World Benchmarking Alliance

2023 Climate and Energy Benchmark in the Oil and Gas Sector

Insights Report

June 2023

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The 2023 Climate and Energy Benchmark in the Oil and Gas Sector

In its recent Synthesis Report capturing the key insights from its sixth assessment cycle, the Intergovernmental Panel on Climate Change (IPCC) delivers an unambiguous warning: "limiting warming to 1.5°C and 2°C involves rapid, deep and in most cases, immediate greenhouse gas emission reductions". Furthermore, net-zero carbon dioxide (CO2) emissions are required to limit human-caused warming to the planet.

There is no doubt that the substantial impacts of climate change are already contributing to many weather and climate extremes globally, such as sea levels rising and negative impacts on biodiversity, ecosystems and oceans. With every increment in global warming, regional changes become more widespread and pronounced, with vulnerable communities being disproportionally exposed to adverse climatic effects. For this reason, the IPCC emphasises that "rapid and far-reaching transitions across all sectors are necessary to achieve deep and sustained emissions reductions and secure a liveable and sustainable future for all".

In 2015, 196 countries signed up to the Paris Agreement for climate change action. In the same year, 193 countries committed to the UN Sustainable Development Goals (SDGs). The adopted agreement led to the development of targets at national and subnational levels, with the majority of signatory countries submitting their Nationally Determined Contribution (NDC) plans. However, the world still needs a major decarbonisation and energy transformation if we are to align global efforts to achieve the goals set out in the Paris Agreement and prevent the worst impacts of climate change. Furthermore, efforts need to be carried out in a just and equitable way, so that no one is left behind. Yet, 12 years after the publication of the UN Guiding Principles on Business and Human Rights (UNGPs), companies are still lagging in implementing human rights due diligence processes.

The energy sector is responsible for around three quarters of global greenhouse gas emissions, with the combustion of fossil fuels (coal, oil and gas) being the main source. Specifically, oil and gas operations account for around 15% of total energy-related emissions globally (5.1 gigatonnes of CO2 equivalent in 2022), while the use of oil and gas products results in another 40% of emissions (IEA, 2022). The need for a major shift away from fossil fuels to attain the Paris Agreement goals is evident, as "projected CO2 emissions from existing fossil fuel infrastructure without additional abatement would exceed the remaining carbon budget for 1.5°C" (IPCC, 2023). Moreover, the International Energy Agency's (IEA's) Net Zero Emissions (NZE) by 2050 Scenario clearly requires no new oil and gas expansion beyond the projects approved by 2021. Despite that, the world's governments "still plan to produce more than double the amount of fossil fuels in 2030 than would be consistent with limiting global warming to 1.5°C, and 45% more than consistent with limiting warming to 2°C" (UNEP, 2021).

Oil and gas companies are in a unique position. Not only have they reaped record profits from geopolitical and macroeconomic events, but they are also expected to transition to a low-carbon economy while securing energy supply. One of the key emerging questions is how companies will choose to spend the proceeds from these record profits. Oil and gas companies need to redirect the windfalls into new low-carbon technologies and business models instead of expanding their existing operations. While transitioning their business operations may seem daunting at first, the long-term

viability of oil and gas companies may well depend on their capacity to enact fundamental change immediately. As the companies expand new business models, new skills and resources are required for their workforce. To ensure that current employees and impacted communities are not left behind in the transition, companies need to engage in dialog with current workers and communities and build plans which include them. Oil and gas companies need to provide new green and decent jobs and equip workers with the new skills that are needed. Without these actions, the transition to a low-carbon economy could be derailed as workers and communities are left behind and may resist change that does not consider them.

Besides privately-owned companies, national oil companies (NOCs), due to their considerable size and influence in the oil and gas sector coupled with their relatively shielded position from investor and stakeholder scrutiny, may be particularly resistant to change. However, in the race towards net zero, those who are able to move first will benefit the most from the low-carbon economy of the future.

This report presents the five key findings from the 2023 Oil and Gas Benchmark as well as a deep dive into the findings from the ACT assessment modules covering the key elements of companies' low-carbon transition plans, presented in a technical summary. The findings are designed to provide investors, civil society and policymakers – as well as the companies themselves – with the insights they need to take action.

WBA's mission is to build a movement to measure and incentivise business impact towards a sustainable future that works for everyone. Working with about 350 organisations in our Alliance, we envision a society that values the success of business by what it contributes to the world. To achieve this, we need all actors in the ecosystem to drive the needed transformations. If you have any feedback on our findings, please reach out to Vicky Sins, Decarbonisation and Energy Transformation Lead at WBA: info.climate@worldbenchmarkingalliance.org

The keystone companies of the Oil and Gas Benchmark

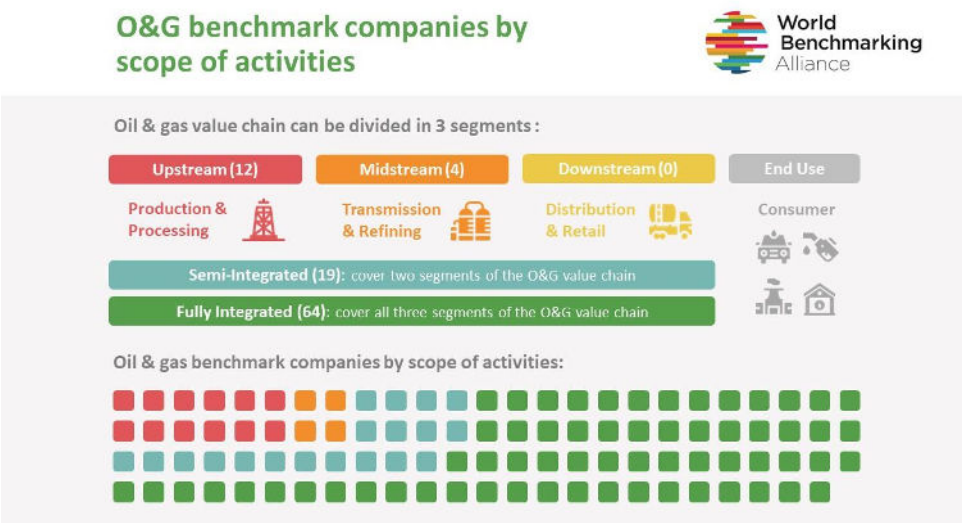
The global oil and gas industry is primarily shaped by a select group of influential companies. Within this sector, the Oil and Gas Benchmark assesses 100 keystone companies, representing approximately 80% of global oil and gas production. This concentrated focus enables a comprehensive analysis of the industry's major players and their environmental and social impact. It is important to note that a change occurred in 2022 when BHP's petroleum business merged with Woodside Energy. Both companies were assessed in our 2021 benchmark. With the merger, the 2023 benchmark now assesses 99 companies in total.

The assessed companies are geographically distributed across various regions. Europe and Central Asia have the highest representation with 28 companies, including six from the Russian Federation. North America follows closely with 23 companies, of which 20 are from the United States of America. East Asia and the Pacific region also have significant representation, with 21 companies, including five from Australia and five from China. Additionally, there are 11 assessed companies in the Middle East and North Africa, seven in Latin America and the Caribbean, five in South Asia, and four in Sub-Saharan Africa.

The companies assessed in the Oil and Gas Benchmark reflect a wide range of ownership structures, from fully state-owned companies to fully private entities. Among the assessed companies, 26 are fully state-owned and 14 are majority state-owned, collectively representing 40 national oil companies (NOCs). Additionally, there are two publicly listed companies with a minority stake owned by the state, 55 publicly listed companies, and two privately owned companies.

The activities of the oil and gas sector encompass three primary stages in the value chain:

- Upstream segment, involving exploration, production and processing;
- Midstream segment, involving transport and refining;
- Downstream segment, involving distribution and retail.



In 2022, the IEA reported that global energy-related CO2 emissions reached a staggering 36.8 gigatonnes (Gt). Taking into account the combustion and use of oil and gas products sold by the assessed companies, it is estimated that these companies were responsible for approximately 12.6 gigatonnes (Gt) of CO2 emissions in 2022. This emission volume represents approximately 34% of the global energy-related emissions during that year. These figures underscore the urgent need for sustainable practices and emissions reduction in the oil and gas sector.

Results

The 2023 Oil and Gas Benchmark reveals valuable insights about the performance of companies in the industry. The average score in this year's assessment is 15.2 out of 100, with a median score of 13.5. Breaking down the total score, the ACT score contributes to an average of 7.5 out of 60, while the social score, which combines core social and just transition indicators, amounts to an average of 7.7 out of 40. Notably, only one company, Neste, scored more than 50 with the highest score of 56, while 40 companies scored less than 10.

It is important to note that the first iteration of the Oil and Gas Benchmark in 2021 included only the ACT assessment and a score was provided for each company out of 100. In 2023, the Benchmark also includes a social assessment, to incorporate WBA's just transition indicators and core social indicators. This means that for the 2023 Benchmark, the ACT assessment score is weighted at 60% of the total score and the social assessment scores carry the remaining 40% of the total score. This weighting still allows comparison between the 2021 and 2023 benchmark results. For more information please see the 2023 Oil and Gas Methodology report.

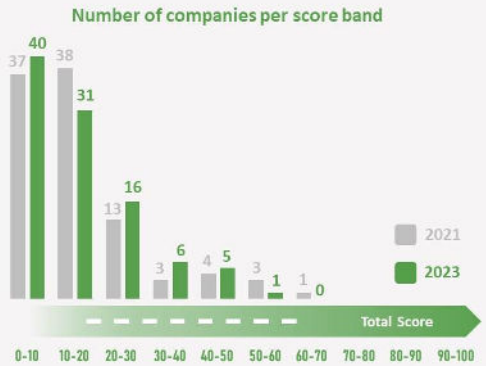
In the 2021 iteration, companies' average score was 15.4, with a median score of 11.7. The average score in 2021 was influenced by a few outlier companies that achieved exceptionally high scores, thereby boosting the average score. However, in 2023 the distribution of scores was wider with more companies scoring lower in the 0-10 score range and more companies scoring higher in the 20-50 range. This wider distribution has led to a higher median score in 2023.

Comparing the breakdown of total scores, the ACT score in 2023 improved by 0.8 points compared to 2021, while the social score decreased by 1.1 points. The decrease in the social score can be attributed to WBA's strengthening of the just transition indicators and criteria for assessing company reporting on just transition topics, resulting in fewer companies meeting the criteria.

