IIGCC

IIGCC Supplementary Guidance:

Scope 3 emissions of investments

Acknowledgements

The development of this guidance has been led by Ella Sexton at IIGCC with substantial valuable contributions from Dan Gardiner and Hannah Bouckaert. IIGCC would like to thank all members involved in the development of this guidance for their valuable contributions to the content of this publication.

With particular thanks to the co-leads of the scope 3 working group, Lucian Peppelenbos, Climate & Biodiversity Strategist at Robeco and Fatima Hadj, Alternatives Specialist at HSBC Alternatives.

Significant contributions were also made by participants of the sub-working group, Budha Bhattacharya (Lombard Odier Investment Management), Felix Fouret (London Stock Exchange Group), Frej Örnberg (Handelsbanken Fonder), Hannah Heuser (Federated Hermes), Jaakko Kooroshy (London Stock Exchange Group), Nick Chee (AustralianSuper), Owen Tutt (Federated Hermes) and Toby MacKean (Legal and General Investment Management).

Valuable review, discussion and input was also provided by the following organisations who participated in the broader working group: Adam Gillett (Railpen), Christopher Perceval (S&P Global), Clio Toogood (Royal London), Daniel Coombes (The People's Pension), Eugene Olivier (Axa Investment Managers), Johanna Sörgardt (AP2), Lindee Wong (Tikehau Capital), Lisa Beauvilain (Impax Asset Management), Maria Nazarova-Doyle (IFM Investors), Sandrine Nguiakam (Amundi), Sarah Peasey (Neuberger Berman), Stephen Porter (Scottish Widows), Svetlana Nikolaenko (Vanguard), Teju Akande (Border to Coast), Thibaud Clisson (BNP Paribas AM), Tim Callaghan (Accenture), Victor Neamtu (LGT Capital Partners).

Scope of guidance

This guidance aims to support investors looking to address the scope 3 emissions from investments in their portfolios. This document sets out a provisional approach, covering listed equity and corporate fixed income assets. The authors of this document recognise the calls for guidance in further asset classes, which may be addressed in future work.

The guidance builds on concepts presented in the Paris Aligned Investing Initiative (PAII)'s Net Zero Investment Framework (NZIF) 2.0, but these recommendations can also be used by investors more broadly.

At present there remain several challenges in scope 3 accounting, data and calculation, particularly at investment portfolio level. These challenges are outlined in the discussion paper that precedes this guidance. Readers of this document are recommended to first consult the discussion paper, which provides essential context for the approach described here.

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Contents

Key messages

1. **Asset scope 3 emissions are an important aspect of climate change strategy for investors**

   Value chain emissions are material to the mitigation of financial risks associated with global climate change and therefore are relevant to investors' considerations around climate strategies.

   Looking at a company's value chain activity is an essential aspect of evaluating the impact it has on the climate and the transition risks it faces. This activity is captured in the company's scope 3 emissions. Therefore, asset scope 3 emissions are a critical element of understanding the climate impacts and risks associated with portfolios overall. Investors looking to understand transition risk across their portfolios should factor scope 3 into analysis and decision-making on climate change risks.

2. **But there are a number of valid challenges that mean it is not initially easy to address**

   Value chains are complex and varied between assets of different sizes, sectors and business models. Whilst this document aims to provide additional guidance and support for investors looking to understand and address the value chain emissions of investments, initially in the listed equities and corporate fixed income asset classes, it is important to recognise that there is no universally applicable approaches. Challenges include issues with emissions calculations, standards and reporting that lead to inconsistent or inaccurate data, variable application of materiality, and decision-making at portfolio level. This is further outlined in the discussion paper that precedes this guidance.[1]

3. **A sector and category level approach to scope 3, based on materiality, is proposed**

   Reflecting data constraints and sizeable differences in materiality, we recommend a sector and category-specific approach to incorporating scope 3, that is focused on high impact sectors.

   This guidance outlines how investors may approach scope 3 materiality and shows the principal categories that can be considered the most material across a number of high impact sectors that investors may cover (Figure 1). Yet importantly, individual investors will need to reflect the sectoral coverage of their own portfolios in evaluating where scope 3 is material.

1 Institutional Investors Group on Climate Change (2024) Discussion Paper: Investor approaches to scope 3: its importance, challenges and implications for decarbonising portfolios. https://139838633.fs1.hubspotusercontent-eu1.net/hubfs/139838633/2024%20resources%20uploads/IIGCC_Investor-approaches-to-scope-3_Final_Jan-2024.pdf

Box 1: How the Net Zero Investment Framework treats scope 3

This guidance is aligned with the approach to scope 3 established in the Paris Aligned Investing Initiative (PAII)'s Net Zero Investment Framework (NZIF) 2.0. The foundations of how scope 3 is approached in NZIF are summarised as follows, and this is explained in more detail throughout this document.

Scope 3 indicates exposure to emissions, and therefore at portfolio level it is still relevant for investors to understand and track their frequency of exposure to value chain emissions. However, it's not meaningful to set targets to reduce aggregated portfolio scope 3 because this doesn't necessarily reduce real-economy emissions. Despite this, it is an essential component of understanding alignment at asset-level, especially for corporate assets, because it represents emissions associated with products and services which are typically fundamental to a company's core purpose.

This guidance, therefore, builds on NZIF 2.0 to provide additional detail on how investors could prioritise addressing scope 3 with investees for whom it is material.

Box 2: Building on the discussion paper published by this working group in January 2024

Scope 3 of investments is a complex and nuanced topic that requires careful navigation to avoid unintended consequences. Yet, in many cases, scope 3 is highly important to evaluating the climate impacts of portfolios and understanding climate transition risks.

Given these complexities, this guidance document was preceded by a scoping phase of work in which a discussion paper was produced[2] to articulate the importance of scope 3, challenges and implications for decarbonising portfolios.

This supplementary guidance builds on the concepts presented in the discussion paper, as well as the work of many other organisations in this space, referenced in the acknowledgements. The discussion paper is recommended as a pre-read to this guidance.

2 Institutional Investors Group on Climate Change (2024) Discussion Paper: Investor approaches to scope 3: its importance, challenges and implications for decarbonising portfolios. https://139838633.fs1.hubspotusercontent-eu1.net/hubfs/139838633/2024%20resources%20uploads/IIGCC_Investor-approaches-to-scope-3_Final_Jan-2024.pdf

Finally, figure 1 summarises the high-level sector and category combinations that appear, based on current analysis, to be the key scope 3 emissions 'hotspots' (i.e., where value chain emissions are concentrated) across economic activity at sector level. The table summarises the conclusions of the quantitative materiality analysis set out in the last section of this paper. The materiality of scope 3 to the decarbonisation of these sectors, in these categories, is broadly supported by existing literature and analysis. Importantly, this is not a 'one-size-fits-all' list of categories, as scope 3 materiality differs depending on sector and company exposure, but it may provide a starting point for investors looking to understand where material scope 3 emissions might exist across a number of sectors.[3]

Figure 1: Suggested starting point for analysing scope 3 materiality at portfolio

Table indicates priority sectors and categories for investigation, for investors seeking to address material scope 3.

