

Absolute Impact 2023

Progress on oil and gas emissions targets has stalled

Saidrasul Ashrafkhanov, Mike Coffin



About Carbon Tracker

The Carbon Tracker Initiative is a team of financial specialists making climate risk real in today's capital markets. Our research to date on unburnable carbon and stranded assets has started a new debate on how to align the financial system in the transition to a low carbon economy.

www.carbontracker.org | hello@carbontracker.org

About the Authors

Saidrasul Ashrafkhanov – Research Associate, Oil, Gas & Mining

Saidrasul joined Carbon Tracker's Oil, Gas & Mining team in 2022. Prior to that, he worked as the managing editor of the Uzbekistan Energy Monitor at Frontier Research and Advisory, overseeing coverage of the country's oil and gas, conventional power, and renewable energy industries. He has also worked as a correspondent and news presenter at UzReport World.

Saidrasul holds a BA in Commercial Law and an MPhil in Sociology.

Mike Coffin – Head of Oil, Gas & Mining

Mike joined Carbon Tracker in 2019, and now leads the Oil, Gas and Mining research team, focussing on developing metrics and tools to enable investors to assess oil and gas company transition risk and climate-alignment. Key reports include *Managing Peak Oil* and *Paris Maligned* on risk/alignment as well as the *Balancing the Budget* and *Absolute Impact* series on climate/emissions targets. Other research themes include broader financial system implications and executive remuneration.

Prior to joining Carbon Tracker, Mike worked as a geologist for BP for 10 years on projects across the Upstream value chain, from access to development. Mike has experience working in petroleum basins across the world, including time spent working in Norway, with expertise in unconventional exploration and in leading technical project teams.

Mike has an MA and MSci in Natural Sciences from the University of Cambridge and is a Chartered Geologist (CGeol).

With thanks to the wider Carbon Tracker team for analysis support and guidance

Copyright Statement

Readers are allowed to reproduce material from Carbon Tracker reports for their own publications, as long as they are not being sold commercially. As copyright holder, Carbon Tracker requests due acknowledgement and a copy of the publication. For online use, we ask readers to link to the original resource on the Carbon Tracker website.

© Carbon Tracker 2023.

Table of Contents

1	Key Findings	1
2	Executive Summary	2
3	Introduction	4
4	Assessing Emissions Targets	7
	4.1 Individual Company Targets	8
	4.2 Target Credibility Criteria	11
	4.3 Relative Ranking of Company Targets	11
5	Implications for Stakeholders	15
	Appendix 1 – Climate Goals by Company	16
	Appendix 2 – Reading Emissions Targets	28
	References	29

1 Key Findings

- **Progress on emissions goals set by oil and gas companies has stalled** – some have gone backwards since our previous analysis.
- **24 of 25 of the world's largest oil and gas companies have emissions goals that are not considered Paris-aligned** when assessed against our three Hallmarks of Paris-Aligned Emissions Targets.
- **Not all “net-zero” targets are equal** – there is a huge disparity between company targets; the majority of these companies' targets do not link through to finite climate limits.
- **Just one company, Eni, has emissions targets that could potentially be considered Paris-aligned.** However, the credibility of its approach to achieving those targets is called into question based on its reliance on asset sales, nature-based solutions, CCS, and offsets.
- **Among others, we assess TotalEnergies, Repsol and bp as being more progressive than peers** – all have goals to achieve net-zero emissions by 2050 with absolute interim reduction targets, but they all exclude emissions from some key activities.
- **Some companies, including Chevron, have introduced absolute targets covering scope 3 emissions,** but only on a short-term basis and without long-term reductions.
- **ConocoPhillips and ExxonMobil are still firmly rooted in the lowest tier of our ranking, alongside Saudi Aramco and the other nine new entrants.**
- **Asset managers and banks seeking Paris-aligned portfolios can use this analysis to assess corporate positioning on climate.**
- **As demand for fossil fuels weakens through the transition, this analysis shines a light on the pace at which companies see the transition unfolding.** Investors seeking to screen companies for transition risk exposure can use this analysis to complement analysis of investment and production plans.

2 Executive Summary

Limiting global temperature rise to 1.5°C above pre-industrial levels without significant temperature overshoot places a severely restricted finite limit on the volume of carbon emissions that can be produced in the future. This will require a drastic decarbonisation of our energy system, necessitating radical changes in companies' current business models, particularly for oil and gas producers.

Investors should check company emissions goals for alignment with the Paris Agreement

Regardless of their primary interest – climate alignment or risk mitigation – stakeholders should monitor how companies are responding to the dual threats of the climate emergency and the energy transition. Of several metrics available to them, corporate emissions targets outline in the most straightforward terms what the company is planning to do about its emissions.

In this report we use our Hallmarks of Paris-Aligned Emissions Targets to assess whether companies' emissions targets are framed in a way that could allow them to be assessed for Paris-alignment. To meet all of our Hallmarks, a target must reflect the finite limits of the carbon budget and: 1) include scope 1, 2 and 3 emissions; 2) target net-zero by 2050 and aim for absolute interim reductions across scopes 1, 2 and 3; and 3) cover all global production, including interests in non-operated assets and downstream products from third-party crude.

Only one company has an emissions goal that meets all three Hallmarks

In an expanded company universe of 25 of the world's largest oil and gas producers, only one – Eni – has an emissions reduction goal that meets all our Hallmarks. Six more companies have plans to achieve net-zero scope 1, 2 and 3 emissions by 2050, but their targets are lacking in one way or another, meaning they cannot be assessed for alignment with the goals of the Paris Agreement. Most other companies do not have net-zero goals covering scope 3 emissions, which signals that the industry is not acting fast enough on its commitments to decarbonise.

Full alignment requires a credible approach to emissions reductions

Meeting all our Hallmarks does not guarantee Paris-alignment. For targets to be viewed as aligned, they must pass further checks. First, the approach to decarbonisation must be found to be credible, i.e. it must lead to actual reductions in global carbon emissions and cannot disguise continued investment in new oil and gas projects. In our view, a credible goal is one that does not rely on 1) asset divestments (making room for new oil and gas projects); 2) unproven emissions mitigation technologies; or 3) third-party carbon offsets. Furthermore, the pace of emissions reductions must be assessed against a Paris-aligned pathway with low or minimal overshoot.

Ranking companies by goals shows stagnation in climate ambitions across the industry

A relative ranking of corporate emissions targets, produced using our Hallmarks framework, shows stagnation across the board (see **Table 1**). Eni, TotalEnergies, Repsol, and bp remain the only four companies that have net-zero goals and absolute interim targets covering scope 3 emissions. Shell, Equinor, and Occidental Petroleum place exactly where they did in the previous edition of Absolute Impact, with net-zero goals but no absolute interim targets. Suncor and Chevron are in a category of their own – with goals covering full lifecycle emissions but lacking net-zero targets.

The bottom tier includes companies that do not cover full lifecycle emissions and is almost double the size of the other three groups combined. It includes last year’s laggards like ConocoPhillips and ExxonMobil, as well as all 10 new entrants, including five newly added national oil companies.

TABLE 1 - COMPARISON OF COMPANY CLIMATE GOALS, SELECTED PER CTI METHODOLOGY

Rank	Company	Metric	Hallmark 1	Hallmark 2		Hallmark 3		Scale		Potentially Paris-aligned
			Scope 3 emissions	Scope 1,2,3 net-zero	2030 absolute goal	Full equity share	3rd party crude	2030 absolute reduction	Scope 1 & 2 net zero year	
1	Eni	Lifecycle emissions	Yes	Yes	Yes	Yes	Yes	35%	2050	Yes
2	Total ¹	Lifecycle emissions	Yes	Yes	Yes	Partial ²	Yes	~6.2%	2050	-
3	Repsol	Lifecycle emissions	Yes	Yes	Yes	Partial ²	-	30%	2050	-
4	bp ¹	Lifecycle emissions	Yes	Yes	Yes	Partial ²	-	~23.9%-32.6%	2050	-
5	Shell	Lifecycle intensity	Yes	Yes	-	Yes	Yes	-	2050	-
6	Equinor	Lifecycle intensity	Yes	Yes	-	Partial ²	-	-	2050	-
7	Oxy	Lifecycle intensity	Yes	Yes	-	-	n/a	-	2050	-
8	Suncor	Lifecycle emissions	Yes	-	Yes	Yes	-	10 MtCO _{2e} /y ³	-	-
9	Chevron	Lifecycle intensity	Yes	-	-	-	Yes	-	-	-
10	Conoco	Operational intensity	-	n/a	n/a	Yes	n/a	-	2050	-
11	Cenovus	Operational emissions	-	n/a	n/a	Yes	-	-	2050	-
12	EQT	Operational emissions	-	n/a	n/a	-	n/a	-	2025	-
13	Chesapeake	Operational emissions	-	n/a	n/a	-	n/a	-	2035	-
14	EOG	Operational emissions	-	n/a	n/a	-	n/a	-	2040	-
15	CNRL	Operational emissions	-	n/a	n/a	-	n/a	-	2050	-
=16	Devon	Operational intensity	-	n/a	n/a	-	n/a	-	2050	-
=16	Pioneer	Operational intensity	-	n/a	n/a	-	n/a	-	2050	-
18	SWN	Operational emissions	-	n/a	n/a	-	n/a	-	-	-
19	Coterra	Operational intensity	-	n/a	n/a	-	n/a	-	-	-
20	CNOOC	Operational intensity ⁴	-	n/a	n/a	-	n/a	-	-	-
21	Petrobras	Operational emissions	-	n/a	n/a	-	-	-	2050	-
22	Exxon	Operational intensity	-	n/a	n/a	-	-	-	2050	-
23	PetroChina	Operational intensity	-	n/a	n/a	-	-	-	2050	-
24	Sinopec	Operational emissions	-	n/a	n/a	-	-	-	-	-
25	Aramco	Operational intensity ⁴	-	n/a	n/a	- ⁵	-	-	2050	-

Source: Company disclosures, Carbon Tracker analysis

Notes: ¹ TotalEnergies’s and bp’s operational and scope 3 goals have been merged to allow for a fair comparison with peers. ² Partial equity-share basis means operational emissions on an operated-asset basis and scope 3 emissions on a full equity-share basis. ³ Suncor’s targets cannot be expressed in percentage terms because the company has not publicly disclosed the scope 3 emissions for its baseline. ⁴ CNOOC’s and Saudi Aramco’s targets are measured against business-as-usual scenarios, which makes these ‘intensity reduction’ goals. ⁵ Saudi Aramco’s goal is on a wholly-owned operated-asset basis.

3 Introduction

The average global temperature rise is driven by the release into the atmosphere of CO₂ and other greenhouse gases (GHGs); the more of these gases we emit, the warmer it gets. Consequently, for every given temperature outcome there is a finite limit to the amount of emissions that we can produce – the remaining *carbon budget*.

