HSBC Global Research

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Scope 3 emissions

The largest piece in the net zero jigsaw

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- Scope 3 emissions, often the largest part of corporate-related emissions, should be checked against net zero pledges
- However, few companies disclose Scope 3 emissions, and even fewer provide details on specific sub-categories
- Greater scrutiny of corporate Scope 3 emissions can offer insight into overall climate risk (and potential greenwashing)

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The elephant in the climate room: Value chain emissions, known as Scope 3 emissions, include all indirect emissions that are not owned or controlled by a company. Given this potential wide range of sources, Scope 3 emissions often contribute the largest part of corporate-related emissions. However, corporates often neglect Scope 3 for various reasons such as complex accounting methodologies, the absence of direct influence or control, and loose regulations – resulting in a lower disclosure rate than for Scope 1 and 2 emissions. This may leave investors in the dark about a company's true exposure to climate risks.

Increasing scrutiny: However, with growing awareness of Scope 3 emissions and net zero commitments, regulators are taking an interest in monitoring Scope 3 emissions by implementing mandatory disclosures and target setting. Regulators in the US, the EU and New Zealand have already proposed requiring mandatory Scope 3 emissions disclosure from listed companies. Central banks are also considering broader climate exposure. For example, the European Central Bank included financed emissions in recent climate stress tests to assess the vulnerability of banks and insurance companies under different climate scenarios. We expect to see more Scope 3-related regulations and policies in the coming years.

Scope 3 accounting: Scope 3 emissions are broadly divided into 15 sub-categories (as per the GHG Protocol). A company can set its own reporting boundary based on principles of relevance, completeness, accuracy, consistency, and transparency. However, this flexibility makes comparison across companies difficult, as the emissions profile can vary wildly, even within sectors. There is a widespread perception that companies omit Scope 3 categories that are likely to be significant to their business – but the reasons for omissions are not transparent.

Indicator of transition risk: In our view, Scope 3 emissions are a useful indicator for examining climate risk and the true climate ambition of companies. They enable investors to assess the exposure companies may have to carbon-intensive activities within value chains and products. Higher Scope 3 emissions might come with higher transition risks in the future that could impact asset values and operating costs if not acknowledged and addressed. We think investors should ask for more Scope 3 disclosures, as well as scrutinise these disclosures to a higher degree.

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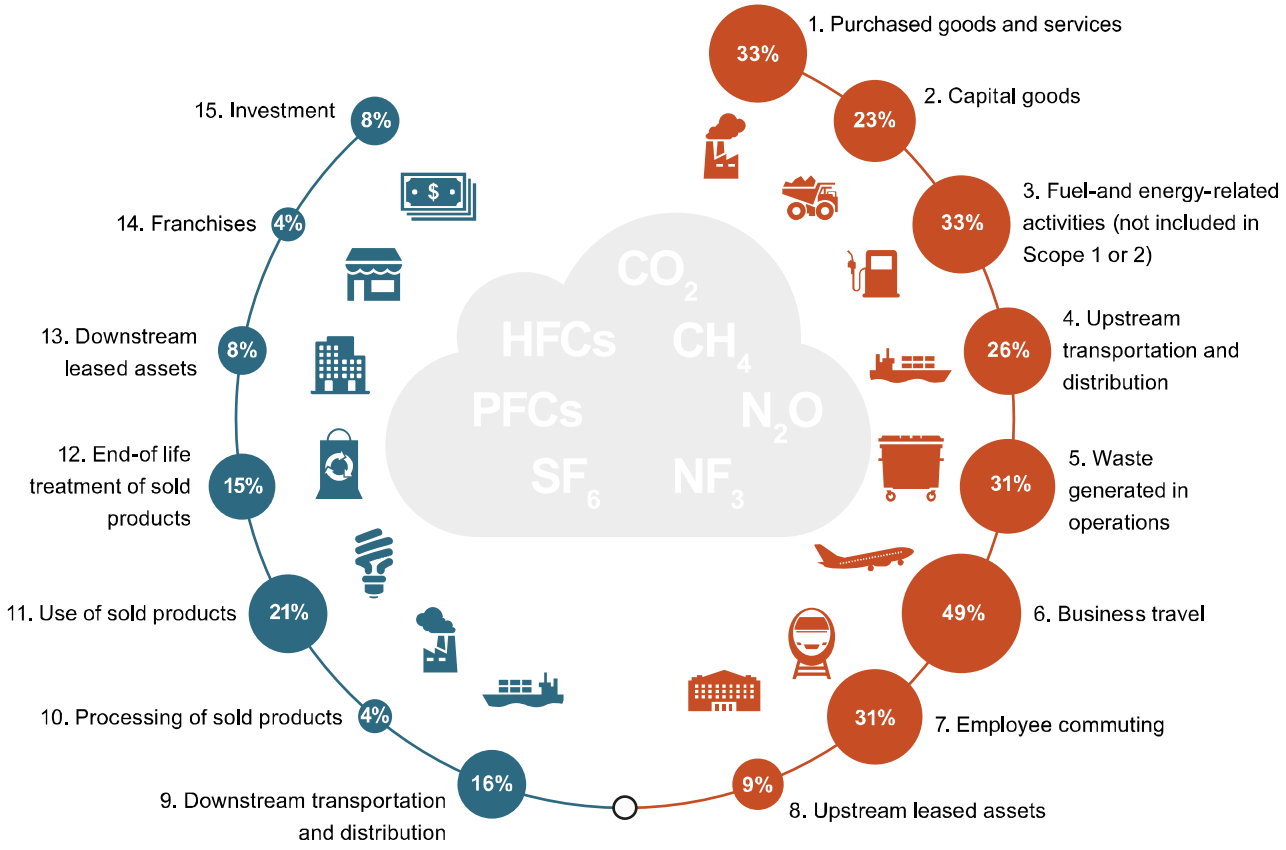
Scope 3 emissions in a nutshell

