SCIENCE BASED TARGETS

DRIVING AMBITIOUS CORPORATE CLIMATE ACTION

OIL AND GAS PROJECT INTERIM REPORT

September 2022

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GLOSSARY

Integrated Energy Company	Oil and gas (O&G) companies, as well as energy companies with oil and gas activities – but that are no longer strictly just oil and gas and so can be considered as companies that are already in transition (defined as per the draft guidance). The Oil and Gas Project was previously called the Oil, Gas and Integrated Energy (OGIE) Project.[1]
Upstream	O&G exploration, drilling, production and field services (defined as per the draft guidance).
Midstream	Pipelines, terminals, marine transportation, storage, and midstream services (defined as per the draft guidance).
Downstream	Refineries, retail outlets, natural gas distribution, and petrochemicals (defined as per the draft guidance).
Scope 1	A reporting organization's direct GHG emissions (defined as per the GHG Protocol Corporate Standard).
Scope 2	A reporting organization's emissions associated with the generation of electricity, heating / cooling or steam purchased for own consumption (defined as per the GHG Protocol Corporate Standard).
Scope 3	A reporting organization's indirect emissions other than those covered in scope 2 (defined as per the GHG Protocol Corporate Standard).
Neutralization	Residual emissions that "must be counterbalanced through the permanent removal and storage of carbon from the atmosphere (defined as per the SBTi Corporate Net Zero Standard).
Beyond Value Chain Mitigation (BVCM)	Mitigation action or investments that fall outside a company's value chain. This includes activities outside of a company's value chain that avoid or reduce greenhouse gas emissions, or that remove and store greenhouse gases from the atmosphere (defined as per the SBTi Corporate Net Zero Standard).
Stance in draft guidance	Summary of what the draft guidance recommends.
Consultation response	Overview of responses as per the consultation feedback summary document.

[1] The project name was changed ahead of the publication of this report to ensure more widespread understanding of the sectoral focus of the project. The project remit still includes integrated energy companies as defined in this glossary.

Post-consultation view	Overview of the immediate feedback from the SBTi as detailed in the consultation feedback summary document. Note that since the publication of this document, numerous perspectives have emerged on each issue, and therefore this does not necessarily reflect the SBTi's current position.
Stance in the Net-Zero Standard	Summary of whether any related information has been published in the SBTi Net Zero Standard. This standard reflects the SBTi's requirements for Net Zero target setting.

1 INTRODUCTION

This interim project report summarizes the progress of the Science Based Targets initiative's Oil and Gas (SBTi O&G) project to date. It sets out next steps for the review and finalization of the SBTi's Oil and Gas (O&G) sector methods and guidance.

1.1 Oil and Gas Project

In 2019 the SBTi initiated its O&G Project to develop methods and guidance to enable science-based target-setting in the sector. The project aims to allow stakeholders, companies, investors, governments and civil society to understand the alignment of O&G company emissions reduction targets with the level of transformation required to meet the temperature goals of the Paris Agreement.[2]

Work on the O&G Project continued throughout 2020, including publication of draft guidance and a public consultation phase from August to October 2020. In early 2021, the SBTi paused the project due to a range of circumstances including resource challenges associated with the COVID-19 pandemic and the prioritization of other workstreams such as the SBTi Net-Zero Standard for Corporates, which launched in October 2021.

The SBTi remains committed to creating robust methodologies that will better support companies in the O&G sector, and other high-emitting sectors, to decarbonize in line with climate science. While the O&G methods and guidance are being developed, the SBTi's policy for fossil fuel companies states that the companies described in the policy cannot submit a science-based target for validation or commit to set a science-based target with the SBTi.

1.1.1 Scope of the draft O&G guidance

The scope of the draft guidance was developed through early discussions with the O&G Project Technical Working Group (TWG). An important decision was to extend the boundary of the proposed methodological approaches beyond 'just' oil and gas to include a wider range of types of energy produced and supplied by companies, including renewables. This decision recognizes that some companies are in a process of transition away from fossil fuels and allows for key metrics such as the emissions intensity of energy to be calculated and compared to global energy transition scenarios consistent with the Paris Agreement.

[2] In this context "Integrated Energy companies" refers to Energy Companies with O&G activities but that are no longer strictly focussed on O&G and can be considered as companies that are already in transition.

With regards to specific activities and emission sources, the draft guidance primarily aims to address embedded emissions in the fuel supplied. Operational emissions from methane, direct energy use and electricity are also addressed.

The draft guidance also excludes certain activities because they were not considered sufficiently distinct or significant in terms of GHG emissions. The key areas of exclusion are listed below, with further detail provided in the guidance:

- O&G services and logistics
- O&G transportation and storage
- Trading
- O&G and electricity equipment manufacturing

Questions around the scope of the O&G draft guidance were not posed by the SBTi during the public consultation. However, the scope has implications for how the guidance has been developed and is relevant to some of the items discussed in this report.

1.2 Expert Advisory Group review

Following the publication of a Request for Proposals (RFP) in February 2022, Mott MacDonald was appointed to support the SBTi in engaging and facilitating an expert review of the current draft O&G guidance.[3]

The SBTi is working with Mott MacDonald to convene an Expert Advisory Group (EAG) to review the draft methods and guidance and to advise the SBTi on key issues so that the guidance can be finalized and published. The EAG will balance expertise relevant to the specific technical and methodological issues identified in this report with a broader strategic appreciation of the requirements of the SBTi O&G guidance.