Society's current goal to halt global warming at 1.5°C above pre-industrial levels comes with a severely restricted carbon budget.¹ If we wish to avoid exceeding it, which at our current rate of emissions is likely to happen by 2030 or sooner,² emissions must fall rapidly.

While it is potentially possible to go over the budget in the short term and use negative emissions technologies at a later stage to remove CO₂ from the atmosphere, the more the budget is exceeded, the larger the *temperature overshoot* that will result, and the greater the need for carbon removal (red pathway in **Figure 1**).

A greater temperature overshoot means a higher chance of crossing a climatic tipping point beyond which the environmental and societal fallout becomes increasingly unmanageable and may even be irreversible.³ Accordingly, society must seek to chart the fastest possible pathway to net-zero and minimise the degree of temperature overshoot (green pathway in **Figure 1**).

The global energy system must shift to enable drastic reductions in carbon emissions

Since fossil fuels are the primary contributor to global warming⁴, the fundamental requirement of reaching net-zero is replacing coal, oil and gas with cleaner sources of energy, like solar and wind. The energy transition is already underway, thanks to an initial push from policy action and a boost from technological innovation, but it needs to accelerate further still to allow us to meet the goals of the Paris Agreement and minimise temperature overshoot.

For the oil and gas industry, this means planning for production declines in the face of demand substitution and eliminating operational emissions from facilities and energy suppliers, not least to maintain the social licence to operate and pre-empt future policy action on emissions, especially methane. With proper planning and execution, oil and gas companies should be able to match future supply with inevitably lower long-term demand⁵ and reduce exposure to transition risks.

Certain metrics can reflect a company's climate-alignment and transition plan

There are two broad groups of stakeholders to whom the energy transition should be of special interest. The first is stakeholders who wish to see society meet the goals of the Paris Agreement and, as such, seek to facilitate the shift away from the legacy energy system. These include, among others: asset managers and asset owners with diversified portfolios and long-term investment horizons, sustainable and impact investors, and nation states that are particularly exposed to the physical impacts of an increasingly warmer world.

¹ Nature. ['Monitoring global carbon emissions in 2022'](#) (2023).

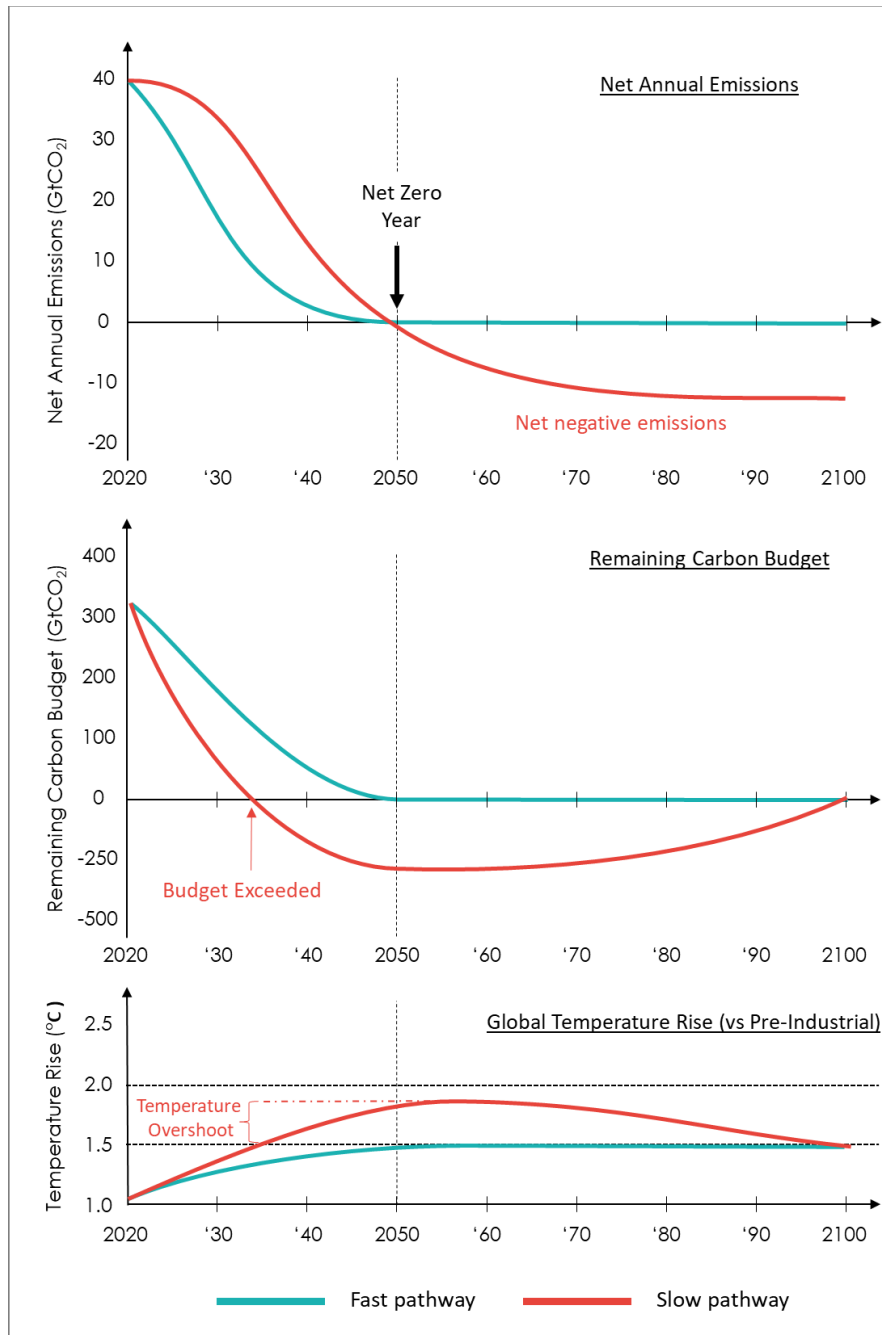
² Carbon Brief. ['What the tiny remaining 1.5C carbon budget means for climate policy'](#) (11 November 2022).

³ Proc Natl Acad Sci. ['Trajectories of the Earth System in the Anthropocene'](#) (2018).

⁴ IPCC. ['Technical Summary of the Sixth Assessment Report'](#), p.80 (2021)

⁵ W.K. Associates Inc. ['A Demanding Change: Oil & Gas in 2050'](#) (22 March 2022).

FIGURE 1 - CONCEPTUAL PATHWAYS TO LIMITING TEMPERATURE RISE IN 2100 TO 1.5°C, BOTH OF WHICH REACH "NET-ZERO" IN 2050



Source: Carbon Tracker analysis based on IPCC data.

The second group is those who are exposed to the risks of the energy transition itself, specifically the demand-substitution effects of new technologies. Oil and gas companies must be aware of how the switch from fossil fuels to clean energy technologies might impact their bottom lines. Asset owners, asset managers, banks, insurers and other financial services firms should monitor whether the companies they fund or underwrite are adequately prepared for the inevitable change in the global energy system.

In short, regardless of their primary interest – climate alignment or transition risk mitigation – stakeholders should keep a close watch on how companies are responding to the dual threats of the climate emergency and the energy transition.

Of the five separate lenses that Carbon Tracker uses to carry out company assessments (see **Box 1**), this report focusses on emissions targets.

Box 1. CTi's approach to assessing climate alignment

Carbon Tracker uses five key metrics to assess companies' climate alignment and exposure to energy transition risks:

- **Capital expenditure.** A company's plans for investment into new upstream projects can be used to estimate the volume of future hydrocarbon flows and, by extension, possible future emissions, as we did in our *Beyond 2 Degrees of Separation* series.⁶ Companies' individual project options can also be assessed for compatibility with a given climate/transition scenario and then aggregated to give an overall portfolio assessment.
- **Production guidance/plans.** Production plans, including guidance and project sanctioning decisions, indicate the pace of anticipated production declines and the consequent reliance on new project development.⁷ Given future production volumes, it is possible to estimate future emissions, while the duration of production indicates exposure to commodity price variations.
- **Emissions targets.** Emissions reduction plans are explicit statements of purpose outlining what companies are planning to do about their emissions, which we have been monitoring in our *Absolute Impact* series.⁸ Just as capex and production guidance can be used to estimate potential associated emissions, some emissions targets can be used to estimate anticipated future production flows.
- **Executive remuneration.** Executive compensation policies show whether directors are incentivised to facilitate a transition away from oil and gas production over time or continue investing in legacy businesses, a trend we have been tracking in our *Remuneration* series.⁹ Incentive plans can also be reviewed for specific incentives to act on emissions, or to invest in new businesses.
- **Commodity price assumptions.** The long-term commodity price forecasts that a company uses within business planning can – if disclosed – give an indication of its view on future demand and the pace of the transition.¹⁰ This is also linked to prices used within impairment testing of existing assets.

⁶ See for example Carbon Tracker. [Paris Maligned](#) (2022).

⁷ Ibid.

⁸ See for example Carbon Tracker. ['Absolute Impact 2022'](#) (2022).

⁹ See for example Carbon Tracker. [Crude Intentions](#) (2022).

¹⁰ See for example Carbon Tracker, [Drilling Down](#) (2022).

4 Assessing Emissions Targets

Emissions targets are key to assessing how companies are acting on climate. Stakeholders concerned with climate alignment can use them to quantify the pace at which a particular company may exhaust its share of the remaining carbon budget and either monitor the company's actual performance against its goals or, if the scale of its ambition is found to be lacking, press for stronger targets.

Meanwhile, stakeholders concerned with understanding transition risk exposure – even in the absence of concerns over climate – can use appropriately-framed emissions targets as indirect proxies for production plans, to gauge whether the companies they invest in are potentially overestimating future demand for their products.

Emissions targets must reflect the finite limits of the carbon budget

In either case, not just any target will do. The framing of emissions goals must be linked to the finite limits of the carbon budget. Given the diversity of targets set by the companies (see **Appendix 2** – Reading Emissions Targets for more details), Carbon Tracker has developed its Hallmarks of Paris-Aligned Emissions Targets, which provide a framework that helps evaluate if a company's emissions goals are appropriately framed for it to be *potentially* considered climate-aligned (see **Box 2**). For a complete assessment of alignment, the pace of emissions reductions needs to be compatible with a low-overshoot 1.5°C scenario, with the approach to emissions reductions assessed as credible (see **Section 4.2**).

Box 2. Hallmarks of Paris-Aligned Emissions Targets

For a company's emissions target to be considered potentially Paris-aligned, we believe that as a minimum it should satisfy these three pre-conditions:

1. Include full lifecycle emissions, including scope 1, 2, and 3 emissions.
2. Target net-zero by 2050 on a full lifecycle basis, with absolute interim milestones.
3. Cover emissions from the company's own production and global product sales on a full-equity share basis, including downstream product sales from third-party crude.

