

BHP's approach to Scope 3 reporting supports progress towards value chain decarbonization

NOVEMBER 2024



This case study is the second in a series produced by the World Economic Forum that aims to shed light on how preparers are approaching the reporting of Scope 3 greenhouse gas emissions, as well as climate-related risks and opportunities, in the light of emerging new standards including those published by the IFRS Foundation.

1.1 Introduction

BHP is a global resources company headquartered in Melbourne, Australia. The company counted more than [90,000 employees and contractors globally, along with revenues of US\\$55.6 billion](#) in financial year (FY) 2024. Its stated purpose is to “to bring people and resources together to build a better world”.

The company has reported on its operational greenhouse gas (GHG) emissions (Scopes 1 and 2) for more than 20 years, while its reporting journey for value chain GHG emissions (Scope 3) began over 10 years ago. BHP was an early adopter of the recommendations developed in 2017 by the Task Force on Climate-related Financial Disclosures (TCFD). In 2021, the company became one of the first companies in Australia to publish a [Climate Transition Action Plan \(CTAP\)](#). [BHP's CTAP 2021](#) outlined its approach to the reduction of its operational (Scopes 1 and 2) GHG emissions, support for reduction of value chain (Scope 3) GHG emissions and how it seeks to manage climate-related risks. In 2024, BHP published its [CTAP 2024](#), which provides an update on the company's climate strategy, building on CTAP 2021, takes stock of progress and outlines the company's approach for the years ahead.

BHP discloses GHG emissions data in its [Annual Report](#) as well as its [ESG Standards and Databook](#), based on guidance contained in the [Greenhouse Gas Protocol](#), a set of global guidance on measuring GHG emissions first published in 2001. For this article, we interviewed BHP's Andrew Rudy, Principal, Climate Risk and Disclosure, to understand how the company is currently approaching the challenges and opportunities of disclosing its reported Scope 3 emissions inventory, and how this process could help the company prepare to report in future, as required, against standards such as those published by the IFRS Foundation.

This case study considers BHP's approach to the following key questions:

- How do you decide on reporting boundaries when it comes to Scope 3 emissions? Which entities in your value chain do you need to collect data from?
- How do you deal with a lack of data, poor quality or uncertain data, and the challenge of assurance?
- How do you interpret the data you have collected and disclosed? How can you use that data to encourage your value chain to decarbonize?

The case study opens with a summary of BHP's GHG emissions reduction goals and targets, investigates how it is tackling some of the challenges and potential solutions related to the key questions above, and closes with reflections on what the company has learned so far from the process that might benefit newcomers to Scope 3 emissions disclosures.

The IFRS Foundation's climate-related disclosures

In 2023, the IFRS Foundation's International Sustainability Standards Board (ISSB) finalized its first two disclosure standards, which are designed to help companies provide decision-useful sustainability-related financial information to investors:

- [IFRS S1: General Requirements for Disclosure of Sustainability-related Financial Information](#)
- [IFRS S2: Climate-related Disclosures](#)

IFRS S2 sets out requirements for companies to report material information on not only greenhouse gas emissions, but also their climate-related risks and opportunities, in a way that is “useful to primary users of general purpose financial reports in making decisions relating to providing resources to the entity.”

Below is a summary of disclosures that IFRS S2 requires an entity to report in relation to greenhouse gases (IFRS S2, paragraph 29):

- disclose its absolute gross greenhouse gas emissions generated during the reporting period, expressed as metric tonnes of CO₂ equivalent, classified as:
 1. Scope 1 greenhouse gas emissions;
 2. Scope 2 greenhouse gas emissions; and
 3. Scope 3 greenhouse gas emissions;
- measure its greenhouse gas emissions in accordance with the *Greenhouse Gas Protocol: A Corporate Accounting and Reporting Standard (2004)* unless required by a jurisdictional authority or an exchange on which the entity is listed to use a different method for measuring its greenhouse gas emissions;

