

# Scope 3 Emissions Accounting and Reporting Guidance







# Contents

	Executive Summary	5
01	Introduction	9
	1.1 About This Document	9
	1.2 Understanding Scope 3 Emissions for the Mining and Metals Sector	9
	1.3 Classification of Mining and Metals Companies	11
	1.4 How to Use This Guidance	12
	1.5 Regulation and Standards Applicable to Scope 3 Emissions	13
02	Principles and Concepts of Scope 3	15
	2.1 Principles of the <i>Scope 3 Emissions Accounting and Reporting Guidance</i>	15
	2.2 Materiality	15
	2.3 Boundaries	16
	2.4 Disclosure, Exclusions and Risks	19
	2.5 Methods and Data for Accounting for Scope 3 Emissions	20
	2.6 Reporting Considerations	22
03	Approach and Application by Category	24
	3.1 Accounting and Reporting Framework	24
	3.2 Minimum Category-Level Accounting Methods	24
	3.3 Selecting a Calculation Method	26

<b>Appendix 1 – Authorities</b>	<b>28</b>
<b>Appendix 2 – Key References and Standards</b>	<b>29</b>
Considerations for Trade-Offs Between Reporting Principles	29
Category Pathway to Diagnose Materiality	29
Legal Materiality to Disclose Scope 3 Inventory	30
Referential Emission Hotspots by Category and Commodity Profile	31
Transportation and Distribution Boundaries	33
Boundaries of Processing Sold Products	35
Sourcing and Maintaining Best Available Data	36
Alphabetical List of Emission Factor Databases	38
<b>Appendix 3 – Category Application</b>	<b>40</b>
Category 1 – Purchased Goods and Services	40
Category 2 – Capital Goods	44
Category 3 – Fuel- and Energy-Related Activities	46
Category 4 – Upstream Transport and Distribution	48
Categories 5, 6, 7 & 8 – Upstream Immaterial Categories	52
Category 9 – Downstream Transport and Distribution	54
Category 10 – Processing of Sold Products	57
Category 11 – Use of Sold Products	61
Categories 12, 13 & 14 – Downstream Immaterial Categories	63
Category 15 – Investments	64
<b>Appendix 4 – Glossary and Abbreviations</b>	<b>66</b>
<b>References</b>	<b>68</b>
<b>Acknowledgements</b>	<b>69</b>

# Executive Summary

Metals and minerals are at the heart of the energy transition, enabling the shift toward clean energy systems and technological advances which will be the drivers of sustainable, equitable human development. Mining is therefore fundamental to future economic growth and prosperity, with demand for minerals and metals projected to grow over the next few decades at a pace and scale not seen before. This presents an enormous opportunity for mining and metals companies, as well as a responsibility to demonstrate they can meet this demand with minimal negative impacts to people and planet.

In 2021, ICMM's members were the first group of companies in any heavy industry to commit to achieving net zero Scope 1 and 2 greenhouse gas (GHG) emissions by 2050 or sooner in line with the Paris Agreement. Alongside this commitment, defined in the ICMM Climate Change Position Statement, members committed to accelerate action and report Scope 3 GHG emissions by the end of 2023, and to set Scope 3 targets, if not by the end of 2023, then as soon as possible.

Scope 3 emissions are those created in the value chain of a company, not from direct operational activities. Produced by suppliers and through the processing and use of mining and metals products by industrial customers, they often make up a significant portion of any mining company's total emissions – in some cases up to 95 per cent.

Minerals and metals are integral to almost every industry's value chain, thus leading to increased demand from investors, customers, governments, and others for companies to reduce emissions up and down their value chain to achieve global climate goals. Many leading mining companies have already set ambitious Scope 3 emission reduction targets and have been working with their suppliers and customers to reduce emissions in their value chain as well as their direct and indirect operational emissions. However, there is still work to do to support all mining companies in understanding, reporting, and ultimately taking action to reduce their Scope 3 emissions.

This *Scope 3 Emissions Accounting and Reporting Guidance* has been developed to provide a standardised framework for the calculation and reporting of companies' Scope 3 emissions so that all mining companies, whether they are ICMM members or not, are well positioned to act on Scope 3 emissions. It is based on the most widely used standard for corporate GHG emissions reporting – the Corporate Value Chain (Scope 3) Accounting and Reporting Standard from the GHG Protocol (hereinafter referred to as the Scope 3 Standard), developed by the World Resources Institute (WRI) and the World Business Council for Sustainable Development (WBCSD).<sup>1</sup>

<sup>1</sup>. [Corporate Value Chain \(Scope 3\) Accounting and Reporting Standard](#)

## Accounting and Reporting Principles

Accounting and reporting the Scope 3 emissions for any company, in any sector, is inherently complex. Challenges include limited availability of quality data from the supply chain and customers, non-standardised accounting methods between different companies, reliance on inaccurate or infrequently updated third-party databases for calculation methods, lack of downstream transparency in certain geographies, and restrictions on data sharing between companies for confidentiality reasons.

Moreover, the sheer scale of data in the mining and metals sector that needs to be tracked and quantified to get an accurate picture of Scope 3 emissions – considering companies' reach geographically and with up to thousands of different suppliers – exacerbates these general challenges in Scope 3 accounting and reporting.

Therefore, this Guidance has been developed with the purpose of providing sector specific direction and definition aligned to the GHG Protocol, to help all companies, regardless of size, commodity or environment, account for and report their Scope 3 emissions inventory across all applicable Scope 3 categories on an annual basis.

It does this by taking the five principles outlined by the GHG Protocol (Relevance, Completeness, Transparency, Accuracy and Consistency) and applying them to mining and metals specific contexts to enable a consistent approach in annual emissions reporting. These principles are conceptual and focus on the integrity of reporting Scope 3 emissions.

- **'Relevance'** ensures the GHG inventory appropriately reflects the GHG emissions of the company and serves the decision-making needs of users – both internal and external to the company.
- **'Completeness'** refers to the accounting and reporting of all GHG emission sources and activities within the inventory boundary, both upstream and downstream – disclosing and justifying any specific exclusions.
- **'Transparency'** of data is core to reporting, so that all relevant issues are addressed in a factual and coherent manner, based on a clear audit trail, while disclosing any relevant assumptions and making appropriate references to the accounting and calculation methodologies and data sources used.
- **'Accuracy'** of GHG emissions calculated – as far as can be judged, and with uncertainties reduced as far as practicable – is critical to enable users to make decisions with reasonable confidence on the integrity of the reported information. However, it is important to understand that it may not be possible to cover all applicable categories' emissions completely accurately. Based on the challenges noted above, companies should focus their efforts on addressing the most material categories that provide the biggest opportunities to reduce emissions, and where data is of reasonable quality.
- **'Consistency'** in methodologies used to account and report Scope 3 emissions, to allow for meaningful performance tracking of emissions over time. It is important that there is transparent documentation of any changes to the data, inventory boundary,



methods, or any other relevant factors in the time series so that current and future data can be more easily understandable by a wide range of users.

The Guidance also facilitates year-on-year comparisons to support companies in identifying and explaining emission ‘hotspots’ specific to their value chains, with the aim that actions can be determined to reduce them in the future. Hotspots are sources of emissions assessed as material contributions, considering relative volume of emissions, the company’s ability to influence emission reductions, climate-related risk exposure, sector-specific guidance, and other factors unique to a company’s value chain.

What this Guidance is not designed to do is allow for comparison of Scope 3 emissions in total or between categories for different companies or commodities. To do so would lead to misleading conclusions because no two companies’ value chains are the same, due to several reasons including but not limited to distinctions in the unique geographic characteristics of different business operations, processes, extraction and transformation methodologies for specific commodities, different supplier selection priorities, diversity in customers and downstream activities, and respective sizes of each business. If for any reason scope 3

emissions are compared, the aspects described above should be taken into consideration so that the comparison is meaningful.

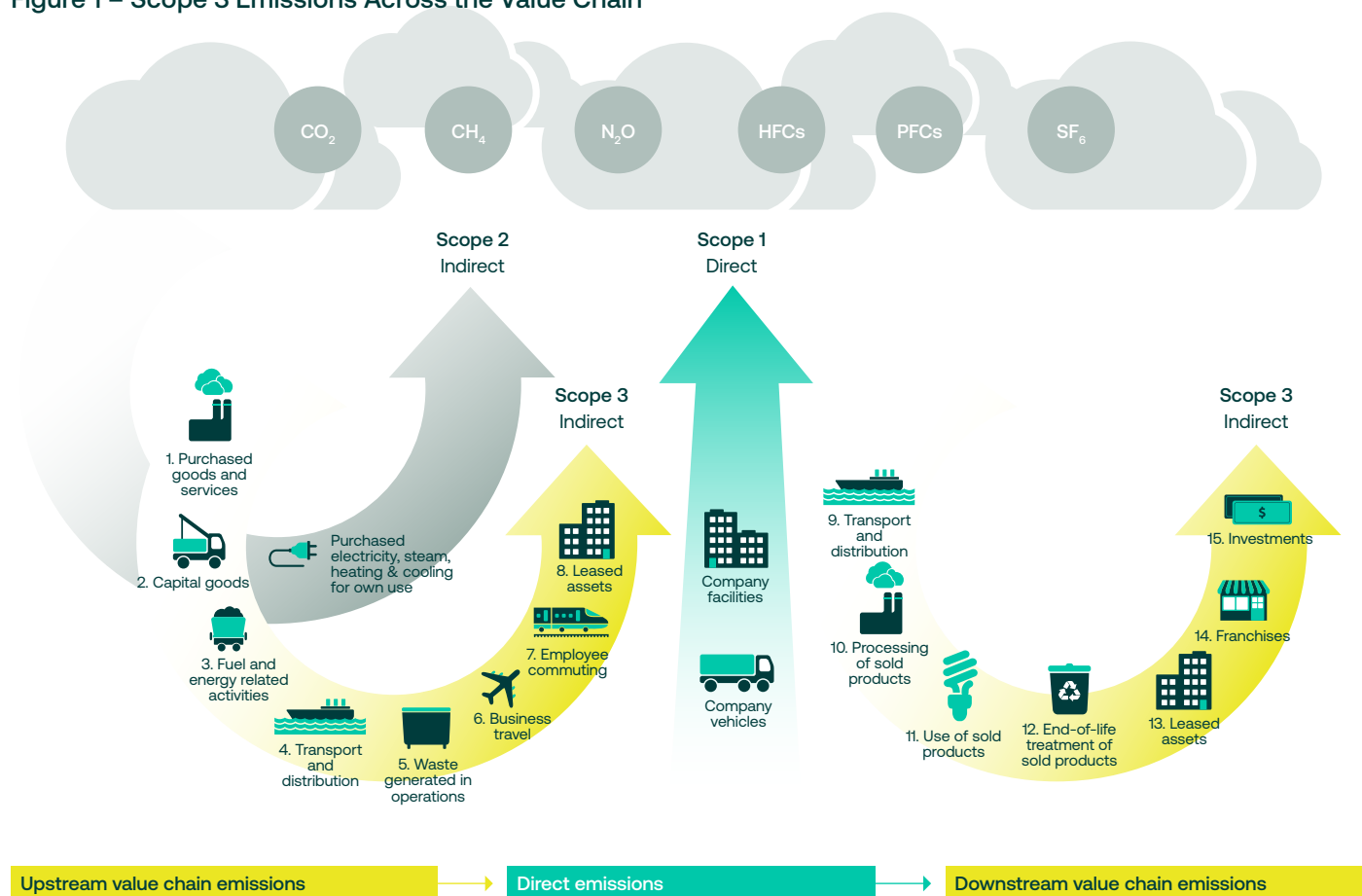
## Scope 3 Categories and Dimensions

In alignment with the Scope 3 Standard, this Guidance considers 15 categories that are distributed between upstream and downstream activities (see Figure 1). The relevance of each of these categories will vary between companies depending on the nature of their specific value chain and commodity.

For example, some companies may or may not have up- or downstream leased assets (categories 8 and 13 respectively) as part of their value chain. For those Scope 3 categories which are applicable in most mining and metals value chains, some are going to be more relevant to some producers than others.

The starting point in this Guidance document is to consider all 15 Scope 3 categories. The Guidance then helps companies to evaluate which Scope 3 categories are material to each of them, so that they can focus on what is relevant to them and report accordingly. We anticipate that this will be different across bulk, base, precious metals, and diversified miners.

Figure 1 – Scope 3 Emissions Across the Value Chain



Adapted from the Scope 3 Standard



In addition to the five reporting principles outlined by the GHG Protocol (relevance, completeness, transparency, accuracy, and consistency), this Guidance outlines four additional dimensions for metals and mining companies to address (materiality, boundary definition, data improvement, and calculation methodologies) to help them calculate their Scope 3 emissions.

These practical dimensions give further depth to the five principles of the Scope 3 Standard and are considered key elements of the Guidance to ensure consistent reporting across all applicable categories.

- **Materiality:** ‘Quantitative materiality’ refers to a specific category’s emissions contribution to total Scope 3 emissions, and ‘qualitative materiality’ refers to the relevance of that category from other perspectives such as business risk, social relevance, or broader strategic topics. Companies need to consider their own quantitative and qualitative materiality, to reflect their own context, the applicable legislative reporting requirements and the climate risks posed by the activities of a category, in accordance with the principles of relevance and transparency. As such, a balance between materiality and the principle of completeness must be reflected in reporting to address these considerations.
- **Minimum reporting boundaries:** Reporting boundaries for each category need to balance the principles of completeness and consistency with relevance of the activities represented by the category, which will vary depending on the type of company and the commodities produced.
- **‘Activity data’ and ‘emission factors’:** These are the core components of any Scope 3 emissions calculation and are subject to data availability across the reporting company, suppliers, customers and third-party databases. Best available data should

always be used, and the effort to obtain such data is based on the relevance of each applicable category.

- **‘Activity data’** is a quantitative measure of a level of activity that results in GHG emissions. The activity data is multiplied by an emission factor to derive the volume of GHG emissions associated with a process or activity. Examples of activity data include kilowatt-hours of electricity used, quantity of fuel used, output of a process, hours equipment is operated for, distance travelled, and floor area of a building.
- **An ‘emission factor’** is a set of numerical factors for the purpose of calculating Scope 3 emissions that reflects the intensity of carbon emissions per unit processed. (eg kg CO<sub>2</sub>e emitted per litre of fuel consumed, kg CO<sub>2</sub>e emitted per kilometre travelled, etc).
- **Calculation methodologies:** There are four recognised methodologies according to the Scope 3 Standard, and reporting companies apply them based on the best available data per applicable category.

The Guidance provides recommendations for communicating category exclusions to help stakeholders understand the current limitations around best available data, for example when there is no data, or the data is of insufficient quality to accurately report it.

Appendix 3 of the Guidance provides instructions on how to apply the concepts and principles at the category-level for all 15 categories of the Scope 3 Standard, allowing companies to consistently account and report on a category-by-category basis.

## Next Steps

ICMM will continue to track changes in the legislative and voluntary Scope 3 emissions accounting and reporting context and this Guidance will be periodically updated to reflect any material changes in regulation or other voluntary initiatives that may take place over time.



## 1.1 About This Document

The purpose of this document is to provide guidance for Scope 3 accounting and reporting for companies in the mining and metals sector. It was prepared by ICMM with the support of ENGIE Impact.

This Guidance reflects the aligned principles of ICMM members for accounting and reporting Scope 3 emissions, offering a foundation for target setting.<sup>2</sup> It provides tailored guidance for the mining sector complementing more general guidelines.

The Guidance is derived from technical definitions and input from the following references complemented by the expert input of ICMM members:

- The World Business Council for Sustainable Development – World Resource Institute (WBCSD-WRI) Greenhouse Gas Corporate Value Chain (Scope 3) Accounting and Reporting Standard (2011), referred to as “Scope 3 Standard”.
- The WBCSD-WRI Technical Guidance for Calculating Scope 3 Emissions.
- Data and feedback gathered through an internal survey from all 26 ICMM members across 180 questions testing key principles of ‘materiality’ (which parts of Scope 3 are of substantial significance to reporting companies), boundaries (measurable and auditable characteristics), data quality and access, and category specific input to calculate emissions.

The Guidance has the following key objectives:

- Provide mining and metals companies with a consistent approach to calculate and report Scope 3 emissions externally.
- Maintain alignment with mandatory and voluntary reporting requirements and standards to ensure compliance.

- Support individual companies to explain changes in their Scope 3 GHG emissions over time, per category and within their unique value chain context.
- Support the ability to prioritise action across identified emission hotspots for meaningful action around emissions reductions.

Some ICMM members already have their own established Scope 3 methodologies. This Guidance supports companies in reviewing and continually improving their approach to Scope 3 accounting and reporting and is not meant to replace company specific methods. Rather, the intention of this Guidance is to accommodate the varying levels of accounting and reporting maturity across companies while maintaining alignment with mandatory and voluntary reporting requirements and standards to ensure compliance.

This Guidance applies principles over rules, focusing on integrity and consistency in reporting Scope 3 emissions rather than prescriptive requirements. It is designed to establish transparency and alignment in Scope 3 accounting and reporting for companies. Guidance on the expected level of data quality is informed by the relevance of each category and the practical availability of corresponding data.<sup>3</sup>

## 1.2 Understanding Scope 3 Emissions for the Mining and Metals Sector

Scope 3 emissions accounting and reporting is a continuously evolving landscape for all companies and organisations, not just those within the mining and metals sector. Other industries such as cement and chemicals have already developed methodologies for their sector to understand and consistently report their Scope 3 emissions, with period updates over time as their level of understanding and methodologies mature. In a similar manner, this Guidance will require adjustment over time as companies, the financial sector,

<sup>2</sup>. Target setting to be addressed in a separate guidance document

<sup>3</sup>. ICMM members should continuously identify the best sources of data and engage with critical stakeholder groups to improve accessibility and sharing of data

and suppliers, as well as service providers in the key mining and metals value chains, adopt and adapt to better and potentially more ambitious Scope 3 emissions calculating and reporting methods.

Across industry sectors, a company's Scope 3 generally represents emissions larger than their combined Scope 1 and 2 emissions. According to CDP, Scope 3 emissions can represent 75 per cent of the emissions profile of a company on average, reaching up to 95 per cent for some companies.<sup>4</sup> This is driving investors, governments and other stakeholders to, without de-prioritising Scope 1 and 2 emissions, set expectations for companies to pursue Scope 3 reductions along the value chain in line with the Paris Agreement. Scope 1 and 2 emissions come from sources owned or controlled by the reporting company and from the consumption of purchased energy, respectively. Scope 3 covers value chain emissions outside the reporting company's direct operational control that are not directly measurable, which can introduce the following challenges:

- Limited availability of quality product-, service- and activity-specific Emission Factors (EFs) supporting accurate indirect emission accounting at product, supplier or customer level.
- Lack of standardisation in accounting and emission allocation methods at product or activity level resulting in a lack of comparability for collected data.

Additionally, the dependency on Product Carbon Footprint (PCF) research and third-party databases presents the following limitations across industry sectors:

- Third-party databases may be insufficiently comprehensive, and may lead to using multiple sources.
- Some sources may be private and result in charging users fees for whole sets of data instead of individual EFs.
- Many EFs are not updated with relevant changes to processes along the value chain of specific products regardless of private or public maintenance and ownership.
- Lack of product traceability across the value chain.

The capabilities and capacity of companies to address the challenges of Scope 3 emissions are evolving rapidly and proactively. This is evidenced by existing emissions accounting methodologies across the sector that have been considered in the development of this sector-wide Guidance.

A non-exhaustive list of challenges specific to the mining and metals sector are summarised below:

#### **Upstream:**

- Large international suppliers may already have defined climate-aligned pathways involving actions across value chains in different industry sectors such as mining and metals, and may therefore be in a different place to some users of this Guidance, leading to initial misalignment.
- Complex engagement with smaller companies, where the resources to implement a climate strategy may not be readily available and/or cannot be done without being significantly reflected in the cost of their products.
- Multiple suppliers and outsourcing of services, involving different contract types and different timeframes can cause difficulties in accurately defining emissions over the lifetime of a contract.

#### **Downstream:**

- Sharing customer-specific data may not be legally permissible in some jurisdictions and still perceived as commercially sensitive for mining and metals customers.
- Mining and metals products are often traded in commodity markets obscuring visibility of onward transport (eg from a central port to the first processing location for transformation into an often unknown next intermediate product – making it difficult to apply relevant Emission Factors).
- Sites operated as Joint Ventures (JVs) may have partners with different levels of emissions accounting maturity, which may require additional alignment and agreement on accounting for respective upstream and downstream emissions (specific to Category 15 where the reporting company does not have operational control in the mining and metals sector).

4. Source: [Mining Technology – How Scope 3 emissions pose the biggest threat to net-zero ambitions](#)



### 1.3 Classification of Mining and Metals Companies

This Guidance has been developed considering the differences across mining and metals company value chains and products to enable focus on the Scope 3 categories that are most relevant to each. Depending on the commodities and their respective value chains<sup>5</sup>, mining companies are grouped into one of four

categories shown in [Table 1](#) below.

Reporting companies will have different emissions hotspots according to which type of company they are and the commodities in their value chains. The heat map ([Table 8](#) in [Appendix 2](#)) is an additional reference that highlights probable hotspots based on the type of mining or metals company as described in [Table 1](#).

