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Decarbonizing Supply Chains

A White Paper for Procurement and Sustainability Professionals

A Message from the Authors

Dear Readers,

We are pleased to share this white paper, “Decarbonizing Supply Chains,” which tackles one of the most significant challenges businesses face today: reducing Scope 3 emissions.

Procurement and sustainability professionals play a pivotal role in driving decarbonization across the value chain. According to the CDP, companies’ Scope 3 supply chain emissions are 26 times higher than their operational emissions, making them a key focus area for businesses undertaking their decarbonization journey.

Drawing on lessons from industry leaders like CBRE, Accor, and Siemens and leveraging advanced tools and methodologies, our aim is this white paper serves as a practical guide, sharing knowledge and frameworks necessary to make meaningful progress toward your net-zero goals.

Thank you for your commitment to sustainability. Decarbonizing supply chains is no small task, but with the right approach, it is achievable.

Sincerely,

Mat Langley

Sam Stark

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Introduction

The global movement towards decarbonization is accelerating, with businesses facing increasing pressure from regulators, investors, and consumers to take decisive action.

According to the CDP, supply chains account for an average of 75% of corporate emissions, making them a key focus area for businesses undertaking their decarbonization journey.

Procurement and sustainability professionals are uniquely positioned to drive these efforts by engaging suppliers, leveraging data, and implementing sustainable practices across value chains.

This paper provides an introduction to the decarbonization of supply chains, offering practical insights, real-world examples, and action plans.

Scope 3 Emissions: Understanding and Addressing the Challenge

Scope 3 emissions, i.e. emissions from upstream and downstream in the value chain, represent the largest and most complex category in corporate emissions reporting.

These indirect emissions originate from activities such as raw material extraction, manufacturing, purchasing, servicing, and use. Managing Scope 3 emissions is particularly challenging due to the need to retrieve accurate data from multiple stakeholders across the value chain.

Companies like Siemens report that over 75% of their emissions arise from their supply chain, making it a top priority for their decarbonization efforts.

Comprehensive data collection is vital. Frameworks like the Greenhouse Gas (GHG) Protocol and regulations like the Corporate Sustainability Reporting Directive (CSRD) are the benchmark for reporting Scope 3 emissions accurately.

The earlier companies start decarbonizing supply chains, the more likely they will meet their net zero commitments.

However, while a company may feel motivated and ready to start the journey, its supply chain may not be, which can be the first problem statement on this journey.

Achieving reliable, comprehensive data from suppliers is often the first major challenge. Green Project data reveals that only around 14% of engaged suppliers currently meet data quality (DQ) standards, illustrating the gap between engagement and actionable data.

Notably, it's typically those suppliers who have been through multiple annual data requests who ultimately provide the highest quality information.

Common ways of addressing supply chain emissions include engaging more deeply with suppliers and leveraging hybrid calculation methodologies that combine direct supplier data with industry averages and emission factors.

The latter approach represents the second problem statement.

Using industry averages is useful to identify and understand hotspots of emissions, but it does not help companies track carbon reductions with the level of meaningful granularity required by most contemporary regulations and decarbonization frameworks.

Fully decoupling business growth from emissions requires identifying and collecting the primary or actual emission data from the supply chain.

However, perfect can't be the enemy of good, and businesses should start their supply chain emissions journey where they can and build from there.

Identifying the Main Supplier Barriers to Decarbonization

Suppliers often encounter significant barriers on their decarbonization journey. The more clients can provide support in these areas, the more likely they are to get accurate supply chain data and meet their decarbonization goals.

Data Gaps

Many suppliers lack the capabilities to accurately report emissions data. Even with the comprehensive support Green Project provides, only 14% of the 4250 suppliers (or $250Bn) that have been engaged to date make it through data quality checks to be at an accuracy level needed for external reporting.

Resistance from Suppliers

Suppliers may be reluctant to provide directly the confidential information needed to calculate emission factors (requiring a third party) or to invest in emissions reduction initiatives without clear incentives.

Lack of Expertise

Many suppliers, especially SMEs, may lack the in-house expertise to implement effective carbon reduction strategies.

Financial Constraints

Balancing sustainability with profitability requires innovative strategies including minimum and longer-term commitments by clients.

Technological Challenges

Integrating emissions tracking tools with existing systems can be complex.

Competing Priorities

Suppliers may struggle to balance decarbonization efforts with other business objectives.

Best practices to overcome these barriers include hybrid data models, strategic supplier partnerships, and financial incentives for suppliers. CBRE, for example, combines direct and estimated data to manage Scope 3 reporting effectively and focuses on the value that a net zero supply chain can offer.