- disclose the approach it uses to measure its greenhouse gas emissions including:
 1. the measurement approach, inputs and assumptions the entity uses to measure its greenhouse gas emissions;
 2. the reason why the entity has chosen the measurement approach, inputs and assumptions it uses to measure its greenhouse gas emissions; and
 3. any changes the entity made to the measurement approach, inputs and assumptions during the reporting period and the reasons for those changes;
- *[for Scope 3 greenhouse gas emissions]*, disclose:
 1. the categories included within the entity's measure of Scope 3 greenhouse gas emissions, in accordance with the Scope 3 categories described in the *Greenhouse Gas Protocol Corporate Value Chain (Scope 3) Accounting and Reporting Standard (2011)*; and
 2. additional information about the entity's Category 15 greenhouse gas emissions or those associated with its investments (financed emissions), if the entity's activities include asset management, commercial banking or insurance.

Note on the GHG Protocol and IFRS S2

The GHG Protocol is widely used globally and has historically provided guidance to companies on how to account for GHG emissions – therefore, the Protocol complements IFRS S2. However, following the guidance in the GHG Protocol is not equivalent to complying with IFRS S2. In order to comply with IFRS S2, companies need to use IFRS S2's measurement framework for Scope 3 emissions, which points to relevant aspects of the GHG Protocol Standards but not the GHG Protocol Standards in their entirety.

1.2 Key takeaways

- BHP is a leading global mining company with a portfolio focused on the four commodity pillars of copper, potash, iron ore and steelmaking coal, together with nickel and energy coal.
- BHP has set Scope 3 goals and targets that cover the material components of its reported Scope 3 emissions inventory. BHP's reported Scope 3 emissions inventory for FY2024 totalled 377.6 Mt CO₂-e, of which 83% arose from the processing of BHP-supplied iron ore and steelmaking coal within customers' steelmaking operations. The downstream combustion of energy coal accounted for another 10%.
- BHP's current approach to calculating Scope 3 emissions is aligned with the [Greenhouse Gas Protocol's Corporate Value Chain \(Scope 3\) Accounting and Reporting Standard](#). The approach is transparently disclosed in the [BHP GHG Emissions Calculation Methodology 2024](#).
- GHG emissions estimates from downstream steelmaking using BHP's iron ore and steelmaking coal are based on industry assumptions; both the GHG Protocol and the ISSB accept this approach as long as companies are transparent about the assumptions that lie behind emissions estimates.
- BHP has achieved noticeable improvements in data accuracy for shipping-related emissions calculation by shifting from a distance-based method to utilizing actual fuel consumption data in the majority of instances to estimate Scope 3 emissions.

- Historical lack of industry-specific guidance on Scope 3 emissions calculation has been addressed by the International Council on Mining and Metals' (ICMM) 2023 publication [Scope 3 Emissions Accounting and Reporting Guidance](#).
- Learnings include the following:
 1. Understanding GHG emissions data can be a force for good: for example, BHP is using its chartering size and strategy to support an increase in the speed of the shipping industry's decarbonization process;
 2. Engaging with value chain and industry partners is key to driving progress: BHP has collaborations with 48 partners – steelmakers, research institutes and technology companies – that share a common aim to accelerate GHG emission reductions in steelmaking – for existing and new steelmaking assets;
 3. ISSB standards could help in the quest for more accurate value chain reporting: BHP hopes widespread adoption of ISSB standards will result in a broader base of companies that report Scopes 1 and 2 emissions, in turn improving the availability and reliability of Scope 3 data.
- Insights for companies new to Scope 3 reporting: understand it's a multi-year journey; focus on material information; collaborate internally and externally; and prioritize effort.