**Table 1 – Mining and Metals Company Types**

Company Type (or Profile)	Value Chain Attributes
<b>Base Metals</b>	<ul style="list-style-type: none"> <li>Companies whose main commodities are primary non-ferrous metals such as copper, aluminium, lead, nickel, tin and zinc as well as related metal alloys – may or may not include iron.</li> <li>Energy-intensive requirements for transformation prior to onward selling, leading to high Category 3 emissions as an extension of Scope 1 and 2 emissions, and may also include high Category 1 emissions considering the demand for consumables (eg sulphuric acid) and other inputs into chemical processes.</li> </ul>
<b>Bulk Metals and Materials</b>	<ul style="list-style-type: none"> <li>Companies whose main commodities are metal ores, metal oxides, metallurgical coal, thermal coal, and mainly non-processed minerals – may include iron.</li> <li>Given the need for subsequent transformation, downstream categories of Scope 3 are a primary focus of bulk metals companies, whereby Category 11 – use of sold products – can represent more than 90% of total Scope 3 emissions in some cases (where fossil fuels are part of a company's commodity mix).</li> </ul>
<b>Precious Metals and Special Products</b>	<ul style="list-style-type: none"> <li>Companies whose main commodities include gold, silver, and the platinum-group metals as well as diamonds and similar products.</li> <li>Scope 3 upstream categories are the main focus of precious metals companies, often representing more than 80%<sup>6</sup> of total Scope 3 emissions.</li> </ul>
<b>Diversified Mining</b>	<ul style="list-style-type: none"> <li>Main commodities combine those of bulk, base metals, and/or precious metals.</li> <li>Due to their commodity mix, downstream emissions are likely to dominate Scope 3 overall, but they will also have sizeable upstream emissions.</li> </ul>

5. Including extraction, downstream processing, and onward consumption

6. Research by ENGIE Impact.

## 1.4 How to use this Guidance

This Guidance is designed to be used by any mining and metals company to 1) develop and baseline their first Scope 3 emissions inventory, and 2) further develop and improve their reporting methodology to account for all material categories and emission hotspots along the value chain.<sup>7</sup> It enables companies to further develop and improve their existing methodology. More specifically, this Guidance provides a framework to establish consistency but also accommodate flexibility within tolerances in Scope 3 accounting and reporting for companies to reflect evolving reporting requirements and regulations.

The Guidance is developed around the five principles of GHG Reporting presented in the Scope 3 Standard, which intend to ensure the reported inventory represents a faithful, true, and fair account of a company's GHG emissions and can guide companies when they are considering the design and implementation of their own methodologies, reflecting specific particularities of their value chains and geographies in which they operate.

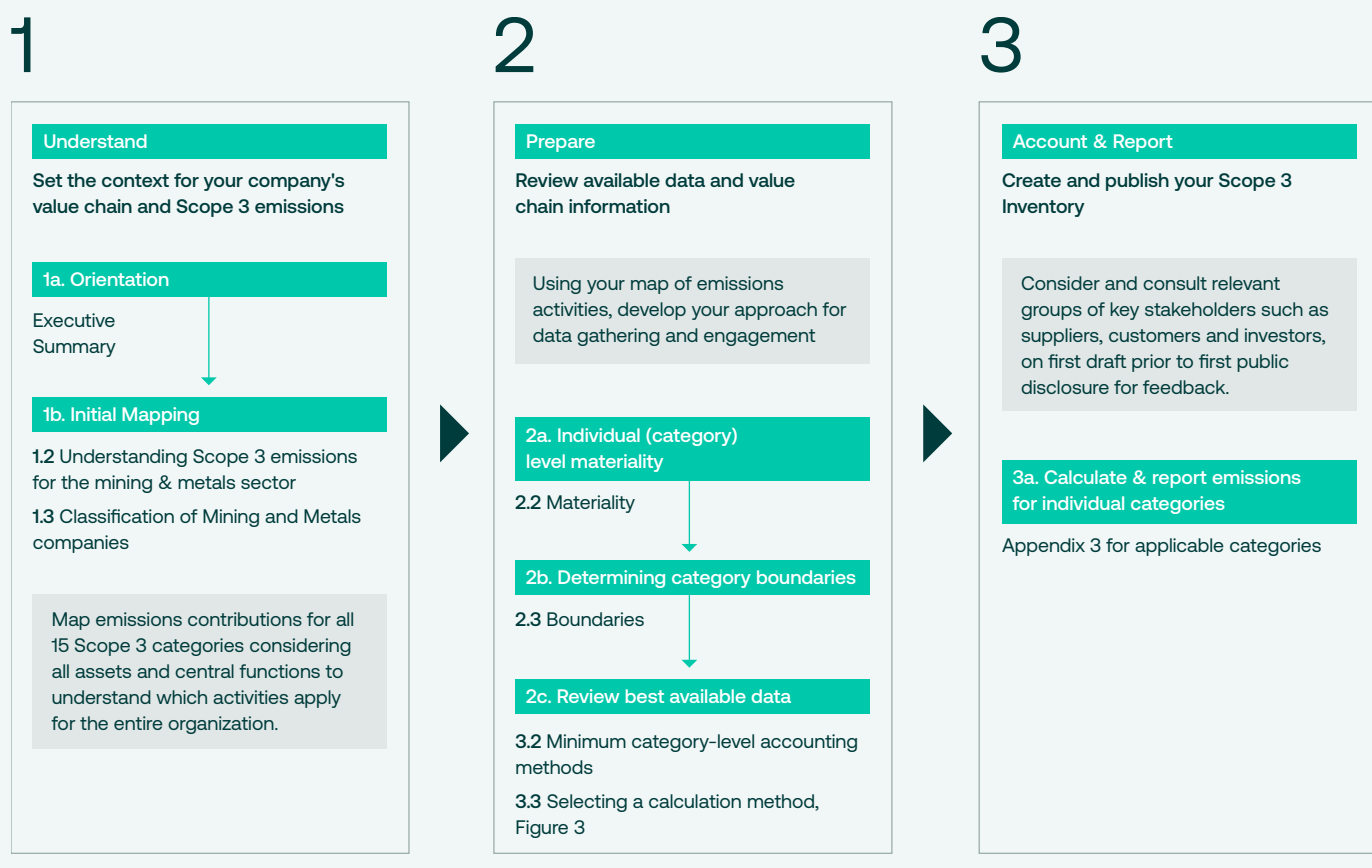
All key concepts, building blocks, and definitions for the purpose of applying this Guidance to the creation of a GHG inventory are presented in Section 2, whilst Section 3 provides a framework that considers the overall conceptual approach for accounting and reporting of Scope 3 emissions. The application of this framework for each Scope 3 category is elaborated in the form of performance outputs and requirements in [Appendix 3](#), building on the foundation provided by the Scope 3 Standard.

For each reported category, companies are expected to comply with any applicable mandatory reporting requirements and are also expected to report on all categories self-identified as material. The Guidance allows for flexibility and ongoing improvement towards recommended best practices per category. Any exclusion of categories identified as material requires a substantive rationale.

Applying the Guidance enables companies to follow a common approach at a category level in accounting and reporting Scope 3 emissions, based on the accounting principles. This is aligned with the criteria for

**Figure 2 – How to Navigate this Guidance and Get Started with Scope 3**

This illustration offers a structured, 3-part approach for first-time Scope 3 reporters, indicating the sections of the Guidance where further information can be found.



7. Note on Baseline: Companies may set suitable baseline years different from their Scope 1 and 2 baselines, and may also have different baselines across Scope 3 categories instead of just one.



boundaries, materiality, and best available data that support minimum requirements and recommended best practices with a focus on increasing the quality of accounting and reporting over time.

The Guidance does not cover the design and implementation of reduction initiatives and respective tracking. It provides alignment on how to report according to the principles of the GHG Protocol, without prescribing calculation formulas. It enables companies to track their own year-on-year changes in emissions,

and to prepare for target setting/updating. There is no intent for comparing and/or benchmarking Scope 3 emissions between companies due to their different methodologies and business contexts, as elaborated in section 2.5 under Risks.

## 1.5 Regulation and Standards Applicable to Scope 3 Emissions

This Guidance is based on the initiatives and regulations shown in [Table 2](#)<sup>8</sup> together with the best available sources of EFs covered at category level.

**Table 2 – Existing GHG Standards, Reporting-Related Regulation, and Voluntary Standards and Frameworks (Non-Exhaustive)**

<b>Existing GHG Standards</b>	<ul style="list-style-type: none"> <li>— WBCSD-WRI The GHG Protocol Corporate Value Chain (Scope 3) Accounting and Reporting Standard (2011)</li> <li>— WBCSD-WRI Technical Guidance for Calculating Scope 3 Emissions</li> <li>— Scope 1 &amp; 2 GHG Inventory Guidance (2019)</li> <li>— ISO 14064 international standard for quantifying and reporting greenhouse gas emissions</li> </ul>
<b>GHG Reporting Regulation</b>	<ul style="list-style-type: none"> <li>— International Sustainability Disclosure Standards Board   ISSB</li> <li>— U.S. Securities &amp; Exchange Commission   SEC “Climate Disclosure Rules”<sup>9</sup></li> <li>— EU Sustainability Reporting Standards   ESRS<sup>10</sup></li> <li>— EU Carbon Border Adjusted Mechanism   CBAM</li> <li>— UK Transition Plan Taskforce   TPT</li> <li>— Canadian Securities Administrators   Proposed National Instrument 51-107</li> <li>— Australian National Greenhouse and Energy Reporting Act 2007   NGER Act</li> </ul>
<b>Voluntary Standards, Benchmarks, and Frameworks</b>	<ul style="list-style-type: none"> <li>— Task Force on Climate-Related Financial Disclosures   TCFD (framework)</li> <li>— Science-Based Targets Initiative   SBTi (methodology provider and validation body)</li> <li>— Transition Pathway Initiative   TPI and Climate Action 100+ (benchmarks)</li> <li>— Towards Sustainable Mining   TSM and The Copper Mark (frameworks)</li> </ul>

8. Table 2 presents the existing standards, which reflect how to carry out the GHG accounting, whilst the regulations and voluntary standards present what and how to disclose the inventories.

9. Proposal stage (December 2022)

10. With the EU Commission for consultation for 2023 implementation







## 2.1 Principles of the Scope 3 Emissions Accounting and Reporting Guidance

This Guidance builds upon the reporting principles from the Scope 3 Standard applying specific considerations to the mining and metals sector, whilst acknowledging that trade-offs may exist (eg the risk of focusing on completeness and relevance at the expense of accuracy and consistency). As per the GHG Protocol, companies are required to calculate the emissions of all GHGs required by the United Nations Framework Convention on Climate Change (UNFCCC) at the time the inventory is compiled.

The following accounting principles, as per the GHG Protocol, apply across all categories in this guidance: relevance, completeness, transparency, accuracy and consistency (see [page 6](#)).

Trade-offs between principles may arise depending on the quality of best available data and given that reporting companies may need to prioritise one or more principles over others. An example of such a trade-off is the following: a company that prioritises completeness of their data set may result in lower accuracy in some categories that are based on or calculations using lower quality data, whilst a company that prioritises accuracy by focusing on suppliers with higher quality data and reporting capabilities may impact the relevance, completeness and transparency of their disclosures.

Relevant Scope 3 emissions may be identified up front, but across categories the progression of reporting relevant emissions completely and transparently, and with accuracy, ie achieving compliance with all five principles, will vary depending on factors such as:

- Data availability
- Collaboration with internal stakeholders
- Availability of external data such as accurate Emission Factors (EFs)

Companies will achieve alignment with all five principles over different time horizons across their reported Scope

3 categories and should prioritise the progression of more relevant categories. Any trade-offs should be based on a company's current level of accounting and reporting maturity together with business goals. For first-time accounting, companies should focus on relevance, completeness, and transparency to satisfy initial stakeholder requirements. Accuracy and consistency should evolve with reporting maturity.

## 2.2 Materiality

The default starting point for mining and metals companies is to consider all 15 Scope 3 categories as initially material (or substantively significant), which require reporting as part of their respective Scope 3 inventories. [Figure 7](#) in [Appendix 2](#) summarise the approach for assessing and determining materiality. This needs to be applied to all 15 categories without exceptions.

The heat map in [Appendix 2](#) is derived according to the expected 'high', 'medium' and 'low' materiality of each category according to the type of mining or metals company. This provides a referential guidance to assess the expected hotspots and materiality for first-time evaluation.

One or more categories may be determined to be 'not applicable'. Upstream and downstream leased assets and franchises are unlikely to apply to most companies. Each category that is deemed as not applicable needs to be justified, documented, and declared, in order to be excluded.

For each applicable category, an initial calculation using best available data (see [Appendix 2](#)) is used to quantify category emissions, for the purpose of evaluation in the context of total Scope 3 emissions. A referential quantitative threshold of 5 per cent should be applied to determine the initial state of materiality across categories. If the category surpasses the threshold, it is automatically considered material. When total emissions are mainly concentrated in one category, other categories of emission sources may be excluded

because they individually fall below the 5 per cent threshold.<sup>11</sup> However, relevant categories, on their own or in aggregate, should be considered material regardless of whether they meet the threshold (refer to heat map, [Table 8](#)). Categories not meeting the quantitative materiality threshold still require accounting and reporting when 1) there is a requirement for the category under any legislation applicable to the reporting company, and/or 2) the company has set a reduction target for the category. Companies may also consider a lower threshold.<sup>12</sup>

Once companies have an initial understanding of materiality by applying a numerical threshold, qualitative filters which consider all relevant emissions-related climate risks inherent to the activities, should be applied against each relevant category as a final materiality check. Categories that meet the quantitative and qualitative threshold must be included in the inventory. Excluded categories require justification that demonstrates the supporting criteria and risk analysis aligned to the principle of transparency.

To maintain adherence with the GHG Protocol, companies must consider:

- Initial adherence to a referential quantitative threshold that is significant with respect to total Scope 3 emissions (5 per cent as per above is recommended).
- Revision of the threshold to a lower value for a category, if deemed necessary to accommodate cases where only a small number of categories are otherwise considered material.
- The ability to influence emissions, risks represented by the activities, stakeholder interest, outsourcing of activities, sector guidance and others (see page 55 of the Scope 3 Standard).

- Risks represented by the respective activities, which include financial, regulatory, supply chain, product and customer, litigation, and reputational risks (see page 55 of the Scope 3 Standard).

Determining category materiality allows for accounting and reporting efforts to be directed towards identifying emission hotspots. A balance between materiality and the principle of ‘*completeness*’ always needs to be reflected in reporting. Excluded categories must undergo a periodical review of no longer than 2-3 years to 1) reaffirm as non-material or 2) change to be material where necessary and applicable. In the latter, the baseline must be re-established (or established if needed) in line with the GHG Protocol. This must also follow the reporting company’s policy for recalculation and be documented with supporting context and basis.

## 2.3 Boundaries

In accordance with the Scope 3 Standard, each applicable Scope 3 category requires defined minimum boundaries to ensure common reporting and help companies understand/determine all activities in their accounting and reporting scope. Boundaries for category-level accounting strike a balance between including all major activities that are significant in producing emissions against pursuing infinite traceability (upstream and downstream) that is not value-adding to the inventory quality.

[Table 3](#) identifies the minimum boundary for each Scope 3 category at a high level, and [Appendix 2](#) provides further details about the boundaries for activities in the mining and metals value chain, such as categories 1, 2, 4, 9 and 10.

Because there are many ways of accurately accounting and reporting categories 10 and 11 in particular, companies should make extra efforts to bring clarity on their respective applied approach and logic.

11. In cases where a company chooses to use a 5% quantitative threshold instead of a lower one

12. This can be the case where downstream emissions from iron ore and metallurgical coal for steelmaking can represent more than 95% of total emissions

**Table 3 – Minimum Boundaries per Scope 3 Category (Based on Scope 3 Standard)**

Category	Description	Minimum Boundaries
<b>1. Purchased Goods and Services</b>	Extraction, production, and transportation of goods and services purchased or acquired by the reporting company in the reporting year, not otherwise included in categories 2-8	Cradle-to-gate <sup>13</sup> emissions of the volumes of goods (products), services and capital goods purchased during the reporting period, such as <sup>14</sup> <ul style="list-style-type: none"> <li>— Sulphuric acid, lime<sup>15</sup> and other chemicals for mineral processing</li> <li>— Explosives</li> <li>— Steel parts</li> <li>— Mills</li> <li>— Purchased feedstock (eg ore, concentrate)</li> <li>— Truck tires</li> <li>— Rubber and plastics</li> <li>— Heavy Machinery</li> <li>— Mining and Building services (including cement)</li> </ul>
<b>2. Capital Goods</b>	Extraction, production, and transportation of capital goods purchased or acquired by the reporting company in the reporting year	Both categories can be accounted as one when companies are not able to split the purchases (see <a href="#">Appendix 3</a> for detailed guidance on these categories)
<b>3. Fuel- and Energy-Related Activities (not included in Scope 1 or 2)</b>	Upstream emissions of purchased fuels and electricity, transmission and distribution (T&D) losses, and generation of purchased electricity that is sold to end users	Cradle-to-gate emissions of: <ul style="list-style-type: none"> <li>— Purchased fuels and electricity (raw material extraction up to the point of, transportation excluding combustion)</li> <li>— Energy consumed in a T&amp;D system</li> <li>— From the generation of purchased energy, as steam or other sources</li> </ul>
<b>4. Upstream Transportation and Distribution</b>	Transportation and distribution of products purchased by the reporting company in the reporting year between a company's tier 1 suppliers and its own operations, including inbound logistics, and transportation and distribution between a company's own facilities (in vehicles and facilities not owned or controlled by the reporting company). Transportation and distribution of sold products (outbound logistics) between owned facilities and to first customers	Scope 1 and Scope 2 emissions of transportation and distribution paid for by the reporting company, for inbound and outbound logistics of purchased and sold products <p>In the case of purchases under Category 1 and 2, Category 4 only applies where transport is not included in the purchase price and where the reporting company organises and pays for delivery to its assets</p> <p>See <a href="#">Appendix 2</a> for further information about transportation and distribution boundaries</p>
<b>5. Waste Generated in Operations</b>	Disposal and treatment of waste generated in the reporting company's operations in the reporting year (in facilities not owned or controlled by the reporting company)	The Scope 1 and Scope 2 emissions of waste management suppliers that occur during disposal or treatment of reporting company's waste such as: <ul style="list-style-type: none"> <li>— Recycling of lubricants, plastics, ferrous metals</li> <li>— Landfill disposal of hazardous and industrial waste</li> </ul>

13. "Cradle to Gate" is defined by the GHG Protocol as all emissions occurring in the life cycle of purchased products, up to the point of receipt by the reporting company (excluding emissions from sources that are owned or controlled by the reporting company)

14. Referential list of commonly and representative traded goods and services within mining and metals operations

15. Note that while purchased lime falls under Scope 3, limestone liberates emissions in the process and would fall under Scope 1



Category	Description	Minimum Boundaries
<b>6. Business Travel</b>	Transportation of employees for business-related activities during the reporting year (in vehicles not owned or operated by the reporting company)	The Scope 1 and Scope 2 emissions of transportation carriers that occur during use of airplanes (mainly), buses and vehicles (eg from energy use)
<b>7. Employee Commuting</b>	Transportation of employees between their homes and their work sites during the reporting year. Emissions from remote work can be added (optional).	The Scope 1 and Scope 2 emissions of employees and transportation providers that occur during use of vehicles (in vehicles that are not owned and/or operated by the reporting company)
<b>8. Upstream Leased Assets</b>	Operation of assets leased by the reporting company (lessee) in the reporting year and not included in Scope 1 and Scope 2 – reported by lessee	The Scope 1 and Scope 2 emissions of lessors that occur during the reporting company’s operation of leased assets. See <a href="#">Appendix 2</a> for further information about transportation and distribution boundaries.
<b>9. Downstream Transportation</b>	Transportation and distribution of products sold by the reporting company in the reporting year between the reporting company’s operations and the end consumer (if not paid for by the reporting company), including retail and storage (in vehicles and facilities not owned or controlled by the reporting company)	<p>The Scope 1 and Scope 2 emissions of transportation providers, distributors, and retailers that occur during use of vehicles and facilities when the service is not paid for by the reporting company until the first known customer, such as:</p> <ul style="list-style-type: none"> <li>— Road truck until destination/port</li> <li>— Rail to port + bulk carrier</li> <li>— Shipping emissions, such as <ul style="list-style-type: none"> <li>- Trade-line emissions based on existing network design and historical vessel consumption,</li> <li>- Emissions per type of vessel</li> </ul> </li> <li>— Air freight (where material for transporting commodities)</li> </ul>
<b>10. Processing of Sold Products</b>	Processing of intermediate products sold in the reporting year by downstream companies (eg manufacturers)	<p>For Category 10, visibility beyond the first external processing of a product may be limited or unknown in many cases (eg for commodity traders), which can significantly restrict and/or preclude the ability to account for and report downstream emissions.</p> <p>Emissions that occur until and including the processes required to obtain the “first finished good(s)”, defined as the next immediate finished product that is commercially marketable, where focus is on capture of carbon-intensive downstream processes whilst avoiding over-reporting and/or the practical ability to account for and report – <a href="#">Appendix 2</a> provides a detailed description of this with examples of the boundaries set by type of finished good(s) and product transformation cycle.</p> <p>The focus on the first external use of product is relative to a company’s potential ability to influence these customers and collaboration is encouraged to develop common emissions reduction initiatives that add value to Scope 3 accounting and reporting.</p> <p>Where there is no visibility of the first external processing cycle or where there is a need to exclude activities within the minimum boundaries of any category, companies must justify and document such limitations and always disclose the rationale behind.</p>

Category	Description	Minimum Boundaries
<b>11. Use of Sold Products</b>	End use of goods and services sold by the reporting company in the reporting year	Direct use-phase emissions of sold products over their expected lifetime (ie the Scope 1 and Scope 2 emissions of end users that occur from the use of products, fuels and feedstocks)  This category is only applicable for fossil fuels producers
<b>12. End-of-Life Treatment of Sold Products</b>	Waste disposal and treatment of products sold by the reporting company (in the reporting year) at the end of their life	The Scope 1 and Scope 2 emissions of waste management companies that occur during disposal or treatment of sold products, such as: — Recycling of technology products — Recycling of scrap metal
<b>13. Downstream Leased Assets</b>	Operation of assets owned by the reporting company (lessor) and leased to other entities in the reporting year, not included in Scope 1 and Scope 2 – reported by lessor	The Scope 1 and Scope 2 emissions of lessees that occur during operation of leased assets, such as: — Cargo fleets owned by the company not used in the operations
<b>14. Franchises</b>	Operation of franchises in the reporting year, not included in Scope 1 and Scope 2 – reported by franchisor	The Scope 1 and Scope 2 emissions of franchisees that occur during operation of franchises
<b>15. Investments</b>	Operation of investments (including equity and debt investments and project finance) in the reporting year, not included in Scope 1 or Scope 2	Where a mining company is the non-operator of a joint venture and reports their GHG emissions under the operational control approach, they do not have control over the asset in question and should report their share of the site's S1 and S2 emissions under category 15 accordingly. <i>Note: Where a company is reporting Scope 3 on an equity basis this category may no longer be applicable.</i>

As stated in the Scope 3 Standard (under section 5.2, table 5.2 and box 5.1), companies need to adopt a consistent consolidation approach across all 3 scopes of emission. The minimum boundaries provide guidance on where to draw limits for category-level activities for Scope 3. Pre-determined organisational and operational boundary lenses need to be applied to avoid incongruencies with Scope 1 and Scope 2.