Engaging Suppliers on a Joint Decarbonization Journey

Supplier engagement is a fundamental aspect of reducing Scope 3 emissions. Establishing a program where suppliers feel valued and see mutual benefits beyond cost is critical; trust-building and a shared vision for decarbonization are essential for a successful partnership. Procurement professionals must identify emission hotspots in their supply chain, prioritize high-impact suppliers by developing a risk-based approach, and create collaboration frameworks tailored for each supplier.

Each supply chain is different, and there are major differences between direct procurement (raw materials and components) and indirect procurement (general products and services).

A Supplier Engagement Program

Meeting suppliers where they are along their own supply chain emissions management maturity journey.

Screen

Identify publicly available information about suppliers' targets and disclosure to tailor the engagement process.

Engage and Collect

Suppliers submit emissions, targets and reduction initiatives via Green Project.

Calculate

Selected suppliers are offered a zero-cost opportunity to calculate Scope 1, 2, and 3 emissions with Green Project.

Evaluate

Green Project calculates supplier-specific values following a consistent methodology:

- Emissions intensity factor
- Data quality score

Act

Data is used to track progress, identify low emissions suppliers, collaborate on supplier reduction initiatives, and more.

Suppliers use data to identify hotspots and opportunities; verify performance against industry benchmark.

Manufacturers of manufacturing businesses with large direct procurement ($5-20Bn) generally have 100-500 suppliers representing the majority of their emissions and can map supplier product carbon footprint (PCF) data to purchases. For indirect purchasing, there are generally much larger supplier bases. CBRE and Siemens' approach involves engaging thousands of suppliers, setting clear reduction targets, and offering support for emissions tracking and reporting.

Accor's supplier engagement program emphasizes collaboration, incentivizing suppliers to adopt emission-reduction initiatives through long-term partnerships and training programs.

The company also integrates sustainability into product and service offerings, promoting lower-carbon materials and circular practices across its operations. Similarly, CBRE, provides resources and tools for suppliers to enhance their sustainability practices, fostering deeper collaboration across the supply chain. Siemens is committed to aligning 80% of its suppliers with net zero targets by 2030.

Procurement teams must integrate sustainability criteria into sourcing strategies, contracts, and performance reviews, to embed decarbonization goals at every stage of the procurement lifecycle.

All of this requires close relationships and collaboration with suppliers, which is the third problem statement most companies have when they start the journey. Without a Supplier Relationship Management (SRM) program, companies' key insights into suppliers' data are only via financial systems and the suppliers' accounts department. These will not be adequate to measure or impact carbon emissions and needs to change as we rethink what a net zero supply chain might look like.

That Which Gets Measured Gets Managed

Engage your suppliers to calculate, report, and reduce emissions to achieve a Net Zero Supply Chain.

Net Zero Supply Chains provide the ability to focus precious resources on the most effective and impactful decarbonization initiatives.

Challenges with current supply chains	→	Solved by Net Zero Supply Chains
Limited ability to understand emissions hotspots		**Deep knowledge of most emitting suppliers and difficult-to-abate inputs**
Limited influence over supplier's emissions and practices		**Constructive collaboration and partnership on joint emissions reduction initiatives**
Ill-equipped and ESG-fatigued suppliers		**Suppliers equipped with tools to accurately track and reduce emissions**
Lack of data transparency, constantly hit by escalations and crisis		**High visibility and increased supply chain resilience**

Leveraging Data Transparency and Technology for Decarbonization

Data transparency is essential for tracking and reducing emissions across supply chains. Tools like Green Project automate emissions calculations, providing real-time insights into supplier performance.

For these calculations, emission factors are particularly valuable for organizations lacking direct supplier data, enabling estimation through spend-based calculations at the initial stage to kickstart the decarbonization journey.

However, as data accuracy and engagement improve, organizations can adopt more precise methodologies.

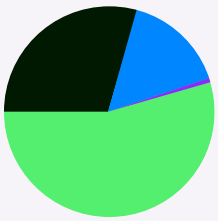
For instance, CBRE's shift from spend-based emission factors to a refined methodology reduced their estimate of Category 3.1 Purchased Goods and Services emissions by about one-third compared with calculations using factors from the World World Input-Output Database (WIOD) (CBRE, 2023, p.29).