This review will consider experts' technical knowledge, and comments received through the public consultation and an internal review conducted by the SBTi. On completion, the SBTi will evaluate the next steps required to revise and finalize the methods and guidance. This may include additional public consultation. Further detail on the scope and schedule of work for the expert review is provided in this report in section 6.2. The review is expected to be complete by late 2022.

[3] *The SBTi does not endorse, recommend or support any particular consultancies.*

1.3 Evidence used for this report

This report has been produced by Mott MacDonald working in close collaboration with the SBTi. It is based on information publicly available on the SBTi's website alongside non-public information provided by the SBTi, such as internal SBTi communications, and discussions with members of the SBTi team. It provides a concise summary of key issues addressed in the 2020 public consultation exercise and identifies additional issues not directly addressed in the public consultation or that have arisen since. It is intended to provide the basis for the EAG review, summarizing the current state of the O&G Project at a high level, rather than replicating technical discussions in detail.

2 THE NEED FOR O&G SCIENCE-BASED TARGETS

According to the IPCC, fossil fuel combustion and industrial processes account for around 85% of global anthropogenic CO_2 emissions and 64% of total GHG emissions. To achieve the goals of the Paris Agreement and limit the rise in global temperature to well-below 2°C, and preferably to 1.5°C, the production and use of O&G must be greatly reduced in the coming decades with rapid and deep cuts in emissions across all sectors of the economy. For the O&G sector, guidance is needed to enable companies to set science-based targets and understand the level of cuts needed to align with climate change objectives.

In 2021 the SBTi launched its Net-Zero Standard, the world's first framework for corporate net-zero target setting in line with climate science. This Standard establishes key requirements including a focus on rapid and deep emissions cuts, the need to set both near- and long-term science-based targets and the need for companies to invest in climate mitigation activities (i.e. beyond value chain mitigation).

However, the complexity and unique nature of the O&G sector, the fact that its current principal products are the main driver of climate change, and the high-level of exposure of the sector to transition risks, all mean that tailored sector-specific methods and guidance are required. By developing these methods and guidance, the SBTi's O&G Project aims to:

- Enable companies, investors, governments and other civil society stakeholders to understand how O&G companies can align with the level of transformation required to meet the goals of the Paris Agreement.
- Provide stakeholders with a method that shows how much companies need to reduce emissions in the near-term (5-10 years) to be aligned with a 1.5ºC temperature goal.
- Align methods for both near- and long-term target setting with the SBTi's Net-Zero Standard.
- Drive O&G sector companies to maximize target impact by providing differentiated criteria and guidance for integrated, upstream, midstream and downstream companies.
- Enable independent validation of O&G company science-based targets through the SBTi.

The need for O&G sector methods and guidance has been underscored by recent events such as a landmark court case against an O&G company that has been ordered to reduce emissions by an amount deemed consistent with the Paris Agreement goals, and by the IPCC's finding that emissions from existing and planned fossil fuel infrastructure already exceeds the remaining carbon budget for limiting warming to 1.5°C with limited or no overshoot.

As part of the work already undertaken for the O&G Project, the SBTi has identified several potential transition modes for O&G companies, some of which leverage the sector's existing assets and skills to support a rapid net-zero transformation. These specific strategic responses to the challenge of the energy transition include diversification to other forms of energy (energy company), transitioning to a circular economy model for using carbon capture and storage (carbon company), ramping down O&G operations and returning capital to shareholders (managed decline) and completely transitioning away from O&G to other activities (new direction). The SBTi's O&G methods and guidance are needed to support companies engaged in these strategic shifts to develop and set science-based targets.

3 O&G PROJECT TIMELINE

This section outlines the key activities undertaken by the SBTi and its partners to date.

November 2019 O&G Project start

The O&G Project was established by the SBTi in November 2019. The purpose of the project was to develop science-based target setting methods and guidance for oil, gas and integrated energy companies.

A Technical Working Group (TWG) was established, including 20 organizations covering different sector stakeholders. O&G companies are represented in the group, along with investors, environmental organizations, academic institutions and industry bodies.

March 2020 5 Technical Working Group meetings

The TWG met on five occasions between November 2019 and March 2020, working to establish the foundational elements of the guidance, the roles for specific methodological development and the forward work plan.

This involved the commitment of two organizations to develop draft materials for the three core methodologies:

Least-cost methodology: Carbon Tracker

Well-to-wheel methodology: CDP

Sectoral Decarbonization Approach: CDP

August – October 2020 Draft guidance published and public consultation

The SBTi published the draft guidance in August 2020, including the three key methodologies outlined above.

The public consultation ran from August – October 2020 and covered six key issues:

1. Scenarios
2. Intensity vs absolute targets
3. Where in the Value chain targets
4. Disaggregation of targets by scope
5. Flexibility vs comparability
6. What counts for reaching a near-term and net-zero target

A summary of these issues and their post-consultation reflection is covered in Section 4 of this report.

During the consultation, more than 35 meetings and webinars were held, enabling interested parties to explore the material in depth. A total of 54 responses were received by the SBTi.

A summary of the public consultation was published on the SBTi's website and showed general agreement with the way the draft guidance addressed many of the consultation topics, with further work required in some areas.