We stress that these Hallmarks are a pre-requisite for a company to be considered aligned with the aims of the Paris Agreement. Goals must cover a significant proportion of company activities, with the scale (magnitude) of emissions reductions consistent with a Paris-aligned carbon budget. The approach to emissions reductions should also be credible.

There are other factors in considering whether a company is Paris-aligned in a broader sense, including for example project investment plans, future commodity price assumptions used, executive remuneration policies, and lobbying practices.

This is the latest iteration of our Hallmarks, updated this year to specify that for a company to be potentially considered Paris-compliant, it must explicitly have a goal to reach net-zero lifecycle emissions by 2050. This refinement is in response to a rise in company goals with only short-term aims for absolute reductions in scope 1, 2 and 3 emissions but without longer-term or net-zero targets.

Net-zero goals should be reinforced by interim targets to ensure continuous reductions

To reiterate and underline one of the key points from previous editions of *Absolute Impact*, a net-zero goal alone is not enough to claim alignment with any temperature outcome. Since a 2050 goal without interim targets does not limit future cumulative emissions, the company could technically achieve its net-zero target while also exceeding its share of the carbon budget.

For a company to signal that it takes its commitment to reduce emissions seriously, it needs to add interim targets that would outline a concrete pathway to its net-zero emissions goal. The steeper the downwards pathway, the lower the cumulative volume of future emissions – and the greater the likelihood of limiting global temperature rise to a given outcome (as shown in **Figure 1**).

Interim targets must be set on an absolute basis to ensure actual reductions of GHG

Some companies measure reductions on an intensity basis – as a ratio of emissions to energy produced (kgCO_{2e}/MJ) – rather than on an absolute basis (kgCO_{2e}), arguing that product efficiency is a better yardstick of progress on climate action. The problem with this approach is that intensity can theoretically go down while emissions themselves do not, provided that the company produces more energy.¹¹ Since the global carbon budget is an absolute value, measuring performance against it similarly requires absolute reductions.

Emissions must be accounted for on an equity-share basis, including from 3rd-party crude

Given that hydrocarbons often change hands as they make their way from the ground through the pipe, ship, tank and the refinery to the end-user, different companies are “responsible” for them at different stages (see **Appendix 2** – Reading Emissions Targets for more details). For a company’s emissions reduction target to be potentially considered Paris-aligned, it must factor in emissions released from all the activities that the company profits from, including its interests in both operated and non-operated assets, as well as emissions from third-party crude refined at its own plants.

4.1 Individual Company Targets

Here, we build on the analysis from previous editions of *Absolute Impact* and assess a selection of emissions reduction goals against our Hallmarks of Paris-Aligned Emissions Targets. We continue to expand our company universe, bringing the total up from 15 to 25 companies. Based on a refined company selection methodology, we choose the world’s largest publicly traded companies by volume of production in 2022,^{*} excluding fully state-owned national oil companies (NOCs) and all companies based in Russia. We give more prominence to publicly traded NOCs, including the newly added CNOOC, Petrobras, PetroChina, Saudi Aramco, and Sinopec.

We reviewed all emissions goals set by the companies in our universe and for each company chose the goal that most fulfilled our Hallmarks.^{**} We made an exception this year for bp and TotalEnergies, whose goals had been disaggregated by scope, i.e. broken down into separate targets for scope 1 and 2 and scope 3 emissions. Since these targets as a whole covered lifecycle emissions, we merged them in our analysis, in order to allow for a fair comparison with peers.

¹¹ See reference 8.

^{*} Based on Rystad data from May 2022

^{**} We use “goals” as a catch-all term for “goals”, “aims”, “ambitions”, “targets”, and similar terms used by different companies to describe their targets.

All but one of the companies fail to fully meet our Hallmarks

Even in an expanded universe, Eni remains the only company with a target which fulfils all three of our Hallmarks (see **Table 2**) and could *potentially* be considered to have Paris-aligned emissions targets. The other 24 companies in our universe are considered not even potentially Paris-aligned, given none fulfils all three of the Hallmarks.

TABLE 2 - ASSESSMENT OF INDIVIDUAL COMPANIES' EMISSIONS GOALS AGAINST THE HALLMARKS OF PARIS-ALIGNED EMISSIONS TARGETS, COMPANIES IN ALPHABETICAL ORDER

Company	Hallmark 1	Hallmark 2		Hallmark 3		Potentially Paris-aligned
	Scope 3 emissions	Net-zero by 2050	Interim absolute	Full-equity share basis	Third-party crude	
Aramco						
bp						
Cenovus						
Chesapeake						
Chevron						
CNOOC						
CNRL						
Conoco						
Coterra						
Devon						
Eni						
EOG						
EQT						
Equinor						
Exxon						
Oxy						
Petrobras						
PetroChina						
Pioneer						
Repsol						
Shell						
Sinopec						
Suncor						
SWN						
TotalEnergies						

Source: Company disclosures, Carbon Tracker Analysis

Notes: Colour Code: Green for 'Yes, Red for 'No' Notes: TotalEnergies's and bp's operational and scope 3 goals have been merged into one goal for each company to allow for a fair comparison with peers

Bp, Repsol, and TotalEnergies have all cleared the first two Hallmarks, but fell short of the third. One observation regarding TotalEnergies is that, despite an improvement in its short-term target to reduce operational emissions, there is some uncertainty around its plans for scope 3. The company plans to 'maintain' these emissions below 400 MtCO_{2e}/y through 2030. While this is lower than its 2015 baseline, it is actually above what it emitted in 2022, so this target may not necessarily lead to short-term emissions reductions out to 2030.¹²

Shell has met the first and third Hallmarks and has even partially met the second one, but its ambition has been undercut by the absence of an interim goal on an absolute basis – a shortcoming that becomes all too apparent in a case study of recent target updates (see **Box 3**).

Box 3. Comparison of changes to absolute interim targets and intensity interim targets

In February this year, bp scaled back its target to reduce production from 40% by 2030 to 25%, against a 2019 baseline. As a consequence, the company had to immediately pare back its absolute emissions reduction targets from 35-40% by 2030 to a more modest 20-30%.¹³

Meanwhile, Shell's CEO Wael Sawan has recently announced that his company's "liquids production will remain stable through to 2030",¹⁴ updating the previous guidance that oil production would be allowed to decline at 1-2%/y until 2030. As of 20 July 2023, the company has yet to provide an update to its existing emissions goals.

Both firms account for full lifecycle emissions, including scope 3, and both set interim targets on the path to net-zero. But the fact that bp sets goals on an absolute basis means that changes in production plans will be reflected in emissions forecasts, while Shell's intensity targets can theoretically allow it to revise its production plans without changing the targets, provided that the ratio of emissions to energy produced is expected to remain in line with earlier projections.

Some companies show a reluctance to set targets for scope 3 emissions or even report them. One argument is that they are powerless to act on emissions produced by others, which ignores the fact that the business model of a typical oil and gas company is built on the premise that its products will inevitably be burned and the embedded emissions released. Another argument is that just reporting scope 3 emissions will lead to double-counting,^{15,16} which misses the point of the debate on climate alignment. The question is not whether companies are counting their emissions properly, but whether they are planning to reduce them and, if yes, by when and how fast.

Avoided emissions do not qualify as reductions

Not only should reductions be sought on an absolute basis but they should also have actual baselines. Saudi Aramco's and CNOOC's interim targets could be viewed as absolute but they are based on amounts forecast under business-as-usual scenarios, not those recorded in the past. Any reductions expressed in these terms would result in *avoided emissions*, which may amount to intensity reductions at best and would do little to reduce the environmental impact of an overspent carbon budget.¹⁷

¹² Scope 3 emissions were 389 MtCO_{2e} in 2022. TotalEnergies. [Annual Report 2022](#), p.299 (2023).

¹³ Financial Times. [BP slows oil and gas retreat after record \\$28bn profit](#) (7 February 2023).

¹⁴ Shell. [Shell plc Capital Markets Day 2023](#) (2023).

¹⁵ ExxonMobil. ['Advancing Climate Solutions. Progress Report 2023'](#) (2023).

¹⁶ ConocoPhillips. ['2023 Plan for the Net-Zero Energy Transition'](#) (2023).

¹⁷ Carbon Tracker. [Oil giant Aramco still doing minimum to tackle emissions](#) (13 July 2022).

4.2 Target Credibility Criteria

Though it is critical how a target is framed, it is no less important to know how it is sought to be achieved. An ideal approach would be through asset wind-down, i.e. organic decline in production as the field matures, without any investment in new projects. But this approach is one of many. In the previous edition of *Absolute Impact* we identified three more typical emissions reduction strategies:

1. Continued investment in new oil and gas assets coupled with divestments, which often “makes space” for new projects and does not address emissions from the assets being divested;
2. Continued investment in new oil and gas assets coupled with the use of emissions mitigation technologies, which are unproven and liable to add significant costs to end products; and
3. Continued investment in new oil and gas assets coupled with third-party offsets, which are fraught with such challenges as miscalculations and lax industry standards.

Evidently, all three of these approaches lack credibility in one way or another. This is worrisome not just from the point of view of climate alignment, where emissions reductions may fail to materialise in reality even if they are sometimes claimed on paper, but also from a risk angle. Adopting goals that lag on the credibility front may pose a reputational threat to the company or expose it to regulatory risk, especially at a later stage as carbon taxes grow ever more costly. An assessment of a goal’s credibility should therefore feed into the wider assessment for alignment and, in our view, meet three criteria (see **Box 4**).¹⁸

Box 4. Credibility criteria for corporate climate goals

For approaches to be credible, emissions goals should:

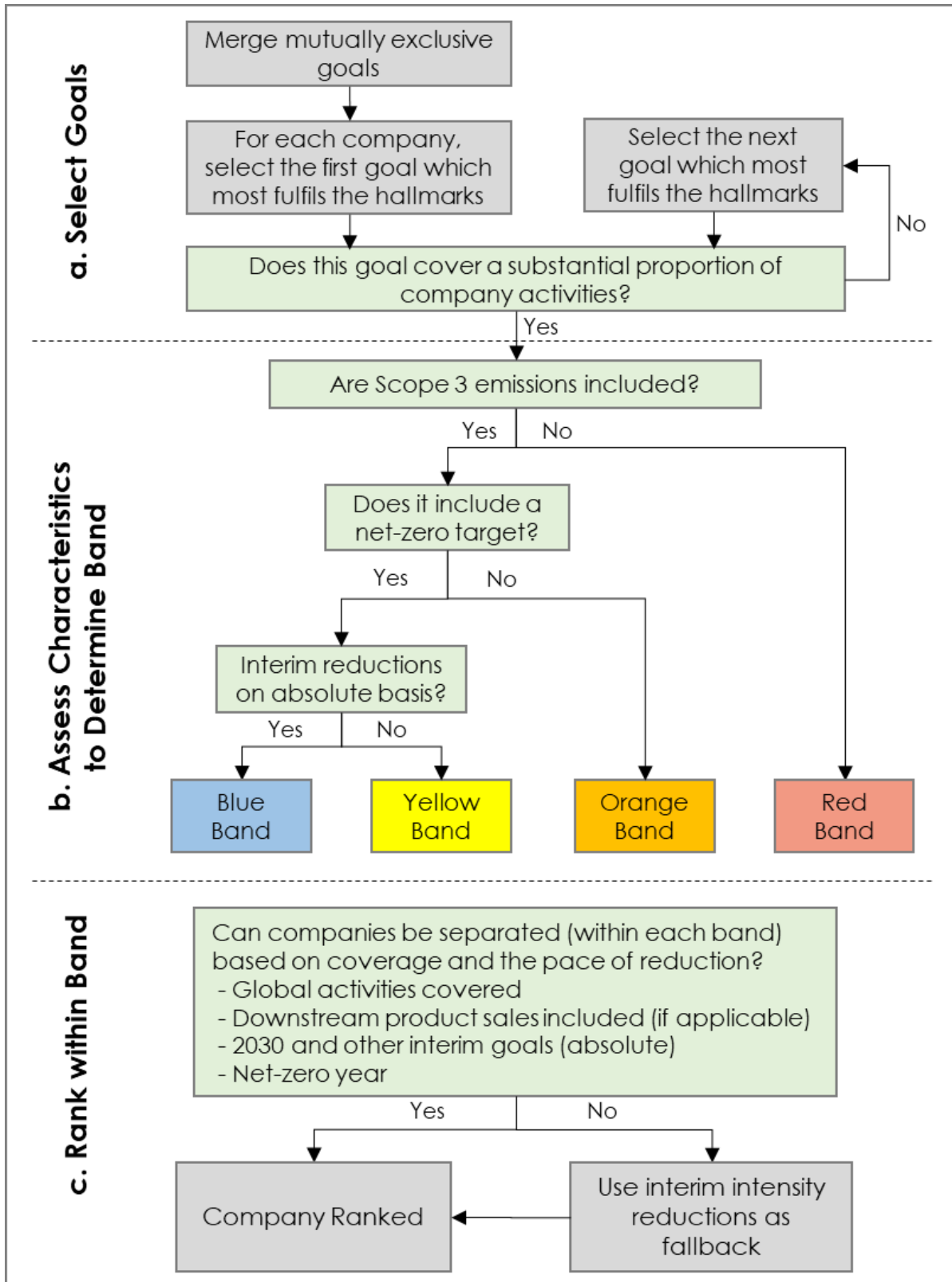
- Not be achieved through asset divestments – if these occur, goals should be adjusted accordingly,
- Not rely unduly on emissions mitigation technologies, such as carbon capture, utilisation and/or storage or nature-based solutions that are either undemonstrated at the required scale or require vast areas of as yet unidentified land, and
- Not rely on the purchase of third-party offsets, which may just be avoided emissions.

4.3 Relative Ranking of Company Targets

We have adapted the Hallmarks of Paris-Aligned Emissions Targets to rank companies by their emissions targets using a three-step process (see **Figure 2**). The first step is choosing a goal for each company, using the same methodology employed in individual target assessments. The second step is sorting the chosen goals into bands, which involves asking whether they (i) include scope 3 emissions, (ii) lead to net-zero lifecycle emissions by a certain deadline, and (iii) are set on an absolute basis. We have refined the methodology used in previous editions of *Absolute Impact* in line with the changes to the Hallmarks and inserted another band between the second- and formerly third-tier bands for companies whose full lifecycle emissions goals do not have net-zero deadlines. The third step is ranking goals inside the bands, factoring in the extent to which Hallmark 3 is met, and the pace of emissions reductions.

¹⁸ See reference 8.

FIGURE 2 – GOAL SELECTION AND RANKING METHODOLOGY



Source : Carbon Tracker

TABLE 3 – COMPARISON OF COMPANY CLIMATE GOALS, SELECTED PER CTI METHODOLOGY

Rank	Company	Metric	Hallmark 1	Hallmark 2		Hallmark 3		Scale		Potentially Paris-aligned
			Scope 3 emissions	Scope 1,2,3 net-zero	2030 absolute goal	Full equity share	3rd party crude	2030 absolute reduction	Scope 1 & 2 net zero year	
1	Eni	Lifecycle emissions	Yes	Yes	Yes	Yes	Yes	35%	2050	Yes
2	Total ¹	Lifecycle emissions	Yes	Yes	Yes	Partial ²	Yes	~6.2%	2050	-
3	Repsol	Lifecycle emissions	Yes	Yes	Yes	Partial ²	-	30%	2050	-
4	bp ¹	Lifecycle emissions	Yes	Yes	Yes	Partial ²	-	~23.9%-32.6%	2050	-
5	Shell	Lifecycle intensity	Yes	Yes	-	Yes	Yes	-	2050	-
6	Equinor	Lifecycle intensity	Yes	Yes	-	Partial ²	-	-	2050	-
7	Oxy	Lifecycle intensity	Yes	Yes	-	-	n/a	-	2050	-
8	Suncor	Lifecycle emissions	Yes	-	Yes	Yes	-	10 MtCO _{2e} /y ³	-	-
9	Chevron	Lifecycle intensity	Yes	-	-	-	Yes	-	-	-
10	Conoco	Operational intensity	-	n/a	n/a	Yes	n/a	-	2050	-
11	Cenovus	Operational emissions	-	n/a	n/a	Yes	-	-	2050	-
12	EQT	Operational emissions	-	n/a	n/a	-	n/a	-	2025	-
13	Chesapeake	Operational emissions	-	n/a	n/a	-	n/a	-	2035	-
14	EOG	Operational emissions	-	n/a	n/a	-	n/a	-	2040	-
15	CNRL	Operational emissions	-	n/a	n/a	-	n/a	-	2050	-
=16	Devon	Operational intensity	-	n/a	n/a	-	n/a	-	2050	-
=16	Pioneer	Operational intensity	-	n/a	n/a	-	n/a	-	2050	-
18	SWN	Operational emissions	-	n/a	n/a	-	n/a	-	-	-
19	Coterra	Operational intensity	-	n/a	n/a	-	n/a	-	-	-
20	CNOOC	Operational intensity ⁴	-	n/a	n/a	-	n/a	-	-	-
21	Petrobras	Operational emissions	-	n/a	n/a	-	-	-	2050	-
22	Exxon	Operational intensity	-	n/a	n/a	-	-	-	2050	-
23	PetroChina	Operational intensity	-	n/a	n/a	-	-	-	2050	-
24	Sinopec	Operational emissions	-	n/a	n/a	-	-	-	-	-
25	Aramco	Operational intensity ⁴	-	n/a	n/a	- ⁵	-	-	2050	-

Source: Company disclosures, Carbon Tracker analysis

Notes: ¹ TotalEnergies’s and bp’s operational and scope 3 goals have been merged to allow for a fair comparison with peers. ² Partial equity-share basis means operational emissions on an operated-asset basis and scope 3 emissions on a full equity-share basis. ³ Suncor’s targets cannot be expressed in percentage terms because the company has not publicly disclosed the scope 3 emissions for its baseline. ⁴ CNOOC’s and Saudi Aramco’s targets are measured against business-as-usual scenarios, which makes these ‘intensity reduction’ goals. ⁵ Saudi Aramco’s goal is on a wholly-owned operated-asset basis.

There has been little change at the top of our rankings

The makeup of the top band stays the same, with Eni leading the pack for the fourth year in a row. TotalEnergies comes one step closer to the top, displacing Repsol as the runner-up, though it still has some way to go before it can challenge Eni; its Scope 3 target may be on a full-equity share basis, but its target for Scope 1 and Scope 2 emissions refers to operated assets only. The combined goal is thus on a *partial equity-share basis*.

Repsol and bp place third and fourth respectively. Like TotalEnergies, the two companies set their goals on a partial equity-share basis, but unlike the French multinational, they do not count emissions from downstream products from third-party crude. Since bp's Scope 3 target is limited to CO₂ from its upstream division, we find its merged goal to be slightly weaker than that of Repsol.

The second-tier band splits up into two, but shows little movement otherwise

Three companies from last year's second-tier band – Shell, Equinor, and Occidental Petroleum – place exactly where they did in our previous edition: fifth, sixth, and seventh. Shell's full equity-share goal gives it an edge over Equinor, whose goal is on a partial equity-share basis. Occidental Petroleum has restricted its goal to operated assets, which puts it behind its European peers.

Given an amended methodology, we sort Chevron into the newly-created third-tier band, where it joins Suncor as the two companies that have yet to commit to reducing their lifecycle emissions to net-zero.

All new entrants join last year's laggards in the lowest tier

ConocoPhillips, EQT, EOG Resources, Devon, Pioneer, and ExxonMobil stay in the bottom band of companies that do not have specific targets for scope 3 emissions. Although they appear in the exact order in which they ranked last year, they are interspersed by some of the new entrants: Cenovus, Chesapeake, and Canadian Natural Resources Limited.

All five of the newly added NOCs place near the bottom, though two of these manage to edge out ExxonMobil. The first, CNOOC operates only upstream assets and, thus, does not need to account for emissions from third-party crude. Petrobras, an integrated producer, set its operational emissions targets on an absolute basis, while ExxonMobil settled on an intensity basis. While the US supermajor has 'expectations' to achieve absolute reductions in operational emissions, we find these insufficiently framed to be counted as targets.

Saudi Aramco is the only company in our universe to restrict emissions reductions to wholly-owned operated assets, which is a narrower definition of operated assets that excludes those that may be co-owned by other investors. As such, it brings up the rear.

Progress on emissions goals is stagnating, following record profits and anti-ESG backlash

The general stagnation across the table suggests that the oil and gas industry is content with the level of announced ambitions. It also shows that concerns over sustainability have been overshadowed by the pursuit of higher profits and the growing anti-ESG backlash, as evidenced by the spike in bp's share prices following its production plan update.¹⁹

¹⁹ Reuters. [BP's shares hit 3-1/2-year high after it cuts emissions targets](#) (8 February 2023).

5 Implications for Stakeholders

A thorough assessment of emissions goals can enable those worried about climate to hold to account the companies that they deem to be underperforming. Those concerned about transition challenges can ensure that all risks have been priced in and are being properly managed.