Scope 3 emissions come from a company's value chain …

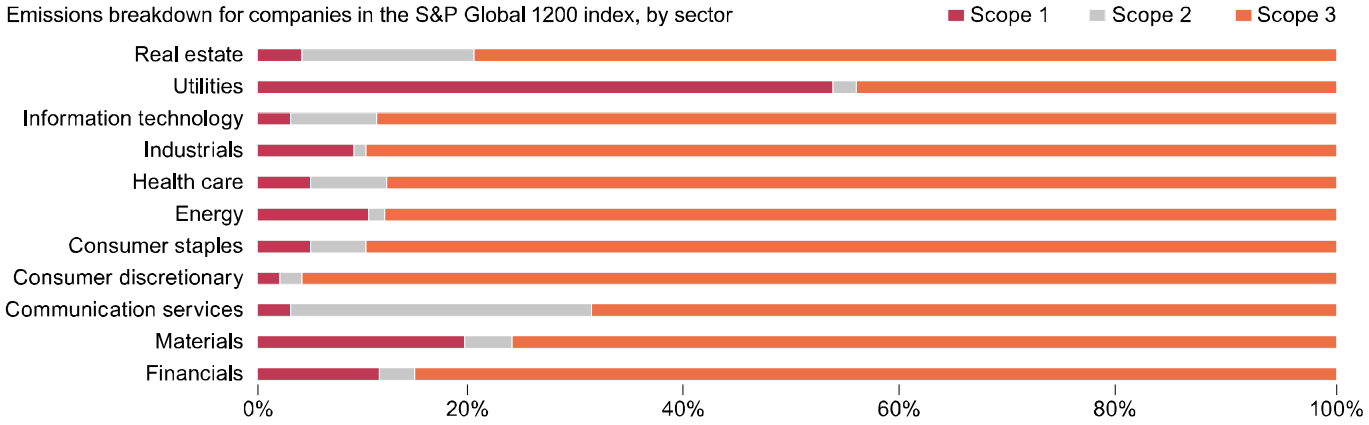
Disclosure rate by each of Scope 3's fifteen categories (FY2020, S&P Global 1200 index)

• Downstream activities | • Upstream activities



… and often represent the greatest share of corporate-related emissions

Emissions breakdown for companies in the S&P Global 1200 index, by sector



We believe investors should consider Scope 3 emissions in their risk models and evaluations

Tightening regulations
More regulators are proposing mandatory disclosure requirements to include Scope 3 emissions

Climate risk assessment
Scope 3 emissions could enable investors to identify and assess climate transition risks and opportunities in their portfolios

Greenwashing avoidance
The exclusion of Scope 3 emissions in net zero targets could weaken the credibility of climate efforts

Source: Bloomberg, GHG Protocol, S&P Global, HSBC

Why Scope 3 matters?

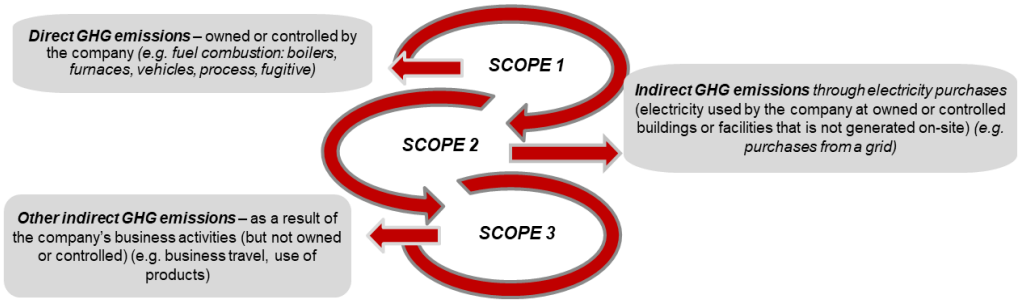
- Scope 3 emissions can make up the largest part of emissions in many sectors but they are usually the least disclosed emissions type
- Regulators are increasing their scrutiny over Scope 3 emissions as a means to improve the transparency of corporate climate disclosures
- We think investors should consider Scope 3 emissions in their risk models and evaluation of companies' climate commitments

What are Scope 3 emissions?

Scope 3 emissions come from other entities in the value chain

The Greenhouse Gas Protocol (GHG Protocol) defines Scope 3 emissions as those that "occur from sources owned or controlled by other entities in the value chain". In other words, the Scope 3 emissions of a company include all *indirect emissions* beyond its direct operations (Scope 1) and purchased energy (Scope 2). Due to the wide range of activities that this can entail, the GHG Protocol separates Scope 3 into 15 distinct categories, from upstream to downstream activities (Figure 2).

