Mastering Scope 3 Emissions: Strategies for Supply Chain Decarbonization

STRIVE
by STX

Executive Summary

As companies strive to meet ambitious climate targets, reducing emissions across supply chains has become a critical priority. Stakeholders, regulators and consumers are increasingly demanding action on sustainability, making value chain decarbonization essential.

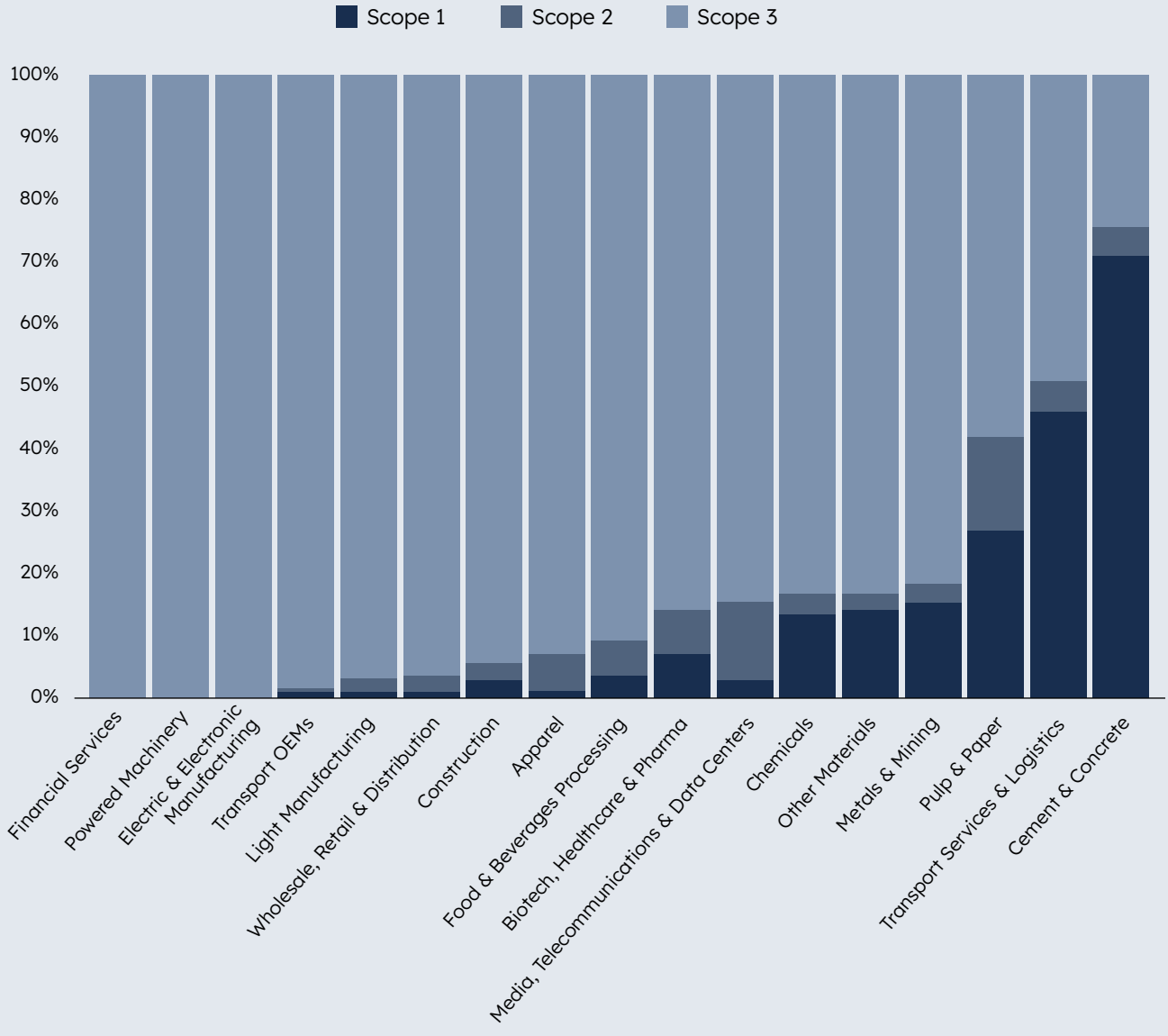
These emissions account for more than 80% of an organization's carbon footprint for most industries and, in general, are estimated to be 26 times higher than direct operational emissions, with certain sectors like retail experiencing even higher ratios. Addressing these indirect emissions demands urgent attention to align with climate targets and meet stakeholders' expectations.