1.3 BHP's Scope 3 emissions, goals and targets

Reported Scope 3 GHG emissions inventory

As one of the world's largest mining companies by market capitalization, BHP is a leading producer of iron ore, steelmaking coal, copper and nickel and is moving into potash. It is one of the largest producers of iron ore globally, operates the Escondida mine, the world's largest copper mine in Chile, and is developing its Jansen potash mine in Canada, with the potential to supply approximately 10% of the world's potash.

The majority of BHP's steelmaking customers are based in Asia, where iron ore is transformed into steel using the traditional blast furnace-basic oxygen furnace (BF-BOF) integrated steelmaking route, a process that uses coking coal as the main energy source. As a result, Scope 3 emissions from the processing of iron ore and steelmaking coal within customers' steelmaking operations are the most material source within BHP's reported Scope 3 emissions inventory for FY2024 – totalling 314.4 million tonnes of CO₂-equivalent (Mt CO₂-e) or [83% of its total reported Scope 3 emissions](#) inventory of 377.6 Mt CO₂-e.

BHP's current approach to calculating Scope 3 emissions is aligned with the [Greenhouse Gas Protocol's Corporate Value Chain \(Scope 3\) Accounting and Reporting Standard](#). The GHG Protocol defines 15 categories of Scope 3 emissions, with "Category 10: Processing of sold products" encompassing the Scope 3 emissions from the downstream processing of BHP's products in steelmaking.

Other material sources of Scope 3 emissions include the downstream combustion of energy coal reported under "Category 11: Use of sold products", which accounted for 38.4 Mt CO₂-e in FY2024 or 10% of the total. Remaining reported Scope 3 emissions are from upstream and downstream transportation, mainly from the shipping of BHP's products (Categories 4 and 9; 2%), purchased goods and services (Category 1; 3%) and other significantly less material categories which add up to 2% of the total.

Scope 3 GHG emissions reduction goals and targets

BHP has a long-term goal to achieve net-zero Scope 3 GHG emissions by calendar year (CY) 2050. The achievement of this goal is uncertain, particularly given the challenges of a net-zero pathway for BHP's customers in steelmaking and BHP cannot ensure the outcome alone. BHP's long-term goal of net-zero GHG emissions in its value chain applies to the entire reported Scope 3 emissions inventory.

Within the boundary of its CY2050 net-zero goal, the company has framed sector-specific targets for CY2050 and goals for CY2030:

Steelmaking:

- Medium-term goal to support industry to develop steel production technology capable of 30% lower GHG emissions intensity relative to conventional blast furnace steelmaking, with widespread adoption expected post-CY2030.

Shipping:

- Medium-term goal to support 40% GHG emissions intensity reduction of BHP-chartered shipping of BHP products by CY2030, from a CY2008 baseline, aligned with the International Maritime Organization.
- Long-term target of net zero by CY2050 for the GHG emissions from all shipping of BHP products. Ability to achieve the target is subject to the widespread availability of carbon-neutral solutions to meet BHP's requirements, including low- to zero-GHG emissions technologies, fuels, goods and services.

Suppliers:

- Long-term target to achieve net zero by CY2050 for the operational GHG emissions of BHP's direct suppliers. Ability to achieve the target is subject to the widespread availability of carbon-neutral solutions to meet BHP's requirements, including low- to zero-GHG emissions technologies, fuels, goods and services.

In addition to the targets and goals above, in CY2022 BHP joined the World Economic Forum's [First Movers Coalition](#) as a member in the shipping sector on the basis of committing that, by CY2030, 10% of BHP's total products shipped to its customers using BHP's time-charter vessels will be using zero-GHG emission fuels. This commitment is subject to the availability of technology, supply, safety standards and the establishment of reasonable thresholds for price premiums.

The disclosure of climate-related metrics and target also aligns with [IFRS S2's core content \(paragraphs 27-29\)](#): "The objective of climate-related financial disclosures on metrics and targets is to enable users of general purpose financial reports to understand an entity's performance in relation to its climate-related risks and opportunities, including progress towards any climate-related targets it has set, and any targets it is required to meet by law or regulation."