Activity or sector		Related ICB code[4]	High-level material scope 3 categories
Transport cluster	Airlines	40501010	
	Automobiles	40101020	11 (Tank-To-Wheel)
	Shipping	50206030	
	Other transportation	502060	
Energy cluster	Coal mining	60101040	11
	Electric utilities	651010	3, 11
	Oil and gas	601010	11
Industrials and materials cluster	Aluminium	55102035	
	Cement	50101030	
	Chemicals	5520	1, 11
	Diversified mining	55102000	10, 11
	Paper	55101015	
	Steel*	55102010	
	Other industrials	502030	
Other sectors	Consumer products and services	4020	1
	Banking	8350	15
	Food Producers	45102020	1
	Real Estate	3510	

3 It is also important to note that this may evolve as further analysis is carried out on the value chain emissions of these and other sectors.

4 Industry Classification Benchmark (ICB) codes have been indicated in this table as the underlying data in the last section of this report was analysed using these codes. It is not always possible to map sectors used in third-party analysis directly to industry classification codes. Further detail on this is outlined in Appendix 2.

Section 1: Understanding scope 3 in a portfolio context

1.1 What is scope 3 of investments?

The mainstream emissions reporting standard, the Greenhouse Gas (GHG) Protocol[5] (see Box 3), splits emissions into three scopes (Figure 2).

Figure 2: Three scopes of the GHG Protocol[6]

Emissions scope	Description
Scope 1	'Direct' emissions from owned or controlled sources
Scope 2	'Indirect' emissions from the generation of purchased energy consumed by the reporting company
Scope 3	All other 'indirect' emissions that occur in a company's value chain

Scope 3 refers to emissions within the value chain of the reporting entity, split into fifteen categories covering both upstream emissions, those from its direct suppliers and the supply chain more broadly, and downstream emissions, such as those from the use and disposal of its products and services by customers. Categories 1 – 8 cover upstream scope 3 emissions and categories 9 – 15 cover downstream scope 3 emissions (see Figure 3).

The fifteenth category covers emissions from investments. For investors this is typically the most relevant category as it covers emissions from the assets held within their portfolio.

However, each asset has its own scope 1, 2 and 3 emissions. Whilst the GHG protocol provides clear guidance for asset-level reporting, there is currently no one clear, universally accepted approach as to which of these asset level emissions scopes need to be included by investors. Scope 1 and 2 emissions of investments are typically required by the majority of reporting standards[7] in investor portfolio emissions disclosures, but approaches diverge when it comes to scope 3 (see Box 3). It is this question of asset-level scope 3 emissions within portfolios that this supplementary guidance aims to address.

5 The Greenhouse Gas Protocol supplies the world's most widely used greenhouse gas accounting standards. See the initiative's website at https://ghgprotocol.org/ for further information.

6 Greenhouse Gas Protocol (2011) Corporate Value Chain (scope 3) Accounting and Reporting Standard. https://ghgprotocol.org/sites/default/files/standards/Corporate-Value-Chain-Accounting-Reporing-Standard_041613_2.pdf

7 Including the Partnership for Carbon Accounting Financials (PCAF) standard which is the most widely adopted reporting standard for scope 3 category 15 emissions, and a number of EU emissions reporting regulations.

1.2 Why is it important?

In the real economy, scope 3 accounts on average for over 80% of the emissions of high impact sectors.[8] It includes the emissions of the products and services a company provides to the market – i.e. its core purpose – as well as the emissions that result from the raw materials and inputs it needs to operate. Whilst the level of influence that companies have over their scope 3 varies significantly between sectors and categories, the activities outlined above are typically intrinsic to company business models.

Scope 3 is often an important indicator of vulnerability to climate transition risks, including climate legislation, falling demand for emissions intensive products or reputational risks.[9] For example, for fossil fuel producers, the vast majority of the emissions in their value chain come from combustion of the products they sell, by their customers. Given this, even if all operational (scope 1 & 2) emissions were eliminated, such companies would still be exposed to substantial climate transition risks. Similarly, the climate transition risks to a carmaker only selling internal combustion engine (ICE) vehicles are only accurately captured if scope 3 is taken into account. Without considering the scope 3 of portfolio assets, investors are not able to obtain an accurate understanding of how climate change risks could impact their portfolios.[10]

Ultimately, given the magnitude of scope 3 and its value as an indicator of transition risk, investors risk omitting the key sources of greenhouse gas emissions that they are exposed to through asset value chains from their analysis of portfolio emissions, or from evaluations of climate transition risk exposure, or asset-level alignment with climate goals.

1.3 Why is it challenging?

When addressing portfolio emissions, it is typically more straightforward to access data on scope 1 and 2 emissions of assets. This is partly because, by definition, obtaining value chain emissions data involves the reporting entity gathering information from third parties outside of its direct operational control, or estimating the data through modelling or approximation.[11]

Additionally, higher scope 3 does not always necessarily equate to a worse climate impact. In some cases such companies can be key climate solutions providers. A key example of this is companies who make products that facilitate wider electrification, an important aspect of economy-wide decarbonisation,[12] but who can be compelled to account for emissions from the existing fossil fuel-based grid under their scope 3 emissions.[13]

8 FTSE Russell – An LSEG Business (2024) Scope for improvement: Solving the scope 3 conundrum. https://www.lseg.com/en/ftse-russell/research/solving-scope-3-conundrum

9 Task Force on Climate-related Financial Disclosures (2017) Final report. https://assets.bbhub.io/company/sites/60/2021/10/FINAL-2017-TCFD-Report.pdf

10 Task Force on Climate-related Financial Disclosures (2017) Final report. https://assets.bbhub.io/company/sites/60/2021/10/FINAL-2017-TCFD-Report.pdf

11 Specific instances of these circumstances are outlined in further detail IIGCC's Discussion Paper, Investor approaches to scope 3: its importance, challenges and implications for decarbonising portfolios.

12 International Energy Agency (2021) Net Zero by 2050 – A roadmap for the global energy sector. https://iea.blob.core.windows.net/assets/deebef5d-0c34-4539-9d0c-10b13d840027/NetZeroby2050-ARoadmapfortheGlobalEnergySector_CORR.pdf

13 Storebrand (2023) The Paris Alignment Paradox: Scoping Out Solutions. https://www.storebrand.com/sam/international/asset-management/insights/perspectives/perspectives-folder/scoping-out-solutions/_/attachment/inline/b12279ba-9a4c-446f-84d1-ac7d196f79cf:459c78980664034b3a8b1141f97dbf366ef3d69b/Scoping-Out-Solutions-whitepaper-May-2023.pdf

There are also nuances in addressing upstream scope 3 categories, i.e. those that occur prior to the reporting entity's position in its value chain, versus the downstream categories, i.e. those that occur after (Figure 3). Some investors are addressing scope 3 upstream initially on the basis that it is conceptually closer to scope 1 and 2, than scope 3 downstream.[14]

A fundamental challenge for the investment industry in scope 3 emissions of assets is that current emissions accounting and reporting standards lead to fragmented approaches in calculation by different companies (or other assets), different data providers, and different investors. Whilst this is in part due to the nature of value chain information, it means that investors who typically do not have oversight of granular, asset-by-asset climate information, such as most asset owners or large asset managers, are unable to aggregate reporting from their funds or asset managers. Beyond the GHG Protocol's scope 3 standard and guidance, there are also divergent approaches from the Task Force on Climate-related Financial Disclosures (TCFD), SBTi, Global Reporting Initiative (GRI) and International Sustainability Standards Board (ISSB). Consistent standards for scope 3 emissions calculations and reporting from standards providers are an essential step towards enabling investors to measure and evaluate the climate impacts and risks within the value chains of different assets.

