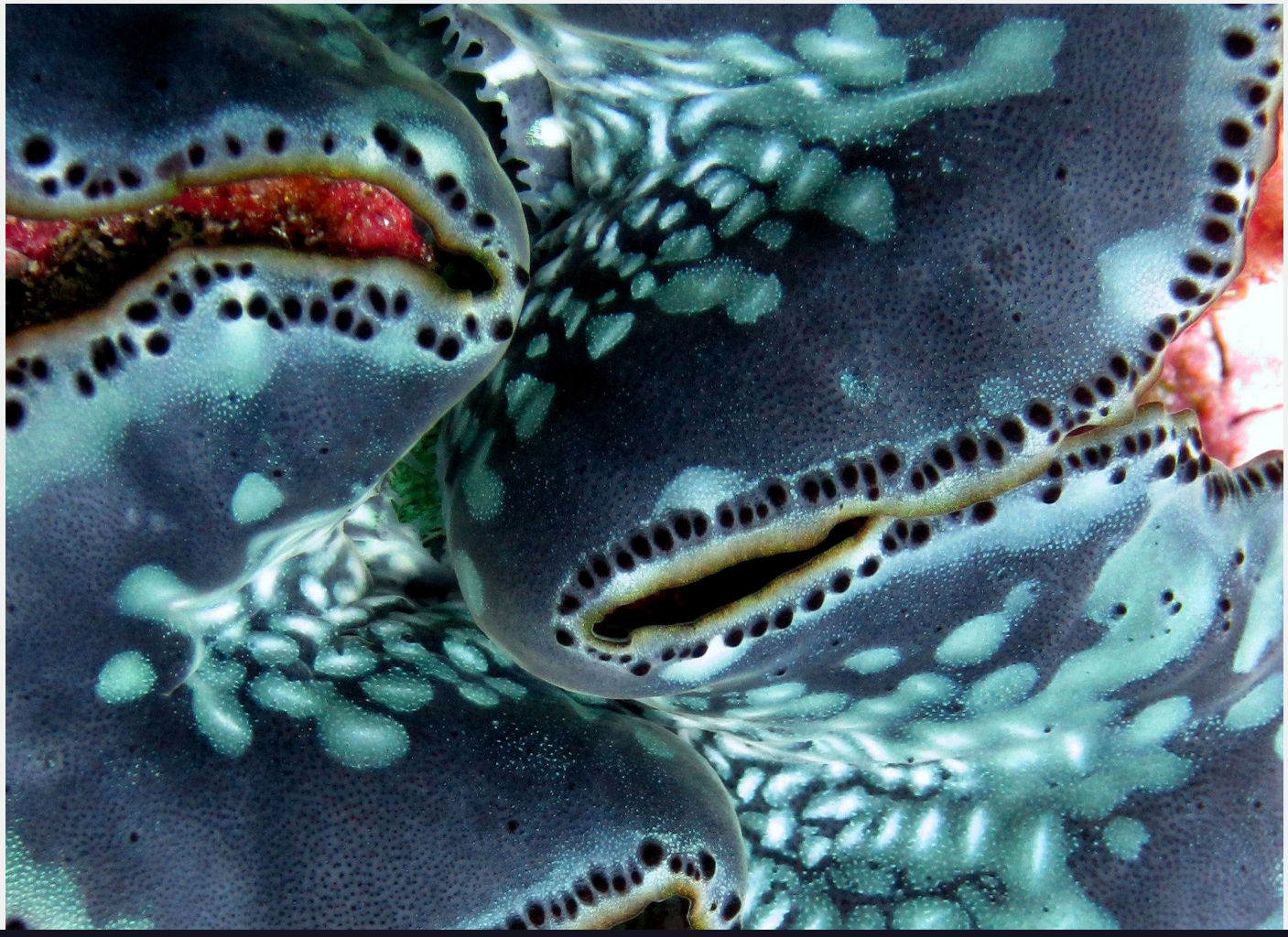


One's scope three is another's scope one - compensation along the supply chain

November 2022

CEEZER

What are Scope 3 emissions and where do they come from?