Figure 1: The Scopes of carbon emissions depend on influence and control



Source: HSBC (based on GHG protocol)

Box 1: What is the Greenhouse Gas Protocol (GHG Protocol)?
The GHG Protocol is a partnership between World Resources Institute and the World Business Council for Sustainable Development. It establishes global GHG accounting and reporting standards such as *The GHG Protocol Corporate Accounting and Reporting Standard and The Corporate Value Chain (Scope 3) Standard* which are widely used by corporates and regulators. In 2016, 92% of Fortune 500 companies responding to the climate questionnaire by CDP used GHG Protocol standards directly or indirectly.

Figure 2: Scope 3 categories

Upstream	Downstream
Purchased good and services	Downstream transportation and distribution
Capital goods	Processing of sold products
Fuel-and energy-related activities (not included in Scope 1 or 2)	Use of sold products
Upstream transportation and distribution	End-of life treatment of sold products
Waste generated in operations	Downstream leased assets
Business travel	Franchises
Employee commuting	Investment
Upstream leased assets	

Source: GHG Protocol, HSBC

Companies are free to choose the reporting boundary of Scope 3 emissions

Companies set their own Scope 3 boundaries and report based on the relevance and materiality of the categories to their business. Therefore, a company in a particular sector could have a different Scope 3 emissions profile than its peers. The variation in emissions profile is a major barrier in tackling Scope 3 emissions, in our opinion. For example, despite their similar business nature, **Alphabet** regards emissions from downstream leased assets as "not relevant" while its counterpart **Microsoft** includes it in its emissions disclosure. (Figure 3).

Figure 3: Scope 3 emissions profile of Microsoft and Alphabet (2021)

Scope 3 categories	Microsoft	Alphabet
Purchased good and services	✓	✓
Capital goods	✓	✓
Fuel-and energy-related activities (not included in Scope 1 or 2)	✓	
Upstream transportation and distribution	✓	✓
Waste generated in operations	✓	
Business travel	✓	✓
Employee commuting	✓	✓
Upstream leased assets		
Downstream transportation and distribution	✓	✓
Processing of sold products		
Use of sold products	✓	✓
End-of life treatment of sold products	✓	✓
Downstream leased assets	✓	
Franchises		
Investment		
✓: relevant		

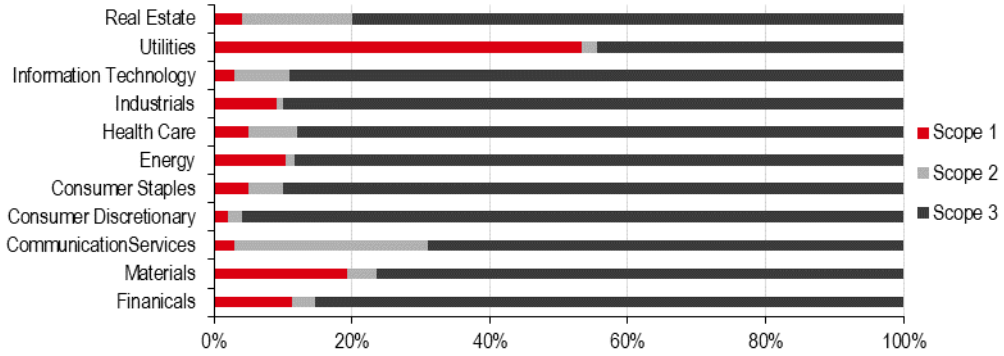
Source: CDP Climate Change Questionnaire 2021, HSBC

Too big to ignore

Scope 3 emissions often represent the greatest share of corporate-related emissions…

The lion's share of emissions: Scope 3 emissions often comprise the lion's share of corporate GHG emissions. For instance, the Scope 1 and 2 emissions of an oil company are only a small proportion of its related emissions, whereas the consumption and combustion of their products contribute the most emissions (*Category 11 – Use of sold products*). CDP (formerly Carbon Disclosure Project) estimates Scope 3 emissions account for 75% of related GHG emissions across all sectors based on 2021 CDP response data[1]. CDP also reported that financed emissions (*Category 15 – Investment*) are over 700 times more than operational emissions of the financial institutions[2]. According to S&P Global, only the utilities sector in the S&P Global 1200 index has a higher proportion of Scope 1 and 2 emissions (Figure 4) as we think many electric utilities companies are still burning fossil fuels to generate their power (nearly two-thirds of electricity comes from fossil fuels worldwide[3]), leading to higher direct emissions.

Figure 4: Emissions breakdown of companies in S&P Global 1200 index by sector

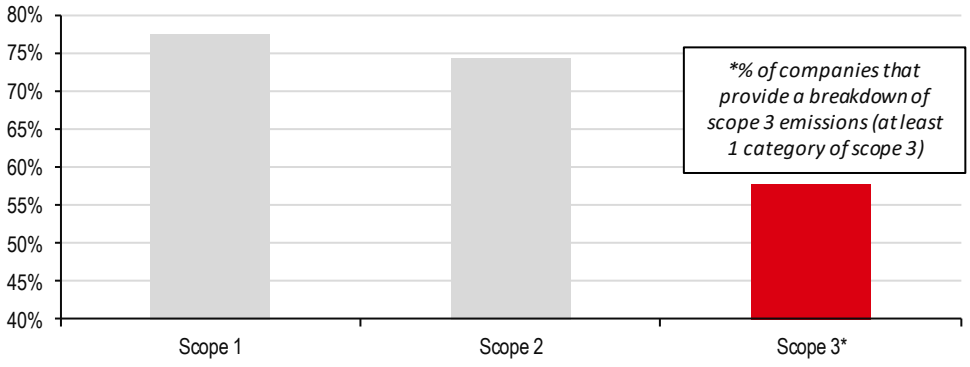


Source: S&P Global Trucost, HSBC

…but the disclosure rate is often lower than Scope 1 and 2 emissions

The mouse's share of disclosure: Scope 3 emissions are convenient for businesses to ignore by saying that they have "no influence or control" over them or that they are "someone else's problem", resulting in a lower disclosure rate relative to Scope 1 and 2 emissions (Figure 5). Whilst this may be true for some industries and countries, there is a wide range of influence that should not be ignored, in our view. As the S&P Global 1200 index comprises the largest companies globally in terms of market capitalisation, we believe they would have more resources and public pressure on disclosing their sustainability performance. The overall Scope 3 disclosure rate is likely to be much lower across the wider market.