Some investors, for example universal asset owners or managers, also tend to be highly resource-constrained and therefore face challenges in conducting the extensive data procurement and analysis required to gather information on scope 3.

Additional challenges identified in working group discussions are summarised in Box 4, with further information available in IIGCC's discussion paper on scope 3 emissions.

Figure 3: The fifteen categories of scope 3 under the GHG Protocol

	Scope 3 category	Segment
1	Purchased goods and services	Upstream
2	Capital goods	Upstream
3	Fuel- and energy-related activities (not included in scope 1 or scope 2)	Upstream
4	Upstream transportation and distribution	Upstream
5	Waste generated in operations	Upstream
6	Business travel	Upstream
7	Employee commuting	Upstream
8	Upstream leased assets	Upstream
9	Transportation and distribution of sold products	Downstream
10	Processing of sold products	Downstream
11	Use of sold products	Downstream
12	End-of-life treatment of sold products	Downstream
13	Downstream leased assets	Downstream
14	Franchises	Downstream
15	Investments	Downstream

14 Robeco (2023) The challenges of mapping carbon emissions: Scope 3 - Part one. https://www.robeco.com/en-uk/insights/2023/09/the-problem-child-of-carbon-emissions-scope-3-part-one

Box 3: Relevant emissions accounting standards

The Greenhouse Gas Protocol's Corporate Value Chain Standard[15]

The Corporate Value Chain (scope 3) Accounting and Reporting Standard is the mainstream emissions accounting standard used to calculate corporate value chain emissions. This is the standard by which most assets would likely calculate their value chain emissions and aligns with many of the existing and incoming scope 3 disclosures under regulation.[16]

According to the GHG Protocol, it allows companies to *"assess their entire value chain emissions impact and identify where to focus reduction activities".*

The Partnership for Carbon Accounting Financials (PCAF) Financed Emissions Standard[17]

The guidance contained on scope 3 emissions in the context of the Net Zero Investment Framework (NZIF)[18] intends to remain consistent with the way in which investors account for their emissions where possible. Specifically, the following aspects of the PCAF standard, which pertain to disclosure of scope 3 of investments by financial institutions, have been considered in relation to this guidance.

- Financial institutions shall report the absolute scope 1 and scope 2 emissions of borrowers and investees across all sectors.
- For reporting the scope 3 emissions of borrowers and investees, PCAF follows a phase-in approach which requires scope 3 reporting for lending to and making investments in companies depending on the sector in which they are active.
- For sectors where scope 3 emissions reporting is required, the financial institutions shall separately disclose these absolute scope 3 emissions, including the specific sectors covered.
- Financial institutions shall explain if they are not able to report the required scope 3 emissions because of data availability or uncertainty.
- PCAF provides a sector list detailing where scope 3 emissions of borrowers and investees are required to be reported by certain years of reporting.

15 Greenhouse Gas Protocol (2011) Corporate Value Chain (Scope 3) Accounting and Reporting Standard. https://ghgprotocol.org/sites/default/files/standards/Corporate-Value-Chain-Accounting-Reporing-Standard_041613_2.pdf

16 Greenhouse Gas Protocol (2024) Overview of GHG Protocol Integration in Regulatory Climate Disclosure Rules. https://ghgprotocol.org/sites/default/files/2024-03/GHG-Protocol-Integration.pdf

17 Partnership for Carbon Accounting Financials (2022) Global GHG Accounting and Reporting Standard Part A: Financed Emissions. https://carbonaccountingfinancials.com/standard

18 Institutional Investors Group on Climate Change (2024) Net Zero Investment Framework 2.0

Box 4: Key challenges identified for investors in addressing the scope 3 emissions of investments, summarised from IIGCC discussion paper

Challenges include:

- Complexities of value chain emissions reporting, leading to data coverage and quality issues
- Multiple calculation approaches, leading to a lack of consistency of data
- Variations in estimations by third parties, leading to variable transparency and consistency of data
- Variance and inconsistent application of materiality, leading to a lack of consistent and comparable reporting of material scope 3 emissions
- Aggregation issues at portfolio level, including the complexities of multiple counting of exposure to the same emissions through different assets
- Incentivising decision-making (for example, engagement prioritisation, strategic asset allocation etc.) that may not be aligned with an investor's climate objectives when accumulating the scope 3 emissions of multiple entities at portfolio level

Section 2: Good practice guidance for investors

This section establishes good practice principles which investors may wish to consider – always subject to conducting their own investigations and evaluations, and seeking their own professional advice – when seeking to address the challenges surrounding scope 3 emissions of investments within their portfolios. It also summarises how scope 3 is treated in the context of NZIF.

It is important to note that a number of limitations will still continue to exist for investors looking to implement this guidance – notably in relation to data access, calculation, transparency and influence over emissions. These limitations will further vary significantly from asset to asset and between different types of investors, funds and strategies.

However, value chain emissions are an important aspect of evaluating the climate impacts of assets, identifying climate transition risks, and ultimately making progress towards achieving the Paris Agreement goals.

Therefore, in the context of these limitations and the optionality inherent in current emissions reporting standards, it is recommended that investors develop a bespoke strategy – which may take into account some of the guidance outlined in this document – to approaching scope 3 emissions in the context of what is material to their individual portfolios. This should be communicated transparently to relevant stakeholders, such as clients or beneficiaries, where applicable. This document aims to aid investors in identifying what could be considered material to their portfolio.

Across the asset classes covered in NZIF, scope 3 emissions are included subject to a materiality basis and assessment of materiality is at the ultimate discretion of each investor, although it is recommended that the approach to materiality is explained and justified. This approach also gives investors the opportunity to identify any data gaps and limitations to which they are subject. Overall, the guidance recommends that investors approach scope 3 with materiality and transparency in mind, that they remain cognisant of individual asset circumstances, and stay flexible to evolving market practices.

2.1 Scope 3 of investments in the Net Zero Investment Framework 2.0

The first version of the Net Zero Investment Framework (NZIF 1.0) recommended:

"Emissions reduction targets and monitoring at the portfolio level should include at least scope 1 and 2 emissions initially, and phase in scope 3 emissions over time, although these should be set and reported on separately given measurement and aggregation challenges."