Any company seeking to implement a robust and effectual climate change mitigation strategy must have a thorough understanding of their greenhouse gas (GHG) emissions. Since the Paris Agreement came into play, companies have focused on addressing direct emissions from sources they own or control (Scope 1) and indirect emissions from generation of electricity they purchased for consumption (Scope 2).

There is now increasing focus on Scope 3 emissions, which are defined by the GHG Protocol as an optional reporting category for the treatment of all other indirect emissions generated along the corporate value chain. Indeed, low carbon supply chains are an indispensable component to the fight against climate change.

It has been estimated that eight supply chains – namely, food, construction, fashion, fast-moving consumer goods, electronics, professional services and freight – account for more than 50% of global emissions. Furthermore, a significant share of this percentage is indirectly controlled by a handful of companies.

So, what constitutes Scope 3 emissions? There are 15 mutually exclusive Scope 3 emissions categories across the corporate value chain. Of these categories, eight relate to upstream activities (think suppliers) and seven relate to downstream activities (think customers), summarized in Figure 1 and detailed further in the

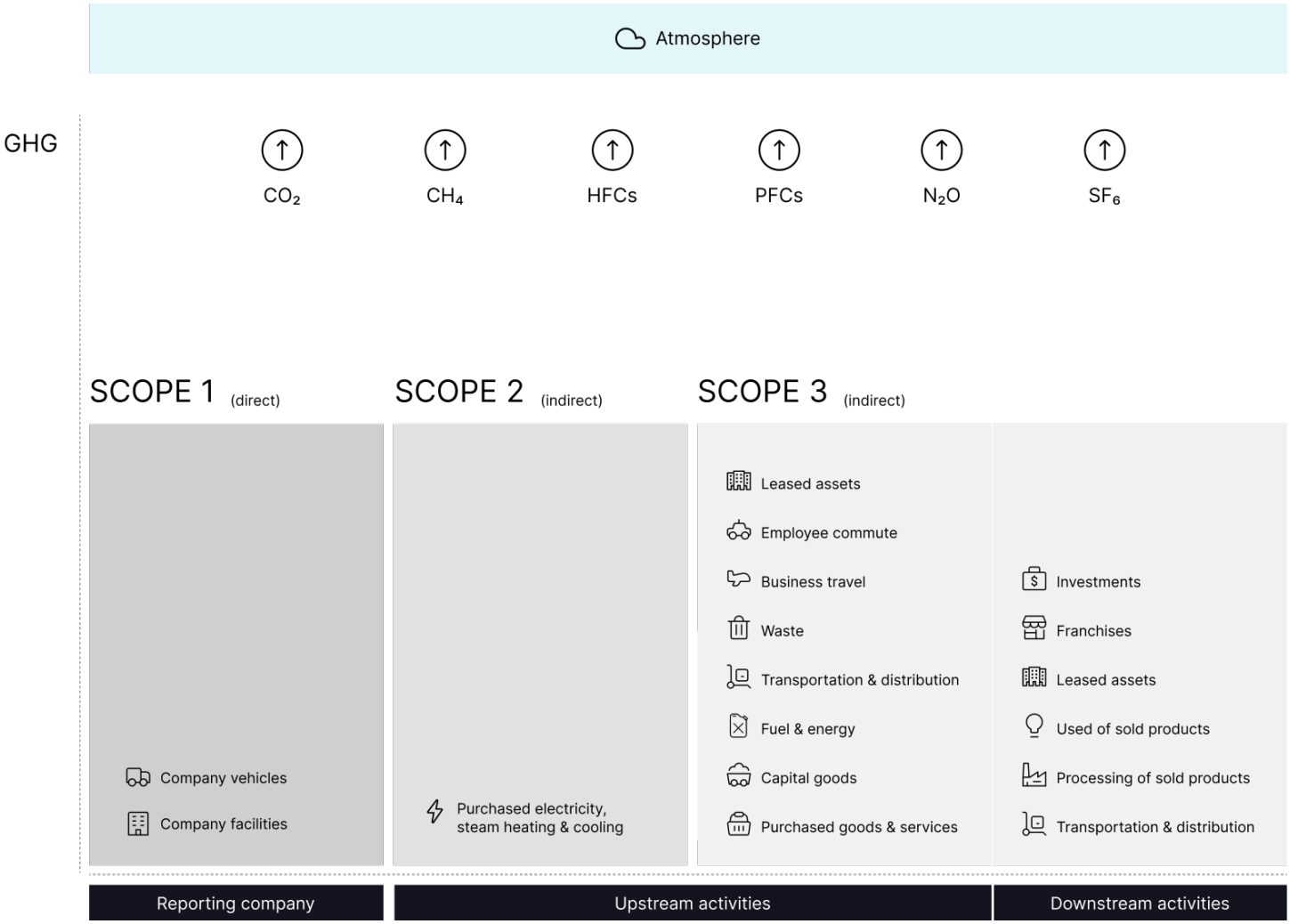


Figure 1: Scope 1, 2 and 3 emissions categories. (Based on Greenhouse Gas Protocol (2011).)

So, why should companies be concerned about Scope 3 emissions?

It is estimated that Scope 3 emissions account for the majority, some 65% to 95%, of overall climate impact for many companies. For example, Kraft Foods found that their value chain emissions contributed more than 90% of their overall footprint. A recent analysis of 866 product carbon footprints, reported to Carbon Disclosure Project (CDP) by 145 companies spanning 30 industries and 28 countries, indicates that only 23% of total value chain emissions are associated with direct operations, while 45% and 32% arise in upstream and downstream activities.

Figure 2 presents the percentage contribution of Scope 1, 2 and 3 emissions for several high-impact sectors based on data reported to the CDP in 2021. Sectors under criticism for direct emissions intensity to-date, such as cement, steel and transportation services, exhibit significantly higher Scope 1+2 emissions than Scope 3. However, sectors less in the spotlight exhibit the opposite. For instance, the food, beverage and tobacco sector contributes over eight times Scope 3 emissions compared to its Scope 1+2 emissions, while the financial services sector has the same effect some six hundred times over.

Scope 1, 2 & 3 emissions by sector.