O&G benchmark result: overall scores

World Benchmarking Alliance

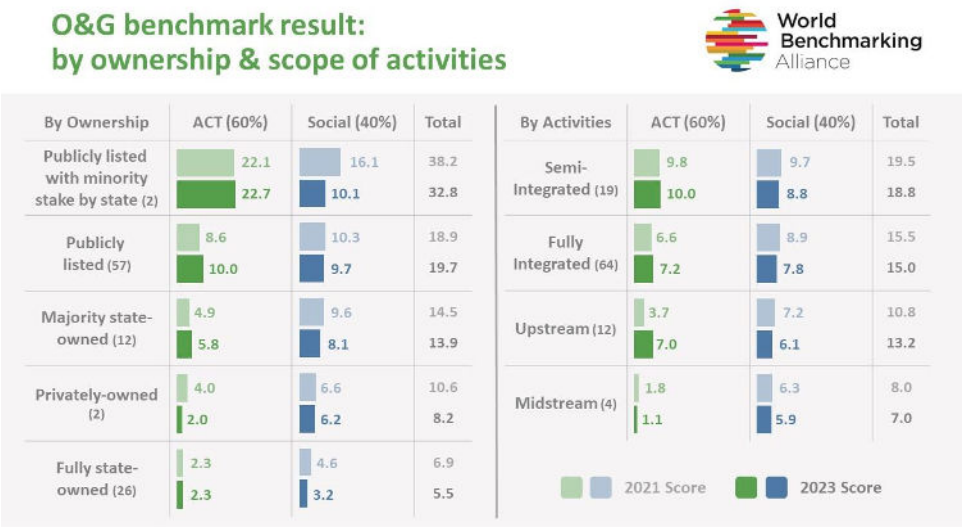
Measurement	O&G 2021	O&G 2023
Total Score Calculation		
Average	15.4	15.2
Median	11.7	13.5
Highest Score	60.1	56.0
Total Score Breakdown		
ACT Score Average (60%)	6.7	7.5
Social Score Average (40%)	8.8	7.7



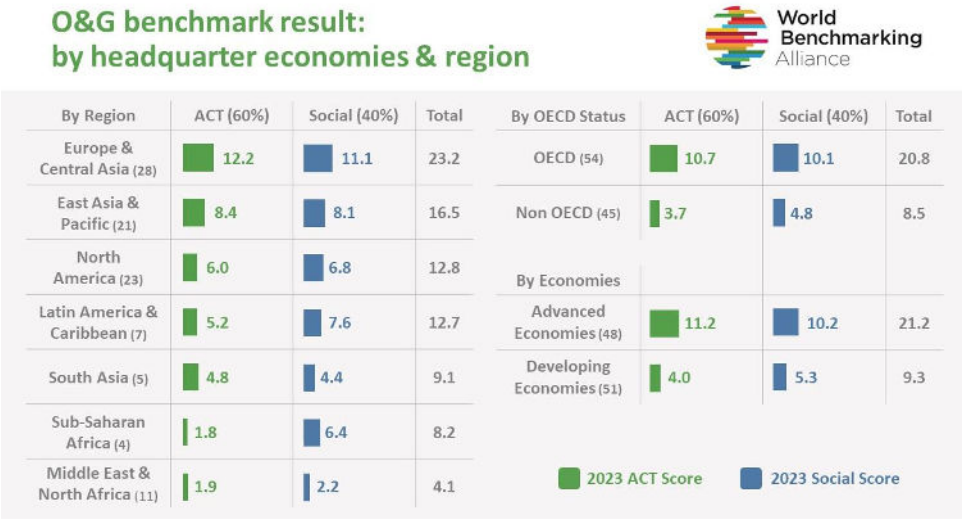
In terms of company ownership, publicly listed companies achieved the highest average scores compared to privately owned and state-owned companies. Publicly listed companies, including those with a minority stake held by the state, achieved an average score of 20.2, with an average of 10.5 points under the ACT assessment and 9.7 under the social assessment. On the other hand, NOCs,

including fully and majority state-owned companies, scored an average of 8.4, with only 3.5 under the ACT assessment and 4.9 under the social assessment. Similarly, privately owned companies scored an average of 8.2, with 2.0 under ACT and 6.2 under the social assessment.

Analysing the scores based on the scope of activities, integrated companies generally performed better than those focusing on specific segments of the value chain. Semi-integrated and fully integrated companies achieved average total scores of 18.8 and 15 respectively, showing a slight decrease from the 2021 results. Upstream companies came in third with a total score of 13.2, indicating a significant increase of 2.4 points compared to 2021 due to improved ACT scores. Meanwhile, midstream companies performed poorly with an average total score of 7, down from the average score of 8 in 2021, with an ACT score of only 1.1.



In terms of regional performance, companies headquartered in Europe and Central Asia had the highest scores, with an average total score of 23.2, which is five times higher than companies headquartered in the Middle East and North Africa, with a score of 4.1. Companies based in East Asia and the Pacific ranked second with an average total score of 16.5, while those in North America and Latin America & the Caribbean followed closely with scores of 12.8 and 12.7 respectively.



The key findings derived from the assessment of the benchmarked companies are presented in the following section. These key findings highlight the primary challenges and opportunities for achieving a just and low-carbon transition in the oil and gas sector.

Five key findings

Key finding 1: With no set date to phase out fossil fuels, companies fail to make credible transition plans

The phase-out of oil and gas is urgently needed to limit increase in global temperatures to 1.5˚C. The IEA's Net Zero Emissions (NZE) by 2050 Scenario has given a firm directive that no new oil and gas expansion should occur beyond projects approved in 2021 and production must rapidly decline by the end of this decade. Nonetheless, oil and gas companies have persisted in their expansion efforts and show no sign of curtailing production. The keystone oil and gas companies are set to burn through their carbon budget by 2036.

None of the benchmarked companies have committed to halt expansion and stop exploration for new reserves. In 2022 alone, the emissions resulting from the combustion of oil and gas extracted by these companies constituted roughly 13 gigatonnes of CO2, nearly equivalent to one-third of the total energy-related CO2 emissions worldwide during the year. Companies are still pursuing a 'take what you can, while you can' approach, now further justified by global events. Record profits made by the big oil companies in 2022 have, in the case of some companies, resulted in the relaxation of transition plans. One of the biggest high-profile examples is BP, which scaled back its plans to reduce its oil and gas production by 2030.

A handful of companies acknowledge the need to reduce production in the future; however, they only propose long-term plans. For instance, OMV is committed to ceasing oil and gas production for energy use by 2050. Eni plans for a reduction in its hydrocarbon production in the medium to long term with a plateau expected in 2030 with a progressive growth of gas share up to 60% by 2030 and over 90% after 2040. This comes nowhere near the action companies are required to take. Ensuring we stay within a temperature rise of 1.5˚C means change needs to happen now and more drastically. Yet, companies lack credible transition plans and substantial financial commitments towards the development of low-carbon technologies and deployment of low-carbon business models.

According to the latest IEA NZE Scenario figures in IEA's World Energy Outlook 2022, by 2030, a reduction of 25% in oil and gas production compared to 2021 levels is crucial, with oil production decreasing by 22% and gas production decreasing by 28%. However, projections for the 81 benchmarked oil and gas companies that have extraction activities show no significant reduction in companies' production before 2030. In fact, oil production is projected to increase by 9% from 2021, peaking in 2028. Many companies consider gas a transition fuel and include its production increase in their transition plans as a low-carbon solution. Although gas combustion is less emissions intensive compared to oil, gas is still a fossil fuel and should decline in use, reaching peak production by the middle of this decade. However, projections indicate a 14% increase in gas production from 2021, peaking in 2032.

Despite the disruptions caused by the Covid-19 pandemic, which temporarily affected production, oil and gas companies still slightly exceeded their carbon budget between 2019 and 2022, resulting in cumulative emissions of approximately 50 gigatonnes of carbon dioxide ($GtCO_2$). The decline observed in 2020 due to the pandemic was offset by production bouncing back, with companies exceeding their carbon budget by 4% between 2021 and 2022.

Long-term projections indicate that the benchmarked companies will exceed their collective 2022-2050 carbon budget by 2036, with projected locked-in scope 3 combustion emissions totalling 301 $GtCO_2$. This exceeds the allocated carbon budget of 189 $GtCO_2$ by a staggering 60%. By 2030, the combined locked-in scope 3 combustion emissions from the 81 benchmarked oil and gas companies with extraction activities will total 117 Gt CO_2, exceeding their collective carbon budget by 18% between 2022 and 2030. This is based on emissions from the combustion of projected oil and gas production from existing and already approved projects.

Five companies; China National Petroleum Corporation, Exxon Mobil, Gazprom, National Iranian Oil Company and Saudi Aramco; are projected to be responsible for 35% (40.8 $GtCO_2$) of locked-in emissions between 2022 and 2030. Moreover, the 13 highest emitters are projected to burn through the entire carbon budget of the 81 companies. Among these 13 companies, eight are national oil companies (NOCs). NOCs are expected to exceed their carbon budget the most, with fully state-owned companies anticipated to surpass it by 20% between 2022 and 2030.

New IPCC estimates for the global carbon budget for a 50% probability of limiting warming to 1.5°C show a remaining budget of only 250 $GtCO_2$ at the start of 2023. These companies' plans put the goals of the Paris Agreement at great risk.

Unfortunately, oil and gas companies often disregard responsibility for their scope 3 emissions, which account for more than 80% of their total emissions. Some argue against holding oil and gas producers accountable for emissions associated with fossil fuel product use. **Consequently, companies only set targets for reducing scope 1 and 2 emissions, using the "net-zero" label to obscure the truth from the public.** Out of the 50 companies in our benchmark with so-called "net-zero" targets, 32 do not include scope 3 emissions.

Norway's Equinor is the only NOC committed to a net-zero target including scope 3 emissions. Among the 81 companies engaged in extraction activities, the 40 NOCs accounted for 66% of scope 3 combustion emissions in 2022. NOCs lack targets and contribute the most to oil and gas expansion. In total, only 28 companies have set scope 3 emissions reduction targets (including 3 NOCs), highlighting the sector's alarming lack of accountability for value chain emissions.

Despite the need for immediate action, oil and gas companies are continuing to expand their upstream extraction activities without curbing production, prioritising short-term profits over decarbonisation. Companies lack credible transition plans to phase out fossil fuels. Companies must commit now to halting expansion, reducing production and taking responsibility for scope 3 emissions, to make way for a low-carbon future.

Key finding 2: Despite soaring profits, companies are still not investing in a low-carbon transition

The oil and gas sector earned USD 4 trillion in 2022, a substantial increase from an average of 1.5 trillion in recent years (Reuters, 2023). Despite this, only 25% of the assessed companies report their low-carbon capital expenditure share. Oil and gas companies need to act now to adapt business models to the low-carbon economy and invest vast amounts in new low-carbon solutions and research and development. As per the IEA's NZE Scenario, by 2030, every 1 USD spent by companies on fossil fuels should be outmatched by 5 USD spent on clean energy supply and another 4 USD on efficiency and end users.

Oil and gas companies are still not meeting the sectoral-level expectation that at least 77% of a company's total investments should be dedicated to low-carbon technologies. The 2023 benchmark shows that the average share of companies' low-carbon CapEx and R&D has increased since the 2021 assessment. However, only 25% of the assessed companies report their low-carbon capital expenditure (CapEx) share, 9% of companies report low-carbon research and development (R&D) share and 16% report their revenue share from low-carbon technologies. Neste, Naturgy and Engie lead with respective investments of 88%, 59% and 51% in low-carbon CapEx in proportion to their overall CapEx. Only Neste invests a high enough share of its overall CapEx in low-carbon activities, such as advanced biofuels, to meet sectoral level expectations. Further, Naturgy, Eni and CPC lead in the shares of overall R&D dedicated to low-carbon technologies, with investments of 100%, 70% and 68% respectively. Only Naturgy discloses a low-carbon R&D share that is aligned with the sectoral-level expectation. Neste, Engie and SK Innovation lead in revenue share in low-carbon technologies with 38%, 13% and 7% respectively. Nevertheless, the assessed companies have not improved on their revenue share from low-carbon technologies.

Out of the 25 companies that report the proportion of CapEx they invest in low-carbon technologies,13 invest more than 10%. Disclosure of low-carbon CapEx among national oil companies (NOCs) was particularly poor. Out of the 40 NOCs, only YPF, Equinor and Petronas disclose their low-carbon CapEx shares. Furthermore, from the 25 companies that disclose their overall and low-carbon CapEx, low-carbon CapEx represents an average of 18% of the overall expenditure. Although low-carbon CapEx share has increased from 7% since the 2021 benchmark, this level is still well below what is needed to transition and align with a 1.5°C pathway.