Industry-level Insights: HVAC I&M Example

Insights

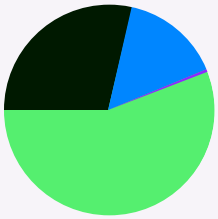
- Both companies have low Scope 2 compared to other cradle-to-gate emissions categories -> possible investment in renewables.
- Company B has lower Scope 1 / fleet related emissions -> possible investment in EV.
- Potential differences in waste management options -> possibly leveraging circularity options.
- Improvement area: Focus on supply chain emissions.

Notes: Cradle-to-gate insights are only possible for suppliers who pass data quality review Scope 3 downstream is not included in cradle-to-gate.



HVAC I&M Company A

- Emissions intensity factor 0.244kgCO2e/$
- 53% higher than relevant average industry intensity factors (Exiobase)



HVAC I&M Company B

- Emissions intensity factor 0.140kgCO2e/$
- 4% lower than relevant average industry intensity factors (Exiobase)

CBRE's data management system highlights the importance of building reliable baselines to identify emission hotspots.

By integrating procurement data with emissions factors, companies can engage the most carbon-intensive suppliers and utilize resources more efficiently.

Establishing data collection processes along a risk-based approach is a key factor for external reporting and compliance with frameworks like the GHG Protocol, CDP, and CSRD.

Companies that manage data effectively gain a competitive advantage by future-proofing themselves against anticipated regulatory changes, reputational damage, and aligning with ever-evolving customer (and investor) expectations.

Technology further transforms the decarbonization landscape. IoT devices enable real-time monitoring of emissions, while AI-driven analytics identify patterns and optimization opportunities.

Similarly, digital twins enable companies to model emissions scenarios and assess the impact of potential interventions.

For example, Accor has integrated real-time emissions data into its business decision-making processes, allowing for agile responses to carbon management challenges.

Beyond providing corporate carbon footprints (CCF) and calculating product carbon footprints (PCF) for low maturity suppliers, technology can deliver tailored decarbonization initiatives, supported by decarbonization playbooks and generative AI.

These tools empower suppliers, especially SME's, to focus on delivery with green financing and an ecosystem of consultants supporting the delivery if needed.

Navigating the Regulatory Landscape

Key Regulations Driving Decarbonization

The regulatory landscape around decarbonization has become increasingly complex and demanding. Key regulations in Europe include the CSRD, CSDDD and CBAM. The US is more state based, primarily in California and NYC. With the rest of the world also moving along such as India, Australia, Canada, etc. All this underscores the urgency of supply chain decarbonization.

Climate Corporate Data Accountability Act (SB 253) and Related California Laws

California's climate disclosure laws, SB-253, SB-261, and AB-1305, require large companies to report greenhouse gas emissions, including Scope 3, and disclose climate-related financial risks. These laws have set a precedent for enhanced transparency, prompting similar proposals in Illinois, New York, Colorado, and New Jersey.

Corporate Sustainability Reporting Directive (CSRD)

This EU directive mandates detailed corporate sustainability reporting. Companies must show how they address environmental, social and governance (ESG) issues, with a strong emphasis on Scope 3 emissions.

Corporate Sustainability Due Diligence Directive (CSDDD)

Complementing the CSRD, the CSDDD goes beyond reporting by requiring companies to actively engage their supply chains on environmental and social risks. Compliance demands evidence of proactive efforts to mitigate these risks.

Carbon Border Adjustment Mechanism

CBAM imposes carbon tariffs on imports from countries with weaker environmental standards, pushing companies to reduce their carbon footprints.

Key Metrics for Success

The SBTi sets out their approach to supplier engagement in this guidance, which covers areas such as supplier capacity building, performance tracking, incentives, supplier engagement program refinement, and supplier data collection solutions.

The CDP also has specific guidance on reporting for the supply chain that covers a broad section of areas, from purchasing processes to board level oversight policy.

Tracking progress towards decarbonization requires robust metrics and KPIs.
Companies should monitor:

Carbon Footprint Reductions

Measured across Scope 1, 2, and 3 emissions.

Supplier Participation Rates

The percentage of suppliers engaged in sustainability initiatives such as having Science Based Targets (SBTs), EcoVadis ratings or participating in a carbon accounting process.

Cost Savings

Achieving reductions without compromising profitability via innovations, changes in requirements, or circularity.

Decarbonization success requires robust metrics.

Conclusion and Next Steps

Procurement and sustainability professionals have a crucial role to play in efforts to decarbonize supply chains.

By engaging suppliers, leveraging technology, and adopting the practical strategies espoused in this white paper, companies can reduce emissions and enhance competitiveness.

Achieving a Net Zero supply chain is not only possible but essential for long-term business success.

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Thank you!

For more decarbonization insights head to our website.

Get in touch to learn more

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