a 25 year $27 billion deal with Iraq to boost oil production.[104]

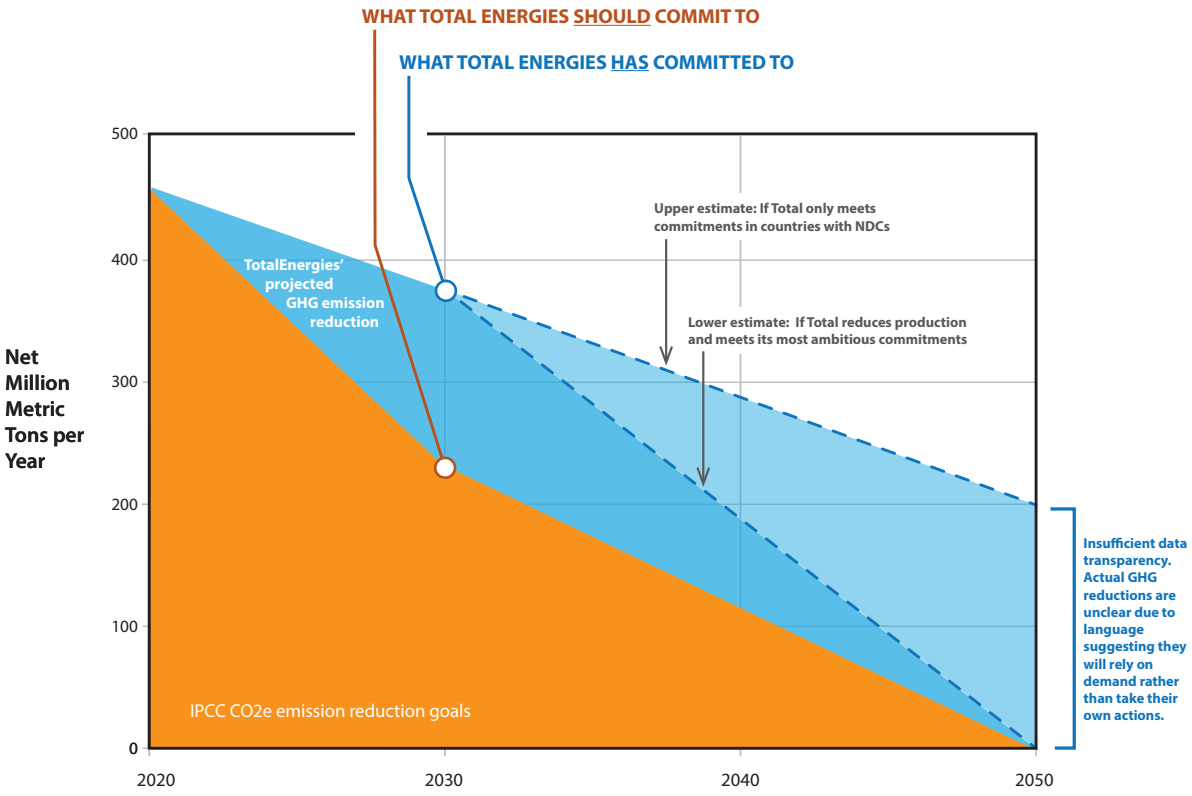
TOTALENERGIES SAYS: "In Europe, a 30% reduction in absolute emissions from 2015 levels."[105]

WHAT THAT MEANS: Unknown (not enough information to calculate), but short of IPCC 1.5 °C targets.

According to Total in 2019 European Scope 3 emissions made up 60% of total Scope 3 emissions. However we do not know what proportion of Scope 1 and 2 European emissions account for. Even without this it is evident that this goal falls short of IPCC targets that limit global warming to 1.5 °C.[106]

## What TotalEnergies is Actually Doing

- According to their current plans, fossil fuels will still represent more than 80% of the group's investments in 2030.[107]
- In February 2022 TotalEnergies approved the development of a multibillion-dollar oil project including the construction of the world's longest heated pipeline.[108]




**NOTE:**

Science tells us emissions should be cut in half from 2017 levels by 2030 and then hit net-zero by 2050 to limit temperature rise to 1.5 °C. On the graph these targets and the pathway towards them are labeled "What TotalEnergies *should* commit to." We also track the pathway of TotalEnergies' current commitments which is labeled "What TotalEnergies *has* committed to."