Figure 5: Scope 3 disclosures tend to be lower than Scopes 1 or 2



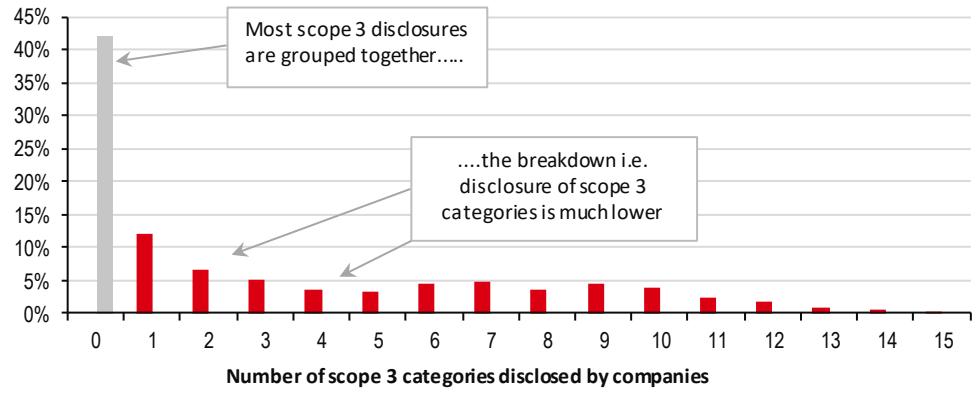
Source: Bloomberg, HSBC

1 CDP (2022), CDP Technical Note: Relevance of Scope 3 Categories by Sector
2 CDP (2020), Financial Services Disclosure Report 2020
3 Our World in Data (2022)

Grouped Scope 3 disclosures do not accurately reflect exposure to climate risk

Although there is not a defined relationship between the *number* of reported Scope 3 categories and the *quality* of Scope 3 disclosure, we think the number of reported categories offers colour on the completeness of corporate disclosure. As shown in Figure 6, most companies do not disclose a breakdown of their Scope 3 emissions. We think this does not reflect a complete picture on the exposure to climate risk along value chains as investors are therefore unable to identify the sources of emissions and potential solutions. There is ample room for improvement for both quantity and quality of Scope 3 disclosure, in our view.

Figure 6: Distribution of the number of Scope 3 categories disclosed (S&P Global 1200 (FY2020))

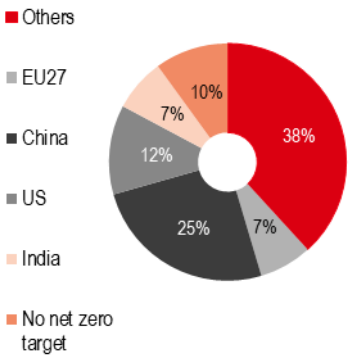


Source: Bloomberg, HSBC

Net zero targets often ignore Scope 3 emissions

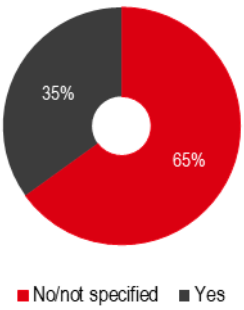
More net zero: Last year, the UN climate conference (COP26) asked countries to raise climate ambition by revisiting and strengthening their climate pledges. More than 140 countries, covering 90% of global emissions, have committed to net zero emissions (Figure 7). Aligning to growing *global and national* climate policies, the momentum of *corporate-level* net zero commitments is also rising. Net Zero Tacker reports that more than a third of the 2,000 largest publicly traded companies (by revenue) in the world have some form of net zero target in place[4] (Figure 8).

Figure 7: Net zero targets cover 90% of global emissions



Source: Climate Action Tracker(as of 9 Nov 2021), HSBC

Figure 8: Net zero targets in the 2,000 largest publicly traded companies (by revenue)



Source: Net Zero Tracker (as of 3 March 2022), HSBC

4 Net Zero Tracker (2022)

Considering Scope 3 emissions enhance climate effort and ambition…

We consider net zero commitments to be a spectrum – there is "good net zero" and "bad net zero". Where a company lies on this spectrum depends on many things – including how they set target boundaries and how they achieve it.

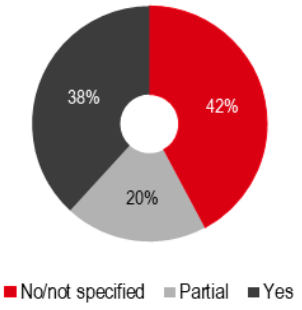
> **We think investors should be aware of the scope of net zero targets and understand the details of the corporate strategies.**

…but most companies do not include value chain emissions in their climate pledges

But not more Scope 3: Many companies with net zero commitments do not address emissions along their value chain despite their large share of GHG emissions – more than 40% of corporate net zero targets do not cover Scope 3 emissions (Figure 9). Moreover, only 18% of the companies in Net Zero Tracker's survey (of 2000 companies) have set Scope 3 reduction targets (Figure 10). The Science Based Target Initiative requires a Scope 3 target (if a company's relevant Scope 3 emissions are 40% or more of related GHG emissions) in order to validate the corporate emission reduction target as science-based – in line with the latest climate science[5].