The IEA's NZE Scenario states that 50% of global CO2 reductions by 2050 will result from technologies that are currently in the demonstration or prototype phase. In the 2023 benchmark, 47 companies report their overall R&D spending. Only nine of these companies disclose their overall as well as low-carbon R&D. For these nine companies, low-carbon R&D accounts for an average of 43% of their overall R&D spending. Although the average low-carbon R&D share has increased from 22% to 43% since the 2021 benchmark, this is insubstantial as it still doesn't meet the sectoral expectation of a 77% low-carbon R&D share. Moreover, only nine companies assessed disclose sufficient R&D data.

Only 16 companies disclose low-carbon revenue, out of which only two report a share of revenue from low-carbon products and activities that amounts to more than 10% of their core activities. Since the 2021 assessment, companies in the benchmark have worsened in their low-carbon revenue performance, as the average low-carbon revenues of the 16 companies that disclose enough details on this, dropped from 5% to 4%.

Further, 78 of the 99 assessed companies disclose low-carbon business models. In total, 214 different low-carbon business models have been listed by companies, among which 164 are linked to business activities that drive the energy mix to low-carbon energy. Additionally, eight are linked to business activities that contribute to the reduction of energy demand and 42 are linked to business activities that develop carbon capture, use and storage (CCUS/CCS) technologies and negative emissions. Out of the 214 low-carbon business models, only 11 are currently profitable and four make up a significant proportion of the companies' core business activities. Only Occidental mentions direct air capture (DAC). Moreover, no CCUS business model reported by any company is of a size that is crucial in comparison to the companies' overall market size. The Global CCS Institute reports that 73% of the CO2 captured each year globally is used for enhanced oil recovery (EOR), to pump more oil out of the ground. Nearly half the companies in the 2023 benchmark report undertaking EOR.

Companies must significantly increase their low-carbon CapEx to exist in a low-carbon economy and not lag behind as the demand for alternative energy increases. While it is clear that some of the listed low-carbon technologies are scalable and profitable, it is also imperative that certain non-mature technologies with high impact receive the necessary investment to become commercial and deployable in the near term. Companies must substantially increase the share of low-carbon products in their portfolio to be at the forefront of a clean energy transition. They need to develop business activities that enable them to decouple financial results from greenhouse gas emissions to align with a 1.5°C pathway.

Myriad data suggests the oil and gas sector is not taking significant action to align its business models and financial commitments with the low-carbon transition. Despite making windfall earnings and publicising emissions reduction targets, the sector once again performs poorly when it comes to fulfilling its promises. Without sufficient investment in low-carbon technologies and rapid deployment of low-carbon business models, oil and gas companies risk securing their position and survival in a low-carbon future.

Key finding 3: Companies are not addressing their direct operational emissions, even when financially feasible decarbonisation solutions are readily available

While the transition away from fossil fuels is unavoidable, the world is currently still dependent on oil and gas. Therefore, it is critical that companies in the oil and gas sector limit the impact of their operations by reducing their scope 1 and 2 emissions in this decisive decade. Yet most of the assessed companies are not reducing their operational emissions fast enough to limit global warming to 1.5°C. Companies need to use the five key levers listed by the IEA to achieve this reduction: tackling methane emissions, eliminating non-emergency flaring, electrifying upstream facilities with low-emissions electricity, equipping oil and gas processes with carbon capture utilisation and storage (CCUS), and expanding the use of green hydrogen in refineries.

Only 12 companies' scope 1 and 2 emissions intensity has decreased in line with their 1.5°C pathways in the past few years. Of these 12, seven are headquartered in the USA, four in Europe and one in Japan. Six companies are upstream players and represent 50% of all the upstream-only companies assessed. All companies are publicly listed apart from Equinor, which is majority state-owned. Furthermore, all of these companies have reduced their methane and flaring emissions. They have achieved this through means such as continuous methane monitoring, aerial mapping, leak detection and repair, replacing and retrofitting of equipment and increasing gas capture. Regardless, while

these companies show good performance in reducing their operational emissions, none of them show a sufficient reduction in scope 1, 2 and 3 emissions intensity to align with their 1.5°C pathways.

Tackling methane emissions is the single most important measure to decarbonise oil and gas operations. In the NZE Scenario, methane reduction accounts for over 60% of scope 1 and 2 emissions reduction required from the oil and gas sector by 2030. Yet only 29 companies have disclosed methane reduction targets. In addition, there are inconsistencies in the reporting of methane emissions and associated targets, which hamper efforts to accurately compare them between companies. The IEA finds that methane emissions from the energy sector are about 70% greater than the sum of estimates submitted by governments.

A number of companies assessed have joined initiatives to reduce methane emissions. Twelve companies are part of the Oil and Gas Climate Initiative, which targets methane intensity of 0.2 by 2025 and close to zero by 2030. Twenty companies have joined the Oil and Gas Methane Partnership, and a further nine nationally owned companies (NOCs) are tied to their countries' participation in the Global Methane Pledge, aiming to reduce global methane emissions by at least 30% by 2030 from 2020 levels. However, this is still insufficient to align with the NZE Scenario, which requires methane emissions from fossil fuel operations to fall by 75% between 2020 and 2030. Some companies do show a higher ambition. Equinor is aiming for near-zero methane intensity by 2030 and TotalEnergies is aiming to reduce methane emissions by 80% by 2030 from 2020 levels. However, 54 of the companies assessed have not joined either initiative or set any methane reduction targets. Companies should take immediate action to reduce their methane intensity as it is one of the cheapest and most effective ways to limit near-term global warming.

Elimination of routine flaring is the second most impactful commitment companies can make. Of the benchmarked companies, 31 have endorsed the World Bank's Zero Routine Flaring by 2030 initiative, three have set an equivalent target and eight NOCs are accounted for through their countries' endorsement. ConocoPhillips, EOG Resources and Shell have set 2025 as their target year, five years earlier than the initiative's target. However, 56 of the companies assessed have neither joined the initiative nor set flaring reduction targets.

Another lever for decarbonising operations is the electrification of upstream facilities. Currently, there is a gap in companies' disclosure around this topic. Companies should aim to electrify their facilities and power them with renewable energy. Additionally, increasing the use of CCUS and green hydrogen in oil and gas processes has the potential for positive spillovers by accelerating the deployment of these technologies. However, as reported in key finding 2, companies are not investing a significant enough proportion of their R&D and CapEx into these solutions to enable their use at scale.

Notably, although 64 of the assessed companies have set targets to reduce operational emissions, only 18 clearly state they will not use offsets up to 2030 to achieve these targets. Moreover, out of the 18, only two companies are sufficiently ambitious to align with a 1.5°C pathway. To align with the IEA NZE Scenario, companies should reduce scope 1 and 2 emissions at the source and in line with their 1.5°C pathways, instead of relying on offsets.

Ultimately, oil and gas companies need to establish long-term plans to phase out carbon-intensive products altogether. However, in the short term, they also urgently need to minimise emissions associated with their existing production processes. The key findings from this analysis show that the sector is doing neither effectively.

Key finding 4: It's time companies come to the table with workers and affected stakeholders to plan for a just transition together

Companies in the oil and gas sector have strong connections with workers and unions when compared to other sectors in WBA's Climate and Energy Benchmark. Among the benchmarked companies, 35% have public commitments to engage in social dialogue and 46% disclose the share of their workforce covered by collective bargaining agreements; both these metrics have improved since the 2021 assessment. Furthermore, two companies, Eni and Ecopetrol, describe how they support collective bargaining and freedom of association among their suppliers, up from no companies reporting this in 2021. With improved performance in these indicators, oil and gas companies seem to be strengthening their connection with workers and unions. Now, as 93% of the companies are not taking action and score zero on just transition planning, it is time for the companies to use these connections to workers and unions to plan for a just transition together.

Establishing strong connections with their workers and engaging with stakeholders is a crucial first step for companies to contribute to a just transition. Without this, companies cannot accurately understand the social impacts of their low-carbon transition and how they can work with relevant stakeholders to address these impacts and plan for a just transition together.

An increasing number of companies are engaging with stakeholders to understand different perspectives of how a transition can be just. The share of companies that disclose the categories of stakeholders they engage with on a just transition has almost doubled from 8% in 2021 to 15% in this benchmark.

The share of companies that go a step further and show how they have engaged in social dialogue and had meaningful engagement with stakeholders on just transition issues has also increased from two companies in 2021 to five companies in this benchmark. This means that more companies are turning their commitments into action, not only voicing that they will work on a just transition, but showing how they engage with relevant stakeholders on the topic.

Now, with oil and gas companies showing momentum on engagement with workers and unions, it is time they use these connections and start to plan for a low-carbon transition that is just and equitable. As it stands, 93% of the oil and gas companies score zero on just transition planning, which means that they are neither setting time-bound, measurable targets, nor using social dialogue as a tool to plan for a just transition. With an understanding of what workers, unions and other stakeholders desire from a low-carbon transition, companies should use this knowledge to plan for a transition that accommodates them. To do so, they should be setting time-bound, measurable targets that limit the social impacts of a low-carbon transition. If the workers and communities reliant on the oil and gas sector don't see a low-carbon future that includes them, they may pose a threat to the company's success and to decarbonisation overall.

Key finding 5: Companies need to build on current progress and continue to strengthen their human rights due diligence

Human rights risks are highly prevalent and a significant concern in the oil and gas sector given the nature of its operations, and a majority of the companies (56%) are committed to respecting human rights. Risks for companies in the sector are especially prevalent in upstream activities, but they may be present throughout the value chain. In comparison with other assessed sectors in WBA's Climate and Energy Benchmark, the oil and gas sector performs in line with, or in some instances better, on human rights due diligence. Given the prevalence of human rights risks in this sector and the wide attention paid to them, industry initiatives and guiding principles on human rights have likely played a notable role in ensuring that companies in this sector don't lag behind others on due diligence. Regardless of the comparatively strong performance of this sector, companies have a long way to go until human rights risks are effectively managed. Companies need to continue to strengthen their efforts on human rights due diligence to the benefit of those whose human rights are at risk of being violated.

While a majority (56%) of oil and gas companies are committed to respecting human rights, companies also need to translate these commitments into real actions that manage human rights risks. To do this, companies should carry out human rights due diligence, to not only address human rights abuses that are uncovered, but to work proactively to reduce human rights risks. The first step of due diligence is to identify human rights risks that may be prevalent, both in own operations as well as in the supply chain. The share of companies that work to identify risks in their own operations has increased from 23% in 2021 to 25% in this assessment, and those working to identify risks among their suppliers has increased from 14% in 2021 to 19%. However, oil and gas companies do not show improvement in relation to the later stages of due diligence, with only 12% of the companies demonstrating a complete and effective human rights due diligence procedure in this assessment.

It is time for companies to continue acting in support of human rights and bring their general commitments to protecting human rights into real action. Companies need to engage in more steps of the human rights due diligence process and proceed from identifying human rights risks to assessing, integrating and acting on these risks. Engaging in the complete human rights due diligence procedure now will help companies prepare better as legislation on the topic gains traction, but more importantly, it will greatly benefit those whose human rights are hopefully protected and respected.

Technical summary

This technical summary provides an in-depth look into the results of the Oil and Gas Benchmark 2023. Analysis from the assessments are arranged by topic. These topics draw on outputs from ACT performance modules and indicators. The table below outlines which modules and indicators are discussed in each topic.

For more information about ACT performance score, please refer to the ACT Oil & Gas methodology.

