

Decarbonising Supply Chains:

A White Paper for Procurement
and Sustainability Professionals

Emitwise[®]



A Message From the Authors

Dear Readers,

We are pleased to share this white paper, "Decarbonising 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 decarbonisation 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 decarbonisation 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. Decarbonising supply chains is no small task, but with the right approach, it is achievable.

Sincerely,

Mat Langley and Mauro Cozzi



Contents

- Introduction
- Scope 3 Emissions: Understanding and Addressing the Challenge
- Identifying the Main Supplier Barriers to Decarbonisation
- Engaging Suppliers on a Joint Decarbonisation Journey
- Leveraging Data Transparency and Technology for Decarbonisation
- Key Metrics for Success
- Conclusion and Next Steps

Introduction

The global movement towards decarbonisation 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 decarbonisation 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 decarbonisation of supply chains, offering practical insights, real-world examples, and action plans.





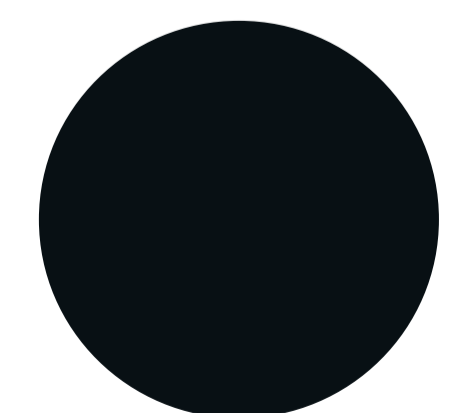
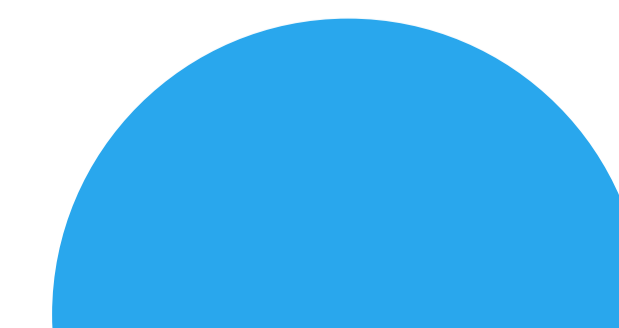
Scope 3 Emissions: Understanding and Addressing the Challenge

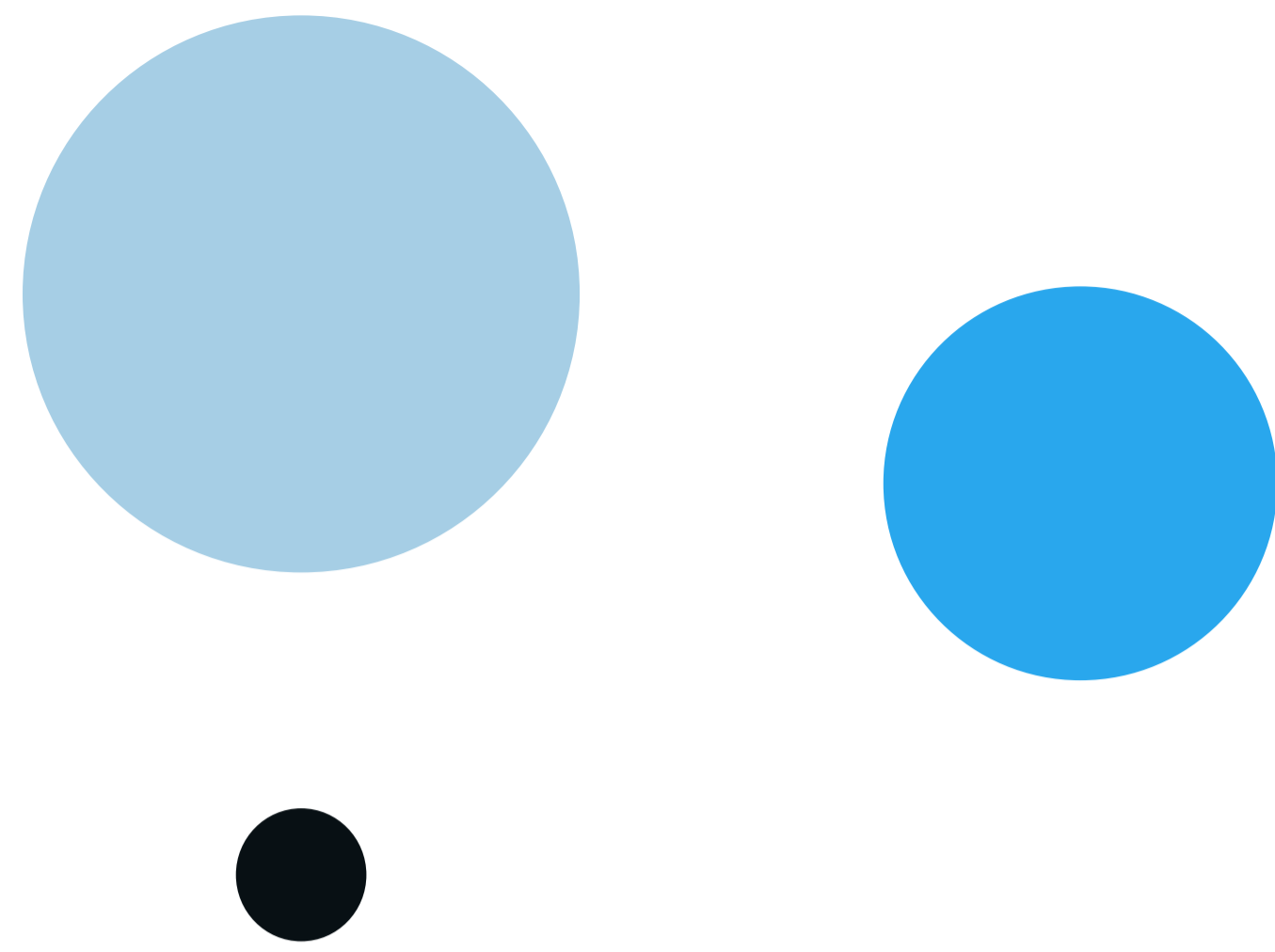
Scope 3 emissions, i.e. emissions from upstream and downstream in the value chain, represent the largest and most complex category in corporate emissions reporting.