For more information on BHP's targets, goals and latest progress, refer to the BHP [Climate Transition Action Plan 2024](#) and the climate change section in [BHP's latest Annual Report](#).

1.4 Boundaries and principles: where to draw the line on data to collect and disclose?

Organizational boundaries

A key step in corporate GHG emissions reporting is to define the organizational boundary. For corporate reporting, two distinct approaches under the GHG Protocol can be used to consolidate GHG emissions: the equity share and the control approaches.

Equity share: Under the equity share approach, a company accounts for GHG emissions from operations according to its share of equity in the operation. The equity share approach reflects economic interest, which is the extent of rights a company has to the risks and rewards flowing from an operation.

Control approach: Under the control approach, a company accounts for 100% of the GHG emissions from operations over which it has control. It does not account for GHG emissions from operations in which it owns an interest but does not control. Control can be defined in either financial or operational terms; when using the control approach, companies need to choose between either operational or financial control criteria:

- *Operational control:* A company has operational control over an operation if the company or one of its subsidiaries has the full authority to introduce and implement its own operating policies at the operation. Under the operational control approach, 100% of emissions over which a company has operational control are reported. However, GHG emissions from operations in which the company owns an interest but does not have operational control are excluded.
- *Financial control:* A company has financial control over an operation if the company has the ability to direct the financial and operating policies of the operation with a view to gaining economic benefits from the operation's activities. A company has financial control over an operation for GHG accounting purposes if the operation is considered as a group company or subsidiary for the purpose of financial consolidation, i.e. if the operation is fully consolidated within financial accounts. If this criterion is chosen to determine control, GHG emissions from joint ventures where partners have joint financial control are accounted for based on the equity share approach.

For more information on organizational boundaries, refer to the [Greenhouse Gas Protocol: A Corporate Accounting and Reporting Standard](#).

BHP's Andrew Rudy explains that BHP currently consolidates its Scope 3 GHG inventory for reporting purposes using primarily the equity share approach. "The reasoning is that the equity share boundary better reflects the economic benefits and risks associated with the flows in our value chain," he says. While, for some companies, the main source of Scope 3 emissions may be upstream, for a mining company like BHP they will be downstream arising, for example, from the GHG emissions of its customers processing iron ore into steel. "For us, aligning the reporting of those emissions to our equity ownership in terms of our production and/or sales informed the decision point around determining the boundary," adds Rudy.

For more information on how BHP calculates its Scope 3 GHG emissions inventory (including the reporting boundary it applies), refer to the [BHP GHG Emissions Calculation Methodology 2024](#).

Category boundaries

Of the GHG Protocol's 15 categories, numbers 1-8 are upstream, while 9-15 are downstream. The GHG Protocol identifies the minimum reporting boundaries for each category, which aim to capture the major activities within a company's Scope 3 inventory while, in the GHG Protocol's words, "clarifying that companies need not account for the value chain emissions of each entity in its value chain, ad infinitum."

The GHG Protocol's minimum boundaries for the categories currently most material to BHP are as follows:

- **Purchased goods and services, including capital goods** (Categories 1 and 2) – all upstream (cradle-to-gate) GHG emissions, from raw material extraction through purchase by the reporting company.
- **Upstream and downstream transportation and distribution** (Categories 4 and 9) – Scopes 1 and 2 emissions of the transportation and distribution providers that occur during use of vehicles or facilities (e.g. from energy use).
- **Processing of sold products** (Category 10) – Scopes 1 and 2 emissions of downstream entities that occur during processing of the products of the reporting entity.
- **Use of sold products** (Category 11) – Scopes 1 and 2 emissions of end-users that occur from the use of the reporting entity's products (fuels and feedstocks), or products that directly consume energy during use and that contain or form GHGs that are emitted during use.