TABLE 1: MAPPING OF TECHNICAL SUMMARY TOPICS AND ACT PERFORMANCE MODULES AND INDICATORS

Technical summary topic	ACT modules/indicators
Targets	Module 1
Emissions performance of own operations	Indicators 2.1, 2.3
Emissions performance from the product sold	Indicators 2.2, 4.1, 4.2
Investment	Indicators 2.5, 2.6, 3.1, 3.2
Climate oversight and governance	Indicators 5.1, 5.2, 5.4
Transition planning and scenario analysis	Indicators 2.4, 5.3, 5.5
Supplier and client engagement	Modules 6 and 7
Trade associations and policy engagement	Module 8
Low-carbon business activities	4.3, 4.4, Module 9
Summary of changes from previous assessment	/

Targets

Module 1 assesses a company's targets. A public-facing target is an indication of corporate commitment to reduce emissions. Targets provide a direction to which companies can align their strategy, capital expenditure and research and development to deliver emissions reductions. This module assesses the alignment of a company's emissions reduction targets with its 1.5°C pathway, the time horizon and spacing of all the company's targets and the company's progress towards its current emissions reduction targets.

As a whole, the targets set by the assessed oil and gas companies fall short of what is needed to drive a low-carbon transition. The identified targets only cover approximately 30% of the benchmarked companies' scope 1, 2 and 3 emissions in the reporting year. A quarter of the companies are yet to set a target at all and nearly three-quarters are yet to set a scope 3 target.

What targets have been set?

Out of the 99 assessed companies, 75% have set a target. While this is an improvement on the 2021 assessment results, where 68% of companies had set a target, it is still concerning that 25% of the companies are yet to set a target of any sort. Notably, 18 of the companies without targets (72%) are national oil companies (NOCs).

51% of the assessed companies have set targets to achieve zero scope 1 and 2 emissions. Moreover, 47% of the companies have set targets that only address scope 1 and 2 emissions.

Methane forms a significant part of scope 1 and 2 emissions for many of the companies and its reduction has been identified as the single most important measure in addressing emissions from oil

and gas operations. In total, 29 of the assessed companies have disclosed specific targets to reduce methane emissions by 2030.

Since the last assessment, the number of companies that have set a scope 3 target has increased from 11% to 28%. However, this is still insufficient. The majority of emissions from the oil and gas sector come from the combustion of companies' fossil fuel products (i.e. scope 3 emissions). Indeed, for some companies, scope 3 emissions represent as much as 99% of their total emissions. The failure to set targets to reduce these emissions illustrates how companies are failing to take responsibility for the products they produce, refine and sell.

Only three NOCs have set scope 3 targets (Equinor, Ecopetrol and GAIL), despite making up 40% of the companies assessed. Five of the seven oil majors (the largest, publicly listed oil and gas companies as defined by the IEA) have set scope 3 targets. The majority (54%) of scope 3 targets have been set by companies headquartered in Europe.

Only 18% of companies have set net-zero targets that cover their scope 1, 2 and 3 emissions. This is troubling as all companies should be striving to reach net zero by 2050 at the latest to limit warming to 1.5°C.

Are the targets ambitious enough?

To determine whether a company's target is aligned with its 1.5°C pathway, and therefore sufficiently ambitious, the ACT methodology requires a company to disclose sufficient detail on each target. Insufficient disclosure meant 85% of the targets identified could not be assessed for their alignment with a 1.5°C pathway.

Of the targets that could be assessed, the long-term 2050 targets score well for their alignment. However, concerningly, targets that have been set for 2030 or sooner are far less aligned. This suggests that companies are pushing the issue down the road, rather than aiming to make the emissions reductions needed now.

Just one company, Pioneer Resources, has a 2030 target to reduce its scope 1 and 2 emissions intensity by 50% which is fully aligned with the company's 1.5°C pathway in 2030. While six other companies have set targets that on the surface are aligned with their 1.5°C pathway, the use of offsets and the lack of lack of coverage of all scopes of emissions of these targets scales down their performance.

Are companies on track to meet their targets?

It is not enough for a company to set a target; the company must also be undertaking the necessary shifts in its business models to reduce its emissions in line with its target.

Currently, companies are on track to meet just half of the targets that could be assessed. When examined, the bulk of these targets (70%) relate to companies' operational emissions only. This means companies are less likely to be on track to meet scope 3 targets, which account for the majority of the sector's emissions.

Additionally, 20% of the targets are short-term (to be achieved in the next five years) and a further 53% are mid-term (to be achieved in the next five to ten years). This is concerning as it means companies are less likely to be on track to meet their long-term net-zero targets, which are more likely to be aligned with a 1.5°C pathway.

Are better targets linked to better overall performance?

Engie is an example of a company that has set ambitious targets. It aims to achieve net-zero scope 1, 2 and 3 emissions by 2045; it plans to use offsets for residual emissions, but otherwise, this target is aligned with its 1.5°C pathway. Engie has interim targets to reduce emissions from gas sales by 35% and scope 1 and 2 emissions intensity by 55% by 2030, compared to 2017. The company is on track to meet all of these targets.

The consequences of these targets can be seen throughout Engie's assessment. It has a strong transition plan and has developed viable low-carbon business models, both of which are critical to realising such targets.

This is mirrored by four of the top five companies in the benchmark (excluding Neste), which score over 80% in the Targets module. It is clear that strong targets that cover all emission scopes are an essential first step to drive successful action.

Case study: Eni

Eni's targets are leading for the sector. Firstly, the company covers all its emissions by setting a target to reach net zero emissions for all scopes by 2050. The company has also set regularly spaced interim targets, including targets to reduce scope 1, 2 and 3 lifecycle emissions by 35% by 2030, 55% by 2035 and 80% by 2040 compared to 2018. The company's target, to reach net zero carbon intensity for its sold energy products by 2050, is aligned with a 1.5°C pathway. The company plans to use offsets to achieve this target but reports the proportion this represents. However, like all companies assessed in the benchmark, Eni can still improve. The company does not report sufficient emissions and activity data to assess the alignment or achievement of the majority of its targets. Where it can be assessed the company is not currently on track to meet its targets.

Emissions performance of own operations

The IEA (2020) estimates that scope 1 and 2 emissions from the oil and gas sector account for nearly 15% of global energy-related emissions. Further, the IEA highlights that companies' 'above-ground' operational practices, i.e. methane emissions, venting carbon dioxide and flaring, are responsible for the majority of emissions from oil and gas operations worldwide. Module 2, Material investment, assesses companies' actions to reduce their operational emissions (scopes 1 and 2). Comparing a company's past and projected scope 1 and 2 emissions intensity trends with its 1.5°C pathway provides a good measure of its transition progress and gives an indication of the scale of change that needs to be made within the company to bring it into alignment with a low-carbon future.

Trend in past emissions intensity

The oil and gas sector has not made adequate progress in reducing the scope 1 and 2 emissions intensity from its operations. Between 2017 and 2022, over half of the companies assessed in this benchmark had an increase in their scope 1 and 2 emissions intensity or made no significant emissions intensity reductions. Seven of the 10 companies with the highest emissions intensity in the last reporting year were fully or predominately state-owned. NOCs account for over half of global oil and gas production. NOCs typically represent a significant share of GDP and are usually the leading energy providers in their countries. A lack of progress from NOCs can also reflect lack of incentives from governments to support their transition. The lack of past emissions reductions from these state-owned companies poses a threat to the feasibility of their transition to a low-carbon future.

Only 12 companies assessed in this benchmark achieved the rate of emissions reductions required to align with a 1.5°C pathway. Although still a low proportion, this is a strong improvement from the 2021 assessment which saw only two companies (Marathon Petroleum and Origin Energy) reduce operational emissions intensity in line with a 1.5°C pathway. Of these 12 companies, seven are headquartered in the USA and four in Europe, while Inpex Corporation is headquartered in Japan.

Despite showing emissions intensity reductions in the past five years, several of the companies headquartered in North America that are assessed in this benchmark are heavily reliant on gas as a 'transitionary' fuel to support the low-carbon transition. Despite the IEA's call for no further [oil and] gas development, many of the North American companies assessed are still seeking to explore and expand gas operations. For example, Devon Energy has recently entered into a joint venture to establish a new natural gas pipeline in the Permian Basin.

Since the previous assessment, 39 companies have improved their trend in scope 1 and 2 emissions intensity reductions. However, 32 companies which previously showed emissions intensity reductions, have increased their emissions intensity over the last five years. Across both assessments, 28 companies showed no signs of emission intensity reductions.

Case study: Hess

Hess is one of very few companies in the benchmark which decreased its scope 1 and 2 emissions intensity at a rate that was faster than was required by its 1.5°C pathway between 2016 and 2021. In this time period, Hess decreased its scope 1 and 2 emissions intensity by almost 14% per year, while its pathway only required a 6% per year decrease. Hess has succeeded in reducing its scope 1 and 2 emissions intensity through significant reductions in natural gas flaring in its North Dakota operations. In 2021, flaring from Hess operated assets totalled 33 million standard cubic feet per day (MMSCFD), a decrease of 37% compared with 2020. Hess outlines some key factors as to how this progress was achieved, including a focus on natural gas capture through increased availability and reliability at its compressor stations. Hess is focused on continued flaring reduction as a key driver to reducing its greenhouse gas emissions intensity and flaring rates. Hess has set targets to reduce its scope 1 and 2 emissions by approximately 50% by 2025, compared to 2017, and by 100% by 2050. Hess is also committed to eliminating routine flaring from its operations by the end of 2025.

Trend in future emissions intensity

The company's projected emissions intensity is assessed to evaluate its action towards decarbonisation. In the absence of useful data for the companies projected scope 1 and 2 emissions intensities, a business-as-usual hypothesis can be assumed, with little expected to change in the five years following this reporting year.

Over two-thirds of companies show no signs of decreasing their scope 1 and 2 emissions intensity over the next five years. Moreover, none of the companies are expected to be close to alignment with a 1.5°C pathway. In the 2021 assessment, two companies were projected to have emissions intensity reductions sufficient to align with a 1.5°C pathway (CPC and Marathon Petroleum). However, in 2023, no companies are expected to have sufficient scope 1 and 2 emissions intensity reductions over the next five years. Both CPC and Marathon Petroleum's emissions intensities are projected to remain static over the next five years.

The lack of past progress is compounded by the expectation that these companies are only going to perform worse. With little emissions intensity reductions expected in the next five years, the assessed companies are driving themselves even further from aligning with a 1.5°C world.

With regard to their projected emissions intensities, companies are expected to do worse in the coming time. It is clear the oil and gas sector is not sufficiently transitioning and companies are not suitably planning to reduce their own operational emissions over the next five years. Of the companies that achieved some of the most significant scope 1 and 2 emissions intensity reductions over the last five years, at least eight companies are expected to show an increase in their scope 1 and 2 emissions intensity over the next five years, including Shell and TotalEnergies.

Following the IEA's advice, companies should first focus on addressing their methane emissions and eliminate routine flaring as these actions have the highest potential to reduce operational emissions. Moreover, companies should set these targets for 2030 or earlier to address these emissions in this decisive decade.

Emissions performance from sold products

Emissions from downstream combustion of the products oil and gas companies sell represent the largest share of their total emissions. For the companies assessed in the benchmark, these emissions (scope 3) make up over 80% of the total emissions on average. Three quantitative indicators in the assessment include scope 3 emissions. These are: trend in past scope 1, 2 and 3 emissions intensity (module 4), trend in future scope 1, 2 and 3 emissions intensity (module 4) and emissions lock-in (module 2).

Looking at a company's scope 1, 2 and 3 emissions intensity allows an assessment of whether the company is diversifying its sold product portfolio away from highly emitting fossil fuels towards alternative energy products such as renewable electricity, low-carbon hydrogen or advanced biofuels. This is a crucial indicator of action towards a low-carbon transition for companies in this sector.