In the second version of the framework (released in June 2024), there is greater clarity as to how this approach applies to each of the targets and objectives. These additional considerations aim to support investors in their efforts on scope 3 to where they are likely to be most practical and high impact in their portfolios. Table 1 summarises these amendments below.

It is important to acknowledge that even in the context of the additional guidance herein, there will still be challenges in sourcing and verifying data and therefore in the context of all target types, the principles of materiality and transparency should be applied as outlined in the following section.

Table 1: Summary of action points on scope 3 in the Net Zero Investment Framework 2.0

Note this table exclusively summarises key action points relevant to scope 3 and is not an exhaustive list of NZIF targets nor action points.

NZIF Component	Action points
Objectives	**Core:** • Monitor and disclose baseline portfolio scope 1, 2 and 3 financed emissions, with portfolio scope 3 emissions kept separate from scopes 1 and 2. **Advanced:** • Develop a high-level strategy to address scope 3 emissions of investments at portfolio level. **Additional information provided:** • NZIF considers that for corporate assets, its Portfolio Decarbonisation Reference Objective should include portfolio scope 1 and 2 emissions. It is recommended that material portfolio scope 3 emissions be phased into net zero efforts at the portfolio level, as data availability, quality, consistency allow, and where meaningful to net zero goals, reflecting the different materiality and category relevance across sectors. However, it is currently recommended that they be monitored separately to portfolio scope 1 and 2 emissions and a separate strategy is created to address these due to measurement, aggregation, and mis-incentivisation challenges (including double counting).
Asset level assessment and targets	**Core:** • The engagement threshold target (scope 1 and 2 of financed emissions[19]) should be accompanied by a description of the investor's approach or strategy regarding engagement with assets with material scope 3 emissions, at least for high impact sectors. **Advanced:** • In addition to the engagement threshold based on scope 1 + 2 of financed emissions, disclosure of a 'shadow' engagement threshold metric for material scope 3 of financed emissions, to indicate the proportion of assets (based on material scope 3) that are assessed as achieving or aligned to a net zero pathway or are subject to engagement. **Alignment assessment methodology:** • The asset alignment criteria and subsequent assessment should cover scope 1, 2 and material scope 3 emissions. Investors should explain and justify the materiality approach taken.
Stakeholder and market engagement	**Advanced:** • Engage private data vendors to pursue data on scope 3 emissions that details which categories are used within assessments and their accuracy disclosed.

19 See NZIF 2.0 for a full description of the engagement threshold target beyond scope 3.

2.2 Guiding principles

1. Prioritise incorporating material scope 3 emissions

Investors may wish to consider conducting an assessment to help identify investments or funds that are most likely to have material scope 3 emissions. The nature of materiality assessments will likely vary for investors with differing levels of visibility over the underlying assets in their portfolios, but it is recommended that investors aim to conduct a scope 3 materiality assessment for at least the NZIF high impact sectors[20] they cover.

Scope 3 materiality will depend on the sectoral coverage – and ultimately, the underlying assets – of an investment portfolio, as materiality typically varies substantially by sector and by scope 3 category. Therefore, given data quality and resource constraints, prioritising specific sectors and categories is likely to be the most effective way to address scope 3 at present.

This guidance (section 2.3) sets out a number of approaches that investors can adopt to assess materiality by sector, including materiality in terms of the proportion of scope 3 emissions within total lifecycle emissions, and in terms of the importance of that sector to global mitigation of climate change and its associated financial risks. Actions to improve data quality in these sectors can also be prioritised accordingly.

2. Focus on relevant scope 3 categories

Further to prioritising sectors by their materiality, investors may wish to consider focussing on a sub-set of the most relevant scope 3 categories as determined by sector. Information about which of the 15 possible categories are included within an entity's measure of scope 3 emissions is an important contextual factor for investors to consider when looking at scope 3, as materiality varies significantly between categories. Data quality is rarely consistent across categories and therefore a company's scope 3 can also vary widely according to the number categories it has disclosed.

For example, if one company has disclosed only business travel emissions but another has disclosed both business travel and capital goods, the second company might appear to have higher emissions whereas, in reality, it has potentially simply disclosed more data. In fact, analysis has shown that on average, the majority of scope 3 emissions in many sectors (c. 81%) are captured in just two categories[21] per sector. The specific categories that were most material differed per sector, but the main recurring categories were purchased goods and services (category 1) and use of sold products (category 11). Typically, only one or two scope 3 categories are included in third party assessment resources and these are usually the most relevant.

Investors can engage with data providers and disclosers to improve visibility over whether material emissions categories are included in asset scope 3 data – this is a key area of focus for improving data quality and usability.

20 Institutional Investors Group on Climate Change (2024) Net Zero Investment Framework 2.0

21 FTSE Russell – An LSEG Business (2024) Scope for improvement: Solving the Scope 3 conundrum. https://www.lseg.com/en/ftse-russell/research/solving-scope-3-conundrum

3. Prioritise data quality, seek to address gaps, and be transparent on limitations

Focussing on material sectors and relevant categories is likely to reduce data issues and help to make scope 3 information decision-useful.

Nevertheless, investors are likely to encounter data gaps. Whilst some of these gaps may be improved by better reporting and action by disclosers and data providers, some are due to more fixed barriers. For example, some downstream scope 3 data is forward-looking and, therefore inherently modelled or assumption-based, and upstream data can lie within complex supply chains where companies lack a strong mandate to access information.

Verification and assurance of scope 3 data is also currently typically less common than for scope 1 or 2. This means that companies and investors may be less confident in relying on the data to inform decisions, especially where these pertain to high scope 3 emissions figures that can materially impact an investor's climate strategy, for example, informing engagement priorities.

For investors with more visibility of asset-level data, e.g. many asset managers, conducting a data gap analysis can help to distinguish these barriers and identify areas where data can be improved. This helps identify which data is estimated versus reported, can indicate where more data accuracy testing might be needed, and helps articulate progress on scope 3 to relevant stakeholders.

4. Prioritise addressing scope 3 at asset level and be cautious in aggregating it at portfolio level

Attempting to assess portfolio alignment or track decarbonisation progress using a total portfolio emissions figure that includes scope 3 is inconsistent with mitigating climate change, and its associated financial risks, in the real economy.[22]

There are several reasons why this is the case. Primarily generating a consistent, comparable portfolio-level scope 3 number is highly challenging due to data improvements, fluctuations and other changes in reporting that happen year-on-year, from potentially a large number of underlying entities. Some companies in certain sectors also report and set targets on metrics that relate to the value chain, but are not scope 3 emissions, such as the emissions intensity of certain products.

More importantly, scope 3 represents an entity's exposure to all emissions across its value chain, so where multiple companies in one portfolio operate within the same value chain, the same emissions are reported multiple times. Therefore, adding up the scope 3 across a portfolio creates a metric that includes some distinct tonnes of carbon, and some that represent repeated exposure to the same emission.