This graph is rough estimate and does not reflect a true comparison to IPCC pathways because companies do not disclose the necessary data.

Part 3

# Conclusion

Words will not save us from climate catastrophe, only greenhouse gas emissions reductions that meet science-based targets will. While more and more companies make climate promises, our analysis has shown that instead of taking steps to better measure and reduce their total methane pollution, these eight companies have used confusing jargon, false solutions, and misleading metrics to paint the climate-friendly picture they want the public and policy makers to see.[109] This facade has allowed them to maintain their social license to operate while they continue to intensify the climate crisis for which they are largely responsible.[110]

In fact, these companies invested heavily in advertising campaigns[111] and lobbying[112] efforts for decades to deny their role in—and even the reality of—the climate crisis and hazardous health impacts from their operations. This detailed examination of commitments, actions and strategies around greenhouse gas emissions reductions for eight of the largest oil and gas producers in the United States found that none are doing enough to reduce global climate pollution and indicates that their attitude toward meaningful climate action is still practically the same.

Photo: Tomas / Adobe Stock

## Companies are miscalculating emission reductions

### Divestiture does not decrease emissions

- We found that companies are miscalculating their emissions reductions by including divestiture of assets which only reduce company emissions but do not solve the global climate crisis. Only four companies In this report publicly disclosed this data in 2021: Shell, bp, ConocoPhillips, and Equinor.
- Three companies counted divestiture for over 45% of their emissions reductions that year — Shell (50.85%), bp (58.06%), and ConocoPhillips (46.67%) — while Equinor's asset sales made up somewhere between 20-44% of its claimed reductions.
- We also found that none of the eight companies are providing adequate data to verify what their goals mean and whether or not they are hitting them. Notably bp admits it does not include its owned assets in Rosneft in any of its climate commitments, but does not report what those emissions are. Furthermore, while all eight companies have committed to reducing their emissions to "net zero by 2050" none of them mean the same thing. Commitments without the transparency necessary for accountability should be questioned.

### No company has committed to meeting the 2030 targets

- What is clear, is that no company has committed to meeting the 2030 IPCC target necessary to keep global warming below 1.5 °C and only 2 have laid out clear goals to hit net-zero total emissions by 2050 without caveats. Every company is taking actions that directly conflict the climate commitments they have made.
- These eight companies make up only a small percentage of the industry that has made public climate commitments and likely represent those taking the most action to reduce their emissions. If they are falling short of what is necessary, then it can be assumed that the rest of the industry is even further from behind.

Quality Stock Arts / Adobe Stock

## Policy Recommendations

**All of these findings highlight the need for strong government intervention in the United States that forces all companies to reduce their emissions in line with the country's Nationally Determined Contribution (NDC) to Paris Agreements. There are four immediate steps the Biden Administration can take to address the gap between words and actions, and slow down the worst impacts of fossil fuel extractions.**

1 Finalize methane rules that use the U.S. EPA's full authority under the Clean Air Act to cut methane emissions from all oil and gas equipment. The EPA is currently working on the very first rules to regulate methane pollution from both existing and new oil and gas operations. With profit as the ultimate goal, we cannot trust the industry to take action in line with science. Strong, well-enforced rules that eliminate venting and flaring and require frequent monitoring at all wells without loopholes will force all oil and gas companies to act in a responsible manner and reduce incentives for smaller private companies to buy up assets from companies with climate commitments. But even this will not be enough.

2 Update the Greenhouse Gas Reporting Protocols for the oil and gas sector at federal and state levels. Right now underreported methane emissions from oil and gas production continue to drive us toward a climate crisis. Before we can address this issue we need to have an accurate picture of what we are up against.

3 The Securities and Exchange Commission (SEC) must set standards for accurate and uniform disclosure as well as rules for carbon emissions accounting. Standardizing climate commitment language and mandating the proper disclosure of all information necessary to fact check company claims will allow investors, stakeholders, and policymakers to make informed decisions.

4 To avoid a climate catastrophe and guarantee that future generations have a liveable planet the Biden Administration will need to take much bolder action. It is also important to note that Global North countries — like the United States, who have contributed the greatest amount of greenhouse gas pollution and have the economic means to act — have a responsibility to act first on climate.