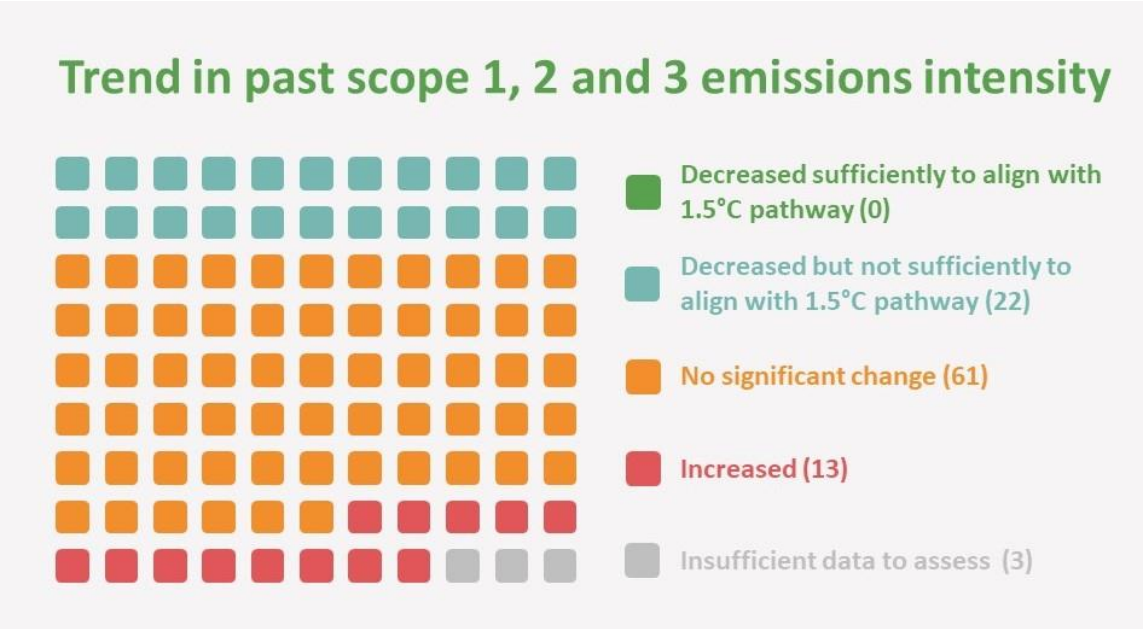
The assessment of past trends in scope 1, 2 and 3 emissions intensity is applicable to all companies in the benchmark. No company was found to be reducing its intensity at a rate sufficient to align with its 1.5°C pathway. Moreover, 51 companies were found to have made no reduction in emissions intensity at all, and some companies even showed an increasing emissions intensity trend. Only 22 companies had reduced their intensity by an average of at least 1% per year; however, in order to align with a 1.5°C pathway, companies are required to reduce their intensity by around 4% per year over the next five years. There has been a slight improvement in performance for this indicator since the 2021 assessment, but this improvement is not significant (a mere 2.5% increase in the mean score).

The highest-scoring companies under this indicator have made significant progress towards diversifying their sold product mix away from their traditional oil and gas activities. The three best performers are Origin Energy, Naturgy Energy and Neste. Origin and Naturgy have significantly expanded their sales of electricity over the last five years. Origin increased its electricity sales by almost 70% between 2020 and 2021, while Naturgy has continually increased the proportion of electricity in its energy mix from around 14% in 2017 to 18% in 2022. Neste has also diversified its output through an increased proportion of biofuels. Regardless, though these companies have made significant progress to reduce their scope 1, 2 and 3 emissions intensity, none of them have decreased their intensity at a sufficient rate to align with their 1.5°C pathway.

Many other companies that have reduced their emissions intensity have done so by increasing the proportion of gas compared to more emissions-intensive oil in their sold product mix. However, this switch is not sufficient as a reliance on gas will only lead to greater divergence from a 1.5°C aligned pathway between now and 2050 and is not a credible transition tool. Based on projected changes to

companies' production, no company is expected to reduce scope 1, 2 and 3 emissions intensity at a rate sufficient to align with its 1.5°C pathway over the next five years.

FIGURE 1: DISTRIBUTION OF COMPANIES' TREND IN PAST SCOPE 1, 2 AND 3 EMISSIONS INTENSITY



The emissions lock-in indicator calculates a company's expected cumulative scope 3 emissions from the combustion of oil and gas products over the period 2022-2050 based on production projections and compares it to an individual company's 1.5°C carbon budget. The indicator is applicable to all companies that have upstream activities (exploration and production). Ten (13%) out of the 81 companies with upstream activities are projected to remain within their 1.5°C budget. However, 37 companies (46%) are projected to exceed their carbon budget by over 50% and a further 12 (15%) by over 100%.

These companies (which represent around 80% of global oil and gas production for 2022) are projected to use up their total 1.5°C carbon budget by 2036. Many companies are pivoting their operations towards gas production, with many considering gas to be a 'transition fuel'. The projected significant increases in gas production are expected to play a major role in this carbon budget overshoot. Projected gas emissions are expected to exceed the total gas 1.5°C carbon budget by almost 80% over the period 2022-2050.

Companies based in North America and in the Middle East & North Africa are projected to exceed their carbon budgets most significantly for 2022-2050 compared to other regions. The ownership structure of the companies does not make a significant contribution to whether or not companies are projected to exceed their carbon budget, with both publicly listed and state-owned companies projected to exceed their budgets by an average of over 50%. The top five companies by total 2022 production account for almost 30% of total global production between them (China National Petroleum Corporation, ExxonMobil, Gazprom, National Iranian Oil Company and Saudi Aramco) and are all projected to exceed their budgets by over 55%. The largest producer assessed, Saudi Aramco, has projected emissions in excess of its carbon budget greater than the entire projected emissions for ExxonMobil for 2022-2050.

The results for these indicators show that the companies are not taking significant steps to transition away from their oil and gas activities towards low-carbon energy production. All the companies with upstream activities included in the benchmark continue to explore for new oil and gas reserves and

few have made commitments to reduce their production. As a result, the vast majority are projected to exceed their 1.5°C carbon budgets for the period 2022-2050.

Investments

As per the IEA's Net Zero Emissions (NZE) Scenario, by 2030 every 1 USD spent on fossil fuels should be outmatched by 5 USD on clean energy supply and another 4 USD on efficiency and end users. Module 2, Material investment, compares capital expenditure (CapEx) allocated by companies to low-carbon and mitigation (simplified as "low-carbon" in this report); carbon capture, use and storage (CCUS); and carbon dioxide removal (CDR) technologies; against their total CapEx. Module 3, Intangible investment, assesses companies' research and development (R&D) expenditure in the same low-carbon technologies assessed in module 2. Together, CapEx and R&D investment provide a good measure of company action towards transition. Yet, 75% and 91% of the companies assessed do not disclose their respective CapEx and R&D investments in low-carbon technologies.

Companies were assessed on their recent CapEx in low-carbon technologies between 2021 and 2022 and their planned CapEx until five years after the reporting year. Half of assessed companies scored less than 6.5% of available points under the dedicated indicator. Of the 99 companies assessed, 25 report the proportion of CapEx they invest in low-carbon technologies, out of which 13 assign more than 10%. The three leaders in this area are Neste, Naturgy and Engie, which invest 88%, 59% and 51% of their CapEx in low-carbon technologies respectively. To reduce their emissions and ensure continued revenue in a low-carbon economy, oil and gas companies must invest heavily in low-carbon technologies. **The sectoral-level expectation is that at least 77% of a company's total investments should be dedicated to low-carbon technologies**. **This is not currently the case as only Neste invests a high enough share of its CapEx in low-carbon technologies (such as advanced biofuels).**

Out of the 40 national oil companies (NOCs) assessed, only YPF, Equinor and Petronas disclose their low-carbonCapEx share of 3%, 13% and 25% respectively. Most NOCs represent a significant share of gross domestic product and tax revenues for their home countries and are usually the leading energy providers in their countries. Their failure to transition will pose a threat to the energy security and income of these countries. Companies headquartered in Europe and Central Asia disclose more information on their CapEx and are the highest investors, with 13 reporting low-carbonCapEx averaging at 25% of their overall CapEx. **Although the average low-carbon CapEx share of the companies that disclosed this data has increased from 7% to 18% since the 2021 assessment, this level is still well below the 77% low-carbon CapEx share needed for a transition aligned with a 1.5°C scenario.**

Seven companies publish information on their future low-carbon CapEx investment plans looking out to five years after the reporting year. Only one oil major, Chevron, is transparent about its planned CapEx in low-carbon technologies, expecting to invest 10% in 2026. The largest NOCs: China National Petroleum Corporation, Gazprom, National Iranian Oil Company, Rosneft and Saudi Aramco, do not disclose their current or planned low-carbon CapEx.

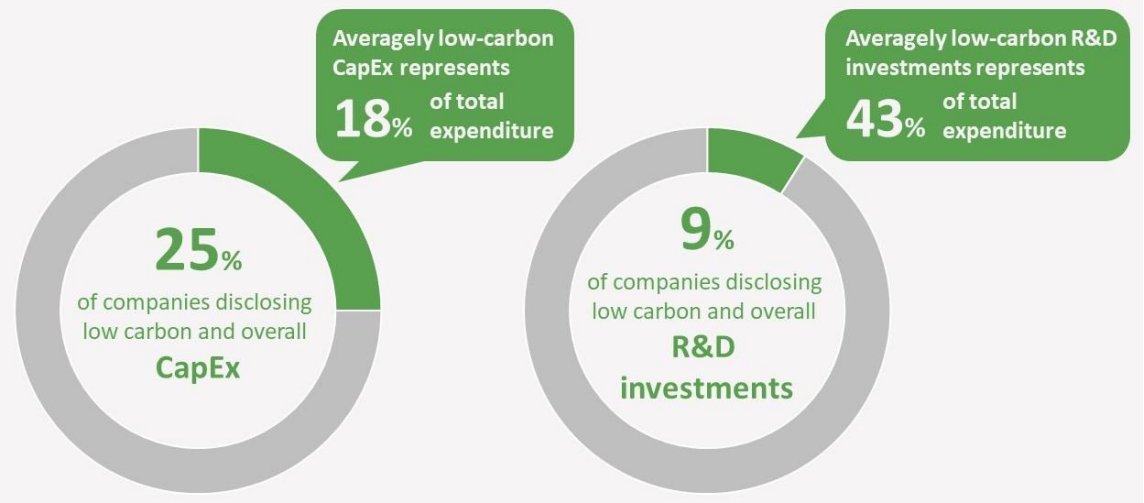
Recent and planned CapEx in CCUS and CDR technologies was also assessed. These technologies are at the heart of many oil and gas companies' climate strategies. However, only four companies report the proportion of their CapEx invested in CCUS and CDR technologies, of which two are the oil majors Shell and TotalEnergies. For all four companies, this CapEx share represents less than 1% of total CapEx, except for OMV for which it represents approximately 4%. Further, Hess, Occidental, OMV, Santos and TotalEnergies are the only companies that report forward-looking CapEx in CCUS and CDR, but all fall far below the expectation of 5% of overall CapEx to be dedicated to CCUS and CDR technologies under a 1.5°C scenario.

In the absence of an appropriate 1.5°C scenario expectation for R&D in low-carbon technologies, the CapEx benchmark of 77% was used as a proxy. A total of 47 companies report information on their R&D expenditure; however, only nine report information on how much of this is dedicated to low-carbon technologies. Naturgy, Eni and CPC lead in low-carbon R&D shares in overall R&D with investments of 100%, 70% and 68% respectively. Given R&D is a key tool to reduce the costs of technologies, R&D investments in low-carbon technologies are needed to facilitate the deployment of these technologies, which will enable companies to be successful in a low-carbon economy. **Nevetheless, only Naturgy discloses an R&D share which is aligned with a transition to low-carbon activities such as biomethane, hydrogen from renewable sources, electricity storage and sustainable mobility. Since the 2021 assessment, the increase in the average R&D investment in low-carbontechnologies for the companies that disclose this data has increased from 22% to 43% of total R&D spending, but this remains inadequate.** Only four companies were found to be investing more than 50% of their R&D expenditure in low-carbon technologies.