Companies elect to account and report on a control or equity basis as per the GHG Protocol, which needs to be disclosed. Moving from one to the other signifies a change in accounting year-on-year and may result in moving a certain volume of emissions from one category to another. This impacts whether either of the categories become material or non-material.

## 2.4 Disclosure, Exclusions and Risks

Scope 3 inventories prepared according to this guideline initially consider all 15 categories. No single category can be excluded without review, according to the filtering criteria provided by Category Diagnosis Pathway in [Figure 7](#) in [Appendix 2](#).

The Category Diagnosis Pathway allows for exclusions. Every instance must be clearly disclosed and justified in line with the principle of transparency. Companies that exclude categories beyond those permitted according to the Category Diagnosis Pathway (eg for lack of data) need to provide clear justification and document all known and inherent material risks.

Companies should actively take into consideration the key success factors listed below where applicable, as part of their respective Scope 3 emissions accounting and reporting:

- Communicate clearly beyond the volume of emissions (tonnes of CO<sub>2</sub>), guiding their readers towards meaningful interpretation.
- Improve the quality of reporting over time with emphasis on categories that have relevance, depending on their contribution to total Scope 3 emissions, the wider risks associated with certain emissions, the reporting company's climate change strategy.
- Ensure all exclusions made according to this Guidance or beyond, where companies are unable to meet the minimum requirements due to lack of accurate data, are transparent, justified and clearly documented.
- Avoid comparison of Scope 3 emissions across different types of companies and respective value chains per category or as a whole due to different methodologies, approaches, sizes and/or structures.
- Reflect the wider context per category and existing limitations (eg the impact of limitations around availability of high-quality emission factors and types of Activity Data).

Aligned with the principle of *transparency*, full disclosure is required regarding the complete Scope 3 inventory by category, as per [Table 4](#) below.

**Table 4 – Disclosure requirements for Scope 3 inventories and by category**

Levels	Disclosure Requirements
<b>Full Scope 3 Inventory</b>	<ul style="list-style-type: none"> <li>— Confirmation of selected organisational and operational boundaries as per Scope 1 and 2 reporting, and any changes as applicable between current and previous reporting years</li> <li>— Recalculations of the baseline: Any changes requiring the recalculation of the baseline should be communicated with a calculation approach, such as: <ul style="list-style-type: none"> <li>- Structural changes</li> <li>- In/outsourcing</li> <li>- Improved and expanded scope of calculation per category</li> <li>- First-time-inclusion of additional categories</li> <li>- Exclusions at operational boundary level must be communicated and justified, such as operations newly integrated during the reporting period, where data is not yet available for consolidation</li> </ul> </li> <li>— Communicate a clear approach to reporting around Joint Ventures (Category 15), with the aspiration of preventing inconsistency between partners and focusing on site-level data that all partners can incorporate into their own reporting, regardless of organisational control approach</li> </ul>
<b>By Categories</b>	<ul style="list-style-type: none"> <li>— Accounting methods and improvements should be communicated, alongside limitations</li> <li>— Risks relating to qualitative materiality should be included for excluded categories</li> <li>— Any exclusions as permitted at category level, with justification</li> </ul>

## 2.5 Methods and Data for Accounting for Scope 3 Emissions

As with the quantification of Scopes 1 and 2, the Scope 3 accounting process requires the use of Activity Data and EF, as per the following equation<sup>16</sup>:

$$\text{GHG Emission} = \text{Activity data} \times \text{Emission Factor (EF)}$$

Where:

- **Activity Data** quantifies the level of activity generating the emission, including but not limited to:

measures of units sold/purchased, tonnes of mineral moved across a certain distance (*tonne x km*), energy used in kWh or MWh, depending on the category that is being accounted and reported. Primary data is defined as Data from specific activities within a company's value chain, while secondary data correspond to the Data that is not from activities within a company's value chain.

- **Emission Factor (EF)** is the specific amount of mass of GHG emitted per unit of the parameter 'activity data' being calculated. These factors vary ie, the volume of emissions in each activity vary – depending

16. This equation applies for estimating GHG emissions. Direct measurements apply as follows: GHG emissions = Measure of GHG x GWP, where GWP stands for Global Warming Potential, and reflect the conversion of any GHG into CO<sub>2</sub> equivalent



on the activity and must be consistently expressed in tonne of CO<sub>2</sub> equivalent as per the activity, ie unit sold/purchased, tonne of CO<sub>2</sub>e per kWh, etc.

The GHG Emission equation must be applied to each set of Activity Data at a category level (at least in the first year of quantification) independent of the selected calculation method and using best available data.

Appendix 2 details sourcing and maintaining best available data regardless of the calculation approach.

An 'Industry Average' EF from a reputable source (industry, academic) may lead to more accurate calculation results versus a self-reported and/or unverified source from a reporting company's supplier or customer. The latter is recommended when Industry Average or other high-quality data associated with value chain activities is not publicly reported. Figure 3 summarises the four accounting calculation methods for Scope 3 emissions by relative level of accuracy. Best available data is applied uniformly across each.

**Figure 3 – Carbon Emissions Accounting Methods for Scope 3**

<div> <div>+</div> <div>Level of Accuracy</div> <div>↓</div> <div>I</div> </div>	<b>Primary Data (Supplier/Customer-Specific)<sup>17</sup></b>	<ul style="list-style-type: none"> <li>Activity Data: can be provided by the systems of either the reporting company where captured, or by suppliers and customers (eg Carbon LCAs for product units under Category 1, or fuel consumption for transport under Category 4 etc)</li> <li>EFs: provided by the supplier or customers partner based on their own emissions intensity of production or processing facilities. Could be constructed by the reporting company in-house based on relevant information in supplier/customer sustainability reports or shared information as a proxy, but will be less accurate than the above provided site-specific EFs and product carbon LCAs reflect site-specific circumstances</li> <li>Sourcing customer-, product-, or supplier-specific data may facilitate supplier/product/customer selection which may result in emission reductions if the company strategically sources/sells to low emission options</li> <li>May need to convert supplier EFs into cradle-to-gate EFs if limited to emissions from their operations to ensure it is equivalent to default factors</li> </ul>
	<b>Hybrid</b>	<ul style="list-style-type: none"> <li>Mixed method between Industry-average and supplier-specific methods</li> <li>Publicly available value chain partner data for their total Scopes 1 and 2, other value chain emissions as available are allocated to the goods or services provided to the reporting company</li> <li>Gaps are filled with secondary data (for unavailable parts of the partner value chain)</li> </ul>
	<b>Industry Secondary Data (Industry-Average)</b>	<ul style="list-style-type: none"> <li>Activity Data: Mass or other relevant units such as weight or volume</li> <li>For transportation activities, industry average is 'Distance-based'</li> <li>EFs: Average emissions per unit of product or service</li> <li>Examples of EF databases: EcolInvent and SimaPro</li> </ul>
	<b>Secondary Data (Spend/Revenue Based)<sup>18</sup></b>	<ul style="list-style-type: none"> <li>Activity Data: economic value associated with upstream purchases and downstream sales, adjusted for inflation wherever possible</li> <li>EFs: Average emissions per monetary value<sup>19</sup> of purchased/sold products and services</li> <li>Examples of EEIO EF databases: EcolInvent</li> </ul>

17. Accuracy is subject to data quality. If suppliers and customers have a sufficient level of maturity to calculate and provide reliable emission factors, they can contribute significant value to the Scope 3 inventory instead of using industry averages values. Otherwise, companies can focus their efforts on obtaining the best-available industry average EFs where the approach will be sufficient to accurately construct the inventory

18. When considering measuring improvement against a target, spend-based methods will be limiting and inventories should consider more accurate methods for material categories

19. Emission factors based on monetary values must be updated with currency inflation from the publication until the reporting year

Subject to meeting quality requirements, primary data is preferred in terms of accuracy and consistency, especially for downstream integrated customers where it is available, which may not be the case for most customers or suppliers. Companies may use averaging, estimating, or modelling methods to generate data for accounting and reporting using best available secondary data. In cases of less mature suppliers and customers, primary data may be less accurate than high quality secondary data, and the hierarchy in [Figure 3](#) is relative to data quality.

The following points should be considered as part of any emissions accounting process:

- Consideration of Activity Data for each reported category should follow the principle of *completeness*.
- Companies may then apply the principle of *relevance* which may lead to focus on subsets of relevant Activity Data.
- Aligned with the principle of *accuracy*, best available Activity Data for all reported categories should be considered according to the category-level requirements of this Guidance – if the requirements cannot be met initially, efforts should be made to obtain better quality data in [Appendix 2](#).
- Where immaterial categories are excluded according to the Diagnosis Pathway in [Appendix 2](#), it is important to apply the principle of *transparency* and clearly explain assumptions leading to justifiable exclusions.
- Alternatively, immaterial categories may also be reported as up- and downstream aggregates, clearly articulating the assumptions behind the calculations as well as the sources of data used and the rationale for determining qualitative immateriality beyond quantitative immateriality.

- Companies should avoid a spend-based approach for material categories wherever possible, to improve the accuracy of calculations
- EFs should be evaluated on the accuracy of calculation of emissions generated by sources and activities (subject to the availability and origin of information)

Forward extrapolation (using historical estimates for future years), can be accepted as a valid method, whilst the following is considered:

- Used for only for certain immaterial categories included in the operational boundary, and where inclusion is a legal requirement
- Used only once categories have been classified as immaterial according to the Diagnosis Pathway in [Appendix 2](#)
- Applied in cases where neither primary nor secondary data is available (with an explanation)

Extrapolation does require prior calculation of emissions under any of the above four methods in the first instance, in order to extrapolate in future years based on changes to the business (sales volume downstream, upstream expenditure and changes to staff numbers). Clear assumptions supporting the estimation approach should be disclosed.

## 2.6 Reporting Considerations

In line with the Scope 3 Standard, all companies should consider the guidance summarised in [Table 5](#) when preparing for reporting their Scope 3 emissions, regardless of whether they are already able to adhere to the minimum requirements in [Table 6](#) in the next section. Carbon offsets or credits should not be used to discount emissions and should only be reported outside of the Scope 3 inventory.<sup>20</sup>

20. Direct biogenic emissions are to be reported separately from the scopes. The GHG Protocol will publish consensus methods for sequestered carbon calculation and reporting in Q2 2023, in their 'Land Sector and Removals Initiative'

**Table 5 – Mandatory and Recommended Reporting Considerations**

Consideration	Aspect	Rationale
<b>Required</b>	<ul style="list-style-type: none"> <li>— Total GHG emissions in metric tons of CO2 equivalent per category, material and immaterial, excluding life-cycle biogenic CO2 emissions</li> <li>— List of methodologies applied per category, alongside a description of applicable allocation methods and assumptions</li> <li>— Historic emissions disclosure, at least 1-2 years wherever possible</li> <li>— Exclusions and uncertainties that could significantly impact the information disclosed</li> <li>— Ensure up to date EFs for relevant emissions</li> </ul>	<ul style="list-style-type: none"> <li>— Aligned with the Scope 3 Standard</li> <li>— Adherence to current Best Practice</li> <li>— Adds qualitative value and context to the numbers reported</li> </ul>
<b>Strongly Recommended</b>	<ul style="list-style-type: none"> <li>— Indicate the contribution of each category to total Scope 3 emissions as a percentage</li> </ul>	Increased transparency across maturity and quality of reporting, relative to relevance of category sub-groups
<b>Optional but Recommended</b>	<p>Information and context for:</p> <ul style="list-style-type: none"> <li>— Category-level breakdown<sup>21</sup> of emissions by key emission sources<sup>22</sup></li> <li>— Identification of emission hotspots within inventories and explain changes year-on-year</li> <li>— Plans to produce increasingly accurate activity data and EFs for material categories and emission sources</li> </ul>	<p>Illustration of:</p> <ul style="list-style-type: none"> <li>— Practical application of reported data</li> <li>— Current or potential action on emissions reduction</li> <li>— Changes in year-on-year emissions due to business activity and strategy</li> </ul>

While a reporting company cannot use offsets to discount their reported emissions, they can use supplier-specific emissions factors provided directly by suppliers for products certified carbon neutral<sup>23</sup>. Supplier specific calculation approach should be used in these cases. The use of offsets by a reporting company must be accounted outside the inventory boundary. Beyond [Table 5](#), reporting companies can find further category-specific suggestions in [Appendix 3](#).

21. The proposed segmentation is expected to improve over time, owing to the improvement in Activity Data and EFs

22. The explicit disclosure of suppliers, customers and products is not required. Instead, it is recommended to provide a breakdown of the pre-defined segments and aggregate the total volumes, rather than disclosing them individually

23. Carbon Trust, ISO14068, Carboneutral® by Climate Impact Partners, among others



3.1 Accounting and Reporting Framework

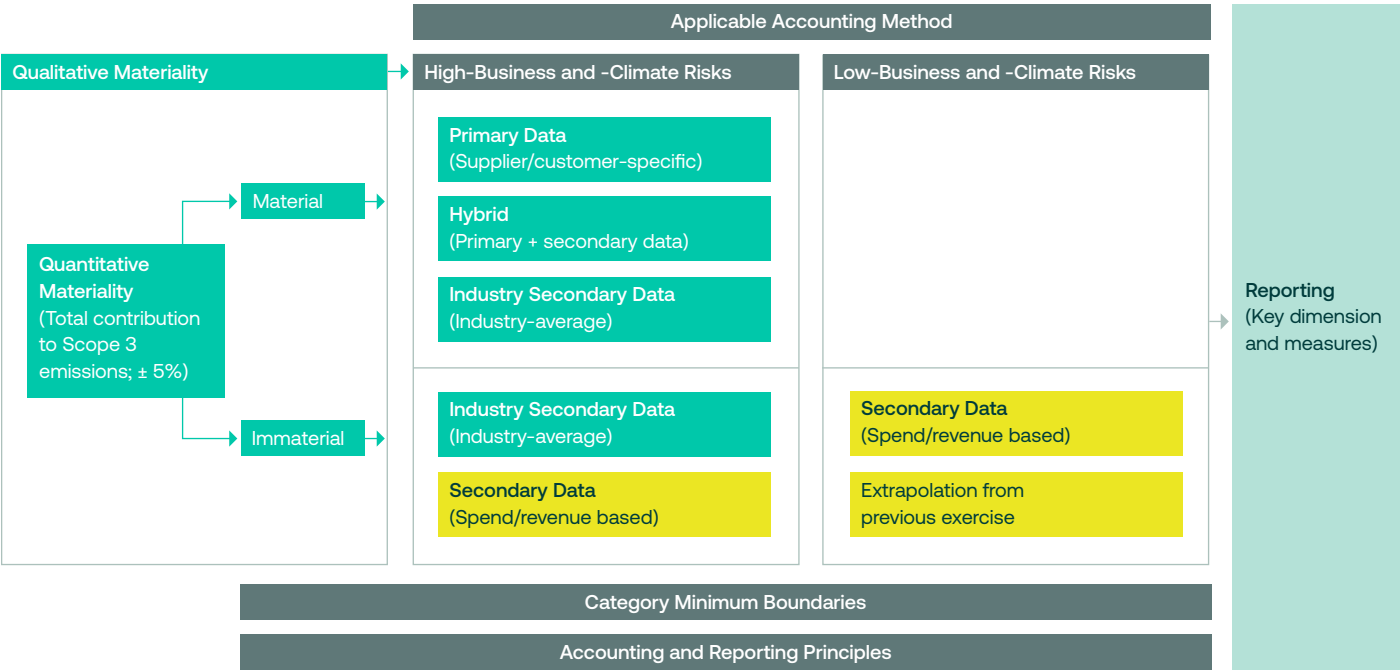
Due to the variety of Activity Data and EFs applicable across Scope 3, four methods are available to calculate emissions for material categories, as well as extrapolation for immaterial categories.

The framework presented in Figure 4 represents a general approach for determining selection of an accounting methodology for each Scope 3 category. Underpinned by the accounting principles and boundaries, materiality is applied according to quantitative and qualitative considerations to arrive at

the applicable methodology(ies) for accounting and subsequent reporting, whilst addressing the following:

- Differences in value chains by type of mining and metals company.
- Varying level of data availability regardless of data type.
- Level of materiality, ie the contribution of any one category to total Scope 3 emissions and qualitative business and climate risks associated with a category.
- The need for flexibility, relative to a company’s reporting maturity and acceptable minimum level of accuracy.

Figure 4 – High Level Accounting and Reporting Framework for Companies



3.2 Minimum Category-Level Accounting Methods

Companies should account for all applicable categories according to the minimum recommended baseline calculation method (as well as further category level specifications covered in Appendix 3). This tends to avoid a spend-based approach in certain categories to

provide the best possible available data, allowing extrapolation only for non-material categories.