Therefore, the United States should immediately declare a climate emergency, reinstate the crude oil export ban, deny permits to new fossil fuel infrastructure projects (including LNG), and begin a managed decline of oil and gas production. Methane, carbon dioxide, and other hazardous air pollutants are incompatible with any meaningful, science-based climate plan, yet they are unavoidable byproducts of the oil and gas industry. The only reasonable response is aggressive federal policy that aims to force the industry to reduce emissions, while laying out a plan for an immediate managed decline of the fossil fuels and a swift transition to clean, affordable and equitable energy systems.

# Endnotes


1 Li, Mei, Trencher, Gregory and Jusen Asuka, "The Clean Energy Claims of bp, Chevron, ExxonMobil, and Shell: A mismatch between discourse, actions and investments," PLOS one, February 16, 2022, https://journals.plos.org/plosone/article?id=10.1371/journal.pone.0263596

2 "Each Country's Share of CO2 Emissions," *Union of Concerned Scientists*, July 16, 2008, https://www.ucsusa.org/resources/each-countrys-share-co2-emissions

3 Gayathri Vaidyanathan, "How Bad of a Greenhouse Gas is Methane," *Scientific American*, December 22, 2015, https://www.scientificamerican.com/article/how-bad-of-a-greenhouse-gas-is-methane/

4 Renee Cho, "How Close are We to Climate Tipping Points," *State of the Planet*, November 11, 2021, https://news.climate.columbia.edu/2021/11/11/how-close-are-we-to-climate-tipping-points/

5 "Climate change widespread, rapid, and intensifying," *Intergovernmental Panel on Climate Change*, August, 9, 2021,https://www.ipcc.ch/2021/08/09/ar6-wg1-20210809-pr/

6 Drew R. Michanowicz, et. al, "Methane and Health-Damaging Air Pollutants From the Oil and Gas Sector: Bridging 10 Years of Scientific Understanding," *PSE Health Energy*, October 6, 2021, https://www.psehealthyenergy.org/wp-content/uploads/2021/10/Full-Report_Bridging-10-Years-of-Scientific-Understanding.pdf

7 Mary Sotos, "Greenhouse Gas Protocol - Scope 2 Emissions Guidance," World Resources Institute, September 26, 2015, https://ghgprotocol.org/sites/default/files/standards/Scope%202%20Guidance_Final_Sept26.pdf

8 Jeff Tollefson, "IPCC says limiting global warming to 1.5 °C will require drastic action," *Nature*, October 8, 2018, https://www.nature.com/articles/d41586-018-06876-2

9 "2020 Sustainability Report," Bp plc, 2021

10 "Our Climate Target" Shell, October 28, 2021, https://www.shell.com/energy-and-innovation/the-energy-future/our-climate-target.html#iframe=L3dlYmFwcHMvY2xpbWF0ZV9hbWJpdGlvbi8

11 "To be a world-class player in the energy transition," TotalEnergies SE, https://sustainable-performance.totalenergies.com/en/our-vision/the-company-of-responsible-energies

12 James Dyke, Robert Watson, and Wolfgang Knorr , "Climate scientists: concept of net zero is a dangerous trap," for *The Conversation* 2021, https://theconversation.com/climate-scientists-concept-of-net-zero-is-a-dangerous-trap-157368.

13 "2020 Sustainability Report," Bp plc, 2021, https://www.bp.com/content/dam/bp/business-sites/en/global/corporate/pdfs/investors/bp-annual-report-and-form-20f-2020.pdf

14 "Chart Generator," Chevron, https://www.chevron.com/sustainability/performance/chart-generator

15 "Greenhouse Gas Reporting Program," Environmental Protection Agency, https://www.epa.gov/ghgreporting

16 "Learn About the Greenhouse Gas Reporting Program," Environmental Protection Agency, https://www.epa.gov/ghgreporting/learn-about-greenhouse-gas-reporting-program-ghgrp

17 "GRHP Reported Data" Environmental Protection Agency, https://www.epa.gov/ghgreporting/ghgrp-reported-data

18 "GRHP Methodology and Verification," Environmental Protection Agency, https://www.epa.gov/ghgreporting/ghgrp-methodology-and-verification

19 "Air Emissions Factors and Quantifications," Environmental Protection Agency, https://www.epa.gov/air-emissions-factors-and-quantification/basic-information-air-emissions-factors-and-quantification