Where it enhances relevance and transparency – or where particular GHG emission sources are deemed critical by key stakeholders or contribute to BHP's risk exposure – BHP further disaggregates this data as appropriate. For example, in the BHP [ESG Standards and Databook 2024](#), BHP provides a breakdown of GHG emissions under Category 10: Processing of sold products and Category 11: Use of sold products, according to the major commodities it produces.

Time boundaries

The GHG Protocol also defines a time boundary, which requires the reporting company to account for all GHG emissions related to its activities in the reporting year, whether or not those emissions occurred in that year or not. For example, emissions arising from the manufacture of goods purchased by BHP in the reporting year, such as heavy machinery or truck tyres, may have occurred in years previous to the purchase, while steelmaking emissions arising from the processing of iron ore sold by BHP in the reporting year may only occur in the years following that sale.

In relation to time boundaries, the approach of IFRS S2 is to mandate that entities disclose their absolute gross Scope 3 emissions inventory for the reporting period, including both upstream and downstream GHG emissions, as applicable, when the information is material. For this standard, the materiality of the information depends on judgement and varies based on the specific facts and circumstances of each entity. In addition, the ISSB has decided to introduce relief to address challenges associated with data sourced from entities in the value chain that use reporting periods that differ from the entity's reporting period.

1.5 Data: how do you maximize quality when data is poor or absent?

Progress in improving partner data and overcoming data quality challenges

Improving GHG emissions measurement is essential to quantifying future GHG emission reductions in BHP's value chain, as the company's current Scope 3 emission estimations may not reflect or track the impact of some of the actions BHP is taking to support progress towards its value chain GHG emissions goals and targets. Nevertheless,

BHP does not anticipate significant reductions in its reported Scope 3 emissions inventory in the medium term, in part due to the way it currently estimates Scope 3 emissions, which is generally not supplier- or customer-specific and therefore would not reflect any actual GHG emission reductions that may occur.

However, one area where BHP had early success is for Categories 4 and 9 related to the shipping of BHP's products. In this area, BHP has made "noticeable progress" in refining its data gathering methodologies, says Rudy, with "material improvements in data accuracy". Previously, the company gathered relatively basic shipping data, based on estimates of distance sailed, mode of shipment and tonnage carried, multiplied by the appropriate average mass-distance emission factor for the vessel type used. This is known as the "distance-based method", stipulated in the GHG Protocol's [Technical Guidance for Calculating Scope 3 emissions](#) under Categories 4 and 9.

For several years now, BHP has implemented DNV's [Veracity](#) – a data platform used to collate, validate and report vessel GHG emissions under regulatory and voluntary schemes – to develop a Scope 3 emissions estimate based on DNV's accredited verification methodology. Where fuel consumption values are unavailable, incomplete or appear anomalous, vessel-specific and voyage-specific data is used from a range of publicly and privately available sources. DNV uses these sources to make assumptions and produce estimations of fuel consumption values to estimate shipping GHG emissions.

The majority of BHP's reported Scope 3 shipping emissions inventory disclosures are now based on fuel consumption data. When an emissions factor is applied to actual consumption data from partners within, for example, the shipping industry, "that system is as close as you can get to suppliers' Scopes 1 and 2 data," says Rudy.

Evolving industry assumptions around emissions factors and the importance of transparency

Assumptions have long been fundamental to enable preparation of sustainability-related financial information for general-purpose financial reports. Some of BHP's most significant Scope 3 emissions estimations are based on assumptions, for example around the emissions associated with the likely process route used by customers to process iron ore into primary steel for each steelmaking plant.

Given the prevalence of the BF-BOF process route that most of BHP's customers use for steelmaking, the company uses the International Energy Agency's (IEA's) average GHG emission factor per ton of crude steel. This factor is applied to an estimate of the volume of crude steel that can be produced from BHP's iron ore and steelmaking coal. The company is transparent about the approximate nature of this estimation, providing detailed information in the methodology document on its website as well as [writing in a 2023 case study for TCFD](#): "This GHG emission factor may not accurately represent (geographically, technologically or temporally) the actual GHG emissions intensities of our customers' facilities, but it is considered sufficiently representative of average industry conditions to provide a meaningful estimation."