The recommended baseline calculation methods are summarised by category in Table 6 considering the key emission sources and key products or customers (as defined below):

- **Key Emission Sources – Upstream:** Products or suppliers representing 80 per cent of total spend for the activities covered by the upstream categories, as well as lower spend business-critical suppliers that may be high emitters
  - **Key Products or Customers – Downstream:** Those that represent 80 per cent of revenue within product groups and total revenue together with consumers where subsequent processing is emissions-intensive
- Note: Covering 80 per cent of total spend or revenue is usually equivalent to focusing on a group of 20 per cent of total suppliers and customers, which in turn allows companies to focus limited resources efficiently on emissions hotspots.*

**Table 6 – Recommended Accounting Method per Category**

Category	Baseline Calculation Method	Rationale
1. Purchased Goods and Services	Key emission sources: at least Industry-Average Non-key emission sources: at least Spend-based	Key suppliers can be engaged on emissions reductions, and conversations require more accurate calculations
2. Capital Goods	Key emission sources: Industry-Average Non-Key emission sources: Spend-based	
3. Fuel- and Energy-Related	Key emission sources: at least Industry-Average Non-Key emission sources: at least Spend-based	
4. Upstream Transport	Key emission sources: Industry-Average, or fuel-based Non-Key emission sources: Spend-based	
5. Waste	Spend Based or extrapolated	Low business risk and low emissions, with a corresponding low effort in quantifying emissions for the purpose of completeness and transparency
6. Business Travel	Extrapolated (after first calculation)	
7. Employee Commuting	Extrapolated (after first calculation)	
8. Downstream Leased Assets	Extrapolated (after first calculation)	
9. Downstream Transport	Distance-based	Transport to key customers is likely to cover more product volume and should be considered separately from non-key customers.  Known key customers can be engaged on emissions reductions in their processing, and conversations require more accurate calculations
10. Processing of Sold Products	Key emission sources: Site-specific for integrated customers, otherwise at least Industry-Average <sup>24</sup> Non-Key emission sources: Industry-Average	
11. Use of Sold Products	Site-specific for integrated customers. At least, Industry-Average Non-Key customers: Industry-Average	
12. End-of-Life Treatment of Products	Extrapolated (after first calculation)	Low business risk and low emissions, with a corresponding low effort in quantifying emissions for the purpose of completeness and transparency
13. Downstream Leased Assets	Extrapolated (after first calculation) if/where applicable	
14. Franchises	Extrapolated (after first calculation) if/where applicable	
15. Investments	Investment-specific approach as the sum of Scopes 1 and 2 multiplied by the share of equity (and Scope 3 where relevant as outlined in <a href="#">Appendix 3</a> , Category 15).	Requires alignment between partners and can represent high emissions, and the recommended method attempts to accommodate both

<sup>24</sup>. Industry average may be included for key customer where customer data is not available or confidential

### 3.3 Selecting a Calculation Method

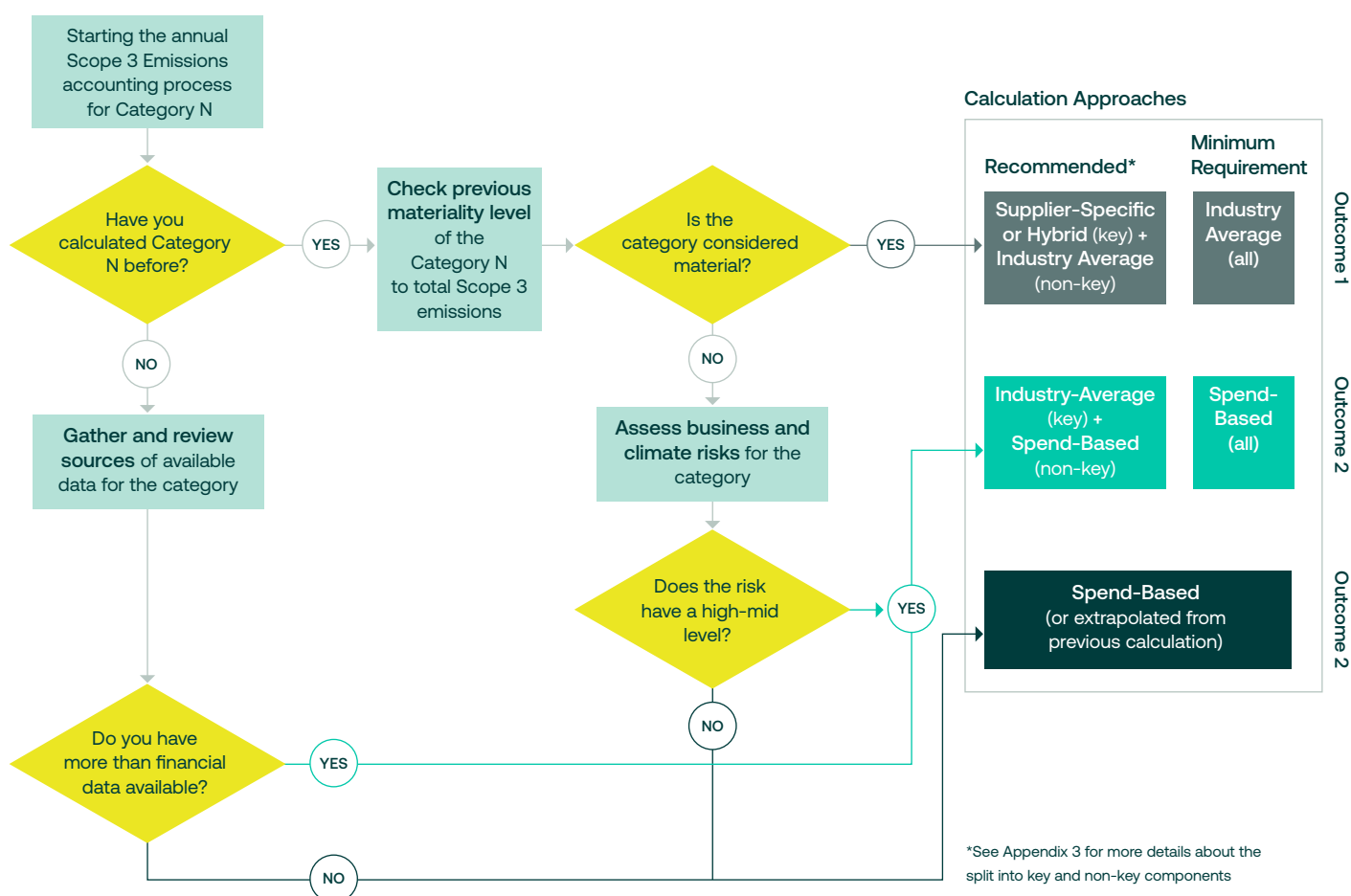
Companies should select the calculation method that is best able to account for and reflect the true state of emissions for any one category in that segment of their value chain. Companies can use the referential hotspots of the heat map (Appendix 2) to assess the need for first-time calculations for a category. Results from the previous year can be used as an existing baseline for subsequent comparisons and to assess current materiality for a category that has been calculated previously.

Where both financial data and industry average data is available for any category, companies should use both for more accurate results. Companies can update and

improve their accounting over time aiming for primary data<sup>25</sup> or hybrid + industry average approaches as much as possible and where available, whilst allowing extrapolation for immaterial categories if needed. Using the industry average method for most activity data and emission factors is also considered good practice when databases are reliable and internationally recognised, and where supplier/customer specific data is unobtainable or unsubstantiated.

Figure 5 is a decision tree to determine a calculation method for each category.<sup>26</sup> This process takes into consideration the dimensions of first-time quantification, category materiality, data availability and quality, and business and climate risk.

Figure 5 – Decision Tree to Select a Calculation Approach by Category



25. Including integrated suppliers and customers as partner-specific approach

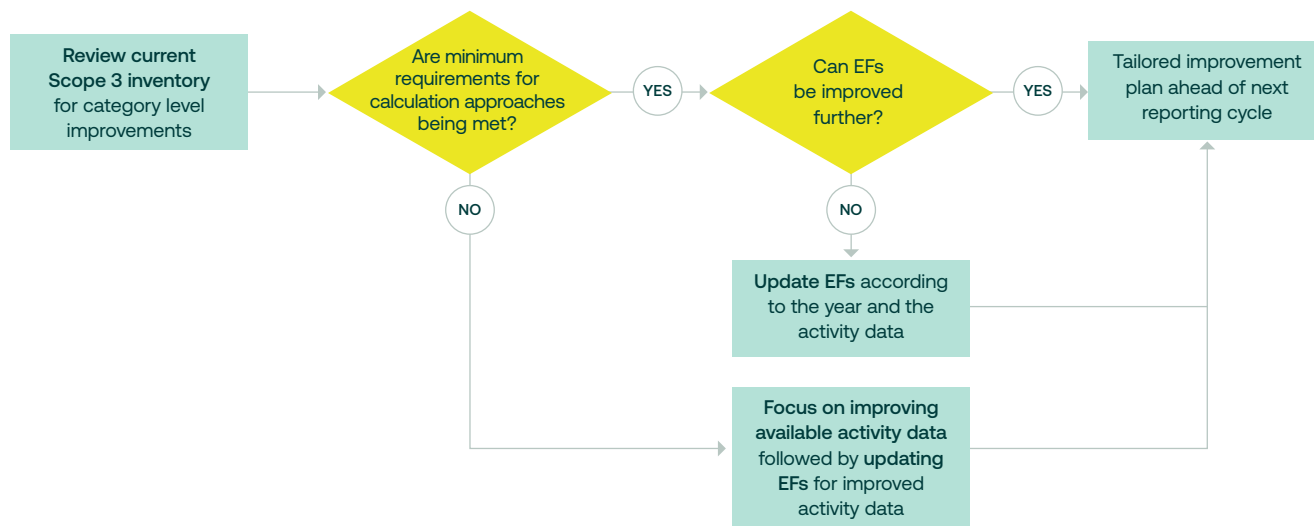
26. Note that the decision tree can be applied to subsets of categories 1 and 2, whereby immaterial subsets can use the spend-based method



Figure 6 below suggests an improvement process for achieving the minimum requirements across all applicable calculation approaches (in Figure 5).

The type of EF required is dependent on the availability and quality of Activity Data, which is critical to ensure the integrity of the emissions calculation. Appendix 2 provides further guidance beyond Figure 6 around sourcing and maintaining best available EFs and Activity Data.

Figure 6 – Decision Tree to Improve Activity Data and EF as an Annual Cycle



The specific application of the Guidance to each Scope 3 category is structured as performance outcomes and requirements in Appendix 3. This covers elements of the calculation and recommended accounting approach, such as boundaries, materiality and special considerations.

Appendices 1 and 2 provide further information pursuant to the previous sections of the document with tables and figures referenced above, whereas Appendix 3 is an application of the concepts and principles covered in the main sections of the document.



# Appendix 1 – Authorities

The ICMM Climate Change Working Group is responsible for assessing changes in key regulations as well as voluntary and mandatory reporting requirements when applicable over time. They are accountable for adjusting this Guidance to reflect relevant changes (annually as a minimum). ICMM will inform all members of any detected changes for them to reflect the updates in their coming reporting cycle as well as key external stakeholders.





# Appendix 2 – Key References and Standards

## Considerations for Trade-Offs Between Reporting Principles

Depending on the quality of best available data, trade-offs between principles may emerge given that reporting companies may need to prioritise one or more principles over others. Relevant Scope 3 emissions may be identified up front, but across categories progress in reporting relevant emissions completely and transparently, and with accuracy ie, achieving compliance with all five principles, will vary depending on factors such as:

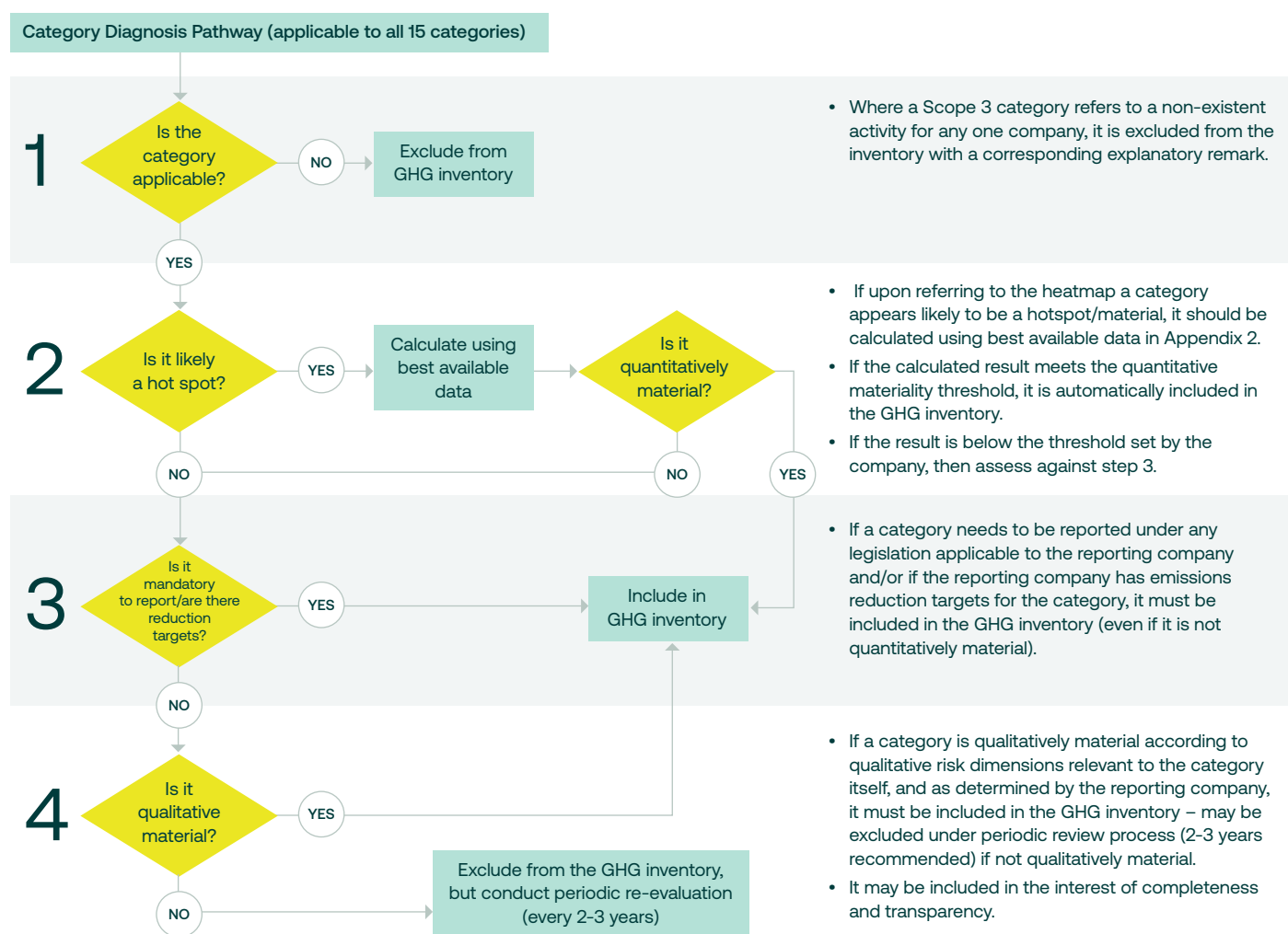
- Initial data availability
- Collaboration with external stakeholders
- Available external data such as accurate EFs

Companies will achieve alignment with all five principles over different time horizons across their reported Scope 3 categories and should prioritise the progression journey of more relevant categories and/or more relevant subsets.

## Category Pathway to Diagnose Materiality

Figure 7 provides a pathway applicable and detail on applying the Category Diagnosis Pathway to all 15 categories with the purpose of enabling companies to determine which categories they must include and which ones they may exclude. No single category may be excluded without an initial diagnosis.

Figure 7 – Category Diagnosis Pathway





## Legal Materiality to Disclose Scope 3 Inventory

The following legislations and voluntary reporting initiatives shown in [Table 7](#) below, whether implemented or under consultation, are understood to represent the minimum requirements for Scope 1, 2 and 3 emissions

reporting, applicable depending on jurisdictions of operations and/or listing requirements. Voluntary requirements are included considering that frameworks like TCFD have become the reference of several mandatory and emerging legislations.

**Table 7 – Legislations and Initiatives (at August 2023)**

	Name	Status	Scope 3 Requirements
Mandatory Reporting Requirements	EU Sustainability Reporting Standards	Binding process	<ul style="list-style-type: none"> <li>— Disclosure of significant Scope 3 categories in gross emissions (CO<sub>2</sub>eq)</li> <li>— Breakdown to include upstream purchasing (Cat 1), downstream sold products (Cat 10), goods transportation (Cat 4), travel (Cat 6), and investments (Cat 15)</li> <li>— Required from 2024 for 2023 reporting period</li> </ul>
	SEC Climate Disclosure Rules	Under consultation	<ul style="list-style-type: none"> <li>— Disclosure in absolute and intensity terms</li> <li>— Where defined as material by the reporting company (could or not be different from the financial materiality)</li> <li>— If a GHG emission reduction target including Scope 3 is in place</li> </ul>
	IFRS Climate Related Disclosure Standard: ISSB	Under consultation	<ul style="list-style-type: none"> <li>— Disclosure where material for a company</li> <li>— Currently developing framework for the calculation of Scope 3 GHG emissions requiring the use of reasonable and supportable information, available without undue cost or effort, and incorporating the use of estimation</li> </ul>
	UK Transition Plan Taskforce	Under consultation	<ul style="list-style-type: none"> <li>— Disclosure for upstream and downstream categories</li> <li>— Disclosure of measured and estimated data used</li> </ul>
	Australian Treasury: Climate-Related Financial Disclosure	Under consultation	<ul style="list-style-type: none"> <li>— Standardised, internationally aligned legislative requirements for disclosure of climate-related financial risks and opportunities from financial years 2024-25 onwards</li> <li>— Not yet mandatory until alignment with ISSB recommendations (expected during 2023)</li> </ul>
	Canadian Securities Administrators (CSA): NI 51-107	Under consultation	<ul style="list-style-type: none"> <li>— Proposed National Instrument 51-107</li> <li>— Requirement to use GHG Protocol for all 3 scopes, with an alternative scenario where only Scope 1 would be mandatory</li> <li>— Alignment with TCFD and ISSB</li> </ul>
Voluntary	TCFD	In place	<ul style="list-style-type: none"> <li>— Recommendation to disclose Scope 3 with related risks</li> <li>— Self-determined definition of materiality</li> <li>— Note: many countries are drafting their mandatory reporting requirements based on TCFD, accordingly TCFD remains voluntary for companies that are not subject to such national legislations</li> </ul>
	SBTi	In place and under consultation for sectoral guidance	<ul style="list-style-type: none"> <li>— Scope 3 material where it represents more than 40% of total company emissions</li> </ul>
	Towards Sustainable Mining	In place	<ul style="list-style-type: none"> <li>— Materiality assessment of all 3 scopes</li> <li>— Companies should assess the materiality of all 3 scopes to identify, assess and manage (1) material climate-related risks and opportunities, and (2) their impact on the company's business, strategy and financial planning</li> </ul>

Companies may:

- Extrapolate immaterial categories that need to be reported according to applicable regulations to achieve results without investing significant resources.
- For material categories that need to be reported according to applicable regulations: Companies must always use best available data.

While this Guidance allows for category-level flexibility if minimum legal requirements are met, the following evolution is considered:

- The underlying assumption for updating this Guidance is that legal requirements will become more onerous over time.
- Some divergence can be observed across jurisdictions in terms of what and how to report GHG emissions, and companies must be mindful to meet different reporting requirements as and where applicable.
- Convergence across jurisdictions can also be noticed in some areas, for instance TCFD is increasingly being incorporated as a common core element.
- With convergence over time, some legislation will become more important than others, leading to possible redundancies.
- All applicable categories should be reported, with ongoing extrapolation of data for immaterial categories for a focused effort (legal requirements

permitting) and in compliance with the principle of *completeness*.

- If companies decide not to report all 15 categories, they should disclose the logic behind this decision and still report at least in an aggregate manner and based on estimations<sup>27</sup> the categories that have been selected not to be reported independently.
- Reporting of hotspots within material categories to shift towards primary data (downstream integrated customers and suppliers) over time to improve *accuracy*.

Qualitative materiality should include consideration of all climate-related transition and physical risks as per the TCFD definitions. Reporting companies may decide that quantitative materiality supersedes qualitative materiality in certain cases where further guidance is provided in Section 3 at category level.

### Referential Emission Hotspots by Category and Commodity Profile

When first-time reporters apply the Diagnosis Pathway (Figure 7), Table 8 below should be used to identify whether a category is likely to be a hotspot and material.

The hotspot rating is intended to help first-time reporters to screen for potential materiality and prioritise categories for obtaining first data to assess inclusion in the GHG inventory. As a next step, companies should use the diagnosis pathway in Figure 7 above to corroborate or disprove the initial assessment.



27. Estimations should be supported by robust assumptions and clearly disclosed in Scope 3 reports

Table 8 – Referential Heat Map of Emissions Hotspots at Category Level by Type of Mining Company<sup>28</sup>

Scope 3 Category	Precious Metals	Bulk	Base	Diversified	Considerations
1. Purchased Goods & Services	High	Mid	Mid to High	Mid to High	Supplier risks more relevant than contribution to total emissions
2. Capital Goods	Mid	Mid	Mid	Mid	Spend and corresponding emissions can be variable YoY
3. Fuel & Energy-related	High	Mid	Mid to High	Mid to High	Key-supplier spend category in terms of value and strategic risk
4. Upstream Transport	Mid	Mid	Mid	Mid	Transport is a key emissions driver globally
5. Waste management	Mid-Low	Mid-Low	Mid-Low	Mid-Low	Low contribution but can carry risks
6. Business Travel	Low	Low	Low	Low	Low contribution and risk
7. Employee Commuting	Low	Low	Low	Low	Low contribution and risk
8. Upstream Leased Assets	Low	Low	Low to Mid	Low	N/A for many companies
9. Downstream Transport	Mid	Mid	Mid	Mid	Transport is a key emissions driver globally
10. Processing of Sold Products	Mid	High	Mid-to high	Mid to High	Customer-side emissions are a key driver for 2 of 3 groups of companies
11. Use of Sold Products	Low	High	High	Mid to High	Applicable to miners of fossil fuels and iron ore
12. End of Life Treatment of Products	Low	Low	Low	Low	Low contribution and risk
13. Downstream Leased assets	Low	Low	Low	Low	N/A for many companies
14. Franchises	Low	Low	Low	Low	N/A for many companies
15. Investments	Mid	Mid	Mid	Mid	Many mines are JVs

#### Legend:

High	Typically significantly greater than 5% of total Scope 3 emissions
Mid	Typically around 5%, both below and above the threshold, <u>or</u> low emissions in strategically relevant areas of the value chain with associated climate risks
Low	Typically lower than 5% of total Scope 3 emissions

28. Source: ENGIE Impact research. Table 9 is a reference for materiality levels, categories may have different outcomes for the same type of companies. This Table is indicative and it may vary depending on the commodity and vertical integration of processes.



## Transportation and Distribution Boundaries

Figure 8 and Figure 9 illustrate the existing boundaries according to Incoterms between upstream and downstream transportation categories respectively, where third-party logistics services are contracted by buyers or sellers to handle logistics operations.