20 "GRHP Methodology Factsheet," Environmental Protection Agency, https://www.epa.gov/sites/default/files/2017-12/documents/ghgrp_methodology_factsheet.pdf

21 "Air Emissions Factors and Quantifications," Environmental Protection Agency, https://www.epa.gov/air-emissions-factors-and-quantification/basic-information-air-emissions-factors-and-quantification

22 "GRHP Reported Data" Environmental Protection Agency, https://www.epa.gov/ghgreporting/ghgrp-reported-data

23 "FAQ: What percentage of total U.S. GHG emissions is covered in the GHG Reporting Program?" Environmental Protection Agency, https://ccdsupport.com/confluence/pages/viewpage.action?pageId=141983792

24 Adam Brandt, "Methane Leaks from North American Natural Gas Systems," *Science*, February, 2014, https://www.researchgate.net/publication/260211785_Methane_Leaks_from_North_American_Natural_Gas_Systems

25 Jack McDonald and Sharon Wilson, "Flaring in Texas: A comprehensive government failure," Earthworks, August, 2021, https://earthworks.org/assets/uploads/2021/08/Flaring-in-Texas-FINALsm.pdf

26 Rutherford, et. Al, "Closing the methane gap in US oil and natural gas production emissions inventories," *Nature*, August 05, 2021, https://www.nature.com/articles/s41467-021-25017-4#MOESM2

27 Rutherford, et. Al, "Closing the methane gap in US oil and natural gas production emissions inventories," *Nature*, August 05, 2021, https://www.nature.com/articles/s41467-021-25017-4#MOESM2

28 https://www.ncbi.nlm.nih.gov/pmc/articles/PMC6223263/

29 "Greenhouse Gas Reporting Program," Environmental Protection Agency, https://www.epa.gov/ghgreporting

30 Alvarez, et. Al, "Assessment of methane emissions from the U.S. oil and gas supply chain," *Science*, July 13, 2018, https://pubmed.ncbi.nlm.nih.gov/29930092/

31 "CDP Questionnaire on Climate Change 2021 - Shell," CDP, 2021, https://www.cdp.net/en/formatted_responses/responses?campaign_id=74241094&discloser_id=896252&locale=en&organization_name=Royal+Dutch+Shell&organization_number=16012&program=Investor&project_year=2021&redirect=https%3A%2F%2Fcdp.credit360.com%2Fsurveys%2F2021%2Fdbbr64mv%2F140479&survey_id=73557641

32 "CDP Questionnaire on Climate Change 2021 - Bp plc," CDP, 2021, https://www.cdp.net/en/formatted_responses/responses?campaign_id=74241094&discloser_id=891325&locale=en&organization_name=BP&organization_number=2083&program=Investor&project_year=2021&redirect=https%3A%2F%2Fcdp.credit360.com%2Fsurveys%2F2021%2Fdbbr64mv%2F146545&survey_id=73557641

33 "CDP Questionnaire on Climate Change 2021 – Equinor," CDP, 2021, https://www.cdp.net/en/responses/23132?back_to=https%3A%2F%2Fwww.cdp.net%2Fen%2Fresponses%3Futf8%3D%25E2%259C%2593%26queries%255Bname%255D%3Dequinor&queries%5Bname%5D=equinor

34 "CDP Questionnaire on Climate Change 2021 – ConocoPhillips," CDP, 2021, https://www.cdp.net/en/formatted_responses/responses?campaign_id=74241094&discloser_id=895104&locale=en&organization_name=ConocoPhillips&organization_number=3751&program=Investor&project_year=2021&redirect=https%3A%2F%2Fcdp.credit360.com%2Fsurveys%2F2021%2Fdbbr64mv%2F140384&survey_id=73557641

35 "The Greenhouse Gas Protocol" The Science Based Target Initiative, Chapter 5 - Tracking Emissions Over Time, March, 2004, https://ghgprotocol.org/sites/default/files/standards/ghg-protocol-revised.pdf

36 "CDP Questionnaire on Climate Change 2021 - Shell," CDP, 2021, https://www.cdp.net/en/formatted_responses/responses?campaign_id=74241094&discloser_id=896252&locale=en&organization_name=Royal+Dutch+Shell&organization_number=16012&program=Investor&project_year=2021&redirect=https%3A%2F%2Fcdp.credit360.com%2Fsurveys%2F2021%2Fdbbr64mv%2F140479&survey_id=73557641