Industry assumptions can also evolve over time as estimation methods improve. In the past, BHP used an industry-average factor for crude steel provided by the World Steel Association that represented an average of multiple steel processing routes; but in FY2021, the company shifted to the IEA's emissions factor which it felt better reflected the steelmaking process route that the company's ores undergo. For comparability and transparency purposes, BHP re-estimated and disclosed its prior years of reported Scope 3 emissions from steelmaking using the new methodology to ensure the ongoing comparability of reported data.

The important learning from this process is the need to be transparent – a key principle for both the GHG Protocol and the ISSB, for whom the purpose of sustainability-related financial disclosure is to increase transparency. BHP has clearly disclosed revisions to its emissions estimations and assumptions in the [BHP GHG Emissions Calculation Methodology 2024](#), available on BHP's website.

[IFRS S1](#) adopts a similar approach under its section on *Measurement uncertainty* (paragraphs 77-82), which requires entities to disclose the assumptions that lie behind GHG emissions estimates: "The use of reasonable estimates is an essential part of preparing sustainability-related financial disclosures and does not undermine the usefulness of the information if the estimates are accurately described and explained." Meanwhile, [IFRS S2](#) notes the following in its *Basis for Conclusions*: "Scope 3 greenhouse gas emissions can be measured directly or estimated. While direct measurement is theoretically the most accurate, it is often challenging, leading entities to use estimation. The ISSB has developed a measurement framework that categorizes and prioritizes the inputs used, based on the GHG Protocol Value Chain Standard, to help entities measure Scope 3 emissions more effectively, enhance disclosure consistency and comparability, and reduce estimation uncertainty."

BHP continues to work with its steel sector value chain to understand how its customers could provide more accurate GHG emissions data. Apart from the challenges in obtaining data directly from value chain participants, the current lack of standardized reporting and various levels of maturity create the potential for inconsistent measurement approaches being applied across the company's customer base, compared to the industry average factor. In the absence of consistent reporting by all customers in the value chain, another approach that is being

explored involves modelling customers' operations through digital representations of their steel plants. While this approach has the potential to improve accuracy, it also "creates other challenges, for example around a 'closed box' model," points out Rudy, which may impact transparency and could be more difficult to verify from an audit perspective. Thus, the need for trade-offs between principles may arise depending on the quality and transparency of best-available data.

Lack of industry-specific guidance on Scope 3 emissions

In the TCFD case study, BHP describes the historic absence of mining sector-specific guidance on Scope 3 GHG emissions reporting as "a key challenge for us", adding that "the general guidance provided in the GHG Protocol has sometimes been difficult to apply to our particular circumstances". For example, some of the company's products have a variety of potential downstream applications, each with a different GHG emissions profile, and the end-uses of those products may be unknown. In such cases, the company has to make assumptions about the most likely processing route or end-use, which in turn introduces "an additional source of uncertainty into our reported Scope 3 GHG emissions inventory".

To address this challenge, in 2023 the International Council on Mining and Metals – of which BHP is a member – developed its [Scope 3 Emissions Accounting and Reporting Guidance](#) to provide sector-specific direction and definition aligned to the GHG Protocol. The guidance aims to help all companies in the industry, regardless of size, commodity or environment, to account for and report their Scope 3 emissions inventory across all applicable Scope 3 categories.

Risk of double-counting

We have seen above how the GHG Protocol applies minimum boundaries for each of its 15 categories of Scope 3 emissions. These boundaries are designed to be mutually exclusive, so as to avoid the double-counting of emissions with a company's own inventory. However, in practice, minimizing double-counting can be challenging, particularly where there are overlapping inputs that go into the same process, such as steelmaking.