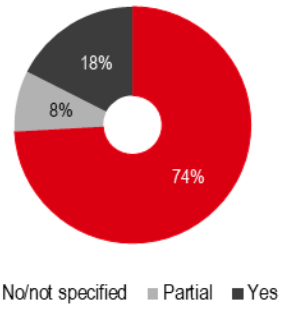
The spectre of greenwashing: Besides being a less effective overall climate strategy, we think the excluding or neglecting of Scope 3 in climate commitments raises the spectre of greenwashing. For instance, **Exxon Mobil** met with criticism when it stated that "the net zero aspiration applies to Scope 1 and 2 greenhouse gas emissions" in its net zero announcement in January 2022 (*ABC News*, 19 January 2022). Scope 3 emissions are not addressed in Exxon's net zero ambitions nor its 2030 emissions-reduction plans whilst Scope 3 emissions are approximately five times that of the Scope 1 and 2 emissions[6] (combined). In another example, Brazil-based meatpacker JBS reported flat emissions over five years, however, the Institute for Agriculture and Trade Policy estimate that JBS actually increased its emissions by 51% in five years. The NGO believes JBS' supply chain emissions were neglected in its disclosures and commitments and accused JBS of greenwashing. (*Bloomberg*, 21 April 2022).

Figure 9: Inclusion of Scope 3 emissions in net zero commitments



Source: Net Zero Tracker (as of 15 March 2022), HSBC

Figure 10: Percentage of Scope 3 emissions reduction targets



Source: Net Zero Tracker(as of 15 March 2022), HSBC

Gaining momentum: There are signs that Scope 3 awareness is growing however as the number of net zero targets that include value chain emissions has risen nearly 20% year-on-year according to the latest study by Climate Action 100+[7].

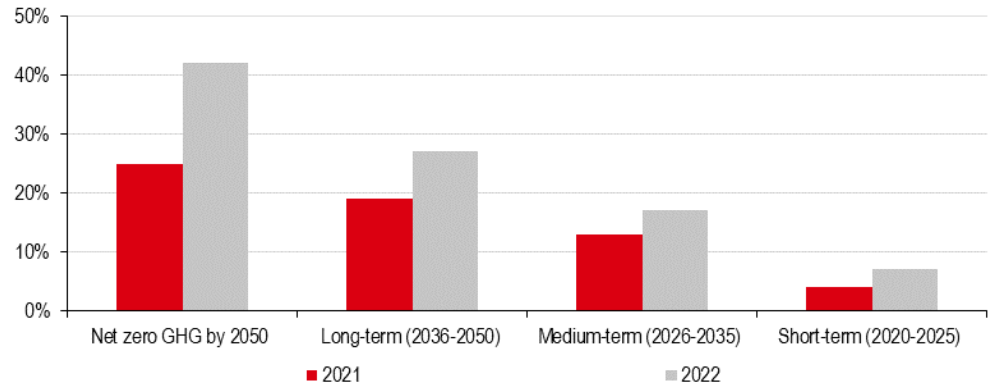
5 Science Based Target Initiative (2021), Science Based Targets Criteria

6 Exxon Mobil (2022), Advancing Climate Solutions 2022 Progress Report

7 Climate Action 100+ (2022), Climate Action 100+ Net Zero Company Benchmark Summary of company assessment, March 2022

An emerging trend in including Scope 3 into climate target

Figure 11: Number of Scope 3 targets is going up



Source: Climate Action 100+, HSBC

Climate regulations beginning to include Scope 3 emissions

Scope 3 disclosures on the horizon

More Scope 3 disclosure requirements are on the horizon

Regulators are increasing their scrutiny over value chain emissions. Several markets have made Scope 3 disclosure mandatory already:

- **US:** As stated in the proposed climate disclosure rule released by the Securities and Exchange Commission (SEC) in March 2022, publicly listed companies in the US are required to disclose Scope 3 emissions, if material or if included in a corporate's GHG reduction goals. For US funds, the SEC proposed a pair of rule changes to enhance anti-greenwashing disclosures in May 2022. Investment advisers and companies will be required to report the GHG footprint of their portfolios (category 15 – investment).
- **EU**: The European Banking Authority (EBA) released a final draft Implementing Technical Standards Pillar 3 reporting template in January 2022. The EBA plans to require banks to disclose financed Scope 3 emissions from July 2024 and the gap to the projected emissions in 2030 under the IEA's 2050 Net Zero Emissions scenario.[8] In addition to banks, the European Commission proposes requiring all large companies and all listed companies to report in compliance with the European Sustainability Reporting Standards (ESRS). In April 2022, the European Financial Reporting Advisory Group released a draft ESRS which requires disclosure of Scope 3 emissions and an emissions breakdown by five groups – upstream purchasing, downstream sold products, goods transportation, travel and financial investments.
- **New Zealand**: In March 2022, the External Reporting Board proposed mandatory Scope 3 disclosure and emphasised it should refer to the full value chain instead of selective sources.
- **Singapore:** Singapore Exchange requires listed companies to report their Scope 1, 2 and 3 emissions (if appropriate).