As with CapEx, this assessment also looked specifically at the proportion of overall R&D expenditure companies dedicated to carbon capture, use and storage (CCUS) and carbon dioxide removal (CDR) technologies. Only TotalEnergies, which invests 13% of its R&D budget in these technologies, could be assessed on this indicator.

The IEA's NZE Scenario states that 50% of global carbon dioxide reductions by 2050 will result from low-carbon technologies that are currently in demonstration or prototype phase. **Despite this and the sector's record earnings, almost all the companies assessed show a lack of ambition in relation to their CapEx and R&D investments in low-carbon technologies. With sufficient investments and R&D in new technologies, companies can secure their survival and profitability in a low-carbon world.**

FIGURE 2: SHARES OF COMPANIES DISCLOSING LOW-CARBON CAPEX AND R&D INVESMENTS DATA AND RELATED PERFORMANCE



Climate oversight and governance

Module 5, Management is a multi-faceted module, which assesses the management and strategic approach of the companies across five indicators. Three of these indicators relate to the governance mechanisms companies use to manage the transition to a low-carbon economy. These are: level of

oversight (e.g. at board level) of climate change issues, board-level climate expertise and incentives for climate change management.

While 73 out of the 99 companies report having board-level oversight of climate change issues, it is worrying that 20 companies still do not report having any oversight of climate change risks and opportunities. Out of these 20 companies, 90% are NOCs. No correlation was found between level of oversight of climate-related issues and level of board member expertise on climate change and the low-carbon transition. Only seven of the 73 companies with board-level oversight were found to have significant expertise among their board, including four of the oil majors: ConocoPhillips, Eni, Shell and TotalEnergies.

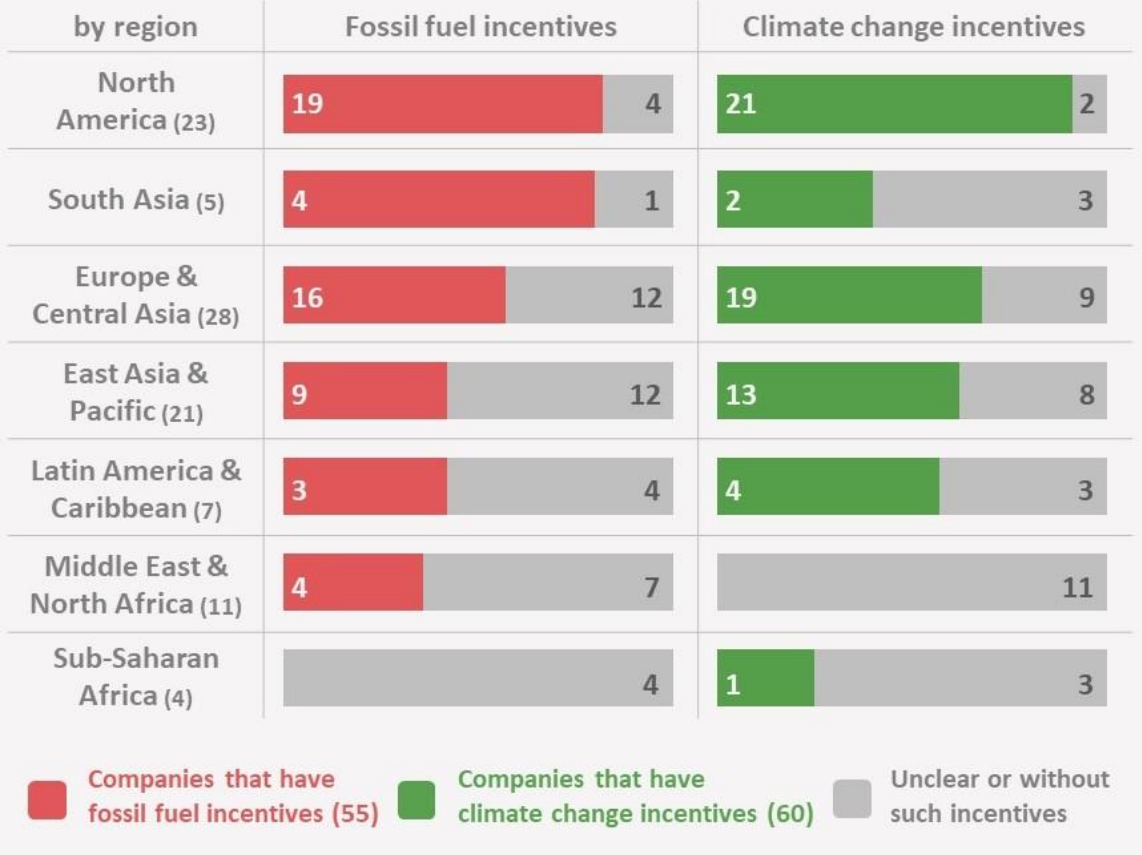
Significant climate change expertise in the assessment refers to expertise that is either completely integrated in the decision-making process or serves as an advisory guide to decision makers through a consultative committee, for instance. Only 27 companies in the benchmark show any evidence of relevant climate-related expertise among their board members. These numbers reveal that most (73%) of the companies do not have decisions on climate issues being led by climate experts and are not effectively integrating climate change as an issue at a strategic level.

Case study: Saudi Aramco

A high-profile example of a company that lacks the necessary oversight and expertise required to ensure that decisions on climate change issues are being effectively integrated at a strategic level is Saudi Aramco. Aramco, the world's largest oil and gas producer has not implemented board-level oversight of climate-related issues. The oversight of climate-related issues is the responsibility of their Sustainability, Risk and HSE (Health, Safety and Environment) Committee. The committee provides reviews and advises on Sustainability, Risk and HSE policies and practices, including advising on the company's response to climate change. However, there was no evidence found that the committee is overseen by individuals with relevant climate-related expertise and experience. The company should look to implement oversight of climate-related issues at board-level and ensure decisions on climate change and the low carbon transition are being made by those with relevant expertise, in order to effectively integrate climate change issues at the strategic level.

Out of the 99 assessed companies, only 60 have implemented climate change incentives. Moreover, 70% of NOCs do not have incentives related to climate change. Over half of the companies assessed in the benchmark still report executive remuneration or incentives linked to fossil fuel growth. Further, out of 60 companies with climate change incentives, 65% still reported incentives linked to fossil fuel growth. It is likely that some companies that do not disclose this information also have fossil fuel incentives. This completely undermines any attempt these companies are making to reward progress towards the low-carbon transition.

FIGURE 3: REGIONAL DISTRIBUTION OF COMPANIES HAVING EITHER FOSSIL FUEL OR CLIMATE CHANGE INCENTIVES



Transition planning and scenario analysis

The oil and gas sector will require substantial changes to its business activities to align with a low-carbon economy over the short-, medium- and long-term, whether it is voluntarily following a strategy or being forced to change by regulation and structural changes to the market. ACT assessments are primarily future oriented, so the forward-looking indicator – low-carbon transition planning – is one of the key elements which assesses the strategic approach companies are taking in order to align with a low-carbon pathway and is the most heavily weighted when it comes to Module 5.

For this indicator, companies have scored a median of 35%. Compared to the 2021 assessment, this is an improvement of 7%. The performance of company's transition plans varied between company type, with the seven oil majors performing the best. With a median score of 70%, these companies have developed more robust transition plans. Among these, Neste is the best performing company, scoring 95%.

TABLE 2: BREAKDOWN OF SCORES UNDER LOW CARBON TRANSITION PLAN INDICATOR, BY COMPANY TYPE

Company type	Median Score	Mean Average Score
National oil companies (NOCs)	18%	20%
The seven oil majors	70%	62%
Independent companies	48%	44%

The highest performing companies – Neste, Repsol, TotalEnergies, Suncor Energy and Engie – clearly describe measures of success in terms of emissions reductions and provide financial context. These companies tend to link the development of low-carbon activities to their greater aims for emissions reduction. However, companies' low-carbon planning often excludes scope 3 emissions, which account for over 80% of oil and gas companies' total emissions. NOCs demonstrate the poorest planning, with a mean average score of 20%. Out of 18 companies that have not indicated plans to manage or reduce emissions, over half (67%) were NOCs. This can be attributed to a lack of accountability and transparency, lack of climate action, as well as no pressure from stakeholders, which is often characteristic of NOCs.

Despite a slight improvement in overall performance in relation to low-carbon transition plans, companies still fall short of what is required to align with a 1.5°C pathway. In general, companies' transition plans lack sufficient detail and timescales required to outline a successful long-term transition. As many as 78 companies in the benchmark have not set clear qualitative and quantitative objectives aligned with a low-carbon scenario to measure the success of their transition plan. Moreover, 11% of companies in the benchmark show no evidence of transition planning.

Most of the companies, 54 in total, provide no quantitative financial context. For example, there is no detail in regards to the amount allocated towards low-carbon projects or methods to reduce emissions within their transition plans. Only 39 companies have conducted an internal carbon price study, with 12 of these implementing a price that is aligned with the IEA's NZE Scenario. No company has explicitly committed to a complete phase-out of fossil fuels. In contrast, due to record profits made by oil companies in 2022, there has been increased spending on the production of oil and gas and the relaxing of transition plans. A high-profile example of this is BP, which has scaled back plans to reduce the amount of oil and gas it produces by 2030.

It is evident that companies in the benchmark lack credible and often robust enough transition plans that provide an outline to phase out fossil fuels. Companies must commit now to reducing production and halting expansion of oil and gas assets and take responsibility for their scope 3 emissions.

In addition to containing financial details and quantified time-bound measures of success, transition plans should be informed by company-wide scenario analysis to ensure company ambitions are sufficient enough to align with a 1.5°C scenario. Scenario analysis enables companies to understand and quantify risks and opportunities under different temperature scenarios, enabling the development of more comprehensive and resilient transition plans. Only 56 companies in the benchmark have conducted a scenario analysis, with nine companies providing results in financial terms, and only two expressing these as business 'value at risk'.

Three companies in the benchmark score above 90% for this indicator: Neste, Santos, and TotalEnergies. These companies have conducted comprehensive scenario analysis up until 2050 and beyond, including multiple changing conditions and a 1.5°C scenario to inform transition planning.

Results of scenario analysis are influenced by the assumptions applied by companies. Of the 56 companies that conducted scenario analysis, 89% applied assumptions around energy demand and commodity prices of oil and gas. These are biased towards existing business models, leading to decisions to conduct 'business as usual'. As a result, no company receives a full score for this indicator. Moreover, all companies can improve and increase reporting in line with the recommendations of the Task Force on Climate-Related Financial Disclosures (TCFD).

Supplier and client engagement

Scope 3 emissions represent approximately 80% of all emissions in the oil and gas value chain. To reduce these emissions, oil and gas companies must make active efforts to engage with their suppliers and clients on greenhouse gas emissions reduction.

Companies have varying levels of leverage in their engagement with suppliers and clients depending on their position in the oil and gas value chain. Since integrated companies' supply chains are mainly internalised, their engagement with external suppliers provides fewer avenues for change than for midstream and downstream companies. For client engagement, integrated and downstream companies have higher impact potential than midstream companies. Upstream-only companies are excluded from both supplier and client engagement assessments.