However, scope 3 emissions present unique challenges ranging from the complexities of data collection to promoting cooperation and accountability among supply chain partners. This paper explores these barriers and introduces actionable solutions through STRIVE by STX, offering practical tools to help businesses future-proof their value chains.

By adopting a structured, industry-specific approach, businesses can reduce emissions, enhance sustainability efforts and secure competitive advantages in a low-carbon economy.

In 2022, Scope 3 GHG emissions represented more than 80% of total emissions for most industries

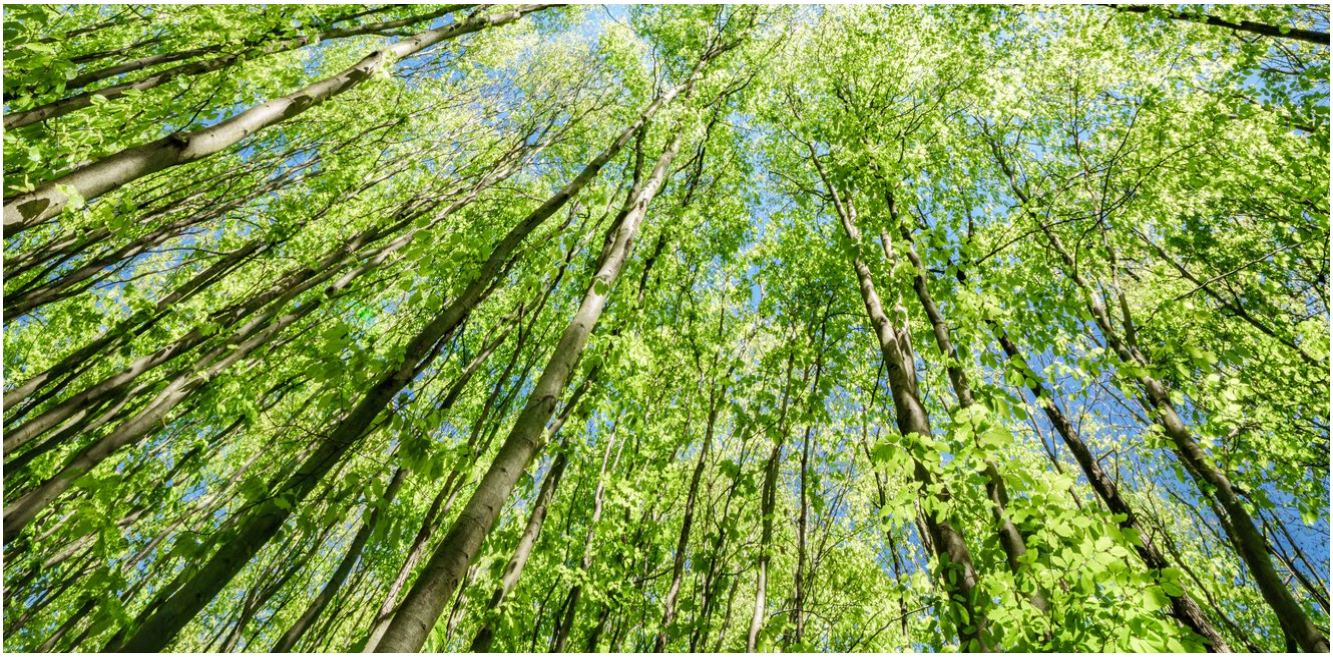
Global overview of emissions by scope across industries, % of total emissions



Key focus areas include:

By adopting a structured, industry-specific approach, businesses can reduce emissions, enhance sustainability efforts and secure competitive advantages in a low-carbon economy.