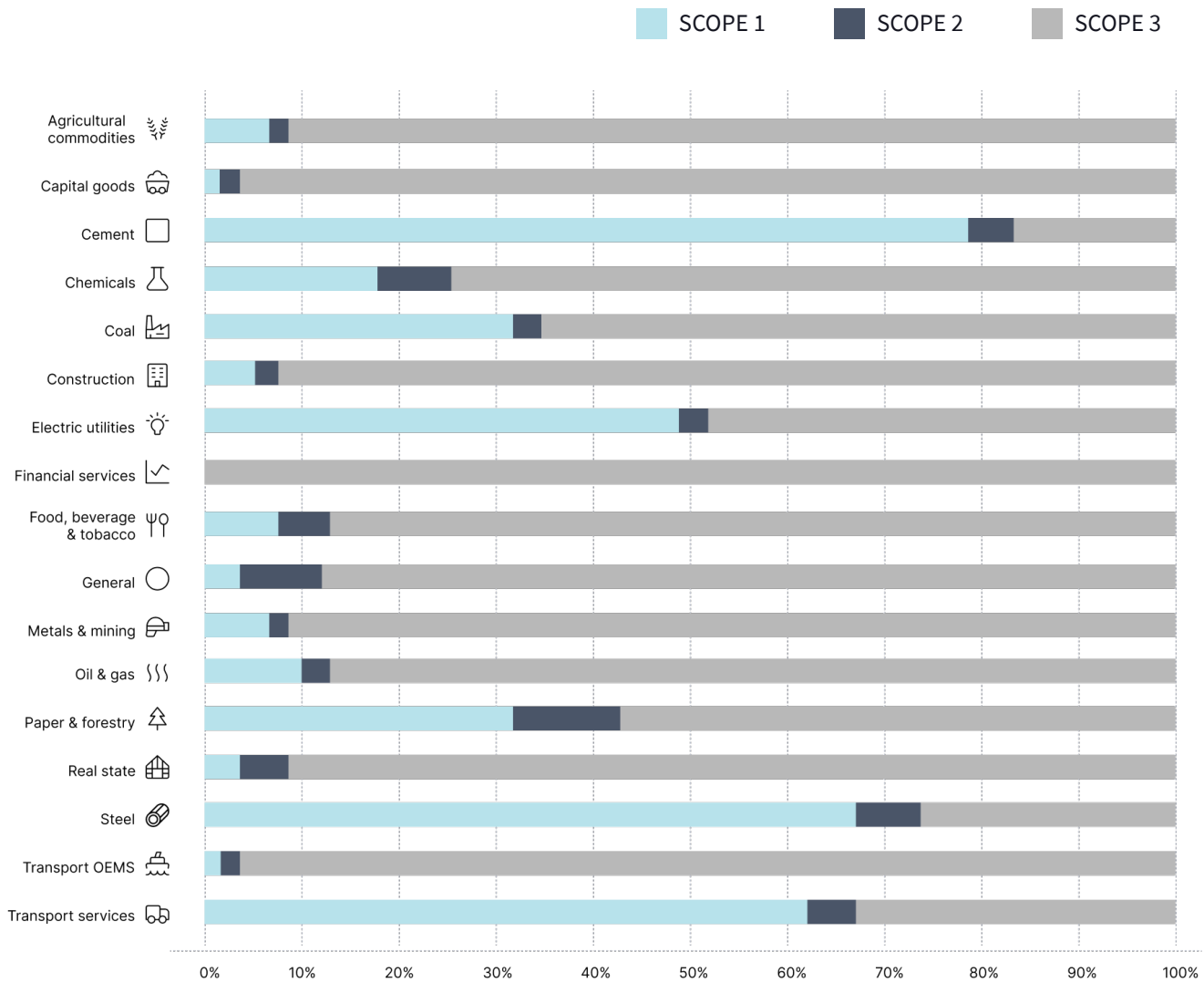
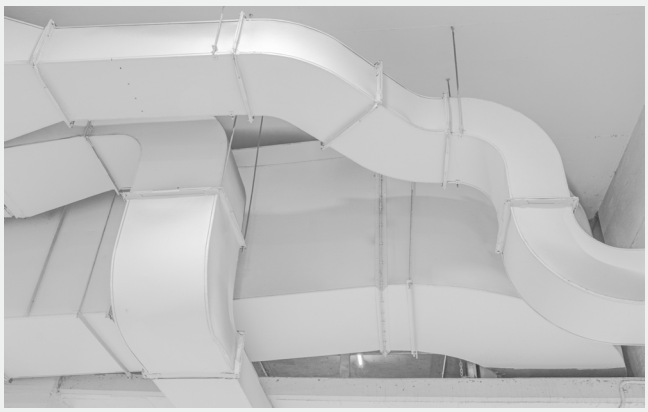


Figure 2: Scope 1, 2 and 3 emissions by sector. (Based on CDP (2022).)

A more granular understanding of a company's carbon footprint, necessitated by the Scope 3 categories, sheds light on the causal complexity of emissions and allocation of ownership across the corporate value chain. Essentially, one company's Scope 1 emissions are likely another company's Scope 3 emissions. On one hand, this could be used as an excuse for inaction. On the other hand, while identifying and abating Scope 3 emissions is no easy feat, the task presents enormous opportunities for companies to multiply their climate impact, and accelerate emissions reduction in lagging sectors and countries, with limited additional costs.



Scope 3 emissions requirements and reduction targets

Sustainability in general and corporate supply chains in particular are under growing scrutiny from all sides. Investors are increasingly considering ESG matters in investment decisions. Consumers demand more transparency in corporate supply chains: In a survey conducted by NielseniQ and The Food Industry Association, about three quarters of the polled consumers regarded the brands' and manufacturers' transparency as extremely important or important.

Companies are increasingly held accountable for lacking transparency in supply chains, as seen recently when several large German companies were accused of false carbon neutrality claims by Deutsche Umwelthilfe.

In light of the increased public pressure to address environmental impacts, various legal requirements have been implemented to increase corporate climate accountability. An example is the EU's Corporate Sustainability Reporting Directive (CSRD), amending the 2014 Non-Financial Reporting Directive (NFRD). Whilst the current NFRD only covers around 11,600 companies, the CSRD will extend this scope to approximately 49,000 companies, corresponding to 75% of the turnover of all limited liability companies. The CSRD clarifies the "double materiality perspective" already introduced in the NFRD, which requires companies to report on how sustainability matters affect their businesses as well as on their impact

on people and the environment over the short-, medium- and long-term. The double materiality perspective applies to the whole supply chain, requiring a company to collect extensive data from all suppliers and other business partners and also present documentation on how this data was obtained.