Sept 2020 – March 2021 Technical review process

Throughout the end of 2020 and start of 2021, the SBTi continued to engage with the TWG in an ongoing review and iteration of the draft methods and guidance, considering feedback from the public consultation. This phase included reporting to the SBTi project Steering Committee in December 2020.

April 2021 Steering Committee decision to pause project

The project Steering Committee paused the O&G Project in April 2021 due to several challenges including resource challenges associated with COVID-19 and the prioritization of other SBTi workstreams, such as the SBTi Net-Zero Standard.

At this point no further iteration of the draft guidance was published, meaning the draft published in August 2020 as part of the public consultation remains the most recent version.

October 2021 SBTi Net-Zero Standard published

The SBTi released its Net-Zero Standard in October 2021. The Standard is the world's first framework for corporate net-zero target setting in line with climate science. The information available in the Standard presents the SBTi's latest stance on net-zero target setting and has relevance to many of the items discussed within this report. The O&G guidance is expected be developed in accordance with the key criteria set out in the Net-Zero Standard.

January 2022 Forest, land and agriculture draft guidance published, and public consultation opens

The SBTi published its draft Forest, land and agriculture (FLAG) guidance for comment during a two-month public consultation starting in January 2022. The FLAG guidance stance on land-related emissions and removals has relevance to this project. The SBTi aims to release the final version of the FLAG guidance in September 2022.

March 2022 Updated SBTi policy on fossil fuel companies

The SBTi updated its policy regarding fossil fuel companies in March 2022. This set out restrictions and exclusions around the companies which can submit targets and commitments to the SBTi. This policy became effective immediately and resulted in the removal of some previous commitments by O&G sector companies.

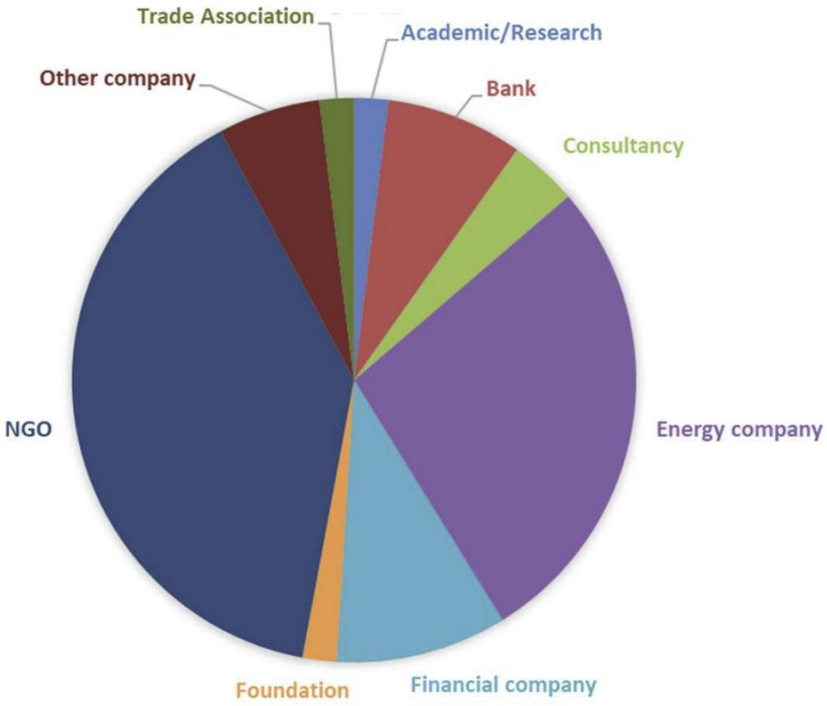
May 2022 **Mott MacDonald appointed to support expert review**

Following an RFP in February 2022, Mott MacDonald was appointed to support the review and finalization of science-based methods and guidance for the O&G sector, through the facilitation of an Expert Advisory Group (EAG) review. This work is now underway and includes delivery of this interim report.

4 ITEMS COVERED IN THE PUBLIC CONSULTATION

The public consultation on the draft methods and guidance ran from August to October 2020 and resulted in 54 responses to the SBTi from a range of organizations as shown in Figure 1. These responses covered the six key questions detailed in this section, which the SBTi used to structure the consultation.

Figure 1: Organizations that responded to the SBTi O&G public consultation in 2020



Source: SBTi Public Consultation Responses Summary

Below we review each of the six main consultation questions. In each case we provide summary of the context, the stance adopted in the August 2020 draft guidance, key messages from the consultation responses and the immediate post-consultation response that was summarized in the consultation feedback summary (noting that the SBTi's position is subject to change following the expert review process). Where appropriate we have also included links to the SBTi's Net-Zero Corporate Standard which was published after the consultation had closed.

4.1 Scenarios

Which scenarios should be used for setting science-based targets?

Context: The setting of a science-based target depends not only on the specific method used to set the target but also on the scenarios used within the methodology. Historically, the SBTi recognized well-below 2°C (WB2C), or targets with a likelihood of staying within ~1.7°C of warming, and 1.5°C targets and required that these are met with low-overshoot, preferring scenarios that prioritize early action. There are also important questions about the levels of carbon capture and storage (CCS), bioenergy with carbon capture and storage (BECCS) and carbon dioxide removals (CDR) in scenarios meeting the WB2C and 1.5°C goals. From 15 July 2022, the SBTi only accepts targets that are aligned with 1.5°C with no or limited overshoot. Overall, the higher the level of CCS the more lenient the transition out of fossil fuels, and the higher the levels of BECCS and CDR are, the more dependent society is on an even more uncertain technological fix to our current dependency on fossil energy. Scenarios with high volumes of BECCS are also dependent on high volumes of bioenergy – some of which might not be available unless other sustainability objectives are compromised.