37 "CDP Questionnaire on Climate Change 2021 - Shell," CDP, 2021, https://www.cdp.net/en/formatted_responses/responses?campaign_id=74241094&discloser_id=896252&locale=en&organization_name=Royal+Dutch+Shell&organization_number=16012&program=Investor&project_year=2021&redirect=https%3A%2F%2Fcdp.credit360.com%2Fsurveys%2F2021%2Fdbbr64mv%2F140479&survey_id=73557641

38 Emily Patsy, "Shell to Divest Appalachia Shale Position in $541 Million Deal," Hart Energy, May 04, 2021, https://www.hartenergy.com/transactions/shell-divest-appalachia-shale-position-541-million-deal-187393

39 "CDP Questionnaire on Climate Change 2021 - Shell," CDP, 2021, https://www.cdp.net/en/formatted_responses/responses?campaign_id=74241094&discloser_id=896252&locale=en&organization_name=Royal+Dutch+Shell&organization_number=16012&program=Investor&project_year=2021&redirect=https%3A%2F%2Fcdp.credit360.com%2Fsurveys%2F2021%2Fdbbr64mv%2F140479&survey_id=73557641

40 Mitchell Beer, "Alberta's 'Friendly' Oil is Most Carbon-Intensive in New International Index," *The Energy Mix*, October 5, 2021, https://www.theenergymix.com/2021/10/05/albertas-friendly-oil-is-most-carbon-intensive-in-new-international-index/

41 "Shell accelerates drive for net-zero emissions with customer-first strategy," Shell, February 11, 2021, https://www.shell.com/media/news-and-media-releases/2021/shell-accelerates-drive-for-net-zero-emissions-with-customer-first-strategy.html

42 Emily Patsy, "Shell to Exit Permian Basin in $9.5 Billion Sale to ConocoPhillips," Hart Energy, November 20, 2021, https://www.hartenergy.com/transactions/shell-exit-permian-basin-95-billion-sale-conocophillips-196290

43 "CDP Questionnaire on Climate Change 2021 - Bp plc," CDP, 2021, https://www.cdp.net/en/formatted_responses/responses?campaign_id=74241094&discloser_id=891325&locale=en&organization_name=BP&organization_number=2083&program=Investor&project_year=2021&redirect=https%3A%2F%2Fcdp.credit360.com%2Fsurveys%2F2021%2Fdbbr64mv%2F146545&survey_id=73557641

44 "CDP Questionnaire on Climate Change 2021 - Bp plc," CDP, 2021, https://www.cdp.net/en/formatted_responses/responses?campaign_id=74241094&discloser_id=891325&locale=en&organization_name=BP&organization_number=2083&program=Investor&project_year=2021&redirect=https%3A%2F%2Fcdp.credit360.com%2Fsurveys%2F2021%2Fdbbr64mv%2F146545&survey_id=73557641

45 "Acquisitions and Divestments Database," Hart Energy, https://www.hartenergy.com/ad-transactions

46 "CDP Questionnaire on Climate Change 2021 – ConocoPhillips," CDP, 2021, https://www.cdp.net/en/formatted_responses/responses?campaign_id=74241094&discloser_id=895104&locale=en&organization_name=ConocoPhillips&organization_number=3751&program=Investor&project_year=2021&redirect=https%3A%2F%2Fcdp.credit360.com%2Fsurveys%2F2021%2Fdbbr64mv%2F140384&survey_id=73557641

47 "Meeting Climate Related Risks - Strategy - Impact on Business," ConocoPhillips, https://www.conocophillips.com/sustainability/managing-climate-related-risks/strategy/impact-on-business-strategy/

48 "CDP Questionnaire on Climate Change 2021 – Equinor," CDP, 2021, https://www.cdp.net/en/responses/23132?back_to=https%3A%2F%2Fwww.cdp.net%2Fen%2Fresponses%3Futf8%3D%25E2%259C%2593%26queries%255Bname%255D%3Dequinor&queries%5Bname%5D=equinor

49 "CDP Questionnaire on Climate Change 2021 – Equinor," CDP, 2021, https://www.cdp.net/en/responses/23132?back_to=https%3A%2F%2Fwww.cdp.net%2Fen%2Fresponses%3Futf8%3D%25E2%259C%2593%26queries%255Bname%255D%3Dequinor&queries%5Bname%5D=equinor