Stakeholders can use analysis of emissions targets to assess oil and gas companies

As we have outlined in this note, investors can use analysis of emissions targets to assess corporate behaviour position on climate; specifically they can:

1. **Gauge companies' commitment to stated emissions goals**, by monitoring them for any changes from previous years as well as by measuring actual performance against them.
2. **Quiz companies on the credibility of their decarbonisation strategies** focussing on the nature and purpose of emissions reduction methods.
3. **Consider calling for stronger goals** if the current ones are found to be lacking, using top-band targets as examples to aspire to.
4. **Assess corporate transition planning** against their own demand assumptions and outlooks, using emissions goals as proxies for production plans.
5. **Question companies on short- and long-term production plans** if these are not immediately apparent from their emissions targets.
6. **Investigate corporate governance metrics**, especially the weighting of decarbonisation/production metrics within executive compensation policies.

Meanwhile, policymakers should consider clearing up the confusion around accounting standards that allow double-counting to be cited as an excuse to reject responsibility for some portions of emissions.

Emissions targets analysis should be complemented by assessment of other metrics

Though useful, emissions goals do not offer a full assessment of climate alignment. Other indicators – production guidance, capital expenditure plans, and remuneration policies – can fill the gaps and supply additional bits of intelligence that cannot be gleaned elsewhere. Besides, they can be cross-checked against each other, showing whether they form a cohesive corporate strategy.

Carbon Tracker has been analysing company strategies from two other angles:

- Our *2 Degrees of Separation*²⁰ series looks into production and investment plans of the largest listed oil and gas companies to see if they are aligned with the Paris Agreement.
- Our remuneration series, with its latest update *Crude Intentions*,²¹ explores what kind of behaviour might be incentivised by executive compensation policies at the companies reviewed in *Absolute Impact*.

Those analysing transition risks can explore a series of reports leading up to *Managing Peak Oil*²² to look at how asset values and company valuations may fare under different demand-substitution scenarios.

²⁰ See reference 6.

²¹ See reference 9.

²² Carbon Tracker. [Managing Peak Oil](#) (2022).

Appendix 1 – Climate Goals by Company

Below we summarise each company's emissions reduction goals. Those in blue boxes are the goals which have been included in our ranking table (see **Figure 2** – Goal selection and Ranking methodology for ranking methodology). Where a goal has been updated since last year, we have included the previous year's target in [grey].

bp

bp has a goal to achieve net-zero emissions on an absolute basis across scopes 1, 2 and 3 by 2050 which includes five 'aims', two of which fall outside the scope of this note.²³ The remaining three goals are as follows:

1. **Net Zero Operations** covers scope 1 and 2 emissions on an absolute, operated-asset basis across the value chain and seeks to reduce these:
 - a. By 20% by 2025
 - b. By 50% by 2030
 - c. To net-zero by 2050
2. **Net Zero Production** covers scope 3 emissions on an absolute, full equity-share basis in the upstream sector, excluding 3rd party crude, and seeks to reduce these:
 - a. By 10-15% by 2025 [20%]
 - b. By 20-30% by 2030 [30-40%]
 - c. To net-zero by 2050
3. **Net Zero Sales** covers scope 1, 2 and 3 emissions on an intensity, full equity-share basis across the value chain and seeks to reduce these:
 - a. By 5% by 2025
 - b. By 15-20% by 2030
 - c. To net-zero by 2050

The **Net Zero Operations** and **Net Zero Production** goals can be seen as one larger goal disaggregated by emission category. Merging these goals allows for a fair comparison with the company's peers.

Its baseline is 2019.

Cenovus Energy

Cenovus has a goal to eliminate operational emissions, which is as follows:

1. **Long-term ambition for net zero** covers scope 1 and 2 emissions on an absolute, full equity-share basis across the value chain and seeks to reduce these:
 - a. By 35% by 2035
 - b. To net-zero by 2050²⁴

Its baseline is 2019.

²³ Bp. [Net zero ambition progress update \(2023\)](#).

²⁴ Cenovus. [Annual Report 2022 \(2023\)](#).

Chesapeake

Chesapeake has a goal to eliminate operational emissions and an interim goal,²⁵ which are as follows:

1. **Net Zero GHG Emissions** covers scope 1 and 2 emissions on an operated-asset basis in the upstream sector (effectively Chesapeake's full value chain) and seeks to reduce these:
 - a. To net-zero by 2035
2. **GHG Intensity** covers scope 1 emissions on an intensity, operated-asset basis in the upstream sector (effectively Chesapeake's full value chain) and seeks to reduce these:
 - a. To 3 kgCO_{2e}/boe by 2025.²⁶

Given their nature, these goals do not require a baseline.

Chevron

Chevron has a goal to eliminate operational emissions and a series of intensity goals,²⁷ which are as follows:

1. **Net Zero Upstream Emissions** covers scope 1 and 2 emissions on a full equity-share basis in the upstream sector and seeks to reduce these:
 - a. To net-zero by 2050
2. **Portfolio Carbon Intensity** covers scope 1, 2 and 3 emissions on an intensity, operated-asset basis across the value chain and seeks to reduce these:
 - a. To 71 gCO_{2e}/MJ (by >5%) by 2028
3. **Gas Carbon Intensity** covers scope 1 and 2 emissions on an intensity, operated-asset basis from gas-producing facilities in the upstream sector and seeks to reduce these:
 - a. To 24 kgCO_{2e}/boe (by 26%) by 2028
4. **Oil Carbon Intensity** covers scope 1 and 2 emissions on an intensity, operated-asset basis from oil-producing facilities in the upstream sector and seeks to reduce these:
 - a. To 24 kgCO_{2e}/boe (by 42%) by 2028
5. **Refining Carbon Intensity** covers scope 1 and 2 emissions on an intensity, operated-asset basis from refineries in the downstream sector and seeks to reduce these:
 - a. To 36 kgCO_{2e}/boe (by 2-3%) by 2028

Its baseline is 2016.

²⁵ Chesapeake. [Annual Report 2022](#) (2023).

²⁶ As paraphrased, based on the original wording: "Reduce our GHG intensity to 3.0 metric tons CO₂ equivalent per thousand barrel of oil equivalent by 2025". See p.44, *ibid.*

²⁷ Chevron. [Enabling human progress. 2022 corporate sustainability report](#) (2023).

CNOOC Ltd

CNOOC Ltd has yet to formally announce a net-zero goal,²⁸ but has a:

1. **GHG Emissions Reduction** goal that is assumed to cover scope 1 and 2 emissions on an operated-asset basis in the upstream sector and is further assumed to aim for avoided emissions of:
 - a. 577 ktCO₂e by 2023
 - b. 1.5 MtCO₂e by 2025.

We made the assumptions based on the limited information available in CNOOC Ltd's filings, given that the company has not yet replied to our request for clarification. Our assumption about emissions categories is based on the fact that the company only reports scope 1 and 2 emissions; our assumption about emissions boundaries is based on the lowest applicable default value for this metric; our assumption about emissions avoidance is based on the absence of a baseline.

We note the company's parent CNOOC also announced a goal to reduce the carbon intensity of its emissions by 10-18% over 2023-2028,²⁹ but it is neither mentioned in annual and sustainability reports nor specified to a sufficient degree to be considered for inclusion this year.

CNRL

CNRL has a goal to eliminate certain operational emissions and interim goals, which are as follows:

1. **Total corporate emissions** target covers scope 1 and 2 emissions on an absolute, operated-asset basis in the upstream and midstream sectors (effectively CNRL's full value chain) and seeks to reduce these:
 - a. By 40% by 2035 [this is a newly added goal].³⁰
2. **Target covering oil sands mining and thermal operations** covers scope 1 and 2 emissions on an intensity, operated-asset basis in the upstream sector and seeks to reduce these:
 - a. By 25% by 2025 (achieved)
 - b. To net-zero by 2050.³¹

Its baselines are 2020 for the absolute goal and 2016 for the intensity goal.

²⁸ CNOOC Ltd. [2022 CNOOC Limited Environmental, Social and Governance Report](#) (2023).

²⁹ CNOOC. [CNOOC Releases Action Plan for Carbon Peak and Carbon Neutrality](#) (2022).

³⁰ CNRL. [Canadian Natural Resources Limited Announces 2023 Budget and New GHG Emissions Reduction Target](#) (2022).

³¹ CNRL. [Canadian Natural Resources Limited CDP Climate Change Questionnaire 2022](#) (2022).

ConocoPhillips

ConocoPhillips has a goal to eliminate operational emissions that includes an interim target³², as follows:

1. **GHG Emissions Intensity Reduction** target covers scope 1 and 2 emissions on an intensity, full equity-share basis in the upstream sector (effectively ConocoPhillips' full value chain) and seeks to reduce these:
 - a. By 40-50% by 2030
 - b. To net-zero by 2050.

Its baseline is 2016.

Coterra Energy

Coterra has yet to formally announce a net-zero goal, but has a:

1. **Greenhouse Gas Emissions Intensity** target that covers scope 1 emissions on an intensity, operated-asset basis in the upstream sector (effectively Coterra's full value chain) and seeks to reduce these:
 - a. By 49% by end-2023.³³

Its baseline is 2019.

Devon Energy

Devon has a goal to eliminate operational emissions that includes an interim target³⁴, as follows:

1. **Net zero GHG emissions** goal covers scope 1 and 2 emissions on an intensity, operated-asset basis in the upstream sector (effectively Devon's full value chain) and seeks to reduce these:
 - a. By 50% by 2030
 - b. To net-zero by 2050.

Its baseline is 2019.

³² ConocoPhillips. [Plan for the Net-Zero Energy Transition. 2022-2023 Progress Report \(2023\)](#).

³³ Coterra. [2022 Annual Report \(2023\)](#).

³⁴ Devon Energy. [Devon Energy 2022 Sustainability Report \(2023\)](#).

Eni

Eni has a goal to achieve net-zero emissions on an absolute basis across scopes 1, 2 and 3 by 2050, including four carbon emissions reduction targets,³⁵ which are as follows:

1. **Net Carbon Footprint (I)** covers scope 1 and 2 emissions on an absolute, full equity-share basis in the upstream sector and seeks to reduce these:
 - a. By 50% by 2024
 - b. By 65% by 2025
 - c. To net-zero by 2030.
2. **Net Carbon Footprint (II)** covers scope 1 and 2 emissions on an absolute, full equity-share basis across the value chain and seeks to reduce these:
 - a. To net-zero by 2035.
3. **Net GHG Lifecycle Emissions** covers scope 1, 2 and 3 emissions on an absolute, full equity-share basis, including 3rd party crude, across the value chain and seeks to reduce these:
 - a. By 35% by 2030
 - b. By 55% by 2035
 - c. By 80% by 2040
 - d. To net-zero by 2050.
4. **Net Carbon Intensity** covers scope 1, 2, and 3 emissions on an intensity, full equity-share basis, including 3rd party crude, across the value chain and seeks to reduce these:
 - a. By 15% by 2030
 - b. By 50% by 2040
 - c. To net-zero by 2050.

Its baseline is 2018.