The oil and gas sector demonstrates a considerable lack of action around climate-related supplier and client engagement. The assessed companies have not shown an improvement in this area since the 2021 assessment and the overall median scores for supplier and client engagement are both 3.75% out of 100%.

Companies in the Europe and Central Asia region, as well as the East Asia and the Pacific region, tend to perform better than other regions on both supplier and client engagement. In all other regions, most companies score zero for both. NOCs tend to score very low, with 62% of companies in this category scoring zero for supplier engagement and 74% scoring zero for client engagement. Publicly listed companies tend to score higher, although 30% of these companies still score zero for supplier engagement and 30% also score zero for client engagement.

Supplier engagement

Out of the 87 companies in the assessment that are not pure upstream players, 52 do not report strategies to influence supplier climate performance, and 70 out of 87 do not require suppliers to reduce their emissions. Companies with poor supplier engagement strategies tend to include sustainability aspects in their procurement process and require suppliers to comply with environmental regulations; however, they do not explicitly encourage suppliers to reduce emissions or develop low-carbon products. Only 17 companies integrate emissions reduction requirements in engagement with suppliers, but none of the assessed companies require a specific percentage of reduction. Out of the 17 companies that include a requirement for suppliers to reduce their emissions, only seven discuss their response to non-compliance.

Companies should integrate multiple avenues of engagement with stakeholders in their strategies. Only 19 companies have integrated at least one of the following supplier engagement levers into their strategies: information collection, engagement and collaboration, and incentivisation. An example of one such company is Petrobras, which has created an 'ESG Journey for Suppliers' information stream and communication channels for suppliers to present their ideas for decarbonisation.

Client engagement

The results for client engagement are even lower. Out of the 87 assessed companies, 71 demonstrate no strategy to engage with clients on climate issues and 80 do not discuss any aims for reducing their clients' emissions. Only 14 companies have integrated at least one of the following client engagement levers into their strategies: information sharing, collaboration and motivation via marketing of less emissions-intensive products.

Value chain initiatives

The most evidence of value chain engagement can be seen when assessing what the companies are doing in practice, rather than what they have included in their engagement strategies. For instance, 35 companies were found to have initiatives related to emissions reduction for suppliers. Similarly, 34 companies were found to have such initiatives for clients; however, six of these focus only on providing lower-carbon products rather than engagement. Nevertheless, these initiatives still suggest that only about 40% of the assessed companies have engaged with either suppliers or clients on climate-related issues. Additionally, only a handful of companies discuss the results of their engagement in a quantitative manner. This is slightly higher for supplier initiatives (6 companies out of 87) than for client initiatives (3 companies out of 87). For instance, Ecopetrol reports the amount of emissions mitigated through its collaboration with suppliers.

Although no company is among the top five performers for both supplier and client engagement, some companies display examples of good practice in one of the two categories. TotalEnergies, which ranks among the top five performers for supplier engagement, aims for at least 90% of its top 400 suppliers to set targets for emissions reduction by 2025. These suppliers account for 70% of emissions associated with the purchase of the company's goods and services.

Engie tops the ranking for client engagement. The company has a goal of adding eight gigawatts of decentralised energy networks by 2025. It has also launched a tool for both business-to-business (B2B) and business-to-customer (B2C) clients to improve their energy consumption. The second highest scoring company, Neste, aims to help customers reduce emissions by at least 20 million tonnes of carbon dioxide equivalent annually by 2030. This is calculated as the emissions reduction achieved by using a less-carbon intensive product compared to a fossil reference product.

Case study: Equinor

A key focus of Equinor's supplier engagement is the maritime sector. The company collaborates with suppliers to find technical, operational and fuel-related measures to reduce emissions for the maritime services it purchases as well as to develop lower- and zero-carbon fuels for ships. The company has also set targets specifically to reduce maritime emissions from both its operations and the vessels contracted by the company. Equinor can improve its performance by applying the level of engagement and detail it displays for the maritime sector to other segments of its supply chain.

Trade associations and policy engagement

Policy engagement between companies and trade associations can enable the delivery of effective and positive climate impacts. As reported by the Société Générale, "energy is at the core of the economy and a priority sector for the achievement of the Paris Agreement objectives". Thereby the oil and gas sector has an important role to play in the transition to a low-carbon future and can support the efforts of a wider group of stakeholders in this area.

Module 8, Policy engagement, acknowledges that trade associations are a key instrument by which companies can indirectly influence climate policy. Thus, participating in trade associations which actively lobby against climate positive legislation is a negative indicator likely to obstruct the low-carbon transition. This module investigates the mechanisms that companies use to indirectly influence policies, ranging from whether or not they have an engagement policy, to their engagement with trade associations and public support or obstruction of climate-friendly policies.

This 2023 Oil and Gas Benchmark found an increase in the number of companies that have implemented a public company policy on engagement with trade associations, from 17 in 2021 to 25. Almost twice as many companies now disclose support for the Paris Agreement, compared to the previous assessment (62 companies compared to 34 in 2021).

Similar to 2021 findings, the assessed companies do not demonstrate an overall commitment to proactively managing policy engagement and support for key climate policies, such as the Paris Agreement, or sector-specific initiatives, such as the World Bank's Zero Routine Flaring by 2030 initiative (supported by 24 companies). Average and median scores for this module are quite similar, at around 25% (mean score of 25.1% and median score of 24%).

Despite the increase in the number of companies with a public engagement policy, only 68% of these 25 companies have both a review process and action plan for when trade associations are found to oppose climate-positive policies. Further, only Origin Energy and TotalEnergies disclose both reviewing and reporting the findings of this process to the highest level of responsibility within the company, and an action plan that includes withdrawing membership. Five companies (APA Corporation, Devon Energy, Neste, Suncor Energy and Viva Energy) disclose having engagement policies, but they do not have a review process or an action plan, bringing into question how effectively they adhere to these policies.

Case study: Origin Energy

Origin Energy demonstrates the best performance with respect to its policy on engagement with trade associations, obtaining all the points available for this indicator. Origin's Government Engagement and Policy and Regulatory Team manages its trade association relations. The company annually reviews trade association memberships to determine whether misalignment exists between its own climate position and that of trade associations it holds membership of or is involved with.

Where misalignment in climate positions have been identified, Origin will review its membership and the materiality of this, consider making public statements and assessing the value of retaining membership. Origin suggests that it considers the policy positions of associations when assessing new memberships, including their position relating to climate change and alignment with Origin's position. Furthermore, Origin reports that its principles regarding trade associations with which its policy positions don't align is to remain a member and seek to influence member views from within.

Companies' memberships and associations

Seventeen companies do not disclose whether they hold membership of or are involved with any trade associations. Of the 82 companies that do disclose this information, 80% are members of or provide funding to trade associations with climate-negative positions, such as the American Petroleum Institute (22 companies), the International Association of Oil & Gas Producers (16 companies) and Fuels Europe (nine companies).

Forty-eight companies support the Paris Agreement but are also members of or involved with trade associations that hold negative positions on climate policy. Of the 62 companies that support the Paris Agreement, 56 lack a monitoring and review process to ensure that the policy positions of its membership associations are consistent with the goals of the Paris Agreement.

Seventy-nine companies hold membership of at least one climate-friendly initiative, such as the World Bank's Zero Routine Flaring by 2030 (ZRF) Initiative (24 companies), World Business Council for

Sustainable Development (12 companies) and the Oil and Gas Climate Initiative (11 companies). Indicating that almost 25% of sample support the ZRF Initiative. Although 24 companies reported their support for the ZRF Initiative, a further nine companies were identified to have supported the initiative (as per the ZRF website) but did not disclose this information in their reporting.

Ten companies have engagement policies supported by a review process and action plan, support at least one climate initiative, support the Paris Agreement and have a review process to ensure consistency. These are: BP, Engie, Eni, Equinor, Occidental, OMV, Origin Energy, Shell, Sasol and TotalEnergies. But these companies also are members of or are involved with climate-negative trade associations. All but one of them are publicly listed or mainly publicly listed with minor state interest, which indicates that state-owned companies tend to lobby in a different way to those with private interests. Despite reporting taking the desired steps to implement and manage policy engagement strategies, all ten of these companies are still engaged with trade associations that hold climate negative stances and could hinder positive climate action.

Low-carbon business activities

Oil and gas companies must go beyond decarbonising their own operations and build alternative business models compatible with a low-carbon world. Module 9, Business model, assesses whether a company is transitioning its business model to low-carbon activities. A company's future business models should enable it to decouple financial results from emissions, to meet the constraints of a low-carbon transition while continuing to generate value. Relevant current business activities and those still at an early stage are identified, and business models are assessed on their profitability, current size, growth potential and deployment schedule.

Overall, the performance of the companies in this module was poor. The median score for the module is only 8%. There are 78 companies, up from 74 in the 2021 assessment, that report they have current low-carbon business activities or are planning to develop these in the future. In total, 214 low-carbon business activities were identified, having increased from 158 in the 2021 assessment. Activities focused on emissions reduction from traditional business, such as methane leak reduction, flaring reduction or electrification of own operations are not considered new low-carbon business models.

Low carbon activities

The production and sales of sustainable fuels and gases have emerged as the most significant new low-carbon business activities among the 78 scoring companies. They constitute 37% of low-carbon business models, which is a notable shift since the 2021 assessment when this category was not dominant. Many of these companies are focused on the development of hydrogen, biofuels or biogas. However, companies often fail to disclose crucial information regarding the energy sources used for hydrogen production or the proportion of low-carbon hydrogen in their overall hydrogen production. Additionally, companies lack transparency on feedstock for biofuel generation. Only companies involved in the production of low-carbon hydrogen and second- and third-generation biofuels were scored in the assessment.

The second largest group of new low-carbon business activities relates to low-carbon electricity (25% of low-carbon business models). These activities mainly involve the production of renewable energy through solar and wind power projects, which is then sold to external entities. Several companies, including Cosmo, Engie, Eni, Galp, Naturgy and Saras, have made good progress in these ventures and provide information about their profits from these projects.

However, companies vary in their level of transparency regarding the profitability of renewable electricity generation activities and the relative size of these business models in comparison to their oil and gas activities. At least 12 companies do not disclose enough information about their financial

gains from renewable electricity. As a result, the extent to which the companies distribute renewable electricity to external markets in place of utilising it solely for their own operations remains frequently unclear.