50 "CDP Questionnaire on Climate Change 2021 – Equinor," CDP, 2021, https://www.cdp.net/en/responses/23132?back_to=https%3A%2F%2Fwww.cdp.net%2Fen%2Fresponses%3Futf8%3D%25E2%259C%2593%26queries%255Bname%255D%3Dequinor&queries%5Bname%5D=equinor

51 "Acquisitions and Divestments Database," Hart Energy, https://www.hartenergy.com/transactions/norways-equinor-completes-oil-sands-exit-athabasca-sale-192056

52 "Global warming of 1.5°C," Intergovernmental Panel on Climate Change, 2020, https://www.ipcc.ch/site/assets/uploads/sites/2/2019/06/SR15_Full_Report_High_Res.pdf

53 "Sustainability Report 2020," Shell, 2020, https://reports.shell.com/sustainability-report/2020/

54 "Climate Landmark Court Orders Royal Dutch Shell to Cut Emissions," *Al Jazeera*, May 26, 2021, https://www.aljazeera.com/economy/2021/5/26/climate-landmark-court-orders-royal-dutch-shell-to-cut-emissions

55 Velda Addison, "Shell Makes Significant Oil Discovery," Hart Energy, May 11, 2021, https://www.hartenergy.com/exclusives/shell-makes-significant-oil-discovery-deepwater-gom-194015

56 "Shell Ups Stake in North Sea Field Scrapping Previous Deal," Hart Energy, June 25, 2021, https://www.hartenergy.com/exclusives/shell-ups-stake-north-sea-field-scrapping-previous-deal-bp-194850

57 "Big Oil Reality Check," Oil Change International, November 23, 2021, http://priceofoil.org/2020/09/23/big-oil-reality-check/

58 https://www.bp.com/content/dam/bp/business-sites/en/global/corporate/pdfs/sustainability/group-reports/bp-sustainability-report-2020.pdf

59 Oil Change International, "Big Oil Reality Check" http://priceofoil.org/2020/09/23/big-oil-reality-check/

60 "Big Oil Reality Check," Oil Change International, November 23, 2021, http://priceofoil.org/2020/09/23/big-oil-reality-check/

61 "Big Oil Reality Check," Oil Change International, November 23, 2021, http://priceofoil.org/2020/09/23/big-oil-reality-check/

62 "Big Oil Reality Check," Oil Change International, November 23, 2021, http://priceofoil.org/2020/09/23/big-oil-reality-check/

63 "2015 Annual Report," Bp plc, 2015, https://www.bp.com/content/dam/bp/business-sites/en/global/corporate/pdfs/investors/bp-annual-report-and-form-20f-2015.pdf

64 "2020 Annual Report," Bp plc, 2021, https://www.bp.com/content/dam/bp/business-sites/en/global/corporate/pdfs/investors/bp-annual-report-and-form-20f-2020.pdf

65 "2015 Annual Report," Bp plc, 2015, https://www.bp.com/content/dam/bp/business-sites/en/global/corporate/pdfs/investors/bp-annual-report-and-form-20f-2015.pdf

66 "2020 Annual Report," Bp plc, 2021, https://www.bp.com/content/dam/bp/business-sites/en/global/corporate/pdfs/investors/bp-annual-report-and-form-20f-2020.pdf

67 "Advancing Climate Solutions," ExxonMobil, 2022, https://corporate.exxonmobil.com/-/media/Global/Files/Advancing-Climate-Solutions-Progress-Report/2022/ExxonMobil-Advancing-Climate-Solutions-2022-Progress-Report.pdf

68 "Energy and Carbon Summary," ExxonMobil, https://corporate.exxonmobil.com/Sustainability/Energy-and-Carbon-Summary/Metrics-and-targets#ExxonMobilsgreenhousegasemissionreductionplans

69 Sabrina Valle and Shariq Khan, "Exxon Mobil Plans to Raise Shale Output in Permian Basin by 25%," Hart Energy, February 1, 2022, https://www.hartenergy.com/exclusives/exxon-mobil-plans-raise-shale-output-permian-basin-25-198563?mkt_tok=NDMzLU9ESy04ODkAAAGCWRQYd680wMlDjad7R-VRQqSHWkr8mfoVrGJeleMSpJyQ9bBymFSevcpxcWz2e2LIW3-g5MZYZ8QIQqTfkIclyWpCcAtglzOwOEZazJ0ntk9n