EOG Resources

EOG has a goal to eliminate operational emissions and an interim target,³⁶ which are as follows:

1. **Net Zero Ambition** covers scope 1 and 2 emissions on an operated-asset basis in the upstream sector (effectively EOG's full value chain) and seeks to reduce these:
 - a. To net-zero by 2040.
2. **GHG intensity target** covers scope 1 emissions on an operated basis in the upstream sector (effectively EOG's full value chain) and seeks to reduce these:
 - a. To 13.5 kgCO_{2e}/boe by 2025.

Given their nature, these goals do not require a baseline.

³⁵ Eni. [Eni for 2022. A Just Transition \(2023\)](#).

³⁶ EOG Resources. [Company Fact Sheet April 2023 \(2023\)](#).

EQT Corp

EQT has a goal to eliminate operational emissions and a separate intensity target,³⁷ which are as follows:

1. **Net Zero Emissions** goal covers scope 1 and 2 emissions on an operated-asset basis, excluding emissions from Alta assets, in the upstream sector (effectively EQT's full value chain) and seeks to reduce these:
 - a. To net-zero by 2025.
2. **GHG Emissions Intensity** goal covers scope 1 emissions on an intensity, operated-asset basis, excluding emissions from Alta assets, in the upstream sector (effectively EQT's full value chain) and seeks to reduce these:
 - a. By approximately 70% by 2025.

We note that both targets have the same deadline. We assume this means EQT expects to continue to produce operational emissions, albeit at lower intensity rates, but intends to offset these using emissions mitigation technologies. We further assume that the company does not yet account for emissions from its Alta assets, as set out in its most recent sustainability report.

Its baseline is 2018.

Equinor

Equinor has a goal to achieve net-zero emissions on an absolute basis across scopes 1, 2 and 3 by 2050,³⁸ including four carbon emissions reduction targets, as follows:

1. **Emissions Reduction** target covers scope 1 and 2 emissions on an absolute, operated-asset basis across the value chain and seeks to reduce these:
 - a. By 50% by 2030
 - b. To net-zero by 2050.
2. **Net Carbon Intensity** target covers scope 1, 2 and 3 emissions on an intensity, partial equity-share basis, excluding 3rd party crude, across the value chain and seeks to reduce these:
 - a. By 20% by 2030
 - b. By 40% by 2035
 - c. To net-zero by 2050.
3. **Upstream CO₂ intensity** target covers scope 1 emissions of CO₂ on an intensity, operated-asset basis in the upstream sector and seeks to reduce these:
 - a. To less than 8 kgCO₂/boe by 2025
 - b. To around 6 kgCO₂/boe by 2030.
4. **Absolute Emissions in Norway** target covers scope 1 and 2 emissions on an absolute, operated-asset basis across the value chain in Norway and seeks to reduce these:
 - a. By 70% by 2040
 - b. To net-zero by 2050.

Its baselines are 2015 for the **Emissions Reduction** target, 2019 for the **Net Carbon Intensity** target, and 2005 for the **Absolute Emissions in Norway** target.

³⁷ EQT Corp. [Evolving Energy. ESG Report Calendar Year 2021 \(2022\)](#).

³⁸ Equinor. [2022 Integrated Annual Report \(2023\)](#).

ExxonMobil

Exxon has a goal to eliminate operational emissions with interim targets,³⁹ as follows:

1. **Corporate GHG Intensity** goal covers scope 1 and 2 emissions on an intensity, operated-asset basis across the value chain and seeks to reduce these:
 - a. By 20-30% by 2030
 - b. To net-zero by 2050.
2. **Upstream GHG Intensity** goal covers scope 1 and 2 emissions on an intensity, operated-asset basis in the upstream sector and seeks to reduce these:
 - a. By 15-20% by 2025 (achieved)
 - b. By 40-50% by 2030
 - c. To net-zero by 2050 (assumed based on the wider corporate target above).
3. **Unconventional Permian Basin Emissions** goal covers scope 1 and 2 emissions on an operated-asset basis in its upstream operations in the Permian and seeks to reduce these:
 - a. To net-zero by 2030.

The company says its goals “are expected to achieve” a 20% reduction in corporate-wide emissions and a 30% reduction in upstream emissions on an absolute basis,⁴⁰ but we do not find this wording sufficient to be recognised as a formal commitment.

Its baseline is 2016.

Occidental Petroleum

Occidental has a goal to achieve net-zero emissions on an absolute basis across scopes 1, 2 and 3 by 2050, including interim targets,⁴¹ as follows:

1. **Net-Zero Emissions in Operations and Energy Use** target covers scope 1 and 2 emissions on an operated-asset basis across the value chain and seeks to reduce these:
 - a. To net-zero by 2040, “with an ambition to do so by 2035”.
2. **Net-Zero Emissions Inventory** target covers scope 1, 2 and 3 emissions on an operated-asset basis across the value chain and seeks to reduce these:
 - a. To net-zero by 2050.
3. **Total Operational GHG Emissions** target covers scope 1 and 2 emissions on an absolute, operated-asset basis across the value chain and seeks to reduce these:
 - a. By 3.68 MtCO₂e/y by 2024.
4. **Total Operational GHG Intensity** target covers scope 1 and 2 emissions on an intensity, operated-asset basis across the value chain and seeks to reduce these:
 - a. To 0.02 tCO₂e/boe by 2025.⁴²

Its baseline is 2021.

³⁹ ExxonMobil. [Advancing Climate Solutions. 2023 Progress Report \(2023\)](#).

⁴⁰ Ibid., p. 6

⁴¹ Occidental Petroleum. [Climate Report 2022. Building to Net Zero \(2023\)](#).

⁴² Occidental uses the unit MTCO₂e for ‘metric tonne of CO₂e’, *ibid*.

Petrobras

Petrobras has a goal to eliminate operational emissions and a range of interim targets,⁴³ as follows:

1. **Greenhouse Gas Emissions Neutrality** goal covers scope 1 and 2 emissions on an absolute, operated-asset basis across the value chain and seeks to reduce these:
 - a. By 25% by 2030
 - b. To net-zero by 2050.
2. **E&P GHG Emissions Intensity** goal covers scope 1 and 2 emissions on an intensity, operated-asset basis in the upstream sector and seeks to reduce these:
 - a. By 32% (to 15 kgCO₂e/boe) by 2025, keeping them at that level through 2030.
3. **GHG Emissions Intensity in Refining** goal covers scope 1 and 2 emissions on an intensity, operated-asset basis in the downstream sector and seeks to reduce these:
 - a. By 16% (to 36 kg/CWT) by 2025
 - b. By 30% (to 30 kg/CWT) by 2030

Its baseline is 2015.

PetroChina

PetroChina has a goal to eliminate operational emissions, as follows:

1. **Net-Zero Emissions** goal that is assumed to cover scope 1 and 2 emissions, is set on an operated-asset basis across the value chain, and seeks to reduce these:
 - a. To 'near-zero' by 2050.⁴⁴

We made the assumptions based on the limited information available in PetroChina's reports and filings given that the company has not yet replied to our request for clarification. Our assumption about emissions categories is based on the fact that the company only reports and refers to scope 1 and 2 emissions.

Given its nature, this goal does not require a baseline.

Pioneer Natural Resources

Pioneer has a goal to eliminate operational emissions with an interim target, as follows:

1. **Long-Term Net Zero Emissions Ambition** covers scope 1 and 2 emissions on an intensity, operated-asset basis in the upstream sector (effectively Pioneer's full value chain) and seeks to reduce these:
 - a. By 50% by 2030
 - b. To net-zero by 2050.⁴⁵

Its baseline is 2019.

⁴³ Petrobras. [Climate Change Supplement \(2023\)](#).

⁴⁴ PetroChina. [2022 Environmental, Social and Governance Report \(2023\)](#).

⁴⁵ Pioneer Natural Resources. [2022 Annual Report \(2023\)](#).

Repsol

Repsol has a goal to achieve net-zero emissions on an absolute basis across scopes 1, 2 and 3 by 2050, including five targets,⁴⁶ as follows:

1. **Net Emissions** target covers scope 1, 2 and 3 emissions on an absolute, partial equity-share basis, excluding 3rd party crude, across the value chain and seeks to reduce these:
 - a. By 30% by 2030.
2. **Absolute Emissions in Operated Assets** target covers scope 1 and 2 emissions on an absolute, operated-asset basis across the value chain and seeks to reduce these:
 - a. By 55% by 2030.
3. **Net Zero Emissions Commitment** covers scope 1, 2 and 3 emissions on an intensity, partial equity-share basis across the value chain and seeks to reduce these:
 - a. By 15% by 2025
 - b. By 28% by 2030
 - c. By 55% by 2040
 - d. To net-zero by 2050.
4. **2021-2025 Energy and Carbon Plan** goal covers scope 1 and 2 emissions on an absolute, operated-asset basis from Refining Spain, Refining Peru, Chemical and Exploration and Production and seeks to reduce these:
 - a. By 1.5 MtCO₂e by 2025.
5. **E&P's Carbon Intensity** goal covers scope 1 and 2 emissions on an intensity, operated-asset basis in the upstream sector and seeks to reduce these:
 - a. By 75% by 2025.

Its baseline is 2016 for all targets except the **2021-2025 Energy and Carbon Plan** goal, which we assume has 2021 as its baseline.

Saudi Aramco

Aramco has a goal to eliminate certain operational emissions and interim targets,⁴⁷ as follows:

1. **Net Zero Footprint by 2050** goal covers scope 1 and 2 emissions on a wholly-owned-operated-asset basis across the value chain and seeks to:
 - a. Avoid 52 MtCO₂e by 2035
 - b. Reduce these to net-zero by 2050.
2. **Upstream Carbon Intensity** goal covers scope 1 and 2 emissions on an intensity, wholly-owned-operated-asset basis in the upstream sector and seeks to reduce these:
 - a. By at least 15% by 2035.

Technically, Saudi Aramco set its emissions reduction goal on an absolute basis, but its use of business as usual as its baseline means that these 'reductions' amount to avoided emissions. The actual reduction will be 1 MtCO₂e relative to 2021.

Its baseline for the Upstream Carbon Intensity goal is 2018.

⁴⁶ Repsol. [2023 Global Sustainability Plan \(2023\)](#).

⁴⁷ Saudi Aramco. [Saudi Aramco Sustainability Report \(2022\)](#).

Shell

Shell has a goal to achieve net-zero emissions on an absolute basis across scopes 1, 2 and 3 by 2050 and has set two key carbon emissions reduction goals,⁴⁸ as follows:

1. **Net Carbon Intensity** goal covers scope 1, 2 and 3 emissions on an intensity, full equity-share basis, including 3rd party crude, across the value chain and seeks to reduce these:
 - a. By 6-8% by end-2023
 - b. By 9-12% by 2024
 - c. By 9-13% by 2025
 - d. By 20% by 2030
 - e. By 45% by 2035
 - f. To net-zero by 2050.
2. **Absolute Emissions** goal covers scope 1 and 2 emissions on an absolute, operated-asset basis across the value chain and seeks to reduce these:
 - a. By 50% by 2030.