Inconsistent Data and Complexity & Setting Emissions Targets:	Establishing robust data frameworks, calculating accurate footprints, and setting science-based Scope 3 targets to drive meaningful reductions.
Lack of a Defined Scope 3 Decarbonization Plan:	Developing clear and actiona-ble decarbonization strategies aligned with global regulations to prioritize high-impact reduction opportunities.
Misalignment Between Suppliers and Corporate Climate Goals:	Implementing structured supplier engagement programs to align supplier action with corporate climate targets and accelerate Scope 3 progress.
Limited Supplier Access to Decarbonization Solutions:	Enabling suppliers to access renewable energy, low-carbon fuels, and energy efficiency solutions to decarbonize operations.
Hard to Abate Logistics & Transport Emissions:	Deploying insetting strategies through sustainable fuel solutions like Liquefied Biomethane (LBM) and Sustaina-ble Aviation Fuel (SAF) to decarbonize freight transport.
Balancing Business Travel Needs with Sustainability Goals:	Using SAF credits and Book & Claim systems to decarbonize corporate air travel without disrupting operational needs.



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The Imperative for Scope 3 Decarbonization

Value chain emissions are generated from activities outside a company's direct control, including **purchased goods and services, transportation and distribution, employee business travel and product end-of-life disposal**. Given their scale and complexity, achieving a comprehensive **disclosure and reduction** requires structured and sustained efforts.

While some regulatory frameworks are experiencing delays, **there is a clear acceleration in global regulations that will mandate Scope 3 disclosure**, meaning that companies must start preparing today to ensure compliance and avoid future risks. A report by CDP and Boston Consulting Group explains that on average it takes:

12-18 months	Data Collection for Scope 3 disclosure
1 to 3 years	Full Scope 3 emissions disclosure
3 to 5 years	Substantial upstream Scope 3 emssion reduction

These timelines highlight the need for **early action, robust supplier engagement and a clear decarbonization strategy** to ensure regulatory compliance and maintain market positioning.

1. Voluntary Commitments

Consumer expectations, supply chain demands and growing interest from shareholders and employees are compelling companies to make voluntary decarbonization commitments to stay competitive.

Leading companies are voluntarily setting ambitious Scope 3 emissions reduction targets to align with global climate goals. Since these emissions often represent the greatest share of a company's carbon footprint, proactively addressing these emissions enhances business resilience, builds stakeholder trust and strengthens market positioning. A voluntary strategy not only mitigates climate-related risks but also prepares businesses for evolving regulations.

Key international frameworks guiding voluntary commitments include:

SCIENCE BASED TARGETS
DRIVING AMBITIOUS CORPORATE CLIMATE ACTION

CDP

Science-Based Targets initiative (SBTi)

Provides companies with scientifically grounded roadmaps to achieve emissions reductions in line with the Paris Agreement. Currently, if Scope 3 emissions account for more than 40% of total emissions, then SBTi mandates a near-term target covering two-thirds of Scope 3 emissions. In the future, SBTi is proposing to prioritize mitigation actions on the most emission-intensive activities within the value chain, based on the relevance of the emissions rather than a fixed threshold, and on those where companies have the greatest influence (e.g. their Tier 1 suppliers). There is also a proposal for companies to set targets on the share of procurement allocated to net-zero aligned suppliers.

CDP

A global platform for environmental disclosure, enables companies to disclose and manage their environmental impact transparently, providing a necessary tool for benchmarking and improvement. CDP includes a Supply Chain program enabling companies to engage their suppliers in order to measure their business-critical upstream impacts. In 2024, 60,000+ suppliers were requested to disclose by CDP's 330 Supply Chain Members– a record high number.