ISSB draft climate standard requires disclosure of Scope 3 emissions

We believe more and more jurisdictions would join the "mandatory disclosure club," especially given the International Financial Reporting Standards Foundation-backed International Sustainability Standards Board (ISSB) has included Scope 3 emissions in its draft climate-related disclosure requirements[9]. The official standards are expected to be issued by the end of 2022, subject to public feedback. Individual legislatures and regulators will decide whether to make it mandatory. Prior to the draft release, the ISSB was welcomed by finance ministers and central

8 EBA (2022), Final Report of Final draft implementing technical standards on prudential disclosures on ESG risks in accordance with Article 449a CRR

9 ISSB (2022), Exposure Draft – Climate-related Disclosures

bank governors from 38 jurisdictions. We think this could catalyse wider adoption of reporting standards and policy requirements for Scope 3 emissions.

Scope 3 within climate stress tests

Central Banks are starting to take Scope 3 emissions into consideration

Given the significance of transition risks in the financial industry, some central banks including the European Central Bank (ECB) and the People's Bank of China (PBoC), have conducted climate stress testing to manage the climate risks and assess the vulnerability of the financial system under transition scenarios. The ECB includes Scope 3 emissions as one of its climate risk metrics (how much banks rely on income from carbon-intensive industries and the volume of financed emissions). Based on the results of the climate stress test, the ECB will consider adding climate risk to its capital requirement framework (*Bloomberg*, 22 March) such that European banks with high exposure to climate risks might be subject to potentially higher capital reserve requirements.

Scope 3 creeping into climate litigation

Scope 3 emissions have been brought into the courts

The number of climate change-related litigation has risen in recent years. The London School of Economics and Political Science reported that the cumulative number of climate change-related cases has more than doubled since 201510. As some cases are aligned with climate goals, Scope 3 emissions have been brought to the attention of the courts. For example, in July 2021, a Dutch court ordered Royal Dutch Shell to include Scope 3 emissions in its reduction target (Box 2). We believe investors should be aware of the relevance and significance of Scope 3 emissions to companies in view of the potential legal risk associated with underlying value chain emissions.

Box 2: Royal Dutch Shell and Scope 3 emissions

On 5 April 2019, a coalition of environmental NGOs filed a case in the Netherlands, alleging Shell's violation against Dutch law and human right obligation due to its contrition to climate change. After a series of hearings, on 26 May 2021, the Dutch court ordered Shell to "reduce the CO_2 emissions of Shell's activities by net 45% at end 2030, relative to 2019. This reduction obligation relates to the Shell's entire energy portfolio and to the aggregate volume of all emissions (Scope 1 through to 3)." The verdict marked the first corporate's legal obligation to align its polices with the Paris Agreement. On 22 March 2022, Shell filed its appeal against the ruling (*Reuters*, 29 March 2022).

Broader understanding of climate risk within portfolios

Investors should look into companies' Scope 3 emissions and assess their transition risks

Scope 3 emissions also serve as a crucial factor in evaluating a business's climate transition risk. For example, value chain emissions offer colour on a company's reliance on carbon-intensive activities, products or supply chains. Higher reliance would mean a business requires more time and resources to adjust to a lower-carbon model and also be exposed to shifts in asset value and higher operating costs. We believe investors should look more closely into Scope 3 emissions when conducting climate risk assessments.

Carbon pricing usually does not include Scope 3 emissions

Scope 3 emissions could ultimately impact operating costs, driven by carbon prices

Carbon pricing is a mechanism that tries to capture the external costs of GHG emissions to reduce emissions. According to the World Bank, there are 68 carbon pricing initiatives worldwide (including carbon tax and emissions trading scheme) implemented and 3 scheduled for implementation as of April 2022[11]. Although carbon pricing mechanisms rarely apply to Scope 3 emissions, it could have a major impact on the costs of companies with high value chain emissions.

10 The Grantham Research Institute on Climate Change and the Environment (2021), Global trends in climate change litigation: 2021 snapshot

11 World Bank (2022), State and trend of carbon pricing 2022

For example, consider the *real estate sector* - the manufacture of building materials like steel and cement are carbon-intensive. Carbon pricing regulations could drive up these upstream costs (Scope 3 emissions) in *Category 2 – Capital goods.*

Accounting for Scope 3

- Discretion over the selection of Scope 3 emissions categories make calculations, analysis and comparisons more challenging
- Data availability and sector applicability are key determinants of the overall disclosure rate of respective Scope 3 category, in our view
- Overall understanding of Scope 3 emissions is growing; we expect a more nuanced approach to Scope 3 disclosures to evolve

How to account for Scope 3 emissions

Despite the added complexity, the Scope 3 accounting methodology shares the same principles and similar steps as Scope 1 and 2 emissions accounting. The main difference is the identification of relevant activities and boundary setting.

Figure 12: Overview of step in Scope 3 accounting and reporting[12]



Source: GHG Protocol, HSBC

Box 3: GHG accounting and reporting principles (according to the GHG Protocol)

Relevance – Companies should use the principle of relevance when determining the exclusion of any activities from the inventory boundary and selection of data sources.

Completeness – Companies should not exclude any activities from Scope 3 inventory that would compromise the relevance of the reported inventory. All exclusions should be documented and justified.

Consistency – Application of accounting approaches, inventory boundary and calculation methodologies should be consistent over time. All changes should be documented and justified.