While calculating and tracking this exposure at the portfolio level can be useful for some specific purposes, such as inputting to engagement resource prioritisation, it cannot be used to meaningfully benchmark performance as it does not reflect the physical reality. To illustrate this, portfolio targets that include scope 3 could be more easily achieved through portfolio construction choices that do not necessarily support real-economy decarbonisation, such as preferentially selecting a vertically integrated company.

As set out in NZIF, we suggest that investors use methodologies like SBTi and TPI analysis – which already incorporate relevant scope 3 for material sectors – to assess alignment at the asset level. IIGCC's Cumulative Benchmark Divergence (CBD)[23] methodology, which derives a single alignment figure from TPI analysis, can then be aggregated to sector, fund or portfolio level.

22 Outlined in further detail in IIGCC's Discussion Paper: Investor approaches to scope 3: its importance, challenges and implications for decarbonising portfolios.

23 Institutional Investors Group on Climate Change (2024) From asset to portfolio alignment: Assessing climate target alignment with cumulative benchmark divergence. https://www.iigcc.org/hubfs/2024%20resources%20uploads/CBD%20methodology_February2024.pdf

5. Use qualitative information as well as quantitative emissions data

Given data challenges and complexities,[24] it is important to use qualitative information about each asset's business model and strategy and emissions reporting scope to support evaluation of investee value chain emissions. Beyond typical data quality and coverage concerns, there can be valid instances where the cost of producing supply chain data outweighs its utility to the company or its investors. In such cases, it may be more effective to understand the steps the entity is taking to engage with its supply chain, improve transparency and implement emissions reduction initiatives.

Without qualitative context, in the current data landscape, taking a blanket approach to scope 3 across an investment portfolio could risk incentivising decision-making that is not necessarily aligned with mitigation of climate change and its associated financial risks.

Dialogue with data providers, underlying assets, and industry groups in sectors with high exposure to emissions throughout their value chain can help to provide more context to quantitative disclosures.

6. Take a sector- and company-specific approach where possible

Each entity's value chain – and therefore its scope 3 emissions profile - is unique. A reasonable expectation for the size of a company's scope 3 emissions and the pace at which it can or should decarbonise those emissions depends not only on sector and size but also on its specific business model, products and services, supplier contracting arrangements, and approach to owning or leasing assets, amongst other factors.

A key example of this is vertical integration of company supply chains. Vertically integrated entities end up having notably lower scope 3 emissions compared to entities where the supply chain is split out. This significantly reduces portfolio scope 3 emissions as it minimises instances of double counting scope 3 of multiple entities within the same supply chain, but the real-economy emissions are unchanged.

Therefore, when evaluating scope 3 emissions, it is important to place this in the broader context of the organisation's business model, its products and services, and its overall approach to climate change risk.

7. Communicate and emphasise transparency

Investors should be transparent in their disclosures in the process they have followed when incorporating scope 3 of investments. This includes providing a contextual narrative to support metrics, and indicating any broader initiatives or diligence being undertaken with regard to improving calculation and oversight of scope 3 emissions.

8. Evolve approach with market practice and regulation

The discipline of emissions accounting continues to evolve. As more companies are calculating and disclosing their emissions, more lessons are learned on challenges and best practice approaches, and this is expected to continue to evolve. Processes such as the GHG Protocol's review and update cycle, currently taking place for the suite of corporate standards, and the status of incorporation of scope 3 into climate disclosure regulation, will impact how investors approach this topic.

Given this, it is good practice for investors to be flexible in their approach to understanding value chain emissions and remain up to date with market practices, standards and regulatory developments.[25]

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24 Outlined in further detail in IIGCC's Discussion Paper: Investor approaches to scope 3: its importance, challenges and implications for decarbonising portfolios.

25 Such as the Corporate Sustainability Reporting Directive (CSRD) and European Sustainability Reporting Standards (ESRS) materiality-based scope 3 requirements or the ISSB scope 3 requirements.

2.3 Determining scope 3 materiality and category relevance by sector

Reflecting data and resource constraints, this guidance suggests investors consider prioritising the inclusion of scope 3 where it is most material for assessing transition risk. Both the materiality of scope 3 overall and the categories that are most relevant, are best determined sector by sector. This section outlines some potential steps that investors can take to start analysing scope 3 materiality across portfolios.

To help assess materiality of scope 3 sector by sector practically, investors should refer to NZIF's high-impact material sectors and may wish to consider the following:[26]

- The treatment of scope 3 in the sectoral methodologies developed by the TPI and SBTi
- Additional scope 3 categories assessed by the Climate Action 100+ Disclosure Framework and in the Net Zero Standards
- The share of scope 3 (and its constituent categories) within total sectoral lifecycle emissions
- The total absolute scope 3 emissions for that sector

2.3.1 The treatment of scope 3 in TPI and SBTi's sectoral methodologies

Methodologies developed by the TPI and SBTi seek to assess the forward-looking alignment of certain (emission-intensive) activities with climate scenarios using the Sectoral Decarbonisation Approach (SDA). These methodologies can incorporate the scope 3 emissions associated with the activity where they are deemed material, the data that is available (or can be reliably estimated) and a corresponding benchmark can be constructed. Aside from the outputs themselves providing a useful indication of portfolio transition risk, the methodologies identify the sectors where scope 3 is the most material, and the most relevant categories. Figure 4 highlights the emissions footprint used by TPI in its carbon performance assessments.

26 This continues to remain ultimately at the discretion of each individual investor.

Figure 4: Emissions covered in TPI's Carbon Performance Methodology and assessments, by activity

	Transport cluster			Energy cluster			Industrials and materials cluster					Other	
	Airlines	Automobiles	Shipping	Coal mining	Electric utilities	Oil and gas	Aluminium	Cement	Divesified mining	Paper	Steel	Banks	Food producers
Scope 1					1 (gen. only)								
Scope 2													
Scope 3 and relevant category		11 (TTW only)		11		11			10, 11			15	1

It is important to highlight that the activity boundary used by SBTi and TPI for this analysis is designed to map onto climate-energy models. It does not necessarily neatly map onto sector classifications, and companies can engage in multiple activities.

2.3.2 Additional scope 3 categories included in the CA100+ Disclosure Framework and Net Zero Standards resource

TPI does not have a carbon performance assessment methodology covering all sectors where scope 3 is a material share of total lifecycle emissions. SBTi's Corporate Net Zero Standard methodology[27] can apply here but arguably does not pick out priority categories. The Climate Action 100+ Disclosure Framework does assess Consumer Products and Services and Electric Utility sectors for the presence of scope 3 targets (category 1 and 11 respectively).

The CA100+ Net Zero Standard for Diversified Mining additionally assesses scope 3 categories 4 and 9. Forthcoming work from the IIGCC identifies additional scope 3 categories in the Automotive and Electric Utility sectors (category 1 and 3 & 11 respectively) which are potentially material to assessing transition risk.