2. Regulatory Drivers

The increase of mandatory climate disclosure regulation is reshaping corporate sustainability practices worldwide. These regulations require businesses to broaden their reporting and actively engage with their entire value chain to meet climate goals and compliance standards. Below are examples of key regulatory frameworks driving this transformation:

- The EU's **Corporate Sustainability Reporting Directive (CSRD**), which extends to the previous Non-Financial Reporting Directive (NFRD), was adopted on November 2022. It requires reporting on various ESG factors, selected via a Double Materiality Assessment; it makes climate disclosure quasi-mandatory. Large public-interest companies (for example listed companies) with more than 500 employees and already subject to the NFRD are impacted first, with their first CSRD-compliant annual report to be published in 2025 based on their activities in the previous financial year. Large companies not subject to the NFRD, listed SMEs and non-EU companies with significant operations in the EU are expected to be covered in phases later, with reporting initially starting from 2026. However, the recent Omnibus proposal from the European Commission suggests changes to the application of the CSRD. In order to protect companies from uncertainties, the European Commission introduced a "Stop-The-Clock" directive, postponing by 2 years the application of the CSRD for companies not yet having to report. The European Council approved the delays introduced by the Omnibus in March and the Parliament in early April. This means that companies previously due to start their CSRD reporting in 2026 or 2027, on previous year activities, will not need to do so before 2028 or 2029 respectively. The modifications to the scope of the CSRD, including the exact thresholds for companies having to comply, are expected to be known by the end of 2025. The simplified reporting standards (ESRS) will be implemented via delegated act within six months of the final Omnibus text.

  By mandating transparent sustainability reporting, the CSRD encourages businesses to adopt proactive measures to address stakeholder expectations, uncover opportunities and mitigate risks associated with climate change. It aims to give access to quality data to the finance sector, to ensure that investments are both sustainable and climate resilient.

  Similar regional regulations like the existing UK **Streamlined Energy and Carbon Reporting (SECR)** regulation, the California's **Climate Corporate Data Accountability Act (CCDAA)** in development, and the **IFRS Sustainability Disclosure Standards** that are being adopted by several market authorities across the globe (for example in Australia, Taiwan and Singapore) drive corporate accountability on a global scale.

- The EU's **Corporate Sustainability Due Diligence Directive CSDDD** aims to hold businesses accountable for human rights and environmental impacts across their supply chains. While it does not explicitly mandate scope 3 emissions reporting, it requires companies to conduct due diligence on their environmental impacts, which includes assessing and addressing potential negative effects across their value chain. It requires companies in scope (EU companies with more than 1,000 employees and €450M in global revenue, and non-EU companies covered from €450M turnover from activity in EU) to develop and implement transition plans to align their business model with the Paris Agreement's goal of limiting global warming to 1.5°C. The Omnibus "Stop-the-Clock" directive, approved by the European Council and the Parliament, is also setting a one-year delay to the transposition into national laws and the implementation of the CSDDD. The compliance initially planned for July 2027 for the first group of companies is now postponed to July 2028. In addition, the Omnibus proposes to change some of the obligations of the Directive.

  When mandated to assess and mitigate environmental impacts in their supply chains, companies must prioritize action on Scope 3 emissions, especially in sectors where these emissions are particularly high like Fashion and Apparel, Food and Beverage, Automotive and Telecom. These industries often require more transparency and collaboration throughout the supply chain to reduce their carbon footprint.

- The **Carbon Border Adjustment Mechanism (CBAM)**, adopted by the European Union on April 27, 2023, aims to equalize the carbon price between some domestic and imported goods – with importers having to procure CBAM certificates to cover the carbon emissions embedded in goods crossing the border; the price of these certificates will align with the price of allowances in the EU Emissions Trading System (ETS). From October 1, 2023, reporting obligations began for importers, requiring disclosure of embedded carbon emissions, without financial payments during this transitional phase.