Transparency – Companies should disclose information on the processes, procedures, assumptions and limitations of the GHG inventory in a clear, factual, neutral and understandable manner based on clear documentation.

Accuracy – Companies should reduce uncertainties in the quantification process as far as practicable and ensure the data are sufficiently accurate to serve decision-making needs.

12 GHG Protocol (2011), Corporate Value Chain (Scope 3) Standards

Company should map their business activities to 15 Scope 3 categories

Identification of Scope 3 activities and boundary setting

In contrast to Scope 1 and 2 emissions accounting, Scope 3 emissions accounting allows much more flexibility in selecting the relevant Scope 3 categories. According to the GHG Protocol, reporting companies should identify the business activities that are relevant to the respective Scope 3 categories prior to data collection and emissions calculation. As some categories may not be applicable to all companies, they may exclude insignificant Scope 3 activities from their report *with valid justification and disclosure.* For instance, Microsoft and Alphabet do not have franchise businesses so emissions from franchisees (*Category 14 – Franchise)* are not applicable and thus both companies exclude this category from their reports.

However, with such accounting flexibility, companies are able to exclude categories that may actually be material to their business. For example, CDP reports that only 25% of the financial institutions regard financed emissions (*Category 15 – Investment*) as relevant and disclose emissions, despite the prominent significance to the financials industry[13].

Figure 13: Overview of Scope 3 categories

Value chain	Scope 3 category	Description
Upstream	Purchased good and services	Emissions that occur in the **life cycle of purchased products and services** (including extraction, production and transportation), up to the point of receipt by the reporting company
	Capital goods	Emissions that occur in the **life cycle of purchased fixed assets or plant, property and equipment**
	Fuel-and energy-related activities (not included in Scope 1 or 2)	Emissions related to the **production of fuels and energy** purchased and consumed by the reporting company, excluding emissions from the combustion of fuels or electricity consumed.
	Upstream transportation and distribution	Emissions from **transportation and distribution services** purchased in vehicles not owner or operated by the reporting company
	Waste generated in operations	Emissions from third-party **treatment of waste** that is generated in the reporting company's operations
	Business travel	Emissions from the transportation of employees for **business-related activities** in vehicles owned or operated by third parties
	Employee commuting	Emissions from the transportation of employees **between their homes and worksites**.
	Upstream leased assets	Emissions from the **operation that are leased** by the reporting company and not included in Scope 1 and 2 emissions.
Downstream	Downstream transportation and distribution	Emissions from **transportation and distribution of products sold** in vehicles not owned or controlled by the reporting company
	Processing of sold products	Emissions from **processing of sold intermediate products** by third parties subsequent to sale by the reporting company
	Use of sold products	Emissions from the **use of goods and services sold** by the reporting company
	End-of life treatment of sold products	Emissions from the **waste disposal and treatment of the sold products**
	Downstream leased assets	Emissions from the operation of assets that are owned by the reporting company (as a lessor) and **leased to other entities**
	Franchises	Scope 1 and 2 emissions of **franchisees**
	Investment	Scope 1 and 2 emissions of **investees** (including equity, debt, project finance and managed investment)

Source: GHG Protocol

Scope 3 emissions may occur in the past, present or future

Scope 3 emissions across varying time frames

Another potential issue with Scope 3 emissions accounting is the **timing of the emissions**. While some emissions occur in the *current year*, the *upstream* nature of some Scope 3 categories mean that the emissions may have occurred further in the past; the *downstream* nature of other categories mean they are yet to occur. For example, the actual emissions from extracting, processing and transporting some raw materials may have occurred years ago – and so can only give an *indication* of the level of emissions embedded within a product but should not be part of a business's emissions for a particular year. Or, the emissions to be incurred from the end of life treatment of a product could be many years away – and they have to be estimated as exposure or responsibility emissions because the business has less control over when and how they will occur.

This time dimension of Scope 3 emissions is another reason why Scope 3 emissions cannot be aggregated and used to count towards an emissions inventory, but rather, in our view, should be used to ascertain exposure and potential risk and impact.

13 CDP (2020), Financial Services Disclosure Report 2020

Figure 14: Time boundary of Scope 3 categories

Value chain	Scope 3 category	Past years	Reporting year	Future year
Upstream	Purchased good and services	✓	✓	
	Capital goods	✓	✓	
	Fuel-and energy-related activities (not included in Scope 1 or 2)	✓	✓	
	Upstream transportation and distribution	✓	✓	
	Waste generated in operations		✓	✓
	Business travel		✓	
	Employee commuting		✓	
	Upstream leased assets		✓	
Downstream	Downstream transportation and distribution		✓	✓
	Processing of sold products		✓	✓
	Use of sold products		✓	✓
	End-of life treatment of sold products		✓	✓
	Downstream leased assets		✓	
	Franchises		✓	
	Investment		✓	✓

Source: GHG Protocol

Scope 3 emissions should not be aggregated across companies or subsidiaries

Dealing with double counting

The Scope 1 and 2 emissions of one company will be the Scope 3 emissions of another company. For instance, when an oil company records the estimated emissions from use of its oil products (*Category 11 – Use of sold product*), the consumer is likely to account the same emissions as its Scope 1 emissions.