The French Loi de Vigilance, despite having been introduced a few years prior to the CSRD, and the German Lieferkettengesetz are national adaptations of the CSRD. Both require large companies to create due diligence plans with measures to identify, prevent and mitigate risks related to human rights, health and safety as well as the environment along the whole supply chain.

In an attempt to further direct investment flows into sustainable activities, the EU Taxonomy for Sustainable Activities was implemented in context of the European Green Deal. The EU Taxonomy defines six environmental objectives and presents technical screening criteria to define whether economic activities are aligned. The screening criteria are supposed to determine if an activity contributes to at least one of the six objectives, and simultaneously does no significant harm to any of the other objectives.

While legal requirements are certainly valuable in urging companies to take sustainable actions, they currently lack clear regulations or guidance concerning Scope 3 emissions. In order to fill this gap, various voluntary initiatives such as the Science-Based Target Initiative (SBTi) and the GHG Protocol Corporate Value Chain (Scope 3) Standard have been introduced, which collectively provide companies with clearer guidelines on how to tackle Scope 3 emissions. Companies publicly committing to these initiatives react to the external demand to be transparent about their supply chains.

The Scope 3 Standard by GHG Protocol provides a step-by-step approach to help companies measure their GHG emissions throughout their whole supply chain. This standardized approach aims to increase the consistency and transparency of Scope 3 reportings and enables companies to effectively manage and reduce their Scope 3 emissions. The GHG Protocol Scope 3 Standard is an important addition to the GHG Protocol Corporate Standard, as the former requires companies to also report Scope 3 emissions, whereas Scope 3 is optional in the latter.

However, the GHG Protocol does not provide clear guidance on how to tackle Scope 3 emissions. While the GHG Protocol Standard allows companies to identify GHG ‘’hot spots’’ in their value chain, the Science-Based Target initiative (SBTi) aims to provide private companies with a clear roadmap on how to reduce GHG emissions. SBTi’s Net Zero Standard is the leading framework for setting net zero targets based on climate science.

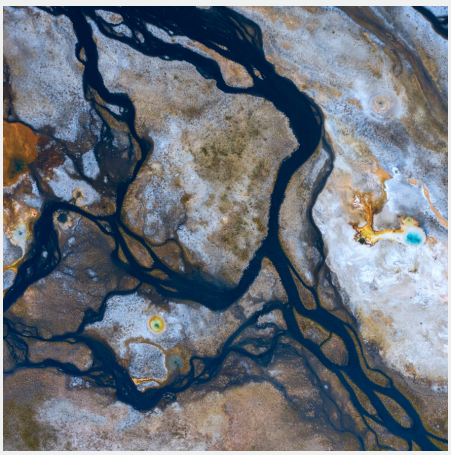
While setting out clear reduction requirements for direct and indirect emissions controlled by a company (i.e. Scope 1 and 2 emissions), which must be prioritized, the Standard also strongly recommends that companies take urgent action to address other indirect emissions generated along the corporate value chain (i.e. Scope 3 emissions). A recent article in SBTi’s beyond value chain mitigation (BVCM) series outlines three steps for companies to immediately scale up both investment and action that lead to the avoidance or removal of greenhouse gas (GHG) emissions through BVCM:

1. Understand the mitigation hierarchy: Companies should prioritize preventing the degradation of natural carbon sinks (e.g. terrestrial and aquatic ecosystems) in the short term. Carbon dioxide removals (CDR) are necessary to neutralize residual emissions at the net zero target date, and should be invested in as part of a company's longer-term decarbonization strategy.

2. Prioritize tropical rainforests and peatlands when conserving and restoring natural carbon sinks: While tropical forests and peatlands constitute less than 7% and 1%, respectively, of the Earth's terrestrial surface, they are significant carbon sinks. Yet, they receive only 3% of global climate finance.

3. Scale quality, permanent CDR and storage: Currently, we struggle to remove 100,000 t CO2 per year, yet we need to remove 5–16 billion tons per year to achieve net zero by 2050. To address this deficit long term, companies should support nascent removal technologies, including quality biochar, enhanced weathering, mineralization, direct air capture (DAC) and biomass carbon removal and storage (BiCRS) projects.