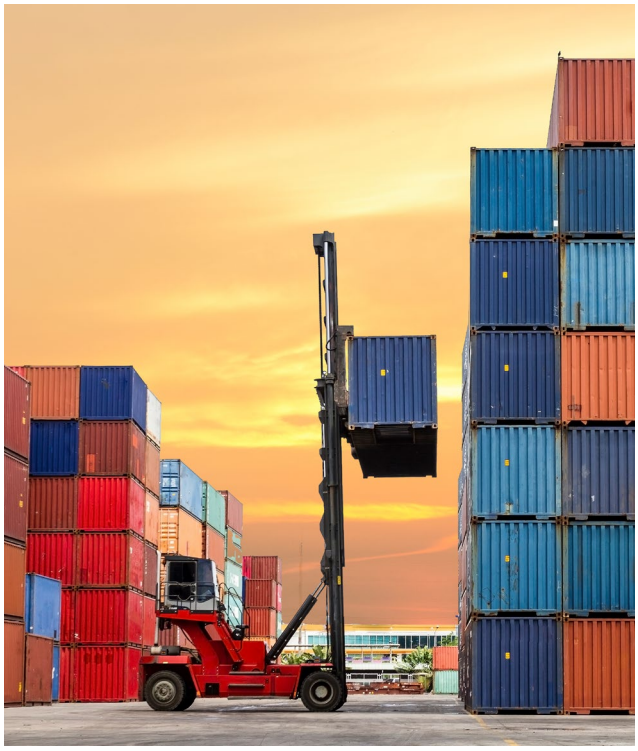
  Here too, the European Commission's Omnibus proposals affect enforcement timelines and import thresholds. Additionally, the sectors covered may evolve towards the end of 2025.

  The CBAM regulation is likely to have profound implications for companies that rely on global supply chains. If companies and their suppliers do not collaborate to monitor and then reduce emissions, they could face additional costs for goods and raw materials imported into the European Union.

  For EU companies importing goods, CBAM drives the need for proactive supplier decarbonization to avoid carbon tariffs and maintain competitiveness within the new regulatory framework. **For non-EU suppliers exporting to the European Union**, it pressures them to adopt robust sustainability practices to align with EU standards, or risk financial and market consequences. Those who invest now to decrease emissions and plan to supply products with the smallest possible environmental footprint will benefit from this competitive advantage.

3. B2B and B2C Customer Demand

According to Euromonitor International's 2023 data, 64% of global consumers expressed concern about climate change and this awareness is increasingly reshaping purchasing behavior. There is a steady shift from being willing to pay a premium for sustainable products to expecting companies to manage environmental issues as part of their business as usual.



B2C Market:

Consumers now expect businesses to embed sustainability into operations rather than treat it as a premium add-on. This shift is particularly significant in sectors like **FMCG, fashion, automotive and technology**, where sustainable sourcing and carbon footprint transparency influence purchasing decisions.

B2B Market:

Large corporations are increasingly prioritizing sustainable suppliers. As more businesses set Scope 3 reduction targets, supply chain partners must align with these goals to maintain contracts and remain competitive.

Businesses that act now to decarbonize their supply chains can leverage sustainability as a competitive advantage, as the demand for environmentally responsible supply chain partners continues to increase. This marks a broader societal trend, positioning **sustainable practices as not only mandatory in the long term but also as a beacon of corporate responsibility in the immediate future.**

Understanding Direct vs. Indirect Insets

As companies explore solutions to reduce Scope 3 emissions, it is critical to distinguish between **direct and indirect insetting** strategies, especially when addressing emissions related to logistics, business travel, or supplier operations.