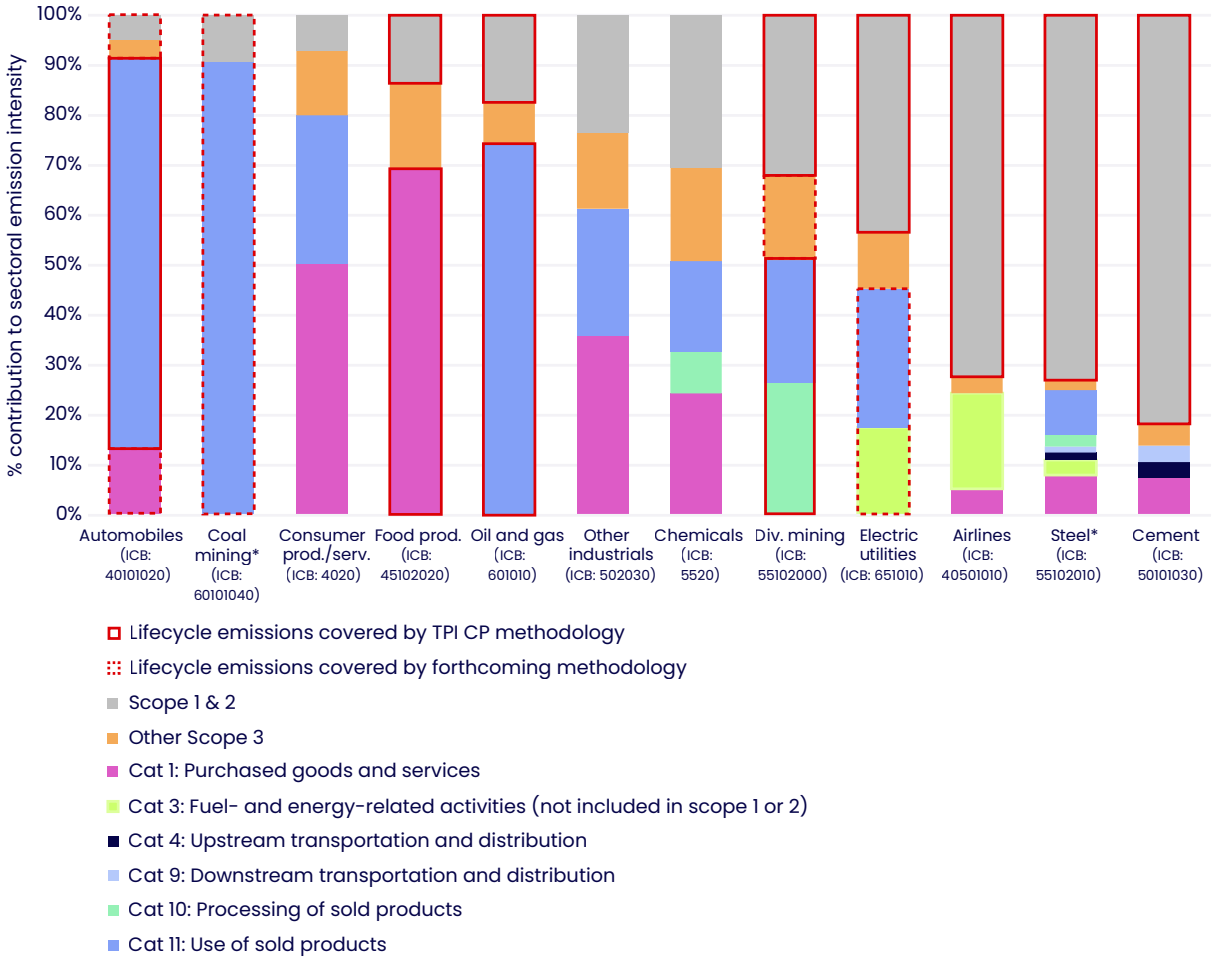
27 SBTi Corporate Net Zero Standard: where scope 3 is greater than 40% of total emissions a company most set a target covering 67% of scope 3.

2.3.3 Materiality of scope 3 within total lifecycle emissions by sector

Figure 5 shows scope 3 emissions and its constituent categories as a proportion of total (lifecycle) emissions. The analysis is based on FTSE Russell data[28] using company sub-sector codes that correspond most closely to NZIF's high-impact material sectors. It clearly shows the significance of scope 3 (particularly category 11) to emissions in the automotive, coal, consumer goods and services, food producers, and oil and gas sectors. As depicted by the red borders, TPI's sectoral methodologies typically already capture the most relevant scope 3 categories, but there are notable gaps in consumer products and services, other industrials and chemicals.

Figure 5: Materiality of scope 3 emissions and constituent categories as a share of lifecycle emissions by sector and assessment methodology coverage

IIGCC analysis of FTSE Russell data, except in the case of Coal Mining and Steel sectors which are based on TPI and CDP analysis respectively. The results show the average for all assessed companies – individual companies may have notably higher or lower proportions according to their business model. Data may have a systematic bias to minimise the share of scope 3 due to lower disclosure rates and reliable figures were not available for the aluminium, paper, banking or real-estate sectors.



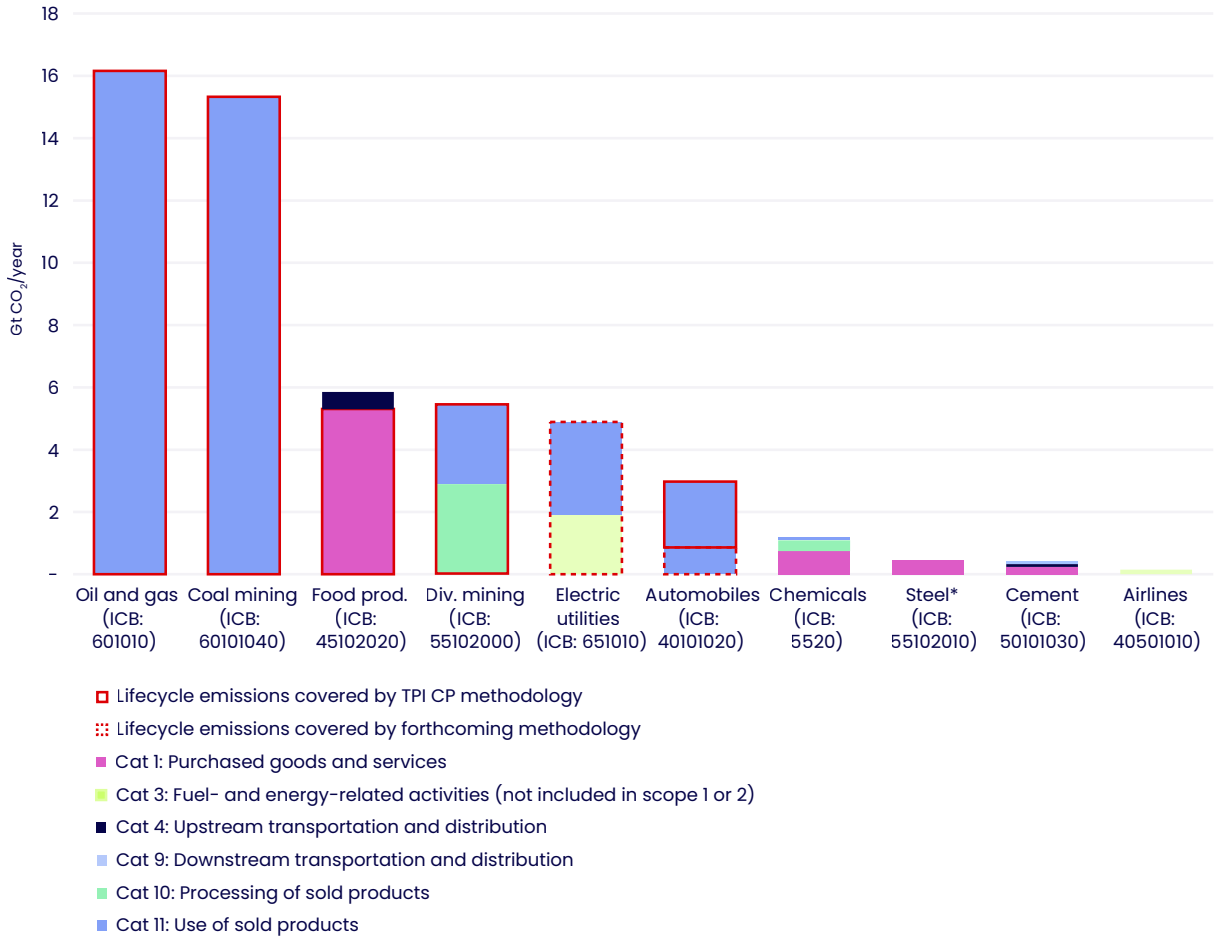
28 IIGCC analysis of data provided by FTSE Russell – An LSEG Business.