Stance in draft guidance: The scenario proposed in the guidance includes early action and limited or no overshoot. In addition, to avoid overreliance on bioenergy (linked to the use of BECCS), the draft guidance proposes a potential physical limit on sustainable bioenergy (close to the range where there is "high agreement", <135 EJ/yr) in its scenario filtering. This results in only a few scenarios available for the purpose of setting O&G SBTs.

Consultation response: When asked if any scenario that meets WB2C or 1.5C should be allowed, over half of responses agreed that a criterion should be required to filter scenarios, with consideration to levels of overshoot, need for early action and uncertain physical planetary limits. Over half of respondents also agreed that an envelope of scenarios should be provided as opposed to just one but that these should be filtered for implausibility. The primary concerns around the criteria to remove implausible scenarios were largely centred around CCS, BECCS and CDR.

Post-consultation view: The SBTi's immediate reflection on the consultation feedback was to maintain the scenarios and criteria for inclusion set out in the draft guidance (limited or no overshoot, early action and considerations to physical limits regarding bioenergy), but to reconsider the science to set bioenergy limits.

Stance in corporate Net-Zero Standard: According to the SBTi Net=Zero Standard, scenarios for reaching net-zero emissions at the global level by 2050 should assume only low/medium levels of CO_2 removal. The SBTi Pathways to Net-Zero provides further detail, stating that "no pathways currently used by the SBTi include CO_2 removal with **geologic storage** in the pathway boundary". The SBTi net-zero pathways only consider CO_2 removal in the forestry, land and agricultural (FLAG) sectors and in specific cases of bioenergy use. Based on the draft FLAG guidance, this includes only biogenic removals, such as the restoration of natural ecosystems, improvements to forest management practices, and enhanced soil carbon sequestration.

4.2 Intensity vs absolute targets

Context: Limiting climate change requires absolute emissions reductions. However, companies are mostly setting intensity targets at the point of sale. These targets do not necessarily guarantee absolute emission reductions, particularly in the short-term. The SBTi generally accepts intensity targets, provided that the consideration of growth expectations still leads to an absolute emissions reduction. Absolute emissions targets sometimes raise an important psychological barrier in business actors in terms of the "freedom to do business" - even if businesses already operate under all sorts of constraints. On the other hand, for many stakeholders, intensity targets are seen as "potential greenwashing" because they do not guarantee absolute emission reductions, even when reductions in intensity are very significant and it is extremely unlikely that companies in established businesses would be able to grow their activities in such a way that it would not lead to an absolute emission reduction.

Given that the scope of the draft guidance includes not just oil and gas activities but a wider range of energy types such as renewables, intensity targets can be used to draw parallels between the emissions intensity of a company's energy and the required intensity across the sector in the relevant global transition scenarios.

Stance in draft guidance: The draft guidance currently requires a mix of intensity and absolute targets which vary depending upon the source of emissions and where the company falls in the value chain. The requirements in the guidance include:

- Intensity targets that reflect change in final demand (i.e. provision of energy that is being decarbonized), with a target year of between 5 to 15 years from the date of submission, though recommend also setting a long-term target.
- Integrated Energy Companies (IEC) should also set near-term absolute targets that reflect supply changes (i.e. decrease of fossil fuel supply), and absolute targets to address methane emissions.

For all other scope 1 and 2 emissions, it is currently acceptable to set absolute or intensity emissions targets, apart from for downstream companies, where an absolute scope 2 emission target is required.

Consultation response: There was consensus that absolute targets should be required, and where intensity targets are set, these should also lead to absolute emissions reductions. When asked if it is suitable to set an intensity target to reflect demand-side changes and an absolute target to reflect supply-side changes, 34% (the highest scoring response) agreed that this is a sufficient approach. Though 26% expressed that the targets should be absolute.

Post-consultation view: The SBTi's immediate reflection on the consultation feedback was to maintain the draft guidance approach including requiring absolute reductions for upstream activities and intensity reductions for downstream activities.

Stance in the Net-Zero Standard: Both absolute and intensity targets are acceptable for near- and long-term targets. Though only the Sectoral Decarbonization Approach (SDA) intensity methodology is accepted for scope 1 and 2 intensity targets.

4.3 Value-chain target location

Where in the value chain should companies set targets?

Context: IECs can set targets for different scopes as well as targets for different parts of the value chain. This could lead to the setting of many targets, nine or more, which could be considered infeasible. The Well-to-Wheel (W2W) methodology addresses many of these issues but does not cover the issue of investment in the development of O&G resources. Yet the rate of reduction in O&G exploration / development investments to avoid lock-in effects is a key aspect in the climate action and investment debate today, as is ensuring that revenues are shifted to alternative forms of energy compatible with the energy transition.