Its baseline is 2016.

Sinopec

Sinopec has yet to formally announce a net-zero goal, but has a:

1. **Greenhouse Gas Emissions Reduction** goal that is assumed to cover scope 1 and 2 emissions, is set on an absolute, operated-asset basis across the value chain and seeks to reduce these:
 - a. By 12.6 MtCO_{2e} by end-2023.⁴⁹

We made the assumption based on the limited information available in Sinopec's reports and filings given that the company has not yet replied to our request for clarification. Our assumption about emissions categories is based on the fact that the company only reports scope 1 and 2 emissions.

Its baseline is 2017.

⁴⁸ Shell. [Our climate target \(2023\)](#).

⁴⁹ Sinopec Corp. [2022 Sinopec Corp. Sustainability Report \(2023\)](#).

Southwestern Energy

Southwestern has yet to formally announce a net-zero goal, but it has two interim targets,⁵⁰ as follows:

1. **GHG Absolute Emissions** goal covers scope 1 emissions on an absolute, operated-asset basis in the upstream sector (effectively Southwestern's full value chain) and seeks to reduce these:
 - a. By 50% by 2035.
2. **GHG Intensity** goal covers scope 1 emissions on an intensity, operated-asset basis in the upstream sector (effectively Southwestern's full value chain) and seeks to reduce these:
 - a. By 50% by 2035.

The company said its goals "puts SWN on a path to achieve net-zero emissions by 2050", but we do not find this wording sufficient to be recognised as a formal commitment.

Its baseline is 2021.

Suncor Energy

Suncor has a goal to eliminate operational emissions and two interim goals,⁵¹ as follows:

1. **Net Zero by 2050** goal covers scope 1 and 2 emissions on an operated-asset basis across the value chain and seeks to reduce these:
 - a. To net-zero by 2050.
2. **Interim target** covers scope 1, 2 and 3 emissions on an absolute, full equity-share basis across the value chain and seeks to reduce these:
 - a. By 10 MtCO_{2e}/y by 2030.

Its baseline is 2019, adopted on a project-by-project basis. We note Suncor does not publicly disclose its scope 3 emissions emitted before 2020.

⁵⁰ Southwestern Energy. [Corporate Responsibility Report 21-22](#) (2023).

⁵¹ Suncor. [Climate Report 2022](#) (2023).

TotalEnergies

TotalEnergies has a goal to achieve net-zero emissions on an absolute basis across scopes 1, 2 and 3 by 2050, including four carbon emissions reduction targets,⁵² as follows:

1. **Lifecycle Carbon Intensity** goal covers scope 1, 2 and 3 emissions on an intensity, full equity-share basis, including 3rd party crude, across the value chain and seeks to reduce these:
 - a. By 15% by 2025 [$>10\%$]
 - b. By 25% by 2030 [$>20\%$]
 - c. To net-zero by 2050.
2. **Operational Emissions** goal covers scope 1 and 2 emissions on an absolute, operated-asset basis across the value chain and seeks to reduce these:
 - a. By 17% by 2025 [15%]
 - b. By more than 40% by 2030.
3. **Scope 3 World** covers scope 3 emissions on an absolute, full equity-share basis, including 3rd party crude, across the value chain and seeks to 'maintain' these:
 - a. Below 400 MtCO_{2e} by 2030.
4. **Scope 3 Oil** covers scope 3 emissions on an absolute, full equity-share basis, including 3rd party crude, across the oil value chain and seeks to reduce these:
 - a. By 30% by 2025 [this is a newly added goal]
 - b. By 40% by 2030 [$>30\%$]

Operational Emissions and **Scope 3 World** goals can be seen as one larger goal disaggregated by emission category. Merging these goals allows for a more equitable comparison with the company's peers.

Its baseline is 2015.

⁵² TotalEnergies. [Sustainability & Climate 2023 Progress Report \(2023\)](#).

Appendix 2 – Reading Emissions Targets

The complexity of the processes involved in extracting and delivering fossil fuels to consumers influences how associated carbon emissions are measured and reported, creating a range of different parameters:

- **Category.** The Greenhouse Gas Protocol, an almost universally accepted GHG accounting standard, divides emissions attributable to a company into three categories:
 - Scope 1 – direct emissions produced by the company itself in the course of business;
 - Scope 2 – indirect emissions produced by the company’s energy suppliers; and
 - Scope 3 – indirect emissions produced by the rest of the company’s suppliers and by its consumers when using the company’s product.

Scope 1 and 2 emissions are usually bundled together as ‘operational emissions’, meaning emissions related to the making of the product. Scope 3 covers the rest and, at least in the case of the oil and gas industry, accounts for 80-95% of all lifecycle emissions.

- **Ownership.** Since many oil and gas companies enter into partnerships, form joint ventures or trade hydrocarbons with third parties, there is a certain degree of complexity to the question of ownership of the product and its embedded emissions.

Where partnerships are concerned, companies can choose to measure, report and target emissions only from assets that they actually operate, or they can give a fuller account by adding up emissions on a full equity-share basis.

Similar practices can be observed in trading, where certain firms will assume responsibility only for the oil and gas that they produced themselves, while others will also report and target emissions from final products that they make from crude bought from third parties.

- **Baseline.** Most oil and gas companies select the volume of emissions produced in a given year in the past, bounded by category and ownership, as a baseline against which to set their targets and measure progress.

However, a few choose business as usual as their baseline, meaning they measure their ‘reductions’ against what they could have produced in future.

- **Constituent gases.** There are five primary and four manmade gases making up GHG, and the norm is to aim for a reduction in carbon dioxide (CO₂), methane (CH₄) and nitrous oxide (NO₂), though there are companies targeting as many as six types of gases or as few as one.
- **Units of measurement.** Emissions can be measured in absolute terms (kgCO₂e) or on an intensity basis, as a ratio (kgCO₂e/MJ).

References

- [1] Zhu, L., Zhu, D., Davis, S. & Ciais, P. (2023). 'Monitoring global carbon emissions in 2022'. *Nature Reviews Earth & Environment*, 4, 205-26. Available at: <https://www.nature.com/articles/s43017-023-00406-z>.
- [2] Forster, P., Rosen, D., Lamboll, R. & Rogelj, J. (11 November 2022). 'Guest post: What the tiny remaining 1.5C carbon budget means for climate policy'. *Carbon Brief*. Available at: <https://www.carbonbrief.org/guest-post-what-the-tiny-remaining-1-5c-carbon-budget-means-for-climate-policy/>. Accessed 27 June 2023.
- [3] Steffen, W., Rockström, J., Richardson, K., Lenton, T.M., Folke, C., Liverman, D., Summerhayes, C.P., Barnosky, A.D., Cornell, S.E., Crucifix, M., Donges, J.F., Fetzer, I., Lade, S.J., Scheffer, M., Winkelmann, R. & Schellnhuber, H.J., (2018). 'Trajectories of the Earth System in the Anthropocene'. *Proc Natl Acad Sci*, 14;115(33), 8252-8259.
- [4] Arias, P.A., Bellouin, N., Coppola, E., Jones, R.G., Krinner, G., Marotzke, J., Naik, V., Palmer, M.D., Plattner, G.-K., Rogelj, J., Rojas, M., Sillmann, J., Storelvmo, T., Thorne, P.W., Trewin, B., Achuta Rao, K., Adhikary, B., Allan, R.P., Armour, K., Bala, G., Barimalala, R., Berger, S., Canadell, J.G., Cassou, C., Cherchi, A., Collins, W., Collins, W.D., Connors, S.L., Corti, S., Cruz, F., Dentener, F.J., Dereczynski, C., Di Luca, A., Diongue Niang, A., Doblaser-Reyes, F.J., Dosio, A., Douville, H., Engelbrecht, F., Eyring, V., Fischer, E., Forster, P., Fox-Kemper, B., Fuglestedt, J.S., Fyfe, J.C., Gillett, N.P., Goldfarb, L., Gorodetskaya, I., Gutierrez, J.M., Hamdi, R., Hawkins, E., Hewitt, H.T., Hope, P., Islam, A.S., Jones, C., Kaufman, D.S., Kopp, R.E., Kosaka, Y., Kossin, J., Krakovska, S., Lee, J.-Y., Li, J., Mauritsen, T., Maycock, T.K., Meinshausen, M., Min, S.-K., Monteiro, P.M.S., Ngo-Duc, T., Otto, F., Pinto, I., Pirani, A., Raghavan, K., Ranasinghe, R., Ruane, A.C., Ruiz, L., Sallée, J.-B., Samset, B.H., Sathyendranath, S., Seneviratne, S.I., Sörensson, A.A., Szopa, S., Takayabu, I., Tréguier, A.-M., van den Hurk, B., Vautard, R., von Schuckmann, K., Zaehle, S., Zhang, X. & Zickfeld, K., (2021). 'Technical Summary'. In *Climate Change 2021: The Physical Science Basis. Contribution of Working Group I to the Sixth Assessment Report of the Intergovernmental Panel on Climate Change* [Masson-Delmotte, V., Zhai, P., Pirani, A., Connors, S.L., Péan, C., Berger, S., Caud, N., Y. Chen, Goldfarb, L., Gomis, M.I., Huang, M., Leitzell, K., Lonnoy, E., Matthews, J.B.R., Maycock, T.K., Waterfield, T., Yelekçi, O., Yu, R. & Zhou, B. (eds.)]. Cambridge University Press, Cambridge, United Kingdom and New York, NY, USA, pp. 33–144. Available at: <https://doi.org/10.1017/9781009157896.002>.
- [5] Schay, A. & Bugala, P. (22 March 2022). 'A Demanding Change: Oil & Gas in 2050'. W.K. Associates Inc. Available at: <https://www.sec.gov/comments/s7-10-22/s71022-20129438-295567.pdf>. Accessed 11 July 2023.
- [6] Carbon Tracker (2022). 'Paris Maligned' Available at: <https://carbontracker.org/reports/paris-maligned/>
- [7] See reference [6]
- [8] Carbon Tracker. (2022). 'Absolute Impact 2022'. Available at: <https://carbontracker.org/reports/absolute-impact-2022/>
- [9] Carbon Tracker (2022). 'Crude Intentions'. Available at: <https://carbontracker.org/reports/crude-intentions/>.
- [10] Carbon Tracker (2022). 'Drilling down: The importance of understanding projected oil and gas prices used in financial reporting'. Available at:

- <https://carbontracker.org/reports/drilling-down-the-importance-of-understanding-projected-oil-and-gas-prices-used-in-financial-reporting/>
- [11] See reference [8]
- [12] TotalEnergies (2023). 'Annual Report 2022', p.299. Available at: https://totalenergies.com/sites/g/files/nytnzq121/files/documents/2023-03/TotalEnergies_URD_2022_EN.pdf. Accessed 12 July 2023.
- [13] Wilson, T. & Dunkley E. (7 February 2023). 'BP slows oil and gas retreat after record \$28bn profit'. Available at: <https://www.ft.com/content/419f137c-3a83-4c9c-9957-34b6609bcdf7>. Accessed 26 June 2023.
- [14] Sawan, W. (2023). Cited in 'Shell plc Capital Markets Day 2023'. Shell. Available at: <https://www.shell.com/investors/investor-presentations/capital-markets-day-2023.html> (2023).
- [15] ExxonMobil. 'Advancing Climate Solutions. Progress Report 2023'. Available at: <https://corporate.exxonmobil.com/-/media/global/files/advancing-climate-solutions-progress-report/2023/2023-advancing-climate-solutions-progress-report.pdf>. Accessed 11 July 2023.
- [16] ConocoPhillips. (2023) '2023 Plan for the Net-Zero Energy Transition'. Available at: <https://static.conocophillips.com/files/resources/23-0108-energy-transition-plan-3-16-23.pdf>. Accessed 11 July 2023.
- [17] Carbon Tracker. (13 July 2022). 'Oil giant Aramco still doing minimum to tackle emissions'. Available at: <https://carbontracker.org/oil-giant-aramco-still-doing-minimum-to-tackle-emissions/>
- [18] See reference [8]
- [19] Nasralla, S. (8 February 2023). 'BP's shares hit 3-1/2-year high after it cuts emissions targets'. Reuters. Available at: [https://www.reuters.com/business/energy/bps-shares-hit-3-1-2-year-high-after-it-cuts-emissions-targets-2023-02-08/#:~:text=LONDON%2C%20Feb%208%20\(Reuters\),reductions%20targets%20for%20this%20decade](https://www.reuters.com/business/energy/bps-shares-hit-3-1-2-year-high-after-it-cuts-emissions-targets-2023-02-08/#:~:text=LONDON%2C%20Feb%208%20(Reuters),reductions%20targets%20for%20this%20decade). Accessed 27 June 2023.
- [20] See reference [6]
- [21] See reference [9]
- [22] Carbon Tracker (2022). 'Managing Peak Oil'. Available at: <https://carbontracker.org/reports/managing-peak-oil/>.
- [23] Bp (2023). 'Net zero ambition progress update'. Available at: <https://www.bp.com/content/dam/bp/business-sites/en/global/corporate/pdfs/investors/bp-net-zero-progress-update-2023.pdf>. Accessed 12 July 2023.
- [24] Cenovus (2023). 'Annual Report 2022'. Available at: https://mc-ced23ebb-4707-4c95-9c94-3171-cdn-endpoint.azureedge.net/-/media/Project/WWW/docs/investors/2022/2022-annual-report-en.pdf?rev=1fb387b2f52342069fd467e81b0c1257&sc_lang=en&hash=EFDC38945357E5674F29A3D69A68A922. Accessed 12 July 2023.
- [25] Chesapeake (2023) 'Annual Report 2022', Chesapeake. Available at: https://filecache.investorroom.com/mr5ir_chk/754/CHK_2022AnnualReport_vF.pdf. Accessed 12 July 2023.
- [26] See Footnote [25]

- [27] Chevron (2023). 'Enabling human progress. 2022 corporate sustainability report'. Available at: <https://www.chevron.com/-/media/shared-media/documents/chevron-sustainability-report-2022.pdf>. Accessed 12 July 2023.
- [28] CNOOC Ltd. (2023). '2022 CNOOC Limited Environmental, Social and Governance Report'. Available at: <https://www.cnooltd.com/attach/0/2305181038469799.pdf>. Accessed 12 July 2023.
- [29] CNOOC (30 June 2022). 'CNOOC Releases Action Plan for Carbon Peak and Carbon Neutrality', CNOOC. Available at: https://www.cnooc.com.cn/art/2022/6/30/art_6261_15328051.html. Accessed 12 July 2023.
- [30] CNRL (30 November 2022). 'Canadian Natural Resources Limited Announces 2023 Budget and New GHG Emissions Reduction Target'. Available at: <https://www.cnrl.com/content/uploads/2022/12/1130-2023-Budget-and-New-GHG-Emissions-Reduction-Target.pdf>. Accessed 12 July 2023.
- [31] CNRL (2023). 'Canadian Natural Resources Limited CDP Climate Change Questionnaire 2022'. Available at: <https://www.cnrl.com/content/uploads/2023/01/2022-CDP-Climate-Change-Submission.pdf>. Accessed 12 July 2023.
- [32] ConocoPhillips (2023). 'Plan for the Net-Zero Energy Transition. 2022-2023 Progress Report'. Available at: <https://static.conocophillips.com/files/resources/23-0108-energy-transition-plan-3-16-23.pdf>. Accessed 12 July 2023.
- [33] Coterra (2022). '2022 Annual Report'. Available at: https://s28.q4cdn.com/696626308/files/doc_financials/2022/ar/Coterra-2022-Annual-Report-1.pdf. Accessed 12 July 2023.
- [34] Devon Energy (2023). 'Devon Energy 2022 Sustainability Report'. Available at: https://dvnweb.azureedge.net/assets/documents/Sustainability/DVN_2022_SustainabilityReport.pdf. Accessed 12 July 2023.
- [35] Eni (2023). 'Eni for 2022. A Just Transition'. Available at: <https://www.eni.com/assets/documents/eng/just-transition/2022/eni-for-2022-just-transition-eng.pdf>. Accessed 3 July 2023.
- [36] EOG Resources (2023). 'Company Fact Sheet April 2023'. Available at: [https://www.eogresources.com/documents/EOG%20Fact%20Sheet%20\(April%202023\).pdf](https://www.eogresources.com/documents/EOG%20Fact%20Sheet%20(April%202023).pdf). Accessed 3 July 2023.
- [37] EQT Corp. (2022). 'Evolving Energy. ESG Report Calendar Year 2021'. Available at: <https://esg.eqt.com/content/EQT-ESG-Report-Calendar-Year-2021.pdf>. Accessed 12 July 2023.
- [38] Equinor (2023). '2022 Integrated Annual Report'. Available at: <https://cdn.equinor.com/files/h61q9gi9/global/03d92ebc1ab4f124aabe4fa5be40da3dec6e24b4.pdf?2022-annual-report-equinor.pdf>. Accessed 12 July 2023
- [39] ExxonMobil (2023). 'Advancing Climate Solutions. 2023 Progress Report'. Available at: <https://corporate.exxonmobil.com/-/media/global/files/advancing-climate-solutions-progress-report/2023/2023-advancing-climate-solutions-progress-report.pdf>. Accessed on 12 July 2023.
- [40] See Footnote [39], p. 6
- [41] Occidental Petroleum (2023). 'Climate Report 2022. Building to Net Zero'. Available at: <https://www.oxy.com/siteassets/documents/publications/oxy-climate-report-2022.pdf>. Accessed 12 July 2023.
- [42] See Footnote [41]

- [43] Petrobras (2023). 'Climate Change Supplement'. Available at: https://petrobras.com.br/data/files/E8/97/B4/61/5E56F7105FC7BCD7E9E99EA8/11_PET_clima_ingles_2022_fz.pdf. Accessed 12 July 2023.
- [44] PetroChina (2023). '2022 Environmental, Social and Governance Report', PetroChina. Available at: <http://www.petrochina.com.cn/ptr/xhtml/images/shyhi/2022esgen.pdf>. Accessed 12 July 2023.
- [45] Pioneer Natural Resources (2023). '2022 Annual Report'. Available at: <https://investors.pxd.com/static-files/bbe564d7-4b44-456e-97ed-881b1307cf1b>. Accessed 12 July 2023.
- [46] Repsol (2023). '2023 Global Sustainability Plan', Repsol. Available at: https://www.repsol.com/content/dam/repsol-corporate/en_gb/sostenibilidad/reports/2023/2023-global-sustainability-plan.pdf. Accessed 12 July 2023.
- [47] Saudi Aramco (2022). 'Saudi Aramco Sustainability Report', Saudi Aramco. Available at: <https://europe.aramco.com/en/sustainability/sustainability-report>. Accessed 12 July 2023.
- [48] Shell (2023). 'Our climate target'. Available at: <https://www.shell.com/energy-and-innovation/the-energy-future/our-climate-target.html#iframe=L3dIYmFwcHMvY2xpbWFOZV9hbWJpdGlvbi8>. Accessed 17 August 2023.
- [49] Sinopec Corp (2023). '2022 Sinopec Corp. Sustainability Report'. Available at: <http://www.sinopec.com/listco/en/Resource/Pdf/2023032506.pdf>. Accessed 12 July 2023
- [50] Southwestern Energy (2023). 'Corporate Responsibility Report 21-22'. Available at: https://swncrreport.com/wp-content/uploads/2022/10/SWN_2021-2022_Corporate-Responsibility.pdf. Accessed 12 July 2023.
- [51] Suncor (2023). 'Climate Report 2022'. Available at: <https://sustainability-prd-cdn.suncor.com/-/media/project/ros/shared/documents/climate-reports/2022-climate-report-en.pdf?modified=20221124191332>. Accessed 12 July 2023.
- [52] TotalEnergies (2023). 'Sustainability & Climate 2023 Progress Report'. Available at: https://totalenergies.com/system/files/documents/2023-03/Sustainability_Climate_2023_Progress_Report_EN.pdf. Accessed 12 July 2023.

Disclaimer

Carbon Tracker is a non-profit company set up to produce new thinking on climate risk. The organisation is funded by a range of European and American foundations. Carbon Tracker is not an investment adviser and makes no representation regarding the advisability of investing in any particular company or investment fund or other vehicle. A decision to invest in any such investment fund or other entity should not be made in reliance on any of the statements set forth in this publication. While the organisations have obtained information believed to be reliable, they shall not be liable for any claims or losses of any nature in connection with information contained in this document, including but not limited to, lost profits or punitive or consequential damages. The information used to compile this report has been collected from a number of sources in the public domain and from Carbon Tracker licensors. Some of its content may be proprietary and belong to Carbon Tracker or its licensors. The information contained in this research report does not constitute an offer to sell securities or the solicitation of an offer to buy, or recommendation for investment in, any securities within any jurisdiction. The information is not intended as financial advice. This research report provides general information only. The information and opinions constitute a judgment as at the date indicated and are subject to change without notice. The information may therefore not be accurate or current. The information and opinions contained in this report have been compiled or arrived at from sources believed to be reliable and in good faith, but no representation or warranty, express or implied, is made by Carbon Tracker as to their accuracy, completeness or correctness and Carbon Tracker does also not warrant that the information is up-to-date.

To know more please visit:

www.carbontracker.org

@carbonbubble