2.3.4 Absolute scope 3 emissions by sector

It is also possible to calculate total absolute scope 3 emissions for some sectors. Investors may wish to use this lens to gauge the relevance of incorporating scope 3 from a climate perspective (should climate action accelerate, which sectors are likely to be most impacted). Figure 6 again highlights the significant concentration of scope 3 in the primary energy sectors (oil, gas and mining) as well as food, electricity and automotive production. While it is not possible to conduct this analysis across all activities, it does suggest the main sources of absolute scope 3 emissions are generally well covered by TPI's existing carbon performance methodologies.

Figure 6: Annual absolute scope 3 emissions breakdown by category for a number of high-impact sectors

IIGCC analysis of data from the IEA, FTSE Russell, TPI, Transition Pathway Initiative (TPI), Food and Agriculture Organization of the United Nations (FAO), International Aluminium Institute, and Mission Possible Partnership. Please see the methodology note in Annex 1 for further details of the analysis.



2.3.5 Combining approaches to assessing scope 3 materiality

The above approaches to assessing which sectors and categories are the most relevant for incorporating scope 3 can be combined to generate a priority list for inclusion. The priority list shown in Figure 7 corresponds strongly to sectors where TPI and SBTi include scope 3 in their assessment methodologies. Investors should always, having carried out their own due diligence, investigations and evaluations and having sought their own professional advice, adopt their own approach that reflects their individual strategy and circumstances and may wish to go further than these priority areas, particularly as data quality and assessment resources expand.

Figure 7: Combining approaches to assessing scope 3 materiality and relevant categories to generate suggested priority areas for inclusion, as summarised in Figure 1.

	Activity / High Impact Material sectors	Related ICB code	TPI Carbon Performance scope 3 Category	Additional CA100+/ NZS* scope 3 Categories	Materiality Rank: % lifecycle emisions[1]	Materiality Rank: absolute emissions[1]	Scope 3 covered by SBTi methodology	Suggested Priority Areas
Transport cluster	Airlines	40501010			10	10	3 (WTW)	
	Automobiles	40101020	11 (TTW only)		**1**	6	11 (WTW)	11 (TTW only)
	Shipping	50206030			N/A	N/A	WTW	
	Other transportation	502060	Activity not covered		N/A	N/A	WTW	
Energy cluster	Coal mining	60101040	11		**2**	**2**	Activity not covered	11
	Electric utilities	651010		3, 11	9	**5**	3	3, 11
	Oil and gas	601010	11		**5**	**1**	11	11
Industrials and materials cluster	Aluminium	55102035			N/A	N/A		
	Cement	50101030			12	9	1	
	Chemicals	5520	tbc	1, 11	7	7	1, 11	1, 11
	Diversified mining	55102000	10, 11	4, 9	8	**4**		10, 11
	Paper	55101015			N/A	N/A		
	Steel*	55102010			11	8	3, (1,10)	
	Other industrials	502030	Activity not covered		6	N/A		
Other sectors	Consumer prod./serv.	4020		1	3	N/A		1
	Banking	8350	15		N/A	N/A	15	
	Food producers	45102020	1		**4**	**3**		1
	Real-estate	8600	Activity not covered		N/A	N/A	1, 2, 11-14	
All other sectors					N/A	N/A		

Key:

- Scope 3 not included or the activity is not covered
- Scope 3 is included and categories covered
- Scope 3 not currently covered but is to be included/proposed in forthcoming work (and the relevant categories)
- Covered by SBTi's corporate scope 3 guidance

*Scope 3 targets covering relevant categories is assessed by either the CA100+ Disclosure Framework Target indicators (2-4) or proposed in forthcoming CA100+/IIGCC NZS analysis.
[1] See Figure 5 and 6. Lower rank indicates scope 3 inclusion more important. Ranks 1-5 shown in **bold**.

The following limitations and caveats should be considered alongside this analysis:

- Data constraints and the challenge of mapping individual activities to specific sectors due to variations in business models among companies, make it impossible to confidently estimate value chain emissions for all sectors. For example, vertical integration may impact allocation between operational vs value chain emissions, product destination (i.e. renewables / low-carbon fuels share of their power sources).
- The analysis is limited to CO_2 emissions and thus may not capture the full extent of scope 3 greenhouse gas emissions, particularly in sectors such as food, where greenhouse gases such as methane (CH_4) also play a significant role.[29]
- There is overlap between different sectoral value chains; and therefore, these figures should not be treated as distinct nor aggregated across sectors.
- The analysis shown is based on average emissions profiles, but some individual companies, depending on their business models and supply chains, may be outliers and have significantly different profiles.