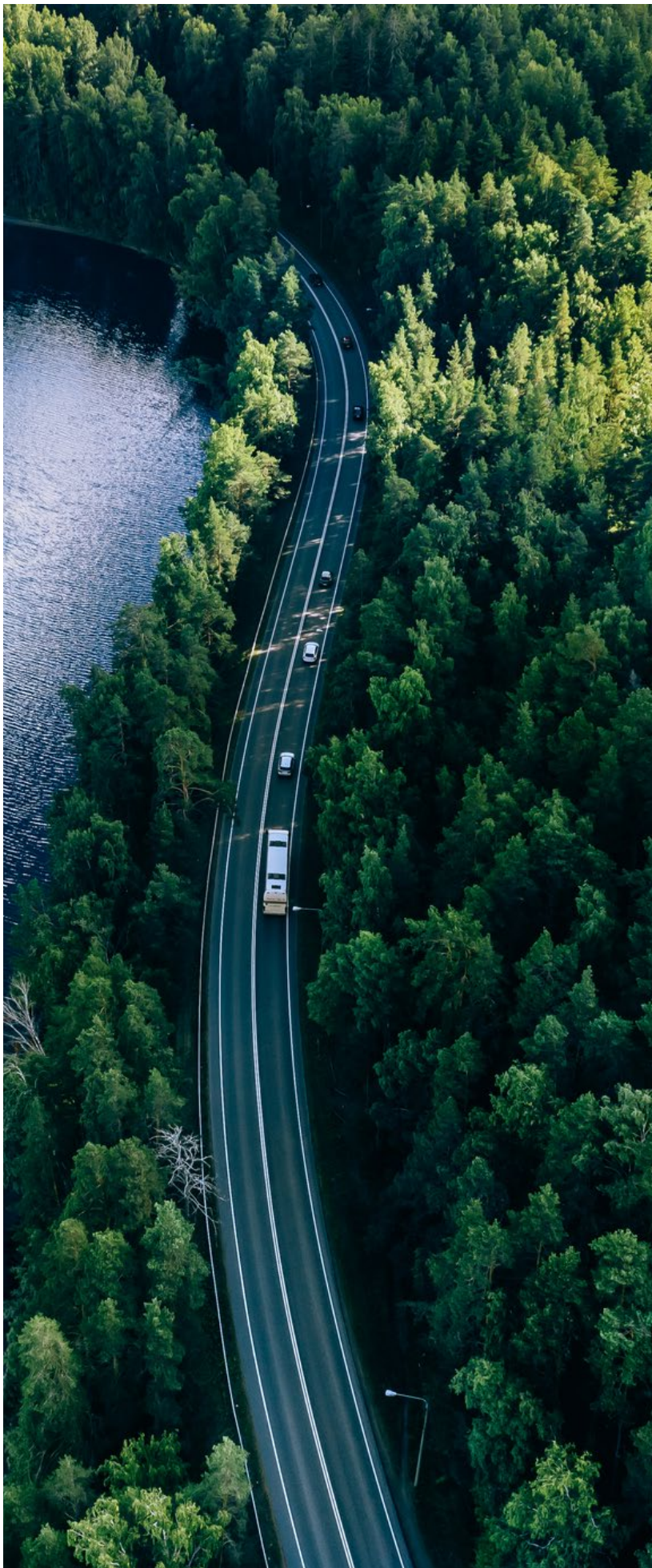
Direct Insetting

Direct insetting occurs when a company enables emissions reductions within its own operations or through direct influence over suppliers or partners in its value chain.

Indirect Insetting

Indirect insetting, such as those using **Book & Claim models** for Sustainable Aviation Fuel (SAF) or Liquefied Biomethane (LBM), involves **supporting emissions reductions in other supply chains**. While these actions can deliver meaningful climate benefits, **they do not count as emissions reductions within the company's own value chain**.

Recognizing this distinction allows companies to design more effective climate strategies. While indirect insets may not reduce reported emissions under existing accounting frameworks, they play a valuable role in accelerating the global transition to low-carbon solutions. By combining both direct and indirect approaches, businesses can take immediate action where direct decarbonization is not yet feasible, while signaling demand for cleaner technologies and contributing to system-wide transformation.



Key Challenges & Solutions for Supply Chain Decarbonization

A strategic, industry-specific and long-term approach is essential for reducing these indirect emissions. Companies must prioritize actions that deliver the greatest impact while enabling the structural changes necessary for effective decarbonization. Unlike direct emissions, those from the value chain originate from sources outside a company's operational control, such as suppliers, logistics, and business travel, making them more complex to measure and mitigate.

This section outlines key challenges companies face in tackling value chain emissions and the tailored solutions provided by STRIVE by STX to help businesses accelerate reductions, enhance sustainability reporting and future-proof their value chains.

1. Inconsistent Data and Complexity & Setting Emissions Targets

Challenge

Scope 3 emissions are notoriously difficult to measure as collecting and aggregating data from beyond a company's direct operations often involves navigating **fragmented and dispersed information across multiple stakeholders**. Suppliers may lack reporting capabilities, further complicating transparency and making emissions tracking inconsistent or unreliable.

Without accurate and verifiable data, businesses struggle to identify emissions hotspots and set science-based targets. Many companies rely on industry-average emissions factors, which do not reflect actual supplier performance, leading to misalignment between reduction strategies and real-world emissions data.

To drive meaningful reductions, companies must establish robust data validation frameworks, ensuring supplier engagement, reliable reporting, and compliance with global standards.