Stance in draft guidance: The guidance allows any company to set an intensity target based on the W2W methodology, which considers emissions along the whole value chain and could therefore reduce the quantity of targets. However, the W2W methodology does not address the continuation of fossil fuel extraction. Supply-side emissions are therefore addressed by the requirement to set targets for IEC and Upstream energy companies using one of three methodologies:

- Scope 3 SDA
- Least-Cost Methodology
- Commitment to only sanction projects with a high likelihood of being competitive in 1.5°C or WB2C budget

Nonetheless, there are challenges surrounding the requirement for supply-side (extraction/production) targets, for various reasons, some examples being that this may lead to higher imports and possible ‘leakage’ of emissions with worse consequences (if other, less-environmentally conscious players fill the demand).

Consultation response: There was consensus that integrated and upstream companies **should** set near-term production targets though it is unclear what the most appropriate methodology would be. Of those that did express an opinion on the methodologies proposed, there was a preference for the Least Cost Methodology (though with reservations).

Post-consultation view: The SBTi’s immediate reflection on the consultation feedback was to maintain the requirement for IEC and upstream energy companies to set supply-side targets and retain flexibility in choice of methodology.

4.4 Disaggregation of targets by scope

Context: The setting of scope 1 and 2 targets for upstream and midstream activities is affected by a lack of available and detailed scenarios and prior to the consultation the TWG had not been able to address this issue. At the same time, the big challenge for IECs is the energy transition which is captured in the W2W method with its value-chain scope 1, 3 and 3 indicator. However, in this method, scope 1 and 2 emissions of O&G companies get dwarfed by scope 3 with the outcome that the necessary reductions are not made in scopes 1 and 2. Additionally, the W2W model seems fit for companies that want to transition but does not seem appropriate for companies that want to continue being pure O&G companies. There are also arguments for not having separate scope 1 and 2 targets such as the need for simplicity in target setting, an integrated perspective across the value-chain and the fact that what really matters for upstream O&G is scope 3 emissions (with a reduction in scope 3 inevitably meaning a reduction in scope 1 and 2 emissions from O&G production).

Stance in draft guidance: The guidance allows IECs to set disaggregated targets for different scopes. Given that different parts of the value chain can also set targets, this means that IECs could set nine or more different targets. There are additional challenges in this approach, given that:

- More work needs to be done in developing detailed scenarios for scope 1 and 2 emissions.
- There is a desire to have an integrated indicator across the value chain.
- Scope 1 and 2 emissions typically represent 15% or less of total emissions.

Consultation response: Views were equally split on whether to require a separate scope 1 and 2 target, or to include a consolidated scope 1, 2 and 3 target. Other views included that scopes 1 and 2 should be accounted for separately to scope 3, and so suggests a slight leaning towards disaggregation.

Post-consultation view: The SBTi's immediate reflection on the consultation feedback was to pursue disaggregated targets in line with investor and NGO preferences. Methodologies to calculate scope 1 and 2 emissions scenarios require further development.

Stance in Net-Zero Standard: The Net-Zero Standard allows corporates to set combined scope 1, 2 and 3 targets, providing that it is possible to determine the level of ambition of each component. This is potentially a more flexible approach than the proposed position in the draft O&G guidance.

4.5 Company progress indicators

What is the appropriate balance between flexibility and comparability?

Context: Methodologies rely on a comparison between a company indicator to set and measure progress of targets and a scenario variable that reflects the necessary pace of change of the indicator to meet the Paris agreement goals. For example, in the case of the W2W method, the indicator is the W2W carbon intensity of energy and the scenario pathway variable should be calculated in the same way. There are many ways of building the indicators and of modifying scenarios to fit them, but there

are also some constraints, both from the point of data availability and from the point of view of what can logically be justified. Company targets will only be truly comparable with each other if companies follow one single, prescriptive methodology.

Stance in draft guidance: Each methodology requires a defined indicator to set and measure progress against targets. Methodologies also require scenario variables that reflect the necessary pace of change of the indicator. The draft guidance states a requirement that under all circumstances, there must be consistency between scenario variables and the variables used in the indicator when setting science-based targets. Note that there are various ways in which companies can build indicators and modify scenarios to meet this requirement, meaning that company targets may not always be fully comparable unless following a prescriptive methodology.

Consultation response: There was an almost equal split of opinion between targets needing to be comparable (through use of a single methodology) and targets needing to be flexible (validated with a range of methodologies), though there is a slight preference toward comparability.

Post-consultation view: The SBTi's immediate reflection on the consultation feedback was to move towards comparability through the provision of more prescriptive methodologies, as some stakeholders consider comparability to be essential (particularly investors).

4.6 Accounting inclusions

What counts for reaching a near-term and net-zero target?

4.6.1 Carbon capture and storage (CCS)

Stance in draft guidance: Direct CCS is to be considered as a net neutral emission source when included within the company boundary. Indirect CCS implemented by a client should not be counted to reduce emissions (such as from scope 3 use of sold products).

Consultation response: Divided views on whether to include CCS in **direct** abatement, but consensus that CCS should not be counted in **indirect** abatement.

Post-consultation view: The SBTi's immediate reflection on the consultation feedback was to keep the draft criteria and add clarification on what types of CCS can be included (particularly around enhanced oil recovery (EOR)).

Stance in the Net-Zero Standard: The SBTi Net-Zero Standard does not specifically address the accountability of CCS technology other than including Direct Air Capture (DAC) as an example of removals (which are required to 'neutralize residual emissions'). Neutralization of residual emissions is a key final stage required to meet the requirements set out in the Net-Zero Standard. In addition to neutralization, the Standard also strongly recommends Beyond Value Chain Mitigation (BVCM) in the transformation to net-zero. Investment in CCS could be considered as BVCM. The Standard also states that emission reductions 'insetting' projects must only be included if they use a corporate accounting

approach and are contained fully within its supply chain. This is perhaps a more lenient approach than currently specified in the draft O&G guidance.