Category allocation for emissions is based on incoming goods purchased from suppliers and outgoing products sold to first customers. This takes into consideration respective cost and risk ownership (on the basis of tier 1 suppliers and first customers respectively across categories 1 and 4 as well as 4 and 9).

Figure 8 – Upstream Inbound Logistics (Transportation and Distribution Boundaries Between Categories and Incoming Goods Logistics)

Incoterm	Tier 1 Supplier	Loading	Transport	Export Procedures	Cargo on Board	Freight	Ship Unloading	Import Procedures	Transportation to Destination	Download at Destination	Reporting Company
EXW											
FCA											
CPT											
CIP											
DAP											
DPU											
DDP											
CFR											
FOB											
FAS											
CIF											

Tier 1 supplier is responsible for costs and risk (Category 1)

- External logistics services contracted and paid for by tier 1 suppliers and included in their sales price and / or any applicable PCF.
- In either case, these transport emissions are captured under Category 1.

Reporting company is responsible for costs and risk (Category 4)




- External logistics contracted and paid for by the reporting company, accounted for under Category 4 by the reporting company.

Tier 1 supplier or reporting company is paying the costs but there is transfer of risk among parties (Category 1 or 4)

- External logistics contracted by one of the parties whereby the risk is transferred from one party to the other during the stage of transport. Applies to CPT and CIP on Cargo on board, Freight and Ship unloading operations and CFR and CIF on Freight operations.
- During these stages of transport, risks and costs are not owned by the same company, and it can be difficult to determine emissions accurately across categories 1 and 4.

**Figure 9 – Outgoing Products Sold to Customers (Transportation and Distribution Boundaries Between Categories and Outgoing Products Logistics)**

Incoterm	Reporting Company	Loading	Transport	Export Procedures	Cargo on Board	Freight	Ship Unloading	Import Procedures	Transportation to Destination	Download at Destination	First Customer
EXW											
FCA											
CPT											
CIP											
DAP											
DPU											
DDP											
CFR											
FOB											
FAS											
CIF											

-  Reporting company is responsible for costs and risk (Category 4)
  - External logistics services contracted and paid for by the reporting company and allocated to Category 4.
-  First Customer is responsible for costs and risk (Category 9)
  - External logistics contracted and paid for by the customer of the reporting company, accounted for under Category 9 by the reporting company.
-  First Customer or reporting company is paying the costs but there is transfer of risk among parties (Category 4 or 9)
  - External logistics contracted by one of the parties whereby the risk is transferred from one party to the other during the stage of transport. Applies to CPT and CIP on Cargo on board, Freight and Ship unloading operations and CFR and CIF on Freight operations.
  - During these stages of transport, risks and costs are not owned by the same company, and it can be difficult to determine emissions accurately across Category 4 and 9.

Best Available Data needs to be considered to determine which party can exert greater influence in practice for the stages where cost and risk ownerships are split (ie corresponding disclosure remarks may be added for Category 1 and 4 for clarity, and reporting companies should work with suppliers/customers to obtain the best possible Activity Data to minimise double-counting as far as possible)

### Boundaries of Processing Sold Products

Boundaries for downstream processing stages should be set to account for the immediate carbon-intensive processes in the customer's direct value chain. The reporting company should at least set these boundaries as the first finished good(s) that 1) follow the liquid metal state and/or 2) are at the next pre- or post-refining state. Reporting companies set the downstream

boundaries to include where emissions are material within states.

Where available, reporting companies should consider documented Scope 3 boundaries and assumptions from internationally recognised industry associations. The boundary should include all material processing steps whether they occur at the customer's facility or not, such as inclusion of coke oven emissions in iron ore processing.

Table 9 provides examples of product processing cycles to inform calculation boundaries under the first finished good(s) concept for mining and metals industries. Companies may use this as a reference when setting boundaries, to assist them when preparing their calculations and sharing their methods and assumptions, alongside total emissions per commodity.

**Table 9 – Example Processing Cycles by Commodity for Categories 10 and 11 (Non-Exhaustive)**

Commodity	First Finished Good(s)	1st Cycle (owned)	2nd Cycle (tier 1 customer)	3rd Cycle (tier 2 customer)	Boundary Suggestions
Copper	Copper Blister	Concentrate	Smelting		2nd Cycle
Copper	Copper Cathode	Concentrate	Smelting	Electrowinning	3rd Cycle**
Copper	Copper Cathode	Cathode	Refining		2nd Cycle*
Iron Ore	Crude Steel or liquid steel	Iron ore concentrate	Smelting/Pig iron	Steelmaking	3rd Cycle**
Gold	Bullion	Doré bar	Refining		2nd Cycle*
Met coal	Coking Coal	Pyrolysis	Steelmaking		2nd Cycle
Zinc	Zinc concentrate	Zinc ingot			1st cycle
Zinc	Zinc concentrate	Zinc cathode	Zinc ingot		2nd Cycle*

\* Include 2nd Cycle Refining (ie post-refining) if corresponding emissions are material, otherwise consider as 1st Cycle  
 \*\* Further transformation cycles in Category 10 beyond first customers' sales may be included where possible based on availability of quality data, where emissions are relevant and add value.



## Sourcing and Maintaining Best Available Data

Best available data refers to accounting based on information and underlying data that is readily obtainable and of the highest quality. This requires a consistent approach in data management processes based on the adoption and implementation of an improvement plan.

An improvement plan will consist of a summary of actions per category, covering one or both data types on a need-basis, determined according to [Figure 6](#). This

needs to consider internal and external levers, and associated counterparts for sourcing different datasets. [Table 10](#) summarises how the levers can be used over time to formulate targeted improvement actions and plans for both elements of the emissions equation. The objective of this approach is to meet the category level requirements of this Guidance for Activity Data, and/or to ensure corresponding EFs are always as up to date as possible.

**Table 10 – Levers for Improvement Over Time to Strengthen Reporting Consistency**

Type	Internal Levers (Direct Influence)	External Levers (Indirect Influence)
<b>Activity Data</b>	<ul style="list-style-type: none"> <li>— <b>Divisions providing data:</b> collaborate to move beyond financial data (lowest level of data quality) as applicable</li> <li>- Engage with supply chain and sales divisions to better capture unit data of products purchased or sold</li> <li>- Engage based on a gap analysis of current versus required data</li> </ul>	<ul style="list-style-type: none"> <li>— <b>Collaborate</b> with key suppliers/customers who make a material contribution to Scope 3 emissions with the objective of moving towards primary or hybrid reporting methods</li> <li>— <b>Suppliers/customers:</b> Query their emissions accounting and reporting, and their ability to allocate emissions to customers/suppliers.</li> <li>— Source sustainability reports for mature customers and suppliers for data in selected cases where aggregate global data is deemed sufficiently accurate (eg where products and production are uniform)</li> </ul>
<b>Emissions Factors</b>	<ul style="list-style-type: none"> <li>— <i>Follow the below <a href="#">Figure 10</a> to ensure that EFs remain applicable and up to date</i></li> </ul>	<ul style="list-style-type: none"> <li>— <b>Available private databases:</b> invest into licenses for databases with high quality EFs</li> <li>— <b>Industry associations:</b> consider them as a source for specific EFs otherwise not found in private databases</li> <li>— <b>Academic partnerships:</b> explore and contribute to academic partnerships working on relevant EFs</li> </ul>

In considering the levers in [Table 10](#) to develop data management improvement plans for emissions reporting, companies need to be conscious of 2 points:

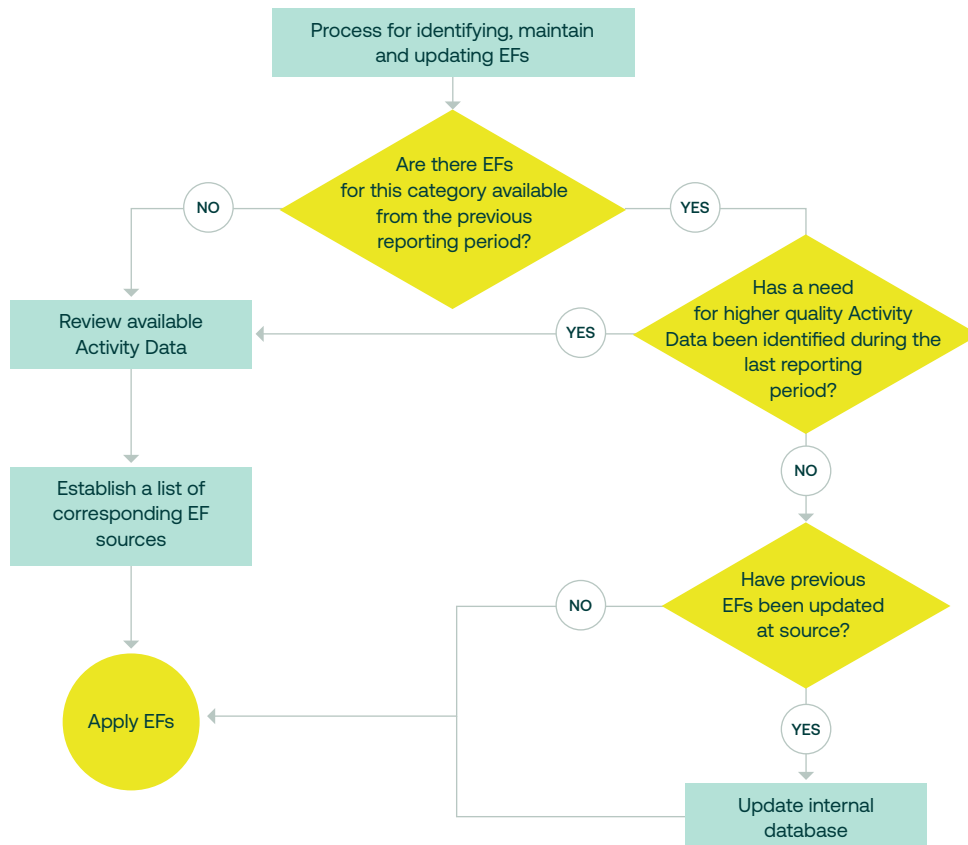
1. **Differences across categories:** Improvement plans will reflect company-specific requirements across different categories. Some categories will require more work than others to meet and maintain the minimum reporting requirements outlined in this Guidance. For example, one category may only require improved Activity Data, whereas another category may require an improvement plan for both Activity Data and EFs.

2. **Timelines:** It can take time to implement improvement plans with external and internal partners, and improvements across multiple categories will not necessarily run in parallel. For example, one category may depend on collaboration with internal Supply Chain teams, and another may depend on working with the Sales team, and it may be easier for one than the other to provide the data required.

EFs need to be identified, maintained, and updated by the team responsible for annual emissions reporting in a cyclical manner in line with the following characteristics:

- Every new reporting period must start with a review of EFs for material categories and emission sources from the previous cycle.
  - For categories where there is an improvement plan in place to obtain higher quality Activity Data of a different type, new EFs will have to be sourced.
  - Where there is no need for higher quality Activity
- Data, EFs from the previous year should still be used and reviewed for updates published by the original source.
- Additionally, EFs of the same type from alternative sources should also be considered and compared.
- Figure 10 provides a decision tree for members to inform their process of updating EFs periodically, as applicable.

Figure 10 – Process for Management of Emission Factors and Activity Data



A company's EFs database is managed by its respective reporting function and, therefore, requires minimal engagement with internal stakeholders in contrast to obtaining Activity Data. However, to maintain best available EFs for material emissions, the following activities are recommended:

1. Ensure continuous monitoring of existing databases for updates
2. Identify new sources of EFs
3. Collaborate proactively with industry associations, academia, and database partners (to create and maintain centralised EFs for processes along the mining value chain as a shared resource, as and where applicable)

Industry Average EFs can often be of higher quality than poor quality supplier or customer specific EFs. For material categories, this Guidance recommends using Industry Average EFs above any financial-based EFs until high quality supplier or customer EFs become available for the most relevant partners.

Where primary data is sourced directly from suppliers and customers, the reporting function must work with Procurement and Sales to contribute to the updating of the EF database.

In applying an improvement process to progress from best available Industry Average EFs to partner-specific EFs, companies should start with available global average EFs (eg for processing of copper). It is recommended to construct regional or even national

average EFs based on known customer locations (see [Table 10](#) for internal and external levers). In a final step, site-level specific EFs can be constructed with key suppliers or customers.

The following section in this [Appendix 2](#) provides a non-exhaustive overview of the most widely used EF databases as a reference point.

## Alphabetical List of Emission Factor Databases

[Table 11](#) summarises all EFs referenced in the category-level chapters ([Appendix 3](#)). This supports the EF management process ([Figure 10](#)) with criteria for updates to databases (frequency and communication of updates by owner/provider) and Indicative reliability and accuracy.

**Table 11 – Most Recognised EF Databases (Non-Exhaustive)**

Name of Database	Owning/ Maintaining Entity or Provider	Type of EFs	Applicability – Main Categories	Updates to Database	Reliability and Accuracy
Conversion Factors	Department for Environment, Food & Rural Affairs (DEFRA) / Department for Energy Security & Net Zero (DESNZ) – UK government	Spend-based and industry-average	C1, C3, C4, C9	Annual updates	Medium-high
Emission Factors Hub	Environmental Protection Agency (EPA) – USA government		C3	Periodical updates	Medium-high
Life Cycle Inventory	EcolInvent	Industry-average	C1	Provider to inform users	High
IPCC Guidelines for National Greenhouse Gas Inventories and Emission Factor Database (EFDB)	Intergovernmental Panel on Climate Change (IPCC)	Industry-average	C1, C4, C9	Periodical updates	Medium-high
Life Cycle Analysis for Copper Products	European Copper Institute	Industry-average		Periodical updates	
National Greenhouse Accounts (NGA) Factors	Australian government	Industry-average	C3, C11	Annual	High
Clean Cargo	BSR	Distance-based	C4, C9		





# Appendix 3 – Category Application

## Category 1 – Purchased Goods and Services

### Description:

Performance requirements for accounting and reporting Category 1 Scope 3 emissions for companies as per the GHG Protocol, which includes all upstream emissions (ie cradle-to-gate) from purchased products and services.

### 1. Boundaries

Companies must account for all upstream emissions from the extraction, production and transportation of products purchased or acquired by the reporting company in the reporting year as a minimum.

- Consider all goods (tangible products) and services (intangible products) across Direct & Indirect spend categories and select the relevant ones.
- Include emission sources from transportation and distribution services if the reporting company neither directly pays nor controls for transport from the supplier to its site (see [Figure 9](#) about transportation and distribution boundaries).
- Exclude all goods and services falling under the upstream categories 3, 4, 5, 6, 7 and 8 as well as spend not associated with the purchasing of goods and services, such as internal payroll, intra-company payments, compliance and taxation related expenses and donations.
- Permit exclusion of product or supplier tails spend<sup>29</sup>, ie that cannot be meaningfully classified to apply EFs due to fragmented third party spend data.
- Exclude contractor consumption of fuel provided by the reporting company for on-site use as it is considered under Scope 1.
- Exclude purchases from ‘circular by-products’, where the reporting company purchases back by-products originating from their own sold products purchased by customers, and sold back to them by the same

customers (eg sulphuric acid sold back to copper miners by copper smelters), as these emissions are already accounted for in Category 10 of the reporting company.

### 2. Materiality

Companies must determine materiality of emissions for accounting and reporting of the category.

Follow section 2.2 and the category pathway in [Appendix 2](#), as well as consider any applicable legal reporting requirements

### 3. Activity Data Types

Emissions accounting and reporting should aim to incorporate the best available data while recognising limitations around Activity Data availability. Data sources are listed as follows based on their quality:

- Apply Spend-Based Activity Data as the minimum permitted, unless higher quality data is available.
- Apply Secondary data (Industry-Average) for Key Product groups and/or Suppliers as a recommended minimum where possible.
- Supplier specific data must be converted to be same cradle-to-gate boundary as industry and default factors.
- Apply Hybrid data (Primary + Secondary) for Key Product groups and/or Suppliers or Supplier-/product-specific Activity Data whenever possible. Note that supplier data may not be better than Industry-Average depending on supplier maturity in calculating emissions for their products.
- Consider the Pathfinder Framework by WBCSD, its primary-data-based carbon product footprints (PCFs) and the accompanying data-exchange protocol.

29. Tail Spend is defined as procurement spend making up 80 per cent of transactions while covering only 20 per cent or less of total spend. For the purpose of GHG emissions reporting we recommend limiting the tail to between 1-5 per cent of spend permitted for exclusion.

*Example of internal and external challenges to collect activity data for Category 1*

<b>External Activity Data</b>	Supplier Maturity	<ul style="list-style-type: none"> <li>— Global, multi-national suppliers of reporting companies: likely to demonstrate an increased ability to engage on the topic of their carbon emissions</li> <li>— Where both goods and services are provided: suppliers should be requested to provide unit information for goods and costs for services as separate items (total cost, without sharing confidential information such as rates)</li> <li>— Smaller, more local suppliers: Often representing a focus of corporate community engagement, cannot be expected to have the same level of sustainability maturity and reporting ability.</li> </ul>
<b>Internal Activity Data</b>	Data Readiness	<ul style="list-style-type: none"> <li>— Different divisions, countries, and sites are likely to use different systems and classify the same spend categories differently</li> <li>— Rolling all data up into 1 set of Activity Data to apply EFs can be challenging</li> </ul>

#### 4. Emissions Factor Sources

Companies should, as a minimum, ensure they are applying the best available EF to their calculations and document sources from available relevant databases and/or other reputable entities.

- Follow the process in [Figure 10](#) in [Appendix 2](#) for managing EFs.
- Consider the following table as a reference for EFs relevant to Category 1 activities.
- Update EFs when higher quality factors become available (eg when moving from Spend-based to Industry-Average).
- Check previous EFs for updates where the type of Activity Data remains the same at the beginning of every new reporting period to ensure accuracy.
- Ensure that EFs used for the relevant emissions of this category remain up to date wherever possible.

Recommended Databases	Owning/ Maintaining Entity	Type of EFs
Conversion factors 2019	DEFRA	Spend-based and Industry-average
Life Cycle Inventory	EcolInvent	Industry-average
IPCC Guidelines for National Greenhouse Gas Inventories	IPCC	Industry-average



## 5. Emissions Calculation (Recommended)

All relevant emissions sources should be considered, and this Guidance recommends grouping them internally into Key and Non-Key Spend Categories, Products and/or Suppliers to prioritise<sup>30</sup> for visibility and future prioritisation of emissions reduction efforts.

Align with the calculus fundamentals mapped to accounting principles as per the below (recommended)

1	Consider all spend recorded internally, and the above permitted exclusions	<i>Completeness</i>
2	Label all spend against Spend Categories, minimising the use of 'Other' where practicable (and testing against the recommended threshold for the supplier 'tail')	<i>Accuracy</i>
3	Identify and separate Key and Non-Key Purchased Categories/Products	<i>Relevance</i>
4	Identify Key Suppliers within Key Spend categories/for key products	<i>Relevance</i>
5	Analyse Activity Data Availability for all Spend Data groups	<i>Consistency and Completeness</i>
6	Split the total of Category 1 emissions into 2, grouping total Key and total Non-Key Supplier/Product Emissions. For Key Suppliers/Products, separate service and product components where this has not yet occurred	<i>Transparency, Relevance and Accuracy</i>
7	Calculate according to the hierarchy shown in the table below subject to Activity Data availability	<i>Consistency and Accuracy</i>
8	Establish and communicate a process for improving data quality of Key Suppliers/Products as a minimum where Activity Data is limited to spend-based data	<i>Accuracy</i>

Follow the hierarchy below subject to Activity Data availability (recommended)

Emissions Source Hierarchy	Calculation Methodology	Context of Calculation Methodology
<b>Non-Key Spend Categories/ Product Groups</b>	— Spend-based	— Low spend value and low risk suppliers, likely to have low emissions (supplier 'tail')
<b>Key Spend Categories – Non-Key Suppliers/ Product Groups</b>	— Minimum: Spend-based — Recommended: Industry Average	— Lower spend value and lower risk suppliers within key spend categories — Could be important as part of a (sustainable) Purchasing Category Strategy
<b>Key Spend Categories – Key Suppliers/ Product Groups</b>	— Minimum: Industry Average — Recommended: Hybrid & Supplier Specific Data	— Highest spend, likely reflecting high business criticality and emissions — Suppliers in this group are a primary target for engagement on reduction opportunities



30. See GHG Protocol Scope 3 for further information



## 6. Suggested Reporting

Companies should adopt a *transparent* and *consistent* reporting format that includes the total category emissions, the accounting methods applied and the contribution of the category towards to total Scope 3 emissions.

Follow the example shown below:

- List any specific exclusions, such as countries, site, databases or spend categories with justifications (eg data is unavailable or is of insufficient quality to classify for application of EFs).
- List EF sources and year of publication for all EFs used for this category.
- Ensure that the most relevant EFs used for this category remain up to date wherever possible.
- Explain any plans for improvement for the next reporting period regarding identified data and calculation limitations, should exclusions go beyond the above permitted ones and should Industry Average data not be available for Key Suppliers in key Spend Categories or Key Product groups.
- Identify and highlight emission hotspots within their inventories and explain changes in category inventories year-on-year.