STRIVE by STX Solution

Target Setting & Footprint Calculation

Measuring emissions accurately starts with **establishing a clear baseline** and setting **precise, actionable targets**. We guide businesses through every stage, **from footprint calculation to validating science-based targets**, while ensuring suppliers are engaged and aligned.

With this structured approach, companies can **drive meaningful emissions reductions** and improve sustainability reporting.

2. Lack of a Defined Scope 3 Decarbonization Plan

Challenge

Many companies struggle with defining a structured, measurable approach to emissions reductions. Without a solid strategy, it's difficult to set targets and prioritize actions.

Scope 3 emissions involve multiple stakeholders across the value chain, requiring alignment, collaboration and data transparency. Moreover, not all emissions contribute equally to a company's total footprint. High-impact areas, such as supplier emissions, logistics and product end-of-life,should be prioritized to maximize reductions.

A proactive approach allows companies to **integrate low-carbon solutions**, by prioritizing sustainable materials, partnering with suppliers committed to decarbonization and integrating emissions criteria into procurement policies.

STRIVE by STX Solution

Develop your Strategy

We help businesses **create an actionable decarbonization strategy** covering all scopes. This includes **implementing in-ternal carbon pricing (ICP)** and **develop-ing customized decarbonization roadmaps**.

Our solutions align with global regulatory frameworks, ensuring companies can ef-fectively measure, plan, and execute value chain emissions reductions while main-taining compliance and gaining a com-petitive advantage.

3. Misalignment Between Suppliers and Corporate Climate Goals

Challenge

Accurate reporting on supply chain emissions is challenging, as suppliers have varying levels of sustainability maturity, resources, and commitment to decarbonization. While some have structured tracking systems, others lack the knowledge, tools, or financial incentives to begin the process. These differences require tailored engagement strategies to provide targeted support.

To maximize impact, companies should prioritize **key suppliers and high-emission areas**, avoiding inefficiencies from gathering granular data on less significant contributors. Since a large share of these emissions comes from supplier operations (Scope 1 and Scope 2), businesses must actively collaborate with suppliers to drive reductions across the value chain.

Equipping suppliers with the **right tools, training, and resources** is essential. Companies that offer structured engagement programs help suppliers develop credible, achievable emissions reduction strategies aligned with corporate climate goals, en-hancing supplier commitment and accelerating progress toward large-scale Scope 3 reductions.

STRIVE by STX Solution

Supplier Engagement Program

A strong supplier engagement strategy is key to achieving supply chain decarbonization. **Our Supplier Engagement Program educates, trains, and incentivizes suppliers to measure and reduce their emissions**.

We recognize that suppliers have different levels of sustainability maturity, so we tailor our approach to meet them where they are, whether they need guidance on emissions tracking, support in setting science-based targets, or assistance in implementing low-carbon solutions.

By offering structured support and practical tools, **we empower suppliers to develop and execute decarbonization strategies** that align with corporate climate goals. This not only leads to greater emissions reductions at scale but also strengthens long-term collaboration, enhances supply chain resilience, and ensures compliance with evolving sustainability regulations.

4. Limited Supplier Access to Decarbonization Solutions

Challenge

A company's **Scope 3 emissions are heavily influenced by its suppliers' energy choices**. When suppliers lack access to affordable decarbonization solutions, such as renewable energy, low-carbon fuels, or energy efficiency technologies, they remain dependent on high-emission practices, increasing the carbon footprint of their customers.

Navigating the wide range of decarbonization pathways, including Power Purchase Agreements (PPAs), Renewable Energy Certificates (EACs/RECs), Renewable Natural Gas (RNG), sustainable fuels, and energy efficiency initiatives, **can be overwhelming** for businesses and suppliers alike. Financial constraints, regulatory hurdles, and infrastructure limitations can further hinder the adoption of cleaner solutions, especially in emerging markets.

STRIVE by STX Solution

Supplier Decarbonization Support

Suppliers often face regulatory, financial, and technical barriers that limit access to affordable decarbonization solutions, from **renewable energy and RNG to sustainable fuels and energy efficiency upgrades**. This challenge keeps supply chains dependent on fossil fuels and raises Scope 3 emissions.