To summarize, legal requirements for Scope 3 emissions are currently lacking, but will likely be introduced with the push towards increasing transparency throughout the whole supply chain. Private initiatives such as the SBTi provide clearer guidelines concerning Scope 3 emissions and are already stressing the importance of carbon removal.



How to use the Voluntary Carbon Market (VCM) to cut Scope 3 emissions

Delivering on Net Zero ambitions to reduce Scope 1 and Scope 2 emissions is a significant technical and economic challenge, but addressing Scope 3 emissions adds additional layers of complexity by way of their convoluted nature. Nonetheless, 94% of the 239 companies signed up to the SBTi in 2020 committed to emissions reductions in their upstream and downstream value chains.

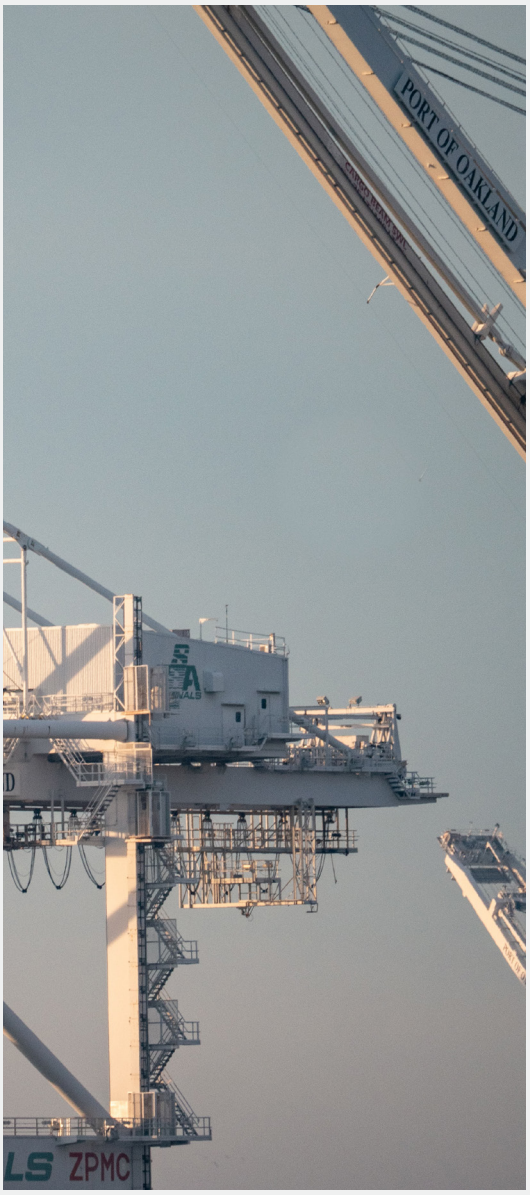
So, what should companies do to keep ahead of the pack in tackling Scope 3 emissions?

- Develop transparent accounting and monitoring practices: This means ditching an overreliance on secondary or tertiary data on suppliers' and customers' emissions, as

well as building solid foundations for efficient and robust internal data management systems. Enterprise resource planning (ERP) and customer relationship management (CRM) system providers have already started to provide carbon accounting functionality that may be leveraged.

- Collaborate with customer and supplier networks: Navigating this messy, dynamic web is not part of the equation when considering Scope 1 and 2 emissions. Where companies have less control over how Scope 3 emissions are addressed, forging productive alliances provides ripe opportunities for knowledge sharing, economies of scale in decarbonization innovations and a platform for community influence. For instance, it has been found that if two companies versus three companies request a supplier to disclose to the CDP, there is a 68% versus 76% chance that the supplier will respond.

- Be responsive: This means keeping pace with shifting best practices – and, of course, regulations – when it comes to accounting and monitoring, and taking an iterative approach to building a bespoke solution to meet internal needs. Companies must also take care to assertively, rather than passively, collaborate with stakeholders in order to keep them dynamically engaged in a difficult, multi-year period of change.



In actioning the above, companies must also be adaptive in navigating uncertainty, especially as making a positive change in one part of the supply chain may have unexpected knock on effects in other parts. In some instances, companies may already be able to rapidly reduce some of their Scope 3 emissions through simple measures, such as logistics optimization and switching to low-carbon energy suppliers.