*Example of Summarised Table for Reporting Scope 3 Category 1 Emissions*

Total Emissions (tCO <sub>2</sub> eq)	Accounting Methods	Contribution to the Total Scope 3
1,000,000	Industry-average Spend-based (less 5% of data)	5%

## Category 2 – Capital Goods

### Description:

Performance requirements for accounting and reporting Category 2 Scope 3 emissions for companies as per the GHG Protocol, which includes all upstream (ie cradle-to-gate) emissions from the production of Capital Goods purchased in the reporting year.

### 1. Boundaries

As per Category 1, companies must account for all upstream emissions from the extraction, production and transportation of Capital Goods purchased by the reporting company in the reporting year as a minimum.

- Include all capital goods (tangible products<sup>31</sup>) across Direct & Indirect spend categories
- Exclude all goods falling under Category 1
- Permitted to include Category 2 – Capital Goods into Category 1 reporting where a reporting company is unable to separate categories 1 and 2 in their data systems or where there is limited business or external stakeholder value of distinguishing Category 1 and Category 2
- Permit exclusion of supplier tail spend (low spend with a high volume of suppliers) associated with fragmented third party spend – ie, that cannot be meaningfully classified to apply EFs recommended to keep between 1 and 5 per cent of total spend within this category)

### 2. Materiality

Companies must determine materiality of emissions for accounting and reporting of the category.

- Follow section 2.2 and the category pathway in [Appendix 2](#), as well as consider any applicable legal reporting requirements

### 3. Activity Data Types

Emissions accounting and reporting must identify and consider limitations around Activity Data availability specific to Category 1, with additional consideration given to the nature of Capital Goods expenditure and the involved suppliers outlined under following subsection 5. Emissions Calculations, and the evolution of Emissions Factors over time.

- Develop a classification of assets, goods and types of services allowing for better categorisation across Purchased Goods and Services versus Capital Goods, to apply EFs consistently.
- Separate actual capital goods from their service components wherever material and possible.
- Apply Industry Average EFs to Capital Goods wherever available, and use spend-based as a permitted alternative.
- Apply Spend-Based EFs to the service components of Capital Goods contracts where this has been split out.
- Require suppliers to split service components upfront for material contracts (as part of the contracting process) that are business critical, of high financial value, and emissions intensive.

### 4. Emissions Factor Sources

Companies should ensure as a minimum they are applying the best available EF to their calculations and document sources from available relevant databases and/or other reputable entities, as per Category 1 with additional considerations outlined under 5. Emissions Calculations.

- Update EFs when higher quality factors become available, eg when moving from spend-based to Industry-Average.
- Check previous EFs for updates where the type of Activity Data remains the same at the beginning of every new reporting period to ensure accuracy and include the year of publication of EFs applied.
- Ensure that EFs used for the relevant emissions of this category remain up to date wherever possible.

31. Capital spend accounts should be allocated as tangible products.

## 5. Emissions Calculation (Recommended)

All relevant emissions sources must be considered, with a separation into Key and Non-Key Suppliers or projects for visibility and future prioritisation of emissions reduction efforts.

Align with the calculus fundamentals mapped to accounting principles as per the below:

1	Consider all spend recorded internally, as per Category 1	<i>Completeness</i>
2	Identify and separate expenditure related to Capital Goods projects and their suppliers from all other purchased goods and services under Category 1	<i>Accuracy</i>
3	Identify Key Suppliers and Non-Key suppliers for Capital Goods based on strategic relevance and Key CAPEX projects	<i>Relevance</i>
4	Separate, where possible and appropriate, components of Capital Goods from the provision of their maintenance services, and only for Key Suppliers and Key CAPEX projects	<i>Relevance and Transparency</i>
5	Identify and group 'Other' (supplier 'tail') as a subset of the above group of Non-Key Suppliers	<i>Relevance</i>
6	Analyse Activity Data Availability for all Capital-Goods related Spend Data and follow instructions under Category 1 for calculation	<i>Consistency and Completeness</i>

Follow the hierarchy shown in the table below subject to Activity Data availability (recommended):

Emissions Source Hierarchy	Calculation Methodology	Context of Calculation Methodology
Tail of Capital Goods Expenses	Spend-based	Low spend value and low risk suppliers, likely to have low emissions (supplier 'tail')
Non-Key Suppliers, Non-Key CAPEX Projects	Permitted: Spend-based Recommended: Industry Average	Lower spend value and lower risk suppliers within key spend categories  Could be important as part of a (sustainable) Purchasing Category Strategy
Key Suppliers for Key CAPEX Projects	Permitted: Industry Average Recommended for multi-year CAPEX projects: Hybrid & Supplier Specific Data	Highest spend, likely reflecting high business criticality and emissions  Suppliers in this group are a primary target for engagement on reduction opportunities

## 6. Suggested Reporting

Companies should adopt a reporting format aligned with *transparent* and *consistent* accounting principles that includes the total emissions, the accounting methods used and the contribution of the category towards the total Scope 3 emissions.

Follow the example shown below:

- List any specific exclusions, such as countries, site, databases or spend categories within justified reason (eg data is unavailable or is of insufficient quality to classify for application of EFs).
- Explain any plans for improvement for the next reporting period regarding identified data and calculation limitations, should exclusions go beyond the above permitted ones and should Industry Average data not be available for Key Suppliers in key Spend Categories.
- Include additional segments into the Scope 3 report as deemed relevant, such as Key and Non-Key suppliers and/or projects, major spending categories, and the accounting methods utilised for each (eg separate the emissions data for Key and Non-Key Suppliers or projects in various categories such as Haul trucks, heavy-duty trucks, head office refurbishment, among others).
- List EF sources and year of publication for all EFs used for this category.
- Ensure that the most relevant EFs used for this category remain up to date wherever possible.

*Example of Summarised Table for Reporting Scope 3 Category 2 Emissions*

Total Emissions (tCO <sub>2</sub> eq)	Accounting Methods	Contribution to the Total Scope 3
500	Spend-based Industry-average (10% of data)	1%

## Category 3 – Fuel- and Energy-related Activities

### Description:

Performance requirements for accounting and reporting Category 3 Scope 3 emissions for companies as per the GHG Protocol, which includes all upstream (ie cradle-to-gate) emissions related to the fuel- and energy-related activities.

### 1. Boundaries

Companies must account for all upstream emissions from the extraction, production and transportation of fuels and energy purchased by the reporting company in the reporting year as a minimum.

- Include all fuel and energy consumed by facilities falling under the pre-selected organisational and operational boundaries.
- Permit limited overlap where a reporting company consumes fuels it extracts via its own facilities, where Activity Data limitations do not allow for a separation of boundaries
- Permit exclusion of ‘Tails’ associated with fragmented third-party energy and fuel suppliers where meaningful Scope 3 EFs cannot be meaningfully assigned, provided this group adds up to recommend between 1-5 per cent of total energy and fuel spend for any site.
- Permit exclusion of final transportation and distribution from central hubs to final destinations .

### 2. Materiality

Companies must determine materiality of emissions for accounting and reporting of the category.

- Follow section 2.2 and the category pathway in [Appendix 2](#), as well as consider any applicable legal reporting requirements.

### 3. Activity Data Types

Emissions accounting and reporting should aim to incorporate the best available data while recognising limitations around Activity Data availability.

- Apply Spend-Based Activity Data only when calculating for the first time.
- Apply Secondary data (Industry-Average) for Non-Suppliers and for Key Suppliers where Primary Data is unavailable.
- Apply Hybrid data (Primary + Secondary) for Key Suppliers whenever possible.
- Align with own Scope 1 (by fuel type) and Scope 2 (energy purchased and consumed).

#### *Example of internal and External Challenges to Collect Activity data for Category 3*

<b>External Activity Data</b>	Energy Supplier Maturity	<ul style="list-style-type: none"> <li>— Global, multi-national suppliers of reporting companies: likely to demonstrate an increased ability to engage on their carbon intensity in providing their fuel and energy products</li> <li>— Smaller more local suppliers: less mature overall, but can be reasonably expected to be ahead of others under Category 1 for energy and electricity suppliers</li> </ul>
<b>Internal Activity Data</b>	Data Readiness	<ul style="list-style-type: none"> <li>— Different divisions, countries and sites are likely to use different systems and classify some fuel spend categories differently</li> <li>— Rolling all data up into 1 set of Activity Data to apply EFs can be challenging</li> </ul>



#### 4. Emissions Factor Sources

Companies should as a minimum ensure they are applying the best available EF to their calculations and document sources from available relevant databases and/or other reputable entities.

- Follow the process in [Figure 10](#) in [Appendix 2](#) for managing the EFs.
- Consider the following table as a reference for EFs relevant to Category 3 activities.
- Update EFs when higher quality factors become available, eg when moving from spend-based to Industry-Average.
- Check previous EFs for updates where the type of Activity Data remains the same at the beginning of every new reporting period to ensure accuracy.

Recommended Databases	Owning/ Maintaining Entity	Type of EFs
Conversion factors 2022 (or most recent)	DEFRA/BEIS and applicable national/ regional equivalents	Spend-based and Industry-average
Corporate emissions solutions	IHS Markit	Market data by fuel supply

#### 5. Emissions Calculation (Recommended)

All relevant emissions sources must be considered based on the reporting company's own Scope 1 and 2 calculations, considering fuel source and location for visibility and future prioritisation of emissions reduction efforts wherever possible.

Align with the calculus fundamentals mapped to accounting principles as per the below (recommended):

1	Consider all energy and fuel – related spend recorded internally, and the above permitted exclusions	Completeness
2	Label all spend against Energy and Fuel sub-categories, minimising the use of 'Other' for non-classified fuel suppliers	Relevance and transparency
3	Identify Key Suppliers for fuels and energy separately	Relevance
4	Conduct an analysis of the availability of Activity Data for all fuel and energy – related Spend Data and estimate emissions for sub-categories using the most appropriate accounting methods	Accuracy and Consistency
5	Establish and communicate a process for improving data quality for Key Suppliers as a minimum where Activity Data is limited to spend-based data	Accuracy
6	Estimate by performing calculations based on the hierarchy shown in the table below subject to Activity Data availability	Consistency

Follow the hierarchy shown in the table below subject to Activity Data availability (recommended):

Emissions Source Hierarchy	Calculation Methodology	Context of Calculation Methodology
Non-Key Fuel & Energy Suppliers	<ul style="list-style-type: none"> <li>— Industry Average based on Scope 1 and 2</li> </ul>	<ul style="list-style-type: none"> <li>— Could be important as part of a (sustainable) Fuel and Energy Purchasing Category Strategy</li> </ul>
Key Fuel & Energy Suppliers	<ul style="list-style-type: none"> <li>— Permitted: Industry Average</li> <li>— Recommended: Hybrid &amp; Supplier Specific Data</li> </ul>	<ul style="list-style-type: none"> <li>— Highest spend, likely reflecting high business criticality and emissions</li> <li>— Suppliers in this group are a primary target for engagement on reduction opportunities</li> </ul>



## 6. Suggested Reporting

Companies should adopt a reporting format aligned with *transparent* and *consistent* accounting principles that includes total emissions, the accounting methods used, and the contribution of the category towards the total Scope 3.

Follow the example shown below:

- List any specific exclusions, such as countries, site, databases or spend categories within reason, (eg data is unavailable or is of insufficient quality to classify for application of emission factors)
- Explain any plans for improvement for the next reporting period with respect to identified data and calculation limitations, should exclusions go beyond the above permitted ones
- Include additional segments into the Scope 3 report as deemed relevant, such as Key and Non-Key energy and fuel suppliers, and the accounting methods used for each (eg separate the emissions data for Key and Non-Key Suppliers and/or fuels into various categories such as electricity, fuels, steam, among others)
- List EF sources and year of publication for all EFs used for this category
- Ensure that the most relevant EFs used for this category remain up to date wherever possible

*Example of summarised table for reporting Scope 3 Category 3 emission*

Total Emissions (tCO <sub>2</sub> eq)	Accounting Methods	Contribution to the Total Scope 3
1,500,000	Industry-average Supplier-specific (less 10% of data)	10%

## Category 4 – Upstream Transport & Distribution

### Description:

Performance requirements for accounting and reporting Category 4 Scope 3 emissions for companies as per the GHG Protocol, which includes Scope 1 and Scope 2 emissions of transportation and distribution providers that occur during the use of their fleets and facilities.

### 1. Boundaries

Companies must account for all emissions from the transportation and distribution of products paid by the reporting company in vehicles and facilities not owned or operated by the reporting company, as well as other transportation and distribution services purchased.

- Include transportation and distribution of products paid by the reporting company, between a company's tier 1 suppliers and its own operations, including multi-modal shipping.
- Include third-party transportation and distribution services purchased by the reporting company (either directly or through an intermediary), including inbound logistics, outbound logistics<sup>32</sup>, and third-party transportation and distribution between a company's own facilities.
- Include emissions sources from all transport modes: air, rail, road and marine.
- Permit exclusion of emission sources from warehouse storage, distribution centres and retail facilities, according to a materiality assessment and the availability of information.
- Exclude transportation and distribution emissions of products sold by the reporting company if they are not paid for, as these are accounted for in Category 9 (see [Figure 9](#) about transportation and distribution boundaries).
- Permit allocation: Downstream emissions from transportation and distribution services (if the reporting company does not pay for the services) where the available activity data does not allow for a

32. Outbound is included if this is a service paid by the reporting company

separation between categories, ie Category 9 emissions can be allocated under Category 4 with respective justifications and assumptions.

- Exclude emissions from transportation and distribution of purchased products upstream of the reporting company's tier 1 suppliers, as these are accounted for in Category 1 (eg transportation between a company's tier 2 and tier 1 suppliers).

## 2. Materiality

Companies must determine materiality of emissions for accounting and reporting of the category.

- Follow section 2.2 and the category pathway in [Appendix 2](#), as well as consider any applicable legal reporting requirements.

## 3. Activity Data Types

Emissions accounting and reporting should aim to incorporate the best available data while recognising limitations around Activity Data availability.

- Apply at least the Distance-based method for key logistics suppliers, gather and treat activity data according to:
  - Mode of transport and, if possible, type of vehicles for more granularity.
  - Distances by point of origin and destination and by mode of transport.
  - Mass transported, if available, or based on capacity assumptions.
- Collaborate with suppliers in instances where the relevant Activity Data is not managed internally, ensuring at least to gather the minimum data required to apply distance-based approach, ie mode of transport and origin/destination points (locations) (strongly recommended).
- Make general assumptions around transportation mode and distances in absence of Activity Data, eg selecting a typical vehicle for road, a typical cargo ship for maritime or estimate distances to the nearest supplier's factory if the origin location is unknown.

- Apply Secondary Data (Distance-based) for Key Logistics Suppliers as a minimum where possible.
- Apply Hybrid data (Primary + Secondary) for Key Suppliers or Fuel-based Activity Data, whenever possible.
- Apply Spend-based at a minimum only when activity data is limited to spend with logistics suppliers (NB Spend-based is allowed for residual data – ie non key logistics and distribution suppliers).

### *Example of internal and External Challenges to Collect Activity Data for Category 4*

<b>External Activity Data</b>	Supplier Maturity	<ul style="list-style-type: none"> <li>— Global, multi-national logistics and distribution partners: likely to demonstrate an increased ability to engage on their carbon emissions</li> <li>— Smaller more local logistics partners: less likely to engage but should be able to provide basic fuel data</li> </ul>
<b>Internal Activity Data</b>	Data Readiness	<ul style="list-style-type: none"> <li>— Different divisions, countries, and sites are likely to use different transport and distribution partners, across different modes of transport and may manage this group of suppliers locally, except for shipping and other global players</li> <li>— Rolling all data up into one set of Activity Data to apply EFs can be challenging</li> </ul>

#### 4. Emissions Factor Sources

Companies should as a minimum ensure they are applying the best available EF to their calculations and document sources from available relevant databases and/or other reputable entities.

- Consider the following table as a reference for EFs relevant to Category 4 activities.
- Update EFs when higher quality factors become available eg, when moving from spend-based to Industry-Average.
- Check previous EFs for updates where the type of Activity Data remains the same at the beginning of every new reporting period to ensure accuracy and include the year of publication of EFs applied.
- Ensure that EFs used for the relevant emissions of this category remain up to date wherever possible.

Recommended Databases	Owning/ Maintaining Entity	Type of EFs
Conversion factors 2021	DEFRA	Distance-based Fuel-based
IPCC Guidelines for National Greenhouse Gas Inventories	IPCC	Distance-based
Clean Cargo	BSR	Distance-based

#### 5. Emissions Calculation (Recommended)

All relevant emissions sources must be considered, with a separation into logistics suppliers by mode of transportation, for visibility and future prioritisation of emissions reduction efforts.

Align with the calculus fundamentals mapped to accounting principles as per the below (recommended):

1	Consider all origin/destination points and transportation modes contracted (in- or outbound)	<i>Completeness and Transparency</i>
2	Identify and separate Key and Non-Key Suppliers by mode of transportation	<i>Relevance and Accuracy</i>

3	Analyse Activity Data Availability for all modes of transport and origins (if apply) in order to calculate distances and gather/validate the EFs accordingly	<i>Accuracy and Consistency</i>
4	Estimate by performing calculations <sup>33</sup> based on the hierarchy shown in the table below subject to Activity Data availability	<i>Accuracy and Consistency</i>
5	Establish and communicate a process for improving data quality Key Suppliers as a minimum where Activity Data is limited to spend-data	<i>Accuracy and Transparency</i>

Follow the hierarchy shown in the table below subject to Activity Data availability:

Emissions Source Hierarchy	Calculation Methodology	Context of Calculation Methodology
Non-Key Suppliers	— Spend-based	<ul style="list-style-type: none"> <li>— Low purchasing value and low-mid risk suppliers, likely to have low emissions (supplier 'tail')</li> <li>— Include distribution partners here and key-spends for the process</li> </ul>
Key Suppliers	<ul style="list-style-type: none"> <li>— Permitted: Distance-based</li> <li>— Recommended: Hybrid &amp; Fuel-based Data</li> </ul>	<ul style="list-style-type: none"> <li>— Highest spend, likely reflecting high business criticality and emissions, for eg, maritime transport with global partners</li> <li>— Suppliers in this group are a primary target for engagement on reduction opportunities</li> <li>— Fuel-based can use industry-average EF, reflecting the fuel consumption between origin and departure destination without Primary Data from freight providers</li> </ul>

33. See Technical Guidance for Calculation Scope 3 Emissions for more details about the estimations per accounting approach



## 6. Suggested Reporting

Companies should adopt a reporting format aligned with *transparent* and *consistent* accounting principles that includes total emissions, the accounting methods have been used by transportation mode, and the contribution of the category towards the total Scope 3.

Follow the example shown below:

- List any specific exclusions, such as countries, site, databases or spend categories within reason, eg data is unavailable or is of insufficient quality to classify for application of emission factors.
- Explain any plans for improvement for the next reporting period with respect to identified data and calculation limitations, should exclusions go beyond the above permitted ones.
- Include additional segments into the Scope 3 report as deemed relevant, such as Key and Non-Key suppliers, major spending categories, and the accounting methods utilised by each (eg separate the emissions data for Key and Non-Key Suppliers by

transportation modes, such as Maritime, Road, Rail, among others).

- List EF source and year of publication for all EFs used for this category.
- Ensure that the most relevant EFs used for this category remain up to date wherever possible.

*Example of summarised table for reporting Scope 3 Category 4 emission*

Total Emissions (tCO <sub>2</sub> eq)	Accounting Methods	Contribution to the Total Scope 3
2,000,000	<ul style="list-style-type: none"><li>— Distance-based for Maritime and Air</li><li>— Supplier-specific for Road (less 20% of data)</li></ul>	15%

## Categories 5, 6, 7 & 8 – Upstream Immaterial Categories<sup>34</sup>

### Description:

Performance requirements for accounting and reporting Categories 5 to 8 Scope 3 emissions for companies as per the GHG Protocol, which includes Waste Management, Business Travel, Employee Commuting, and Upstream leased assets.

### 1. Boundaries

Companies must consider all applicable upstream emissions from the four categories by the reporting company in the reporting year as a minimum. They may extrapolate instead of calculate their emissions from reporting year two onwards, once the categories are established to be immaterial against the framework outlined under section 3 and the heat map for initial reference.

- **Category 5 – Waste Management:** Include Scope 1 and 2 emissions of suppliers that occur during their disposal or treatment of the reporting company's waste (optional).
- **Category 6 – Business Travel:** Include Scope 1 and 2 emissions of transportation carriers operated by third party providers flights. Other modes of transport and hotel accommodation may be included optionally.
- **Category 7 – Employee Commuting:** Include Scope 1 and 2 emissions from employees commuting to work locations flying in and flying out (FIFO) as the most material component of commuting in mining. Use of own vehicles or public and private service providers may be excluded where deemed immaterial according to quantitative and qualitative assessments. Emissions from remote working may be included optionally. Transport in vehicles leased

by the company to their employees on a permanent basis must be excluded as they fall under Scope 1 emissions.

- **Category 8 – Leased Assets:** Include Scope 1 and 2 emissions of lessors that occur during the reporting company's operation of leased assets (eg from energy use). Optionally, reporting companies may include the life cycle emissions associated with manufacturing or constructing leased assets.<sup>35</sup> Allocate Category 8 activities into Category 2 only when the financial information (OPEX) cannot be easily separated.