For BHP, for example, in addition to iron ore, the BF-BOF process route for steelmaking consumes steelmaking coal as an input, a portion of which may also be produced by BHP. Therefore, some way to allocate GHG emissions is needed to avoid double-counting within the Scope 3 GHG emissions inventory for these two commodities. Until the release of the ICMM's [Scope 3 Emissions Accounting and Reporting Guidance](#), no guidance existed on how to manage this allocation and, even now, companies must develop assumptions for their chosen approach. BHP approaches this allocation by an apportionment of the steelmaking Scope 3 emissions based on the mass ratio of iron ore and steelmaking coal needed to produce a tonne of crude steel. BHP currently reports these Scope 3 emissions from steelmaking under Category 10, disclosing the estimated allocation of Scope 3 emissions between the iron ore and steelmaking coal. Again, this is clearly explained in the [BHP GHG Emissions Calculation Methodology 2024](#).

1.6 Learnings and advice

Emissions data can be a force for good

BHP is one of the largest dry bulk shipping charterers in the world. According to its Annual Report 2023: "We... aim to use our chartering size and scale to increase the speed of the shipping industry's progress towards decarbonisation. We seek to influence the supply chain and broader market by creating demand for lower and zero GHG emission fuels and energy efficient technologies in shipping."

Reported Scope 3 emissions in FY2024 from shipping totalled 6.4 Mt CO₂-e. The company is aiming to use this data and its sheer scale to influence the shipping industry. "Our shipping goal guides our procurement decisions," says Rudy, referring to the company's medium-term goal to support 40% GHG emissions intensity reduction of BHP-chartered shipping of BHP products by CY2030, from a CY2008 baseline, en route to a goal for net-zero GHG emissions from all shipping of BHP products by 2050. In the 2020s, the largest GHG emissions reduction opportunities for international shipping are expected to come from improved operational and technological energy efficiencies, including voyage optimization and energy-saving technologies. Lower GHG emission alternative fuels that have reached a suitable level of technological readiness are also expected to play a role in the 2020s.

“ Our shipping goal – to support 40% GHG emissions intensity reduction of BHP – chartered shipping of BHP products by 2030 – guides our procurement decisions.

Andrew Rudy, Principal, Climate Risk and Disclosure, BHP

BHP is working with partners to accelerate maritime decarbonization, including becoming a founding member of the [Maritime Decarbonisation Centre in Singapore](#), conducting the first marine biofuels trial of an [ocean-going vessel in Singapore](#), partnering with Eastern Pacific Shipping (EPS) to charter five “world-first” dual-fuelled LNG Newcastlemax vessels and with Shell to supply LNG fuel for those vessels. Recently, BHP partnered with Pan Pacific Copper (PPC) and Norsepower for the successful [retrofit installation of a wind-assisted propulsion system](#) on a combination carrier vessel, with a view to reducing GHG emissions from maritime transportation between BHP’s mines in Chile and PPC’s smelters in Japan.

Meanwhile, in the hard-to-abate steel industry, improving the accuracy of measuring GHG emissions data is critical to track emission reductions that may arise from investments in breakthrough technologies needed to decarbonize steelmaking.

Engaging with value chain partners is key to driving progress

For BHP, 94% of its reported Scope 3 emissions inventory in FY2024 arose from how the products it sold were processed and used. The great majority of these GHG emissions came from steelmaking, one of the planet’s hardest-to-abate industries. Engaging with value chain partners is therefore a critical priority, not only to ensure the most accurate emissions data, but also to support efforts to accelerate the process of decarbonizing the industry.

When it comes to BHP supporting its customers in steelmaking, part of BHP’s decarbonization programme includes collaborative partnerships and consortiums. BHP partners to develop and execute high-impact tests, trials, pilots and demonstrations that can be shared with steelmakers and that are aligned with the company’s conceptual steel decarbonization framework.