70 "Energy and Carbon Summary," ExxonMobil, https://corporate.exxonmobil.com/Sustainability/Energy-and-Carbon-Summary/Metrics-and-targets#ExxonMobilsgreenhousegasemissionreductionplans

71 Oil Change International, "Big Oil Reality Check" http://priceofoil.org/2020/09/23/big-oil-reality-check/

72 "Climate Change Resilience Report," Chevron, 2021, https://www.chevron.com/-/media/chevron/sustainability/documents/2021-climate-change-resilience-report.pdf

73 "Climate Change Resilience Report," Chevron, 2021, https://www.chevron.com/-/media/chevron/sustainability/documents/2021-climate-change-resilience-report.pdf

74 Emily Patsy, "Chevron Offers Acquire Noble Midstream Equity Exchange," Hart Energy, February 1, 2021, https://www.hartenergy.com/transactions/chevron-offers-acquire-noble-midstream-equity-exchange-192231

75 "Climate Change Resilience Report," Chevron, 2021, https://www.chevron.com/-/media/chevron/sustainability/documents/2021-climate-change-resilience-report.pdf

76 "Chevron Corporation 2016 Annual Report," Chevron, 2016, https://www.chevron.com/media/publications

77 "Climate Change Resilience Report," Chevron, 2021, https://www.chevron.com/-/media/chevron/sustainability/documents/2021-climate-change-resilience-report.pdf

78 "Our Climate Ambitions," Equinor, 2022, https://www.equinor.com/en/sustainability/climate.html

79 "Net GHG Emissions and Net Carbon Intensity Methodology," Equinor, February 1, 2020, https://www.equinor.com/content/dam/statoil/documents/climate-and-sustainability/net-ghg-emissions-net-carbon-intensity-Methodology-november-2020.pdf

80 "Our Climate Ambitions," Equinor, 2022, https://www.equinor.com/en/sustainability/climate.html

81 "Equinor Sustainability Report 2020," Equinor, 2020, https://www.equinor.com/en/sustainability.html

82 "Equinor Sustainability Report 2020," Equinor, 2020, https://www.equinor.com/en/sustainability.html

83 "Equinor's Martin Linge Oilfield goes on stream," *World Oil*, January 27, 2022, https://www.worldoil.com/news/2022/1/27/equinor-s-martin-linge-field-officially-goes-on-stream/

84 "Occidental Petroleum [NYSE:OXY]: Due to the Company's Failure to Set Adequate Net-Zero by 2050 Target, Realign Investment Plans to Limit Global Warming to 1.5°C, and Ensure Alignment of Policy Influence Activities," Security and Exchange Commission, https://www.sec.gov/Archives/edgar/data/797468/000138713121005180/oxy-px-14a6g_043021.htm

85 "Pathway to Net-Zero," Occidental, 2020, https://www.oxy.com/globalassets/documents/publications/oxy-climate-report-2021.pdf

86 "Pathway to Net-Zero," Occidental, https://www.oxy.com/globalassets/documents/publications/oxy-climate-report-2021.pdf

87 "Pathway to Net-Zero," Occidental, 2020, https://www.oxy.com/globalassets/documents/publications/oxy-climate-report-2021.pdf

88 "Pathway to Net-Zero," Occidental, 2020, https://www.oxy.com/globalassets/documents/publications/oxy-climate-report-2021.pdf

89 https://www.hartenergy.com/exclusives/occidental-petroleum-invest-14-billion-offshore-colombia-196658

90 "Climate Sustainability Report," ConocoPhillips, 2020, https://static.conocophillips.com/files/resources/conocophillips-2020-sustainability-report.pdf

91 "Climate Sustainability Report," ConocoPhillips, 2020, https://static.conocophillips.com/files/resources/conocophillips-2020-sustainability-report.pdf

92 "CDP Questionnaire on Climate Change 2020 – ConocoPhillips," CDP, 2020, https://www.cdp.net/en/formatted_responses/responses?campaign_id=74241094&discloser_id=895104&locale=en&organization_name=ConocoPhillips&organization_number=3751&program=Investor&project_year=2021&redirect=https%3A%2F%2Fcdp.credit360.com%2Fsurveys%2F2021%2Fdbbr64mv%2F140384&survey_id=73557641