However, it is likely that the majority of their value chain carbon will prove more difficult to tackle with expediency, and rather will require a concerted medium- to long-term effort. In such instances, the voluntary carbon market (VCM) provides a useful tool to assist companies in accelerating their decarbonization journey. While avoidance credits enable companies to rapidly offset interim emissions, removal credits are important for addressing unavoidable or residual emissions in the long-run, as outlined in our white paper “Why should you use Carbon Credits?”.

In light of the above, companies need to ensure they are thorough, more transparent and agile in selecting carbon credits to tackle Scope 3 emissions through the VCM by:

- Setting watertight internal standards and frameworks for carbon credit portfolios: such as developing clear, objective and verifiable criteria to ensure that climate impact is maximized by the use of quality carbon credits. This could include purchasing credits only from verified registries and with recent vintages, as well as regularly evaluating their reported baseline and monitored efficacy. It may also involve further research into their quality in terms of climate impact and co-benefits.

- Screening, monitoring and reporting on carbon credit portfolios: to ensure compliance with established internal and external standards. Companies should regularly screen existing carbon credits against the most up-to-date quality criteria adopted internally, and maintain a 'live ledger' containing original certifications, monitoring reports and transaction records to ensure bullet-proof accounting and to aid in generating audit ready data for Net Zero certifications.

- Setting clear expectations and sharing impact along the supply chain: Beyond defining rules around when and how carbon credits will be used internally, as with other topics (e.g. Social Rules and Codes of Conduct for Suppliers), companies must actively engage with customers and suppliers along the value chain to ensure that their carbon credit portfolios meet

CEEZER can support with the above by helping you build an optimized portfolio of carbon credits to tackle Scope 3 emissions throughout your decarbonization journey. If you are interested in learning more about this please visit www.ceezer.earth or contact us at info@ceezer.earth.

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Appendix

The upstream Scope 3 emissions categories include:

1. Cradle-to-gate (i.e. extraction, production and transportation) emissions associated with purchased goods (tangible products) and services (intangible products).

2. Cradle-to-gate emissions associated with acquired capital goods.

3. Emissions associated with fuel – and energy-related activities, including cradle-to-gate emissions for purchased fuels, electricity, and transmission and distribution losses and generation of purchased electricity sold-on to end users, not included in Scope 1 or Scope 2 emissions.

4. Transportation and distribution of purchased products and services, including between the company's direct suppliers and its own operations and between the company's own facilities, in vehicles and/or facilities not owned or controlled by the company. Life cycle analyses (LCAs) may also include emissions from the manufacture and construction of associated infrastructure.

5. Disposal, treatment and management of waste generated by the company's operations, in facilities not owned or controlled by the company. LCAs may also include emissions from transportation of waste.

6. Transportation of employees for business-related purposes. LCAs may also include emissions from the manufacture and construction of associated infrastructure.

7. Transportation of employees, in vehicles not owned or operated by the company, between their home and workplace.

8. Emissions associated with the operation of assets leased by the company, not including in Scope 1 and Scope 2 emissions. LCAs may also include emissions from the manufacture and construction of associated infrastructure.

The downstream Scope 3 emissions categories include:

1. Transportation and distribution of goods and services sold by the company between its operations and the end-user. LCAs may also include emissions from the manufacture and construction of associated infrastructure.

2. Emissions from the processing of intermediate products by downstream companies.

3. Direct end-use emissions of products, over their expected lifestyle, sold by the company, including consumption of energy during use, fuels and feedstocks required for use and GHGs contained in or emitted by the product during use. LCAs may also include indirect end-use emissions.

4. Disposal, treatment and management of products sold by the company.

5. Emissions associated with the operation of downstream assets owned by the company and leased to other entities, not included in Scope 1 and Scope 2 emissions. LCAs may also include emissions from the manufacture and construction of associated infrastructure.

6. Emissions associated with the operation of franchises, not included in Scope 1 and Scope 2 emissions. LCAs may also include emissions from the manufacture and construction of associated infrastructure.

7. Emissions associated with the operation of investments, including both equity and debt financing), not included in Scope 1 or Scope 2.