For example, BHP has developed collaborative partnerships with 48 partners, including ArcelorMittal, China Baowu, JFE Steel, HBIS Group, POSCO, Tata Steel, Zenith Steel and BlueScope. The nine steelmakers among these partners collectively represented around [20% of reported global steel production](#) in CY2023. The aim of these partnerships is to develop pathways towards the production of near-zero emissions¹ steel, through piloting potentially breakthrough technologies. In the past five years (FYs 2020-24), BHP has committed US\$140 million (including BHP venture investments) to its steel decarbonization programme as part of its 2030 medium-term steelmaking goal. 39% of BHP’s iron ore and steelmaking coal revenue in FY2024 was from customers that have set net-zero operational GHG emissions targets or goals for CY2050 or sooner.

ISSB standards could help in the quest for accurate value chain reporting

BHP sees one of its roles as advocating for a greater harmonization of international standards around climate-related reporting. “We’re advocating with our customers to improve their reporting,” notes Rudyy. However, he adds, “What is probably of greater influence is our public support for ISSB standards in the markets where we operate – such as Australia, where we have been encouraging the government to adopt sustainability standards that align as closely as possible to ISSB’s.” Rudyy points to BHP’s long-standing commitment in this space, noting that BHP’s current Group Sustainability and Social Value Officer, Dr Fiona Wild, was one of the original members of TCFD, whose recommendations and principles informed the creation of the ISSB’s standards.

“One of our hopes is that the adoption of ISSB standards across different jurisdictions is actually going to push companies to report their Scopes 1 and 2 emissions, which in turn would improve the Scope 3 data availability landscape for companies like BHP,” says Rudyy. Also, BHP, as a member of [ResponsibleSteel](#), is actively engaged in processes to assist the development of broader sustainability performance standards that promote responsible production improvements in steel value chains.

“ One of our hopes is that the adoption of ISSB standards across different jurisdictions is actually going to push companies to report their Scopes 1 and 2 emissions, which in turn would improve the Scope 3 data availability landscape for companies like BHP.
Andrew Rudyy, Principal, Climate Risk and Disclosure, BHP

In addition, the ISSB’s Scope 3 measurement framework presented in IFRS S2 is intended to improve the consistency and comparability of Scope 3 emission disclosures, and to reduce measurement uncertainty in the estimation of Scope 3 emissions.

1. 0.40 tonnes of CO₂-e per tonne of crude steel for 100% ore-based production (no scrap), as defined by the International Energy Agency (IEA) and implemented in ResponsibleSteel’s *International Standard V2.0* (‘near zero’ performance level 4 threshold).

Nevertheless, given the various levels of maturity in GHG emissions reporting, challenges are still expected into the future in terms of obtaining Scope 3 emissions data, particularly from the downstream value chain in emerging markets. There are also challenges around the public sharing of Scope 3 emissions data, as some of the data could be confidential and/or be considered market-sensitive information.

Insights for companies new to Scope 3 reporting

Ruddy has four main reflections to share with newcomers to reporting on value chain emissions:

- 1. Understand it's a multi-year journey:** Gathering, reporting and improving the accuracy of Scope 3 data will take time to get right. Building capacity around climate-related issues within the organization and among stakeholders is an important priority.
- 2. Focus on material information:** Given resources are limited, it's important to identify areas of focus and get those right, because it can be very overwhelming for a new organization starting out.
- 3. Collaborate internally and externally:** Corporate value chains can encompass a complex range of partners. Collaboration, both internally across company verticals and among wider stakeholders, is essential.
- 4. Prioritize effort:** It is challenging to both to influence Scope 3 GHG emissions reductions in the value chain and to see improvement in the accuracy of emissions measurement. To manage these challenges, we have learned to prioritize wherever our efforts can have the highest potential impact.



We have learned the most impactful partnerships can be created where the source of Scope 3 GHG emissions in our inventory is material and where we have influence – which depends both on our leverage in the value chain and the maturity of the value chain.

BHP

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