93 "CDP Questionnaire on Climate Change 2021 – ConocoPhillips," CDP, 2021, https://www.cdp.net/en/formatted_responses/responses?campaign_id=74241094&discloser_id=895104&locale=en&organization_name=ConocoPhillips&organization_number=3751&program=Investor&project_year=2021&redirect=https%3A%2F%2Fcdp.credit360.com%2Fsurveys%2F2021%2Fdbbr64mv%2F140384&survey_id=73557641

94 "Climate Sustainability Report," ConocoPhillips, 2020, https://static.conocophillips.com/files/resources/conocophillips-2020-sustainability-report.pdf

95 "Climate Sustainability Report," ConocoPhillips, 2020, https://static.conocophillips.com/files/resources/conocophillips-2020-sustainability-report.pdf

96 Nicholas Kusnetz, "ConocoPhillips' Plan for Extracting Half-a-Billion Barrels of Crude in Alaska's Fragile Arctic Presents a Defining Moment for Joe Biden," *Inside Climate News*, January 23, 2022, https://insideclimatenews.org/news/23012022/conocophillips-willow-alaska-biden/

97 "Climate Report," TotalEnergies SE, 2020, https://totalenergies.com/sites/g/files/nytnzq121/files/documents/2020-10/total-climate-report-2020.pdf

98 Climate Report," TotalEnergies SE, 2020, https://totalenergies.com/sites/g/files/nytnzq121/files/documents/2020-10/total-climate-report-2020.pdf

99 Climate Report," TotalEnergies SE, 2020, https://totalenergies.com/sites/g/files/nytnzq121/files/documents/2020-10/total-climate-report-2020.pdf

100 Climate Report," TotalEnergies SE, 2020, https://totalenergies.com/sites/g/files/nytnzq121/files/documents/2020-10/total-climate-report-2020.pdf

101 Climate Report," TotalEnergies SE, 2020, https://totalenergies.com/sites/g/files/nytnzq121/files/documents/2020-10/total-climate-report-2020.pdf

102 Climate Report," TotalEnergies SE, 2020, https://totalenergies.com/sites/g/files/nytnzq121/files/documents/2020-10/total-climate-report-2020.pdf

103 Climate Report," TotalEnergies SE, 2020, https://totalenergies.com/sites/g/files/nytnzq121/files/documents/2020-10/total-climate-report-2020.pdf

104 Sarah McFarland, "TotalEnergies to Invest $27 Billion in Iraq," *Wall Street Journal*, September 5, 2021, https://www.wsj.com/articles/totalenergies-to-invest-27-billion-in-iraq-11630870670

105 Climate Report," TotalEnergies SE, 2020, https://totalenergies.com/sites/g/files/nytnzq121/files/documents/2020-10/total-climate-report-2020.pdf

106 Climate Report," TotalEnergies SE, 2020, https://totalenergies.com/sites/g/files/nytnzq121/files/documents/2020-10/total-climate-report-2020.pdf

107 "Energy Outlook," TotalEnergies SE, November, 2021, https://totalenergies.com/system/files/documents/2021-09/2021_TotalEnergies_Energy_Outlook.pdf

108 Tom Wilson, "Total gives green light to $10bn Uganda oil project," *Financial Times*, February 1, 2022, https://www.ft.com/content/324987e5-43c9-41fe-905a-7c4657a9ee59

109 Kevin Crowley, "Chevron Greenwashing Targeted in Complaint Filed with U.S. FTC," *Bloomberg*, March 16, 2021, https://www.bloomberg.com/news/articles/2021-03-16/chevron-greenwashing-targeted-in-complaint-filed-with-u-s-ftc

110 "BP knew the truth about climate change 30 years ago. Now, it's time to ban fossil industry advertising," *Follow the Money*, May 26, 2020, https://www.ftm.eu/articles/bp-video-climate-change-1990-engels

111 "Trade Associations and the Public Relations Industry," *Climate Investigations*, https://climateinvestigations.org/trade-association-pr-spending/

112 "Oil and Gas Lobbying 2021," *Open Secrets*, https://www.opensecrets.org/industries/lobbying.php?cycle=2022&ind=E01

Photo: Charlene Anderson