### 2. Materiality

Companies must determine materiality of emissions for accounting and reporting of the category.

- Follow section 2.2 and the category pathway in [Appendix 2](#), as well as consider any applicable legal reporting requirements.

### 3. Activity Data Types

Emissions accounting and reporting must balance efforts around obtaining Activity Data considering the immateriality of these four categories for companies.

- Apply Spend-Based Activity Data in year 1 to determine and confirm immateriality, unless higher-quality data such as Industry Average Data is available by default, eg from waste management suppliers for Category 5 (Industry Average by type of waste and weight processed) or from business travel providers for Category 6 (Distance-based data).
- Apply extrapolations from year 2 onwards, with a periodic review as deemed relevant, eg for Category 7 employee commuting (using proxy data such as annual production and number of employees among others).

34. Categories 5, 6, 7 & 8 are likely immaterial according to the heatmap in Appendix 2

35. Although purchased assets may fall under capital goods (Category 2) from an accounting perspective, if they are leased for a fixed time-period, they should be considered within Category 8 wherever possible since the reporting company is not keeping them

#### 4. Emissions Factor Sources

Companies should as a minimum ensure they are applying the best available EF to their calculations and document sources from available relevant databases and/or other reputable entities

- Consider the following table as a reference for EFs for immaterial categories activities.
- Check previous EFs for updates where the type of Activity Data remains the same at the beginning of every new reporting period to ensure accuracy and include the year of publication of EFs applied.
- Ensure that EFs used for the relevant emissions of this category remain up to date wherever possible.

Recommended Databases	Owning/ Maintaining Entity	Type of EFs
Conversion factors 2022 (or most recent)	DEFRA and BEIS (and similar national databases as applicable)	Spend-based and Industry-average

#### 5. Emissions Calculation (Recommended)

Calculating and reporting emissions must include total amounts per category, summarising the main contributing activities within any one category.

Align with the calculus fundamentals mapped to accounting principles as per the below (recommended):

1	Consider all spend and data recorded internally for the applicable categories, or for extrapolation, consider all relevant proxy data for the reporting period	<i>Completeness and Relevance</i>
2	Analyse activity data availability for all applicable immaterial categories	<i>Accuracy and Consistency</i>
3	Select the best-possible activity data for year 1 first time calculation and for optional future application instead of extrapolation from year 2	<i>Accuracy and Relevance</i>
4	Report all applicable categories alongside the calculation detailing what they include or exclude	<i>Transparency</i>

#### 6. Suggested Reporting

Companies should adopt a reporting format aligned with *transparent* and *consistent* accounting principles that includes total emissions and the accounting method.

Follow the example shown below

- Report explicitly when categories may not apply, as well as the assumptions, reasons and considerations for the principle of transparency in the reporting to support extrapolations made.
- Explain any plans for improvement for the next reporting period with respect to identified data and calculation limitations according to a materiality evaluation.
- List EF source and year of publication for all EFs used for this category.
- Ensure that the most relevant EFs used for this category remain up to date wherever possible.

*Example of a summary table for reporting emissions of upstream immaterial categories of Scope 3*

Emissions Category	Emissions (kgCO <sub>2</sub> eq)	Accounting Method
Category 5 – Waste Management	50	Industry-average
Category 6 – Business Travel	100	Extrapolation
Category 7 – Employee Commuting	100	Extrapolation based on employee numbers
Category 8 – Downstream Leased Assets	N/A	N/A
Total emissions	250	-

## Category 9 – Downstream Transport & Distribution

### Description:

Performance requirements for accounting and reporting Category 9 Scope 3 emissions for companies as per the GHG Protocol, which includes the Scope 1 and 2 emissions of transportation providers, distributors, and retailers that occur during the use of their fleets and facilities and are not contracted by the reporting company directly (ie not paid for).

### 1. Boundaries

Companies must account for all emissions from transportation and distribution of finished good(s) sold by the reporting company and between the reporting company's operations and the first customer<sup>36</sup>, in fleets and facilities neither owned, controlled, or contracted by the reporting company.

- Include transportation- and distribution-related emissions not paid or controlled by the reporting company, resulting from the outbound transport of products sold.
- Include activities from transportation and distribution of products (commodities) between the point of sale by the reporting company and the first business customer as a minimum (see [Figure 9](#) about transportation and distribution boundaries).
- Include emissions from all transport modes, such as air, rail, road, and marine transport until the first customer as a minimum, and further wherever good quality data is available and where transport emissions are material further down the value chain (recommended).
- Permit exclusion of emissions from transportation and distribution of products beyond the first business customer until the end-consumer, due to the difficulty in identifying them beyond the first customer, and considering the various possible end uses in the case of many mining and metals products.
- Permit exclusion of activities from retail and storage of sold products in warehouses and distribution centres, according to materiality assessments and availability of information.
- Permit allocation of downstream emission sources that can be allocated to **Category 4** whenever the

Activity Data does not allow for the separation between categories.

- Exclude outbound services paid by the reporting company, which are allocated to **Category 4** (see previous Category 4 section).
- Exclude activities when the visibility of transportation is not possible, eg commodity trading past the first port of delivery.

### 2. Materiality

Companies must determine materiality of emissions for accounting and reporting of the category.

- Follow section 2.2 and the category pathway in [Appendix 2](#), as well as consider any applicable legal reporting requirements.

### 3. Activity Data Types

Emissions accounting and reporting should aim to be developed with the best available data while recognising limitations around Activity Data availability.

- Apply the Distance-based method, gather and treat Activity Data according to:
  - Mode of transport and if possible, the type of vehicles for more granularity.
  - Distances by point of origin and destination and by mode of transport.
  - Mass transported if available, or based on capacity assumptions.
- Invite first customers to collaborate with their logistics partners to ensure availability of the minimum data required to apply the distance-based approach, ie mode of transport and origin/destination points (locations) – recommended.
- Use general assumptions about the transportation mode and distances, and mass transported where Activity Data is not adequately available for the reporting company (based on typical product capacity and eg, selecting a typical vehicle for road, a typical cargo ship for maritime or estimate distances to the nearest port if the destination is unknown).
- Apply the Distance-based methods as a recommend minimum for key products.
  - Extrapolations are allowed for products going to Non-Key Customers and residual data, ie non key logistics and distribution suppliers.

36. See GHG Protocol Scope 3 Standard for applicability of downstream Scope 3 categories to final and intermediate products



- Apply Hybrid data (Primary + Secondary) for products to Key Customers or Fuel-based Activity Data, if possible due to customer collaboration.

*Example of internal and external challenges to collect activity data for Category 9*

<b>External Activity Data</b>	Customer Maturity	<ul style="list-style-type: none"> <li>— Global, multi-national customers of reporting companies: likely to demonstrate an increased ability to engage on the topic of their carbon emissions due to the transportation modes are mature in GHG inventories.</li> <li>— Smaller more local customers: Often representing a focus of corporate community engagement, cannot be expected to have the same level of sustainability maturity and reporting ability.</li> </ul>
<b>Internal Activity Data</b>	Data Readiness	<ul style="list-style-type: none"> <li>— Different divisions, countries, and sites are likely to use different transport systems and contracts, leading to classify the same sold categories differently.</li> </ul>

#### 4. Emissions Factor Sources

Companies should as a minimum ensure they are applying the best available EFs to their calculations and document sources from available relevant databases and/or other reputable entities.

- Consider the following table as a reference for EFs relevant to Category 9 activities (same as Category 4).
- Check previous EFs for updates where the type of Activity Data remains the same at the beginning of every new reporting period to ensure accuracy and include the year of publication of EFs applied.

- Ensure that EFs used for the relevant emissions of this category remain up to date wherever possible.

Recommended Databases	Owning/ Maintaining Entity	Type of EF
<b>Conversion factors 2022</b>	DEFRA	Fuel-based Distance-based
<b>IPCC Guidelines for National Greenhouse Gas Inventories</b>	IPCC	Distance-based
<b>Clean Cargo</b>	BSR	Distance-based

#### 5. Emissions Calculation (Recommended)

All relevant emissions sources must be considered, with a separation by mode of transportation for key commodities and/or key customer recipients, for visibility and future prioritisation of emissions reduction efforts.

Align with the calculus fundamentals mapped to accounting principles as per the below (recommended):

<b>1</b>	Consider the sales volumes (mass) sold during the period, together with the destinations and transport modes	<i>Completeness and Relevance</i>
<b>2</b>	Identify and separate known customers commodities by mode of transportation, as well as commodity volumes for trading markets considering applicable incoterms	<i>Relevance and Accuracy</i>
<b>3</b>	Analyse Activity Data Availability for all modes of transport and destinations in order to calculate/estimate distances and gather/validate the EFs accordingly	<i>Accuracy and Transparency</i>
<b>4</b>	Estimate by performing calculations based on the hierarchy shown in the table below subject to Activity Data availability	<i>Consistency</i>
<b>5</b>	Establish and communicate a process for improving data quality Key Customers as a minimum where Activity Data from customers is limited	<i>Accuracy</i>

Follow the hierarchy shown in the table below subject to Activity Data availability:

Emissions Source Hierarchy	Recommended Calculation Methodology	Context of Calculation Methodology
Non-Key Customers/ commodities	<ul style="list-style-type: none"> <li>— Permitted: Extrapolated from key customers activities</li> <li>— Recommended: Distance-based</li> </ul>	<ul style="list-style-type: none"> <li>— Low sold values and mid-low risk customers, likely to have low emissions (customer ‘tail’)</li> </ul>
Trading	<ul style="list-style-type: none"> <li>— Distance-based</li> </ul>	<ul style="list-style-type: none"> <li>— Visibility may end after the first customer, or assumptions may be possible if location is unknown</li> </ul>
Key Customers/ commodities	<ul style="list-style-type: none"> <li>— Permitted: Distance-based</li> <li>— Recommended: Hybrid data whenever possible.</li> </ul>	<ul style="list-style-type: none"> <li>— Highest sales, likely reflecting high business criticality and emissions</li> <li>— Customers in this group are a primary target for engagement on reduction opportunities</li> </ul>

## 6. Suggested Reporting

Companies should adopt a reporting format aligned with *transparent* and *consistent* accounting principles that includes total emissions, the accounting methods used by transportation mode, and the contribution of the category towards total Scope 3 emissions.

Follow the example shown below

- List any specific exclusions, such as countries, site, databases or spend categories within reason, eg data is unavailable or is of insufficient quality to classify for application of emission factors
- Explain any plans for improvement for the next reporting period with respect to identified data and calculation limitations, should exclusions go beyond the above permitted ones and where the category is material
- Include additional segments in the Scope 3 report as deemed relevant, such as Key and Non-Key Customers and/or products, and the accounting methods utilised by each. Eg, separate the emissions data for trading, Key and Non-Key Customers by transportation modes, such as Maritime, Road, Rail, among others
- List EF source and year of publication for all EFs used for this category
- Ensure that the most relevant EFs used for this category remain up to date wherever possible

*Example of summarised table for reporting Scope 3 Category 9 emission*

Total Emissions (tCO <sub>2</sub> eq)	Accounting Methods	Contribution to the Total Scope 3
2,500,000	<ul style="list-style-type: none"> <li>— Distance-based for Maritime and Air</li> <li>— Customer-specific for Road (less 20% of data)</li> </ul>	15%

## Category 10 – Processing of Sold Products

### Description:

Performance requirements for accounting and reporting Category 10 Scope 3 emissions for companies as per the GHG Protocol, which includes downstream emissions from processing the first finished good(s) sold by the reporting company following the liquid metal state and/or 2) the pre- or post-refining state.

### 1. Boundaries

Companies must account for Scope 1 and Scope 2 emissions of downstream customers, that occur during processing of first finished goods by third parties, after being sold by the reporting company<sup>37</sup>.

- Consider for inclusion all produced and sold products (according to their relevance), regardless of volume and destination.
- Include emissions from processing the immediate first finished good(s) as a minimum boundary to avoid estimations without basis or with high uncertainty (applies where end consumer is unknown) – see [Table 9 \(Appendix 2\)](#) for details about processing cycles.
- When companies are aiming to further enhance their reporting and wherever further carbon-intensive processing applies beyond the first external processing, and where visibility of processing allows a quantification (applies where the end consumer is known or partially known), this Guidance would suggest to include all emissions from processing the first finished goods until reaching the end consumer.
- Permit allocation of emissions from the use of sold products where the Activity Data does not allow the separation between categories, ie Category 11 allocated to Category 10 with the respective justifications and assumptions.
- Permit exclusion of products that represent a recommended < 5 per cent of total sales revenue for the reporting organisation or as assessed as immaterial to the emissions in the rest of the category.

- Consider the first external customer that processes products sold by the reporting company, not a third-party within the wider global organisation the reporting company may be part of, eg a global Marketing team responsible for selling products to external customers without transformation.
- Acknowledge the risk of double counting depending on allocation across multiple onward processes across downstream customers. Share rationale for any assumptions around allocations made – for example, by mass and by inputs from the load charge in each furnace or operational process.

### 2. Materiality

Companies must determine materiality of emissions for accounting and reporting of the category.

- Follow section 2.2 and the category pathway in [Appendix 2](#), as well as consider any applicable legal reporting requirements.

### 3. Activity Data Types

Emissions accounting and reporting should aim to be developed with the best available data while recognising limitations around Activity Data availability. Sales and Marketing functions are usually the owners of Activity Data for this category, ie they should provide sales volumes by product and customer destination for onward processing.

- Apply Secondary data (Industry-Average) at a minimum.
- Apply an improvement process wherever estimates are used for immediate next steps outside the reporting company's boundary where customer information on processing the first finished marketable product is unavailable.

37. 'First finished goods' refers to what the GHG protocol considers 'Intermediate Products' considering that mining companies may sell one or more commodities, whereby each commodity may be sold as different intermediate products. The boundary is set for all applicable types of finished product when they are shipped to the first external customers, who may produce other intermediate products or first use products.

#### 4. Emissions Factor Sources

Companies should as a minimum ensure they are applying the best available EFs to their calculations and document sources from available relevant databases and/or other reputable entities.

- Establish EFs and improve them over time considering that they can be highly contingent on customers' willingness and ability to provide quality data.
- Follow the process in [Figure 10](#) in [Appendix 2](#) for managing the EFs.
- Determine the best available EF, based primarily on customer site's maturity in calculating its values, which may be more accurate than Industry Average but considering that internationally recognised, long-established and reliable sources are often not only sufficient but can be more accurate than customer-constructed EFs.
- Determine the best available EF, where customer site-data is unavailable, by establishing a processing region or country to apply higher quality Industry-Average EFs that provide more accuracy than global EFs.
- Clearly disclose the key barriers to access better EFs in the reporting remarks for this category, eg trading commodities where the destination is unknown.
- Explain any plans for improvement for the next reporting period with respect to identified data and calculation limitations, should exclusions go beyond the above permitted ones under 1. Boundaries.
- Consider the following table as a reference for EFs relevant to Category 10 activities (not exhaustive).
- Update EFs whenever higher quality factors become available, eg when moving from Industry-Average to customer-specific.
- Check previous EFs for updates where the type of Activity Data remains the same at the beginning of every new reporting period to ensure accuracy.
- Apply Primary Data where available (Customer Site-Specific<sup>38</sup> data for customer processing locations) for key commodities sold to key customers with downstream integration.

- Apply Hybrid data (Industry-Average or Site-Specific) for key products and commodities where primary customer site – specific data is not available for this entire subgroup, and also for products sold in commodity markets where the first next customer's location is unknown.
- Check previous EFs for updates where the type of Activity Data remains the same at the beginning of every new reporting period to ensure accuracy and include the year of publication of EFs applied.
- Ensure that the most relevant EFs used for this category are aligned with the process the customer is likely to use and that they remain up to date wherever possible.

#### Example of challenges to collect EFs from customers

<b>External</b>	Customer Maturity/ Disclosure	<ul style="list-style-type: none"> <li>— Some customers may not be able to provide the reporting company with their own site-specific EFs</li> <li>— Key activity data feeding into composite site-specific EFs, such as CO<sub>2</sub> emitted by certain chemical reactions or even electricity consumption for a specific process, may be difficult to obtain due to confidentiality issues</li> </ul>
<b>Internal</b>	Process Understanding/ Emission Factors	<ul style="list-style-type: none"> <li>— Processes needed to transform intermediate products may be complex to understand or map; iron ore and metallurgical coal often represent important challenges due to possible double counting</li> <li>— Products that are typically sold in smaller volumes may be difficult to approach and get up to date emission factors</li> </ul>

38. Site-specific is considered as one more step of detail from customer specific since considers data from customer's facilities



Recommended Databases	Owning/Maintaining Entity	Type of EFs
Life Cycle Analysis for Copper Products	European copper institute	Industry-Average
EcolInvent 3.7.1	EcolInvent	Industry-Average
2006 IPCC Guidelines	IPCC	Industry-Average
Tailored datasets for Mining Commodities (paid services)	Skarn Associates, others	Industry-Average

## 5. Emissions Calculation (Recommended)

All relevant emissions sources must be considered, with a separation into Key and Non-Key Commodities and Customers for visibility and future prioritisation of emissions reduction efforts.

Align with the calculus fundamentals mapped to accounting principles as per the below (recommended):

1	Analyse Activity Data Availability for all Sold Products Data by considering all sold volumes recorded internally, and the above permitted exclusions (if applicable)	<i>Completeness</i>
2	Identify Key Customers within Key Commodities categories, as well the applicable trading portions (unknown customers)	<i>Relevance</i>
3	Define the processing cycle by sold product and key customer with the information you have or can obtain from them, ie whether it is up to the final use, an intermediate product, or the first use (with transformation, not internal sales without energy processes)	<i>Accuracy and Relevance</i>
4	Estimate by performing calculations based on the hierarchy shown in the table below, subject to Activity Data availability	<i>Consistency and Accuracy</i>
5	Establish and communicate a process for improving data quality Key Commodities as a minimum where Activity Data is limited to industry-average data	<i>Accuracy</i>

Follow the hierarchy shown in the table below subject to Activity Data availability:

Emissions Source Hierarchy	Recommended Calculation Methodology	Context of Calculation Methodology
<b>Non-Key Categories</b>	Industry-average	Low sold volume and low risk customers, likely to have low emissions
<b>Key Commodities Categories – Non-Key Customers/Commodity markets</b>	Permitted: Industry-average Recommended: Site-specific	Lower sold volume and lower risk customers within key commodities categories
<b>Key Commodities Categories – Key Customers</b>	Permitted: Industry-average Recommended: Hybrid or Site-specific	High sold volumes of Key Commodities to different locations of a customer's facilities with different types of information available

6. Suggested Reporting

Companies should adopt a reporting format aligned with *transparent* and *consistent* accounting principles that includes total emissions, accounting methods have been used, and the contribution of the category towards the total Scope 3.

Follow the example shown below:

- List any specific exclusions and assumptions made, such as for.
  - Intermediate products (as final).
  - Details of processing cycles: number per product towards one or various final end products.
  - Any countries/regions and commodities not considered.
  - Databases, sources of EFs.
  - Metallurgical coal emissions: Chosen allocation method with transparent explanation of the rationale and assumptions (eg applying Industry Average EFs, boundaries set and the stance on potential double counting).
- Develop calculation models estimating an allocation between Category 10 and Category 11 to avoid or assume double counting, in alignment with the principles of *transparency* and *accuracy* (recommendation for companies with both metallurgical coal and iron ore).

- Include additional segments into the Scope 3 report as deemed relevant, such as Key and Non-Key Customers and/or products, and the accounting methods with assumptions utilised for each. Eg, separate the emissions data for Key and Non-Key Customers by commodities and the assumed final product where its unknown, such as Cathodes, Cables, Tubes, among others.
- Ensure that the most relevant EFs used for this category remain up to date wherever possible.
- Disclose where double-counting is likely to occur based on allocation assumptions.

Example of summarised table for reporting Scope 3 Category 10 emissions

Total Emissions (tCO2eq)	Accounting Methods	Contribution to the Total Scope 3
10,000,000	<ul style="list-style-type: none"><li>— Industry average (sales and trading)</li><li>— Hybrid and Site-specific (less 5% of data)</li></ul>	90%



## Category 11 – Use of Sold Products

### Description:

Performance requirements for accounting and reporting Category 11 Scope 3 emissions for companies as per the Scope 3 Standard, which includes emissions from the use of products and services sold by the reporting company, ie the first finished good(s) and fossil fuels in particular for this category.

### 1. Boundaries

Companies must account for all downstream emissions from the use of fossil fuels.

- Include all produced and sold first finished good(s) that produce direct emissions when used: coal, diesel, or natural gas – all falling under the Direct use-phase, or Fuel and feedstocks, as per the GHG Protocol.
- Consider lifecycle emissions calculation for their first finished good(s) that may be used several times before end of life, as per the GHG Protocol where applicable.
- Permit inclusion of emissions from indirect use-phases<sup>39</sup>, if applicable.
- Permitted allocation: Permit exclusion of metallurgical coal emissions in Category 11, provided they are included in Category 10 with corresponding calculation details and assumptions.
- Consider the first external customer that processes the first finished good(s) sold by the reporting company, not a third – party within the wider global organisation the reporting company may be part of, eg a global Marketing team responsible for selling first finished good(s) to external customers without transformation.