4.6.2 Removals in the energy value chain

Stance in draft guidance: Biogenic removals in the energy value chain are important in most scenarios but this heavily depends upon the availability of sustainable biomass. The draft guidance accepts the accounting of direct removals (such as in biorefineries) but does not accept the accounting of indirect removals within the energy value chain, due to unclear accounting rules. Note that negative emissions in the power sector through BECCS are accounted for within the energy sector scenario calculation of net emissions, though has been minimized.

Consultation response: Strong support for counting of direct removals (e.g. biorefineries) and mild support for counting of indirect removals (conflicting with existing stance in guidance).

Post-consultation view: The SBTi's immediate reflection on the consultation feedback was to maintain draft guidance approach and await clarity on indirect removals accounting from the GHG Protocol.

Stance in the Net-Zero Standard: As above, BECCS is provided as an example of an emissions removal. In addition, though direct land use emissions and removals associated with bioenergy are required to be included within a company's target boundary (even though they are reported separately from the company's GHG inventory as per the GHG Protocol), the 'positive impact of exceeding zero emissions due to biogenic removals' must not be included within target setting or progress reporting. The same applies for indirect bioenergy. The proposed approach for the O&G guidance therefore aligns with the Net-Zero Standard.

4.6.3 Removals outside the energy value chain

Stance in draft guidance: No allocation of land-use change removals has been made to other sectors and no transfer mechanisms for these removals has been agreed with the SBTi or any other standard / body. Therefore, removals outside the energy value chain (e.g. from afforestation, reforestation or nature based solutions (NBS)) should not be allowed.

Consultation response: Consensus that non-energy value chain removals should not be accounted.

Post-consultation view: The SBTi's immediate reflection on the consultation feedback was to maintain the draft guidance approach but review upon finalization of the Net-Zero Standard and consultation with the GHG Protocol.

Stance in the Net-Zero Standard: Inclusions of removals in target setting is only considered applicable for land emissions and forest, land and agriculture (FLAG) targets.

4.6.4 Energy accounting location

Context: The way in which companies account for energy is important to ensure consistency with the chosen scenario. Using a consistent means to define the energy content delivered by a company requires the selection of a 'location' within the value-chain to measure the energy delivered by a company. There are typically three definitions of energy value-chain 'locations', relating to primary, secondary and final energy. Losses occur between each of these 'locations' and so it is important to understand which losses are included in reporting.

The main scenarios that are published usually use primary energy, so the use of secondary energy would require some manipulation of the scenario data to calculate SBTi pathways. Primary energy has some ambiguity in its calculation though, as often it is calculated by converting the energy content of the final product (the secondary energy), which is readily available data, back to the primary energy, which introduces several assumptions.

Stance in draft guidance: The suggested energy accounting approach in the guidance is to count energy delivered by companies as secondary energy (as opposed to primary or final). Secondary energy is generally defined as energy that has been transformed into a transportable form, such as electricity or liquid fuels, and is measured at the 'exit' of the transformation stage, such as at the refinery gate for liquid fuels.

Consultation response: Few responses were provided on energy accounting, though they were generally in agreement with the draft guidance.

Post-consultation view: Due to obtaining only a small number of responses, most of which had differing opinions, it is not possible to say that a consensus was reached on the issue. Therefore, the different options require further elaboration.

4.6.5 Electricity accounting

Context: When calculating the emissions intensity of electricity, the total emissions associated with the production of the electricity is divided by a measure of the primary energy used to create that electricity. Historically, in energy accounting, renewable electricity has been converted into primary energy by calculating how much fossil primary energy would be required to generate the same amount of electricity in a thermal power plant. This is referred to as the partial substitution method. This has the potential to lead to overcounting of primary energy production, and the conversion factors, such as those used by the IPCC and IEA, can result in incentives for certain types of electricity generation that may not be optimal. However, the conversion of electricity to primary energy recognises the high utility of electricity.

Stance in draft guidance: When considering electricity accounting, the draft guidance uses the partial substitution method to acknowledge the substitution potential of fossil fuels for electricity. This means that the primary energy equivalent of the electricity produced (or production plus net purchases,

whichever is largest) is accounted for according to the conversion efficiency of total electricity generation in the scenario selected.

Consultation response: Few responses were provided on energy accounting, though they were generally in agreement with the draft guidance.

Post-consultation view: Due to obtaining only a small number of responses, most of which had differing opinions, it is not possible to say that a consensus was reached on the issue. Therefore, the different options require further elaboration.

5 OTHER ITEMS NOT EXPLICITLY ADDRESSED IN THE PUBLIC CONSULTATION

Since the draft guidance was published, several further items have been raised with the SBTi, which were not explicitly addressed by the six public consultation questions. These include items highlighted by external publications since the consultation, or questions raised as part of consultation responses. They cover a range of topics and are summarized below. They are listed in an approximate order of priority, with regards to finalizing the O&G guidance. Not all the issues listed below will necessarily be resolved or addressed through the finalization process.