However, it is also possible for emissions to feature as Scope 3 for more than one company. For example, if a manufacturer outsources its product transportation to a third party logistics service provider, the manufacturer should include the subsequent emissions as Scope 3 (*Category 9 – Downstream transportation and distribution*). Meanwhile, the end product retailer should also record the product transportation emissions as Scope 3 (*Category 4 – Upstream transportation and distribution*).

Scope 3 emissions illuminate exposure to climate risks

If the Scope 3 emissions of these two companies were aggregated, then the emissions from the product transportation phase would be double counted. Investors or corporates **should not aggregate Scope 3 emissions** across companies or subsidiaries, nor should they add up Scope 1, 2 and 3 emissions to determine *total emissions* of a portfolio or a business. However, Scope 3 emissions provide a more complete picture of the *overall exposure* of a business to potential climate risks and impacts. Given the flexibility in accounting for Scope 3 emissions, we think analysis of Scope 3 emissions should be done at an individual company level to determine *exposure*, and not aggregated across multiple companies.

Box 4: Scope 4 emissions – wave after wave

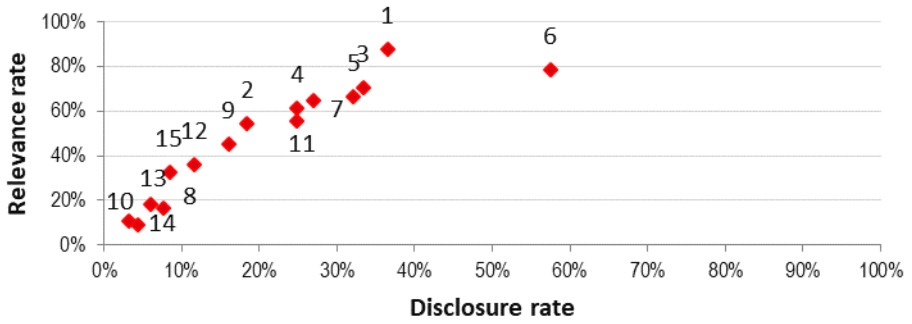
Scope 4 emissions refer to emissions that no longer occur as a result of certain or specific actions by an entity – they are often known as **avoided emissions**. For example, a vehicle tyre manufacturer could develop *special tyres* which (say) cause vehicles to emit less (due to more efficiency or otherwise). Thus, the emissions by the vehicles are not included in the Scope 3 (*Category 11 – Use of sold product*) or GHG inventory of the tyre manufacturer. The **emissions *saved*** by these special tyres could in theory be grouped under **Scope 4** or **avoided emissions**.

However, there is no universal definition nor accounting standard for Scope 4 emissions yet. The calculation methodology of Scope 4 emissions is more complicated than Scope 1, 2 and 3 due to the baseline emissions setting. Despite this, some companies such as Pacific Gas and Electric are already putting Scope 4 emissions in their net zero strategies. We think investors should scrutinise the details and accounting methodologies when looking at Scope 4 emissions.

The relevance of Scope 3 emissions categories to sectors

Scope 3 relevance: It could be said that the more a particular Scope 3 category is disclosed by a sector, the more relevant it is to that sector (Figure 15). However, the reverse is not necessarily true: less or no disclosure of a particular Scope 3 category does not necessarily imply lower or no relevance. *Note: the disclosure data is a rough projection of the current status of Scope 3 disclosures as many companies do not disclose the breakdown of their Scope 3 emissions into the relevant categories.*

Figure 15: A relationship between Scope 3 category disclosure and relevance



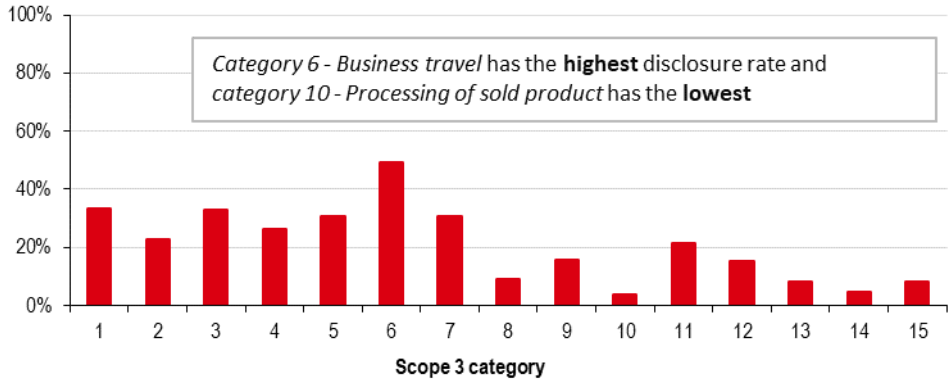
Note: The relevance rate is calculated based on the companies' responses in CDP climate change questionnaire 2021 in which they marked the relevance of respective Scope 3 categories. The disclosure rate is estimated based on the data availability on Bloomberg
Source: CDP, Bloomberg, HSBC estimate

Most companies disclose emissions from business travel

Not all Scope 3 categories are equal: In general, less than 60% of companies in the S&P Global 1200 index have disclosed a breakdown of Scope 3 emissions, and nearly half of them include ***Category 6 – business travel*** in their profile. In general, business travel is relatively simple to calculate and is generally sector agnostic.

However, other Scope 3 categories such as *Category 10 - Processing of sold products* and *Category 14 - Franchises* tend to be more specific to certain businesses and thus are relatively less frequently disclosed.

Figure 16: Scope 3 emissions disclosure by category (FY2020) in S&P Global 1200 index



Source: Bloomberg, HSBC

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