29 For example, inclusion of non-CO_2 GHG emissions would raise the food sector's scope 3 emissions to ~13 Gt CO_2e(3).

Section 3: Outlook and next steps

Emissions accounting – and associated implications for target-setting – in asset value chains is expected to continue to be a fast-evolving topic moving forwards. Ongoing work by a number of organisations will continue to contribute to the evolution of scope 3 reporting and treatment, including:

- The GHGP standards update process for the suite of corporate standards and guidance, including the Corporate Value Chain (scope 3) Standard.
- The Science-based Targets Initiative continues to evolve its work on scope 3
- The Transition Pathway Initiative (TPI) continues to evolve its work on scope 3
- IIGCC's ongoing work on sectoral Net Zero Standards (NZS)
- Researchers, investors and other actors continuing to publish new research and analysis
- Disclosers and data providers continue to work to improve data quality and coverage

IIGCC also supports and encourages the following developments:

- Standard setters to consider investor usage of scope 3 data in the context of the development of new standards and updates of existing standards and reframe guidance to enable investor use of scope 3 data for investment portfolios
- Investors to innovate and integrate scope 3 into asset-level assessments and portfolio tracking, where possible, on a materiality basis
- Investors to continue to discuss high level scope 3 issues and communicate with other market participants, standard-setters and data providers on shared investors' challenges and needs from other actors
- Disclosers and data providers to continue to improve scope 3 data quality and coverage, focussing similarly on material sectors and categories first, including qualitative information and descriptions of uncertainty where relevant

IIGCC will continue to revisit and update this guidance to reflect these developments where relevant.

Appendix 1: Methodology notes for Figure 6

Sector	Methodology
Oil and Gas	IEA figures for global CO_2 emissions from oil and gas combustion minus operational oil and gas CO_2 emissions (excluding venting and flaring emissions not resulting from combustion) in 2022 (1; 2).
Coal Mining	IEA figures for global CO_2 emissions from coal combustion in 2022 (1).
Food Producers	Emissions were estimated using FAO data, categorising deforestation, drained organic soils, other land use and on-farm energy use as Category 1 emissions, and upstream energy use as Category 4 (3). Emissions from food waste, crops, livestock and manure were excluded due to their significant CH_4 and N_2O contributions.
Diversified Mining	Category 10 emissions were calculated using the IEA's estimates of operational emissions from the Iron & Steel and Aluminium sectors (1). Category 11 emissions were calculated from FTSE Russell's estimate that these constitute 24% of the sector's total emissions intensity—presumably due to coal production activities by select diversified miners (4).
Electric Utilities	IEA emissions estimates for energy-use in residential and services buildings were classified as Category 11 (downstream gas use) (1). Category 3 emissions from purchased electricity were approximated using FTSE Russel's analysis which shows they account for 18% of the sector's total.
Automobiles	This analysis adhered to prior work for IIGCC's Net Zero Standard for Autos which assigns 78% of total sector emissions to Category 11 and 18% to Category 1 emissions. Absolute Category 11 emissions figures were derived from 2022 IEA data on global CO_2 emissions from passenger cars (1).
Chemicals	Following FTSE Russell's analysis, 18% of total emissions were assigned to Category 11, 8% to Category 10, and 24% to Category 1. Scope 1 and 2 emissions, representing 30% if the total, were estimated using the IEA's data (1).
Steel	Assuming that all met coal is used for steel production, Category 1 emissions from steel were estimated based on met coal operational CO_2 emissions (1; 5).
Cement	FTSE Russell's estimated ratios were applied, using the IEA's operational emissions estimates for cement production as the baseline for all calculations (1).
Airlines	According to TPI's Carbon Performance (CP) methodology for airlines, combustion-related aviation emissions represent 85% of total fuel life-cycle fuel emissions (scope 1 emissions for airlines). The remaining 15%, associated with fossil fuel extraction, refining, and distribution, were classified as Category 3 emissions (6).
Shipping	According to TPI's CP methodology for shipping, combustion-related shipping emissions constitute 87% of total life-cycle fuel emissions (scope 1 emissions for shipping operators), the balance being upstream emissions related to fossil fuel extraction, refining, and distribution (Category 3) (7).
Aluminium	Category percentage contributions to total life-cycle emissions were taken from the Mission Possible Partnership and International Aluminium Association (8; 9). Calculations were based on the IEA's emissions estimate for aluminium production, which accounts for 93% of total lifecycle emissions according to these sources (1).

Appendix 2: TPI and SBTi sector coverage

TPI activity	SBTi guidance	Scope 3 categories covered
Airlines	**Aviation**	Guidance covers aviation services companies, i.e. passenger and cargo airlines as well as companies that use aviation services. The 2023 methodology specifies airlines targets covering Category 3 (for users Categories 4, 6 and 9).
Autos	**Land Transport**	Guidance covers land transport (i.e. auto part and automakers). The updated land transport guidance 2024 specifies a new 1.5°C methodology for automakers to set target covering Category 11 on a well to wheel basis.
Buildings	**Buildings**	Guidance specifies (pp. 21-22) Category 1 or Category 2 for embodied emissions; Category 11, 13 and/or 11 for in-use target boundary
Cement	**Cement**	Finalized guidance specifies targets covering Category 1 purchased cement and clinker
Chemicals	**Chemicals**	Consultation draft (pp. 33-36) specifies targets covering Category 1 for firms that directly purchase primary chemicals and Category 11 for companies that produce and sell urea-based or nitrogen fertilisers, or the urea used in nitrogen fertilisers.
Consumer products and services	**ICT**	Guidance covers ICT companies and specifies no additional scope 3 beyond the corporate standard (i.e. if total scope 3 > 40% of scope 1+2+3 the company should specify a target covering at least 67% of total scope 3)
	Apparel and Footware	Guidance covers Apparel and Footware companies and specifies no additional scope 3 beyond the corporate standard (ie if Total scope 3 > 40% of scope 1+2+3 the company should specify a target covering at least 67% of Total scope 3)
Food producers	**FLAG**	FLAG guidance covers AFOLU emissions from all companies. It specifies companies from the following sectors set FLAG targets: Forest and Paper products (Timber, Pulp and Paper and Rubber), Food Production (Agricultural Production and Animal Source), Food and Beverage Processing, Food and Staples Retailing and Tobacco. It specifies no additional scope 3 beyond the corporate standard. If a company's total scope 3 > 40% of scope 1+2+3, the company should specify a scope 3 target. The FLAG target should cover at least 67% of Total FLAG-related scope 3 emissions.
Oil and Gas	**Oil and Gas**	Currently in development.
Power	**Power**	Guidance specifies targets covering Category 3 for companies purchasing and selling electricity. This includes emissions associated with electricity lost in transmission and distribution (T&D) for vertically integrated companies. End-use emissions from gas distribution activities (Category 11) are not in scope.

Shipping	**Maritime**	Guidance covers the maritime sector (ie not just shipping operators). Vessel owners or operators should set targets covering emissions from own operations. Companies with subcontracted maritime transport operations (like cargo owners or shippers) should only set near-term scope 3 emissions, but the finalised methodology specifies no categories. For cargo shippers/logistics service providers, the guidance as set out in table 3 page 25 specifies Category 6 or 7 for ferry [passenger only] / cruise / offshore activities and Category 4 or 9 for freight and cargo activities.
Steel	**Steel**	Guidance specifies targets covering Category 3. Categories 1 and 10 should also be included if these emissions fall within the iron and steel core boundary (as set out on p.21, Figure 3 of the guidance), e.g. emissions from purchased merchant iron (Category 1) or from sales of surplus coke (Category 10). This boundary is broader than the IEA's NZE which only includes scope 1 and 2 emissions for iron & steel making.

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