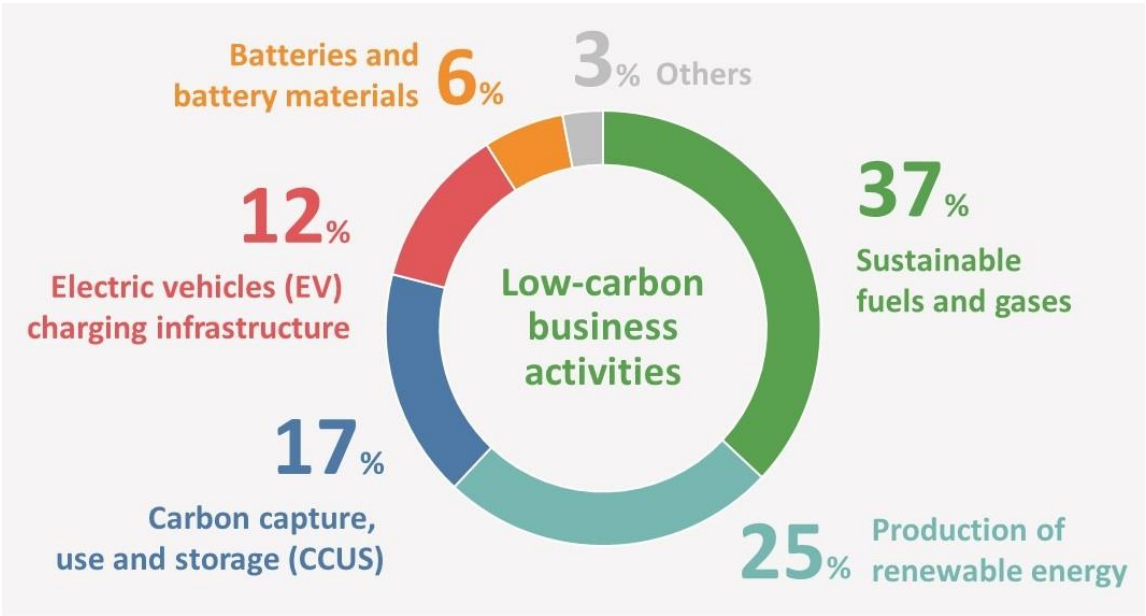
The number of companies engaged in the development of carbon capture and storage (CCS) and carbon capture, use and storage (CCUS) technologies has significantly increased since 2021. Presently, there are 37 companies actively working on the implementation of CCS or CCUS technologies, against 16 in 2021. However, there is a frequent association between CCS programmes and enhanced oil recovery (EOR), with companies often failing to provide transparency regarding the origins of the injected carbon dioxide. The lack of disclosure obstructs the evaluation of the benefits of this activity in terms of emissions intensity reduction of the produced oil.

For example, Petrobras has incorporated an offshore carbon dioxide reinjection programme in the pre-salt fields as a key part of its decarbonisation plan. However, this programme is primarily focused on EOR. Unfortunately, the company has not specified whether the carbon dioxide used for reinjection originates from industrial sources or natural reservoirs. Further, there is little evidence that the companies implementing CCS establish a monitoring, reporting and verification (MRV) system to ensure the proper sequestration of carbon dioxide.

Electric vehicle (EV) charging infrastructure is being developed by 25 companies; however, 15 of these business models are currently at the early stage of development and not profitable yet.

Additionally, 14 companies are developing energy storage solutions, including the production of batteries for EVs and the development of battery materials. For instance, SK Innovation is establishing itself as a producer of batteries for EVs. The company's subsidiary SK ON has 77 gigawatts (GW) of battery production capacity worldwide. Another example is Phillips 66, which in 2021 acquired a 16% stake in Novonix, a company that develops technology and supplies materials for lithium-ion batteries. Galp, in a joint venture with Northvolt, is also progressing towards the development of the Aurora Lithium conversion plant, with an annual production capacity of up to 35,000 tonnes of lithium hydroxide sufficient for 50 gigawatt-hours (GWh) of battery production per year.

FIGURE 4: SHARES OF LOW-CARBON BUSINESS ACTIVITIES CATEGORIES



Companies performance

The best scoring company for low-carbon business activities, having received 54% of the points under this module, is Engie. The company currently has an installed renewable capacity of 38 GW and aims to add 4 GW per year between 2022 to 2025 and then 6 GW per year from 2026 to 2030. Additionally, Engie plans to produce 10 terawatt-hours (TWh) of biomethane per year by 2030 and inject 50 TWh of biomethane into its network in France in 2030. Further, Engie has an established Energy Services division offering energy efficiency services to clients.

Eni received 40% of the points available for this module, whereas Naturgy, Neste and Origin received 35%. This indicates that these companies are turning towards becoming "integrated energy players" (as defined by McKinsey, 2021) by leveraging opportunities in the low-carbon markets. However, they continue to maintain their conventional fossil fuel-based operations. Unfortunately, there is currently no evidence suggesting that their low-carbon endeavours enable the companies to lower their reliance on fossil fuels.

Overall, 63 companies obtained less than 20% of the available points in this module and 33 of them scored zero, meaning these companies are either not developing a single low-carbon business model or do not disclose any or sufficient information about these activities. This suggests that these companies intend to remain "resource specialists" (as defined by McKinsey, 2021) and depend on fossil fuels for their profitability for as long as possible, thereby posing a threat to global efforts aimed at mitigating the climate crisis.

The key challenge for oil and gas companies is to identify and rapidly develop new business models that can ensure profitability in a low-carbon economy. At present, companies struggle to generate substantial profits from new business models. In a few cases where revenue breakdown is available based on activity type, it is evident that average income from low-carbon activities accounts for less than 5% of companies' total revenue.

Summary of changes from the previous assessment

How have company scores changed?

Company performance scores have improved on average between 2021 and 2023. However, although most companies have increased performance scores, 38 companies still score lower than in the 2021 benchmark, and nine companies have seen no change in their performance score.

Concerningly, the performance scores of companies ranked in the top five in the 2021 assessment have all remained stagnant or decreased. The most significant drop is seen in BP's performance score, which has reduced by 30%.

Conversely, companies ranked among the bottom third in the 2021 assessment have seen the greatest increases in performance scores. The companies with the greatest improvements, NGL Energy Partners and TUPRAS, were both ranked among the bottom ten companies in 2021.

The companies with the five largest decreases in performance are all NOCs. These are China National Petroleum Corporation, Gazprom, Naftogaz, National Iranian Oil Company and Petróleos de Venezuela.

Narrative scores have improved slightly overall. The average narrative score in the 2023 benchmark has gone up to a D rating, from an E rating in 2021. Moreover, the 2023 benchmark saw the first company, Neste, to achieve an A rating.

What has driven changes to scores?

Overall, there have been no significant changes to module scores.

The greatest improvements have been in module 1 – Targets and module 5 – Management, with average increases of 6% and 5% respectively.

Since the 2021 assessment, the number of companies that have set emissions reduction targets has increased by 7% to 75%, and the number of companies that have set scope 3 targets has more than doubled to 28%. However, a quarter of the benchmarked companies are yet to set any emissions reduction targets and there is a lack of scope 3 targets, meaning the majority of emissions from the oil and gas sector are still not covered by emissions reduction targets.

Further, since the 2021 assessment, companies have improved both their oversight of climate change issues and scenario analysis. However, those with oversight still lack the necessary expertise in the low-carbon transition, and the climate scenario analysis completed by companies fails to adequately consider financial impacts.

Companies with the greatest reduction in performance score have all notably decreased in their material investment and sold product performance scores, meaning the companies' emissions intensities are even less aligned with their 1.5°C pathway than in the previous assessment.

The remaining modules have seen little to no change.

Looking forward

Looking forward, 80% of the companies receive a negative trend score and are not expected to improve in future assessments. Since the 2021 assessment, four companies have seen an improvement in their trend, moving from a negative to a positive or equal rating. However, seven companies have seen a worsening trend - with both Ampol and BP dropping from a positive to a negative trend score between 2021 and 2023.

Despite small improvements in scores, it is clear that the oil and gas industry is still required to make rapid shifts. It must employ stronger leadership, more investment and greater transparency to scale the vast ambition and performance gap that exists in the sector.

Appendix: Companies in the Oil and Gas Benchmark 2023

Company Name	Country of headquarters
Abu Dhabi National Oil Company	United Arab Emirates
Ampol	Australia
APA Corporation	United States of America
Basra Oil Company	Iraq
Bharat Petroleum	India
bp	United Kingdom
California Resources Corporation	United States of America
Canadian Natural Resources	Canada
Cenovus Energy	Canada
Central Energy Fund	South Africa
Chesapeake Energy	United States of America
Chevron	United States of America
China National Offshore Oil	China
China National Petroleum	China
China Petroleum and Chemical Corporation Limited (Sinopec)	China
Compania Espanola de Petroleos (CEPSA)	Spain
ConocoPhillips	United States of America
Cosmo Energy	Japan
CPC	Taiwan, China
Devon Energy	United States of America
Ecopetrol	Colombia
Egyptian General Petroleum	Egypt
Emirates National Oil Company	United Arab Emirates
ENEOS	Japan
Engie	France
Eni	Italy
Enterprise Products Partners	United States of America
EOG Resources	United States of America
Equinor	Norway
Exxon Mobil	United States of America
Formosa Petrochemical	Taiwan, China
GAIL (India)	India
Galp Energia	Portugal
Gazprom	Russian Federation
GS Holdings	Republic of Korea
Helleniq Energy	Greece
Hess	United States of America
HF Sinclair	United States of America
Idemitsu Kosan	Japan
IndianOil	India
Inpex	Japan
KazMunayGas	Kazakhstan
Kuwait Petroleum Corporation	Kuwait
Lukoil	Russian Federation
Marathon Oil	United States of America
Marathon Petroleum	United States of America

MOL Magyar Olajes Gazipari Nyrt	Hungary
Naftogaz	Ukraine
National Iranian Oil Company	Iran
National Oil Corporation of Libya	Libya
Naturgy Energy	Spain
Neste	Finland
NGL Energy Partners	United States of America
Nigerian National Petroleum Corporation	Nigeria
Novatek	Russian Federation
Occidental Petroleum	United States of America
Oil and Natural Gas Corporation	India
OMV	Austria
Origin Energy	Australia
PBF Energy	United States of America
Pemex	Mexico
Pertamina	Indonesia
Petrobras	Brazil
Petroecuador	Ecuador
Petroleos de Venezuela	Venezuela
Petroleum Development Oman	Oman
PETRONAS	Malaysia
Phillips 66	United States of America
Pioneer Natural Resources	United States of America
PKN Orlen	Poland
PTT	Thailand
QatarEnergy	Qatar
Reliance Industries	India
Repsol	Spain
Rosneft	Russian Federation
Santos	Australia
Saras	Italy
Sasol	South Africa
Saudi Aramco	Saudi Arabia
Shaanxi Yanchang Petroleum	China
Shell	United Kingdom
Sinochem Energy	China
SK Innovation	Republic of Korea
SOCAR	Azerbaijan
Sonangol	Angola
Sonatrach	Algeria
Suncor Energy	Canada
Surgutneftegas	Russian Federation
Targa Resources	United States of America
Tatneft	Russian Federation
TotalEnergies	France
Türkiye Petrol Rafinerileri	Turkey
TurkmenGaz	Turkmenistan
Ultrapar	Brazil
Valero Energy	United States of America
Varo Energy	Switzerland
Viva Energy	Australia
Woodside Energy	Australia
YPF	Argentina

About the World Benchmarking Alliance

Founded in 2018, the World Benchmarking Alliance (WBA) is a non-profit organisation holding 2,000 of the world's most influential companies accountable for their part in achieving the United Nations Sustainable Development Goals. It does this by publishing free and publicly available benchmarks on their performance.

WBA shows what good corporate practice looks like so that leading companies have an incentive to keep going and laggards feel pressure to catch up. WBA has identified seven systems that, if transformed, have the greatest potential to put our society, planet and economy on a more sustainable and resilient path. These are the transformation of our social system, our agriculture and food system, our decarbonisation and energy system, our nature system, our digital system, our urban system and our financial system.

By benchmarking companies on each system transformation every second year, WBA reveals where each company stands in comparison to its peers, where it can improve and where urgent action is needed. The benchmarks provide companies with a clear roadmap of the commitments and changes they must make. Over time, they will show whether or not these 2,000 companies are improving their business impact on people, workers, communities and the environment. They equip everyone – including a community of about 350 organisations, referred to as the WBA Allies – with the insights that they need to collectively ensure that the private sector changes.

For more information, visit www.worldbenchmarkingalliance.org and follow us on Twitter @SDGBenchmarks.

If you have any feedback on our findings, please reach out to Vicky Sins, Decarbonisation and Energy Transformation Lead at WBA: info.climate@worldbenchmarkingalliance.org

FUNDING PARTNERS
Our work is funded by governments and foundations. For more information, visit:
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