1. **Net vs full value chain accounting**

The draft guidance currently requires net value chain accounting of a company's emissions. However, during and following the consultation there were questions raised about the extent to which this approach is consistent with, or deviates from, existing approaches used elsewhere in GHG accounting (such as to consider full value chain emissions in scope 3 reporting).

Some of the key considerations around net value chain accounting versus full value chain accounting are that:

- Although O&G companies may be integrated across the value chain (upstream, midstream, downstream), in practice they often function as independent businesses, consisting of many purchases and trades at different parts of the business, as opposed to maintaining the same product throughout the value chain.
- The total quantity of traded oil and gas is much greater than what is produced. This contrasts with global scenarios, which only consider the energy produced and do not account for trading of energy (i.e. they are usually aligned with a net value chain view).
- Full value chain accounting may produce undesirable effects as it would be possible for organizations to appear as though they are reducing emissions simply by integrating their operations across the value chain, thus reducing their traded volumes.
- The net value chain methodology was introduced by IPIECA and makes the reporting organization responsible for the largest output across the value chain. It is commonly used.
- Since the full value chain approach accounts for production and imports (but not exports) it leads to double counting of scope 3 emissions across organizations, which presents an issue when using absolute targets.
- Due to the inclusion of imports, the full value chain method is the most expansive view of a company's climate responsibility as it includes all energy that the company 'touches' upon across the value chain.
- Some see the full value chain method as being a more precise application of the GHG Protocol scope 3 practices.

While the net value chain methodology appears to offer the right incentives and places greater climate responsibility with companies that produce a lot of fossil fuels, rather than those that simply trade more

frequently along the value chain, some stakeholders preferred the application of a full value chain approach due to its existing use within some organizations. A deeper review of this issue may be required.

2. New fossil fuel production and the Paris Agreement goals

An increasing body of evidence suggest that ongoing fossil fuel exploration and the development of new fossil fuel production infrastructure is incompatible with the temperature goals of the Paris Agreement. The IPCC Sixth Assessment Report indicates that any additional fossil fuel production infrastructure would likely result in warming of over 1.5°C and could result in warming of over 2°C (B.7, IPCC Sixth Assessment Report). The IEA's 2050 Net Zero Roadmap indicates there is no need for investment in new fossil fuel supply provided low and zero carbon technologies are rapidly deployed.

In addition, the SBTi Finance Net-Zero Foundations paper identifies a 'disclosure, transition, phase-out' approach, whereby financial institutes are encouraged to:

a) End financing of all new fossil fuel exploration and production (as part of the transition element).

b) End all financial support to existing coal assets by 2030 and oil & gas assets by 2040 (as part of the phase out element).

Whether O&G science-based targets should include a qualitative criterion, that companies must not have plans for new fossil fuel infrastructure development, needs to be considered.

3. Other qualitative targets (e.g. phasing out of assets)

The IPCC recently stated that the use of existing and planned fossil fuel infrastructure for the remainder of expected asset lives would likely result in warming of over 1.5°C (IPCC Sixth Assessment Report). These findings imply that existing and planned fossil fuel infrastructure should be phased down. Therefore, whether inclusion of an asset phase-down criterion is necessary within the guidance, and then how that could be assessed, needs to be considered. The SBTi may wish to address this as part of establishment of other framework requirements, where non-quantitative elements will feature.

4. Accounting of divestment

As the draft guidance accounts for assets on an equity share basis, it is possible for a company to divest from assets to reduce their reported emissions, without this resulting in an actual reduction in emissions from the asset. Therefore, the treatment of divestment that does not result in production reductions needs to be considered.

5. Data requirement for target setting

As it stands, the data required to apply the methodologies laid out in the draft guidance is extensive and could be considered overly burdensome. Concerns have been raised around whether current accounting methods will easily provide the data that is needed to apply the proposed methodologies. A key example relates to existing differences in how energy companies currently account for purchased energy. This has implications for target setting, as they are likely to be calculated in different ways and so cannot be easily compared. To produce consistent targets, it is likely that some organizations will

need to adapt their reporting requirements to align with the SBTi criteria. Therefore, alongside consideration of reducing the data requirement for companies to generate targets, the establishment of consistent guidelines for organizations to follow may be required.

6. **Subsectors not covered by the draft guidance**

Currently service companies, and transport and storage companies (those that operate pipelines and shipping), are not covered by the draft guidance. Further consideration is required on whether such companies *can* and *should* be covered by the guidance, even if it is not necessary to establish exactly *how* this should be applied at this point.

7. **Definition of petrochemical boundary**

The complexity of the sector leads to a blurred boundary between O&G and the chemicals industry, specifically the petrochemicals sector. The boundary between these sectors will be defined as part of the SBTi's chemicals sector work and will be consistently applied to both industries.

8. **Inclusion of petrochemical target**

Petrochemical feedstocks are often produced in conjunction with energy products (i.e. fuels). The SBTi will address the petrochemical value chain in other guidance and criteria. The necessity of a separate target for O&G covering the production and downstream emissions associated with petrochemical feedstocks may be addressed as part of the O&G guidance.

9. **Scope 3 emissions for gas transmission and distribution**

The SBTi currently requires companies that obtain revenue from the sales, transmission, or distribution of natural gas to set 1.5°C aligned scope 3 targets on use-phase emissions (scope 3 category 11) associated with the sold gas, regardless of the percentage these emissions represent in the companies' full GHG inventory. The O&G guidance may consider whether to maintain this policy.