### 2. Materiality

Companies must determine materiality of emissions for accounting and reporting of the category and report Category 11 wherever applicable.

### 3. Activity Data Types

Emissions accounting and reporting should aim to be developed with the best available data while recognising limitations around Activity Data availability. Sales and Marketing functions are usually the owners of

Activity Data for this category, ie they should provide sales volumes by fossil fuel product and customer destination where emissions during use occur.

- Apply Secondary data (Industry-Average) at minimum.

### 4. Emissions Factor Sources

Companies should as a minimum ensure they are applying the best available EF to their calculations and document sources from available relevant databases and/or other reputable entities.

- Follow the process in [Figure 9](#) in [Appendix 2](#) for managing the EFs.
- Determine the best available EF, based primarily on customer site's maturity in calculating its values, which may be more accurate than Industry Average but considering that internationally recognised, long-established and reliable sources are often not only sufficient but can be more accurate than customer-constructed EFs.
- Clearly disclose the key barriers to access better EFs to date in the reporting remarks for this category.
- Explain any plans for improvement for the next reporting period with respect to identified data and calculation limitations, should exclusions go beyond the above permitted ones.
- Consider the following table as a reference for EFs relevant to Category 11 activities.
- Check previous EFs for updates where the type of Activity Data remains the same at the beginning of every new reporting period to ensure accuracy.
- Ensure that EFs used for the relevant emissions of this category remain up to date wherever possible.

Recommended Databases	Owning/ Maintaining Entity	Type of EFs
Conversion factors 2022	DEFRA	Industry Average
2006 IPCC Guidelines	IPCC	Industry Average

<sup>39</sup>. Eg, Carbon charcoal and iron as end products for steel-making require furnace and refrigeration, and chalcopryrite as end product for concrete manufacturing requires heat and refrigeration.

## 5. Emissions Calculation (Recommended)

The estimations must encompass all emission sources (relevance analysis accordingly) with a separation into Key and Non-Key Commodities and Customers to prioritise categories and customers for emissions reduction efforts as a requirement.

Align with the calculus fundamentals mapped to accounting principles as per the below (recommended):

1	Consider all sold volume recorded internally, and the above permitted exclusions	<i>Completeness</i>
2	Identify Key Customers within Key Commodity categories	<i>Relevance</i>
3	For Metallurgical coal, if the activity data does not allow for the separation between Category 10 and 11, emissions could be accounted in Category 10, explaining methodologies, assumptions and stance on double counting	<i>Transparency and Relevance</i>
4	Estimate by performing calculations based on the hierarchy shown in the table below subject to Activity Data availability	<i>Consistency</i>
5	Establish and communicate a process for improving data quality for Key Commodities where industry-average data is not available	<i>Accuracy</i>
6	Companies should define all assumptions made for intermediate and final calculations, especially for both metallurgical coal and iron ore	<i>Consistency</i>

Follow the hierarchy shown in the table below subject to Activity Data availability:

Emissions Source Hierarchy	Recommended Calculation Methodology	Context of Calculation Methodology
All Commodities	Industry-average	— Sufficient as this category captures use of fossil fuels, whereby their location of use makes little to no difference in emissions released

## 6. Suggested Reporting

Companies should adopt a reporting format aligned with *transparent* and *consistent* accounting principles that includes total emissions, and the contribution of the category towards the total Scope.

Follow the example shown below:

- List clearly and transparently any specific exclusions and assumptions made, such as allocations (especially for iron ore and metallurgical coal, if applicable), commodities not being considered, sources for emission factors, etc. (eg metallurgical coal emissions allocated under Category 11 estimating its use in iron ore processing, using average emission factor for certain levels of moisture, etc.
- Develop calculation models to estimate emissions allocation between Category 10 and Category 11 in order to avoid double counting and following transparency principles (recommendation for companies producing metallurgical coal and iron ore).
- Include additional segments into the Scope 3 report as deemed relevant.
- List EF source and year of publication for all EFs used for this category.

*Example of summarised table for reporting Scope 3 Category 11 emissions*

Total Emissions (tCO <sub>2</sub> eq)	Accounting Methods	Contribution to the Total Scope 3
10,000,000	<ul style="list-style-type: none"> <li>— Industry-average</li> <li>— Hybrid and Site-specific (less 10% of data)</li> </ul>	90%



## Categories 12, 13 & 14 – Downstream Immaterial Categories

### Description:

Performance requirements for accounting and reporting Categories 12 – 14 Scope 3 emissions for companies as per the GHG Protocol, which includes End-of-Life Treatment of Sold Products, Leased Assets, and Franchises.

### 1. Boundaries

Companies must consider all applicable downstream emissions from the 3 categories by the reporting company in the reporting year as a minimum, where they apply to the reporting company. They may extrapolate instead of calculate their emissions from reporting year 2 onwards once established to be immaterial against the framework outlined under section 3.

- **Category 12 – End-of-Life Treatment of Sold Products:** Include emissions from treatment methods (eg landfilling, incineration, and recycling<sup>40</sup>) occurring during waste disposal and treatment of sold products.
- **Category 13 and 14 – Downstream Leased Assets and Franchises:** Include Operational Scope 1 and 2 emissions associated with leased assets (if not reported as part of Scope 1 and 2 of the reporting entity) and franchisees.

### 2. Materiality

Companies must determine materiality of emissions for accounting and reporting of the category.

- Follow section 2.2 and the category pathway in [Appendix 2](#), as well as consider any applicable legal reporting requirements.

### 3. Activity Data Types

Emissions accounting and reporting must balance efforts around obtaining Activity Data considering the immateriality of these 3 categories for companies.

- Apply Revenue-Based Activity Data in year 1 to determine and confirm immateriality, unless higher-quality data such as Industry Average Data is available by default, eg for recycling for Category 12 where unit data is likely to be the default available,

based on sales data or from lessees and their direct energy consumption for Category 13.

- Apply extrapolations from year 2 onwards, with a periodic review as deemed relevant.

### 4. Emissions Factor Sources

Companies should as a minimum ensure they are applying the best available EFs to their calculations and document sources from available relevant databases and/or other reputable entities.

- Consider the following table as a reference for EFs relevant these immaterial categories.
- Check previous EFs for updates where the type of Activity Data remains the same at the beginning of every new reporting period to ensure accuracy and include the year of publication of EFs applied.
- Ensure that EFs used for the relevant emissions of this category remain up to date wherever possible.

Recommended Databases	Owning/ Maintaining Entity	Type of EFs
Conversion factors 2022	DEFRA and BEIS	Revenue-based and Industry-average

### 5. Emissions Calculation (Recommended)

The estimations must encompass all emission sources (relevance analysis accordingly) per applicable category without further breakdown as a requirement.

Align with the calculus fundamentals mapped to accounting principles as per the below (recommended):

1	Consider all activities and their data sources for applicable categories	<i>Completeness</i>
2	Select the best-possible Activity Data for year 1 first time calculation and for optional future application instead of extrapolation from year 2	<i>Accuracy and Relevance</i>
3	Report all applicable categories alongside the calculation specifying data sources of the original data for extrapolation and the additional proxy data used	<i>Transparency and Consistency</i>

40. Please refers to the GHG Protocol for more information about allocate recycling emissions and how to avoid double-counting

## 6. Suggested Reporting

Where companies choose to report these categories upon confirming them to be immaterial, they should adopt a reporting format aligned with *transparent* and *consistent* accounting principles covering total emissions per each applicable category, indicating whether emissions were extrapolated or calculated with other Activity Data.

- List EF source and year of publication for all EFs used for this category
- Ensure that the most relevant EFs used for this category remain up to date wherever possible

*Example of a summary table for reporting emissions of downstream immaterial categories of Scope 3*

Emissions Category	Emissions (kgCO <sub>2</sub> eq)	Accounting Method
Category 12 – End of Life of Sold Products	125,000	Industry-average
Category 13 – Downstream Leased Assets	50,000	Extrapolation
Category 14 – Franchises	N/A	N/A
Total emissions	175,000	-

## Category 15 – Investments

### Description:

Performance requirements for accounting and reporting Category 15 Scope 3 emissions for companies as per the GHG Protocol, which includes emissions generated during operation of investments (Joint Venture) mining and metals sites in the reporting year, where this is not already included in the reporting company's Scope 1 and Scope 2 inventory.

### 1. Boundaries

Companies using the organisational boundary of operational control must account for Scope 1 and Scope 2 emissions from non-operated joint venture sites under Category 15, based on their proportional equity share of investment in the site.

- Agree on how to report and disclose emissions from shared sites and reconcile with their respective approach to their own overall organisational boundaries (see [Appendix 2](#)) between operating and non-operating entities.
- Include Scope 3 emissions in Joint Venture operations wherever fossil fuels are extracted. If the information is not publicly available, calculate using volume of production and corresponding EFs.
- Include Scope 3 emissions where significant compared to Scope 1 and 2 emissions and where the information is publicly available.

### 2. Materiality

Companies must determine materiality of emissions for accounting and reporting of the category.

- Follow Section 2.2 and the category pathway in [Appendix 2](#), as well as consider any applicable legal reporting requirements.

### 3. Activity Data Types

Emissions accounting and reporting must consider Scope 1 and 2 of Joint Ventures as a minimum, and Scope 3 when extracting fossil fuels. It is also recommended to consider Scope 3 where significant, disclosing the assessment made to define significance.

- Allocate emissions of a JV between partners from sites calculating their own 3 scopes of emissions, applying the GHG Protocol and the Scope 3 Standard.
- Align on reporting dates where possible between Joint Venture partners, or agree on an approach to extrapolation with an adjustment process for material differences in later reporting periods for reconciliation.

### 4. Emissions Calculation (Recommended)

The estimations must encompass all emission sources including Scopes 1 and 2 as a requirement according to the GHG Protocol Corporate Standard, while Scope 3 is included where significant and in the case of fossil fuels.

- Allow extrapolation as a function of the yearly production, considering similar operations and sites, or another respective proxies for estimating as accurately as possibly within the given limitations

### 5. Suggested Reporting

Non-operating companies should adopt a reporting format aligned with *transparent* and *consistent* accounting principles that includes their equity share of total emissions in absolute values per JV if the company is participating in more than one and explaining the accounting method utilised.

Follow the example shown below, considering the relevance of listing each site individually:

- List any specific exclusions, such as countries, site, databases or sales categories within reason (eg data is unavailable or equity share approach is applied).
- Explain any plans for improvement for the next reporting period with respect to identified data and calculation limitations, should exclusions go beyond the above permitted ones.
- Explain rationale for excluding Scope 3 emissions.
- Permit deviation from facility level reporting may occur to accommodate any confidentiality concerns of Joint Venture Partners.
- Permit aggregate JV reporting as per the previous point and at a less granular level where required for confidentiality reasons.

*Example of summarised table for reporting Scope 3 Category 15 emissions*

Emissions Group	Emissions (tCO <sub>2</sub> eq)	Accounting Method
Joint Venture 1	3,000	Equity-share based on site-level data
Joint Venture 2	5,000	Equity-share based on site-level data
Joint Venture 3	2,000	Equity share, based on extrapolation from yearly production in absence of site level data
Total emissions	10,000	-

# Appendix 4 – Glossary and Abbreviations

## Glossary<sup>41</sup>

**Activity data** A quantitative measure of a level of activity that results in GHG emissions. Activity data is multiplied by an emissions factor to derive the GHG emissions associated with a process or an operation. Examples of activity data include kilowatt-hours of electricity used, quantity of fuel used, output of a process, hours equipment is operated, distance travelled, and floor area of a building.

**Allocation** The process of partitioning GHG emissions from a single facility or other system (eg vehicle, business unit, corporation) among its various outputs.

**Associate** An entity in which the parent company has significant influence but neither financial control nor joint financial control. (Section 5.5, Category 15 (Investments))

**Assurance** The level of confidence that the inventory and report are complete, accurate, consistent, transparent, relevant, and without material misstatements.

**Baseline** A hypothetical scenario for what GHG emissions would have been in the absence of a GHG project or reduction activity. (Chapter 9)

**Biogenic CO<sub>2</sub> emissions** CO<sub>2</sub> emissions from the combustion or biodegradation of biomass.

**Business travel** Transportation of employees for business-related activities.

**Capital goods** Final goods that have an extended life and are used by the company to manufacture a product, provide a service, or sell, store, and deliver merchandise. In financial accounting, capital goods are treated as fixed assets or plant, property and equipment (PP&E). Examples of capital goods include equipment, machinery, buildings, facilities, and vehicles.

**CO<sub>2</sub> equivalent (CO<sub>2</sub>e)** The universal unit of measurement to indicate the global warming potential (GWP) of each greenhouse gas, expressed in terms of the GWP of one unit of carbon dioxide. It is used to evaluate releasing (or avoiding releasing) different greenhouse gases against a common basis.

**Company** The term company is used in this standard as shorthand to refer to the entity developing a Scope 3 GHG inventory, which may include any organisation or institution, either public or private, such as businesses, corporations, government agencies, non-profit organisations, assurers and verifiers, universities, etc.

**Control** The ability of a company to direct the policies of another operation. More specifically, it is defined as either operational control (the organisation or one of its subsidiaries has the full authority to introduce and implement its operating policies at the operation) or financial control (the organisation has the ability to direct the financial and operating policies of the operation with a view to gaining economic benefits from its activities).

**Co-product** One of multiple products produced by a facility or other system that has a market value. (Chapter 8)

**Cradle-to-gate** All emissions that occur in the life cycle of purchased products, up to the point of receipt by the reporting company (excluding emissions from sources that are owned or controlled by the reporting company).

**Customer** An entity that purchases or acquires the products of another entity (ie a supplier). A customer may be a business customer or an end consumer.

**Debt investment** Investment in an entity (eg through loans or bonds) for a fixed period of time that entitles the holder to repayment of the original investment (ie principal sum) plus interest, but does not entitle the investor to ownership in the entity. (Section 5.5, Category 15 (Investments))

**Direct emissions** Emissions from sources that are owned or controlled by the reporting company.

**Downstream emissions** Indirect GHG emissions from sold goods and services. Downstream emissions also include emissions from products that are distributed but not sold (ie without receiving payment).

**Emission factor** A factor that converts activity data into GHG emissions data (eg kg CO<sub>2</sub>e emitted per litre of fuel consumed, kg CO<sub>2</sub>e emitted per kilometre travelled, etc).

**Emissions** The release of greenhouse gases into the atmosphere.

**Employee commuting** Transportation of employees between their homes and their worksites.

**Equity investment** A share of equity interest in an entity. The most common form is common stock. Equity entitles the holder to a pro rata ownership in the company. (Section 5.5, Category 15 (Investments))

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

**Extrapolated data** Data from a similar process or activity that is used as a stand-in for the given process or activity and has been customised to be more representative of the given process or activity.

**First Final Product** Goods and services that are consumed by the end user in their current form, without further processing, transformation, or inclusion in another product. Final products include not only products consumed by end consumers, but also products consumed by businesses in the current form (eg capital goods) and products sold to retailers for resale to end consumers (eg consumer products).

41. Glossary adapted from GHG Protocol – Corporate Value Chain (Scope 3) Accounting and Reporting Standard



**Financial control** The ability to direct the financial and operating policies of an entity with a view to gaining economic benefits from its activities. (Chapter 5)

**Financial control approach** A consolidation approach whereby a company accounts for 100 percent of the GHG emissions over which it has financial control. It does not account for GHG emissions from operations in which it owns an interest but does not have financial control. (Chapter 5)

**Franchise** A business operating under a license (granted by a franchisor) to sell or distribute the franchisor's goods or services within a certain location.

**Franchisee** An entity that operates a franchise and pays fees to a company (ie the franchisor) for the license to sell or distribute the franchisor's goods or services.

**Franchisor** A company that grants licenses to other entities (ie franchisees) to sell or distribute its goods or services, and in return receives payments, such as royalties for the use of trademarks and other services.

**Good** A tangible product.

**Global warming potential (GWP)** A factor describing the radiative forcing impact (degree of harm to the atmosphere) of one unit of a given GHG relative to one unit of CO<sub>2</sub>.

**Greenhouse gas inventory** A quantified list of an organisation's GHG emissions and sources.

**Greenhouse gases (GHG)** For the purposes of this standard, GHGs are the six gases covered by the UNFCCC: carbon dioxide (CO<sub>2</sub>); methane (CH<sub>4</sub>); nitrous oxide (N<sub>2</sub>O); hydrofluorocarbons (HFCs); perfluorocarbons (PFCs); and sulphur hexafluoride (SF<sub>6</sub>).

**Indirect emissions** Emissions that are a consequence of the activities of the reporting company but occur at sources owned or controlled by another company.

**Industry Average Emissions Factor** An emissions factor that converts activity data such as units or weight of a product purchased into GHG emissions, based on the average GHG emissions rate of a given source relative to the units, and based on academic sources and other publications.

**Intermediate product** Goods that are inputs to the production of other goods or services that require further processing, transformation, or inclusion in another product before use by the end consumer. Intermediate products are not consumed by the end user in their current form.

**Leased asset** Any asset that is leased (eg facilities, vehicles, etc).

**Lessee** An entity that has the right to use an asset through a contract with the owner of the asset (ie the lessor).

**Lessor** An entity that owns an asset and leases it to a third party (ie the lessee).

**Level of assurance** Refers to the degree of confidence stakeholders can have over the information in the inventory report.

**Life cycle** Consecutive and interlinked stages of a product system, from raw material acquisition or generation of natural resources to end of life.

**Life cycle assessment** Compilation and evaluation of the inputs, outputs and the potential environmental impacts of a product system throughout its life cycle.

**Materiality** Concept that individual or the aggregation of errors, omissions and misrepresentations could affect the GHG inventory and could influence the intended users' decisions.

**Operational boundaries** The boundaries that determine the direct and indirect emissions associated with operations owned or controlled by the reporting company.

**Operational control** A consolidation approach whereby a company accounts for 100 percent of the GHG emissions over which it has operational control. It does not account for GHG emissions from operations in which it owns an interest but does not have operational control.

**Organisational boundaries** The boundaries that determine the operations owned or controlled by the reporting company, depending on the consolidation approach taken (equity or control approach).

**Outsourcing** The contracting out of activities to other businesses.

**Primary data** Data from specific activities within a company's value chain.

**Process** A set of interrelated or interacting activities that transforms or transports a product.

**Product** Any good or service.

**Project finance** Long-term financing of projects (eg infrastructure and industrial projects) by equity investors (sponsors) and debt investors (financiers), based on the projected cash flows of the project rather than the balance sheet of the sponsors/lenders. (Section 5.5, Category 15 (Investments))

**Proxy data** Data from a similar process or activity that is used as a stand-in for the given process or activity without being customised to be more representative of the given process or activity.

**Reporting** Presenting data to internal management and external users such as regulators, shareholders, the general public or specific stakeholder groups.

**Reporting year** The year for which emissions are reported.

**Scope 1 emissions** Emissions from operations that are owned or controlled by the reporting company.

**Scope 2 emissions** Emissions from the generation of purchased or acquired electricity, steam, heating or cooling consumed by the reporting company.

**Scope 3 emissions** All indirect emissions (not included in Scope 2) that occur in the value chain of the reporting company, including both upstream and downstream emissions.

**Scope 3 activity** An individual source of emissions included in a Scope 3 category.

**Scope 3 category** One of the 15 types of Scope 3 emissions.

**Secondary data** Data that is not from specific activities within a company's value chain.

**Service** An intangible product.

**Significant influence** Power to participate in the financial and operating policy decisions but not control them. A holding of 20 percent or more of the voting power (directly or through subsidiaries) will indicate significant influence unless it can be clearly demonstrated otherwise. See International Accounting Standard (IAS) 28 for additional criteria for determining significant influence. (Section 5.5, Category 15 (Investments))

**Subsidiary** An entity over which the parent company has control, including incorporated and non-incorporated joint ventures and partnerships over which the parent company has control. (Section 5.5, Category 15 (Investments))

**Supplier** An entity that provides or sells products to another entity (ie a customer).

**Supply chain** A network of organisations (eg manufacturers, wholesalers, distributors and retailers) involved in the production, delivery, and sale of a product to the consumer.

**Tier 1 supplier** A supplier that provides or sells products directly to the reporting company. A tier 1 supplier is a company with which the reporting company has a purchase order for goods or services.

**Tier 2 supplier** A supplier that provides or sells products directly to the reporting company's tier 1 supplier. A tier 2 supplier is a company with which the reporting company's tier 1 supplier has a purchase order for goods and services.

**Uncertainty** 1. Quantitative definition: Measurement that characterises the dispersion of values that could reasonably be attributed to a parameter. 2. Qualitative definition: A general and imprecise term that refers to the lack of certainty in data and methodology choices, such as the application of non-representative factors or methods, incomplete data on sources and sinks, lack of transparency etc.

**Upstream emissions** Indirect GHG emissions from purchased or acquired goods and services.

**Value chain** In this standard, "value chain" refers to all of the upstream and downstream activities associated with the operations of the reporting company, including the use of sold products by consumers and the end-of-life treatment of sold products after consumer use.

**Value chain emissions** Emissions from the upstream and downstream activities associated with the operations of the reporting company.

**Waste** An output of a process that has no market value.

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