Our experts simplify the transition by analyzing supplier operations, identifying tailored decarbonization opportunities across Scope 1, 2, and 3 emissions, and ensuring compliance with local regulations. Through customized strategies, spanning renewable procurement, fuel switching, and efficiency improvements, we empower companies to help their suppliers implement cost-effective solutions, drive emissions reductions, and deliver on long-term climate commitments.

5. Hard to Abate Logistics & Transport Emissions

Challenge

Reducing downstream and upstream transport emissions is essential for **decarbonizing the logistics industry**, particularly in **maritime and air shipments** and insetting provides a powerful solution. By investing in emissions reductions **within their own value chains**, companies can move beyond external offsets to create meaningful, measurable changes.

For **maritime transport**, adopting **Liquefied Biomethane (LBM)**, a renewable alternative to fossil fuels, can significantly cut carbon emissions while maintaining operational reliability. In air shipments, **Sustainable Aviation Fuel (SAF)** made from renewable feedstocks can reduce lifecycle emissions by up to 85% compared to fossil kerosene. **The industry relies on the Book & Claim chain of custody models**, which allows companies to switch to sustainable fuels without disrupting existing supply chain logistics, ensuring a verifiable impact.

STRIVE by STX Solution

Supporting Transport Decarbonization through Insetting

Supporting emissions mitigation in maritime and air freight requires solutions that go beyond traditional offsets. Insetting allows companies to financially support low-carbon fuel alternatives, **enabling emissions reductions with no physical connection**.

By leveraging Liquefied Biomethane (LBM) for shipping and Sustainable Aviation Fuel (SAF) for air freight, businesses can claim **credible climate benefits** while maintaining operational efficiency. **This approach decouples the environmental attribute from the physical fuel utilizing the Book and Claim chain of custody model**, enabling **accurate emissions tracking** and allowing shippers to **invest in sustainable freight across different transport modes**.

STRIVE by STX guides companies through the complexities of insetting, helping them enhance their sustainability profile and shape a cleaner, more efficient future for global transport.

6. Balancing Business Travel needs with Sustainability Goals

Challenge

Business Travel can be a major source of emissions for a company, especially for professional services and technology companies. Teams trying to bring these emissions down have a suite of tools at their disposal, ranging from: mode switching (e.g., taking the train over short-haul flights), reducing travel and adopting virtual meetings and for those necessary flights switch to Sustainable Aviation Fuel.

SAF is a scalable solution that is readily available to responsible corporates today that are willing to adapt and via book & claim certificates provides a verifiable, reputable and high integrity solution, supported by the SBTi standard.

STRIVE by STX Solution

SAF Credits

For companies aiming to cut emissions from business travel, or the transportation of goods by air, Sustainable Aviation Fuel (SAF) credits offer a reliable and verifiable way to support climate action. Using the Book & Claim model, businesses can fi-nancially support SAF production and us-age, even if the fuel isn't physically used on their specific flights.

This approach supports **transparent emissions reporting** while allowing com-panies to demonstrate their contribution to aviation decarbonization.

Conclusion

Achieving net-zero targets requires a collaborative, comprehensive strategy for tackling Scope 3 emissions. Success depends on **early action, robust supplier engagement and strategic adoption of emissions reduction initiatives** that go beyond direct operations. While companies face challenges in measuring, managing and mitigating their supply chain emissions, the right approach ensures not only compliance but also long-term business resilience and competitive advantage.

STRIVE by STX provides companies with **tailored decarbonization strategies and solutions**, enabling businesses to accelerate emissions reductions, enhance sustainability reporting and future-proof their supply chains. Our expertise enables companies to define their strategy, set science-based targets, engage suppliers effectively, procure environmental solutions and implement sustainable logistics strategies.

By taking proactive steps today, businesses can strengthen supplier relationships, manage climate risks and unlock opportunities in a low-carbon economy. Decarbonization is more than a compliance requirement, it is an investment in **long-term operational efficiency, stakeholder trust and financial resilience**.

Partner with STRIVE by STX to turn your Scope 3 ambitions into measurable climate action.