10. **Treatment of coal value chain**

The scope of the O&G Project does not include coal products and it is not anticipated that this issue will need to be addressed by the EAG. The exception to this is in the build-up of scenarios where coal may need to be removed from carbon intensity calculations to ensure a suitable indicator benchmark. However, since the 1.5°C pathways already generally transition away from coal very rapidly, this is not anticipated to be a major factor for scenarios as they move into the 2030s and 2040s.

6 NEXT STEPS

6.1 Issues raised

Several issues have been identified through the review of progress to date in sections 4 and 5 of this report. A high-level view on the issues is provided below, with further information and context provided in sections 4 and 5. Several of these issues will inform the expert review process to enable the finalization of the O&G guidance.

- **Scenarios:** The setting of bioenergy limits to accompany the existing guidance on scenarios and criteria for their selection.
- **Intensity vs Absolute Targets:** The requirement for absolute reductions for upstream activities and intensity reductions for downstream activities.
- **Value chain target location:** The requirement for IEC and upstream energy companies to set supply-side targets and retain flexibility in choice of methodology.
- **Disaggregation of targets by scope:** Methodologies to calculate scope 1 and 2 emissions scenarios to support disaggregation of targets.
- **Company progress indicators:** Further prescriptions on the methodologies for creating indicators and modifying scenarios to improve the comparability between organizations.
- **Accounting Inclusions:**
    - **Confirm approach to accounting of CCS:** What types of CCS can be included and alignment with the SBTi Net-Zero Standard.
    - **Removals within the value chain:** Alignment with the SBTi Net-Zero Standard.
    - **Removals outside the value chain:** Alignment with the SBTi Net-Zero Standard
    - **Energy accounting location:** Suitability of secondary energy as a measurement.
    - **Electricity accounting:** Suitability of the partial substitution method.
- **Net vs full value chain accounting:** Suitability of the net value chain method.
- **New fossil fuel production and the Paris Agreement goals:** Alignment with other SBTi guidance, including that for financial institutions, and potential additional criteria to ensure alignment with the Paris Agreement.
- **Other qualitative targets (e.g. phasing out of assets):** Potential qualitative targets to ensure alignment with climate science.
- **Accounting of divestment:** The treatment of divestment that does not result in production reductions.
- **Data requirements for target setting:** Feasibility of the volume and complexity of data gathering required by organizations.
- **Subsectors not currently covered by the draft guidance:** The scope of the guidance, and whether it can be applied elsewhere.
- **Definition of petrochemical boundary:** Compatibility with the chemicals sector guidance and consistency of the boundaries.

- **Inclusion of petrochemical target:** A potential separate target for O&G covering the production and downstream emissions associated with petrochemical feedstocks.
- **Scope 3 emissions for gas transmission and distribution:** Whether to maintain the requirement for companies that obtain revenue from the sales, transmission, or distribution of natural gas to set 1.5°C aligned scope 3 targets on use-phase emissions.
- **Treatment of coal value chain:** The scope of the guidance, and whether it can be applied elsewhere.

6.2 Expert Review Process

The expert review process is expected to begin by September 2022 and be completed in late 2022. It will include the following stages:

- **Expert Advisory Group selection and mobilization (August 2022)**. An Expert Advisory Group (EAG) of around ten members will be engaged, with the aim of securing representation across industry, finance, academia and other independent / analytical organizations, with expertise across the O&G value chain. The names and organizations involved in the EAG will be made public, but EAG sessions will be confidential with feedback summarized anonymously in a final report. The EAG will be selected using several criteria, including the following: suitability and credibility, representation, willingness and availability. It will blend expertise relevant to specific technical and methodological issues with a broader strategic appreciation of the requirements of SBTi O&G guidance.
- **Development of evaluation rubric and case-studies (August 2022)**. To inform the expert review, an evaluation rubric will be prepared to provide a structured framework for capturing expert feedback in a way that will result in actionable outcomes. It will comprise a series of both closed and open questions focussed on the key outstanding issues identified in this Interim Project Report. The rubric will be accompanied by hypothetical case studies to illustrate how the proposed O&G guidance would apply to different types of companies. These case studies are yet to be developed but are likely to consider hypothetical upstream, midstream, downstream and integrated energy companies.
- **Expert review period (September-October 2022)**. The expert review will start with a kick-off session to share key documents and familiarize EAG members with key issues, the evaluation rubric and case studies. The EAG will then have up to eight weeks to complete their review. During this time there will be a small number of topic-based workshops.
- **Expert review evaluation and summary report (expected late 2022)**. Following the EAG review period, responses will all be synthesized through the rubric framework, drawing quantitative and qualitative data from across the group. Qualitative data will undergo a thematic review, to ascertain points of consensus and disagreement. Expert recommendations will be grouped together into a small number of options for how to move forward on key topics. Other insights that can be drawn from the responses will also be captured. The summary report will be made publicly available on the SBTi's website.

6.3 Finalizing the methods and guidance for the O&G sector

The process for finalizing the methods and guidance will depend on the outcomes of the expert review process, so it is not possible at this stage to determine the extent of subsequent work required or the specific timescales associated with this.

Once the expert review is completed, the SBTi will evaluate next steps and define the further activities needed to finalize the guidance, which could include additional public consultation and/or further analysis of key unresolved issues. The SBTi is aiming to publish the methods and guidance in 2023.