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 decarbonisation 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 decarbonising 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. Emitwise 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 hot spots of emissions, but it does not help companies track carbon reductions with the level of meaningful granularity required by most contemporary regulations and decarbonisation 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.

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

Data Gaps

Many suppliers lack the capabilities to accurately report emissions data. Even with the comprehensive support [Emitwise](#) 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.

Identifying the Main Supplier Barriers to Decarbonisation

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.

Lack of Expertise

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

Competing Priorities

Suppliers may struggle to balance decarbonisation 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.

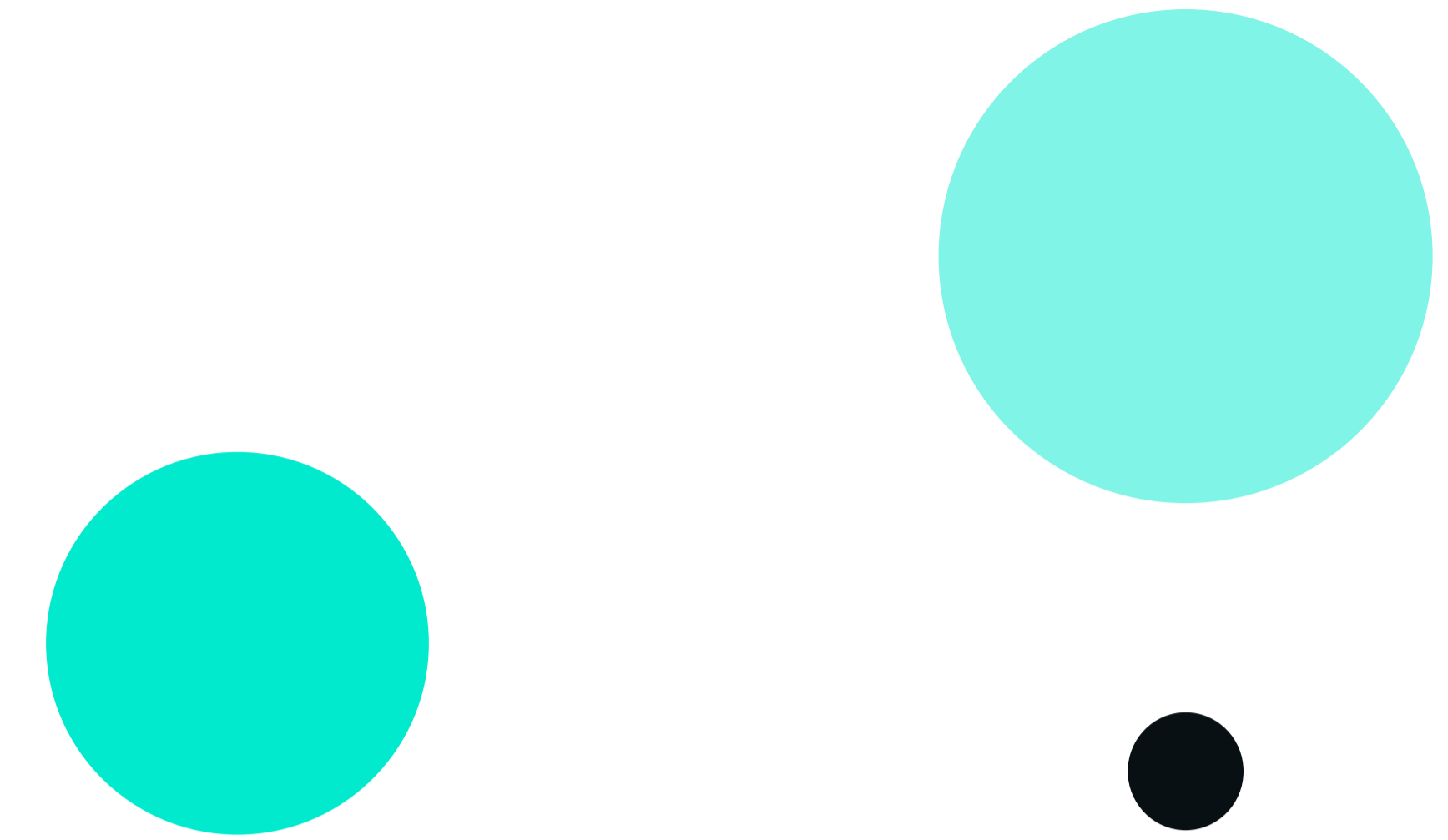
Engaging Suppliers on a Joint Decarbonisation Journey

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 decarbonisation are essential for a successful partnership. Procurement professionals must identify emission hotspots in their supply chain, prioritise 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.



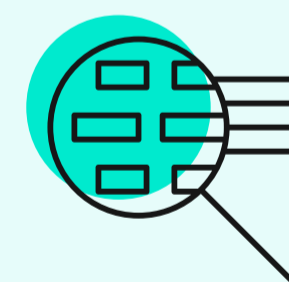
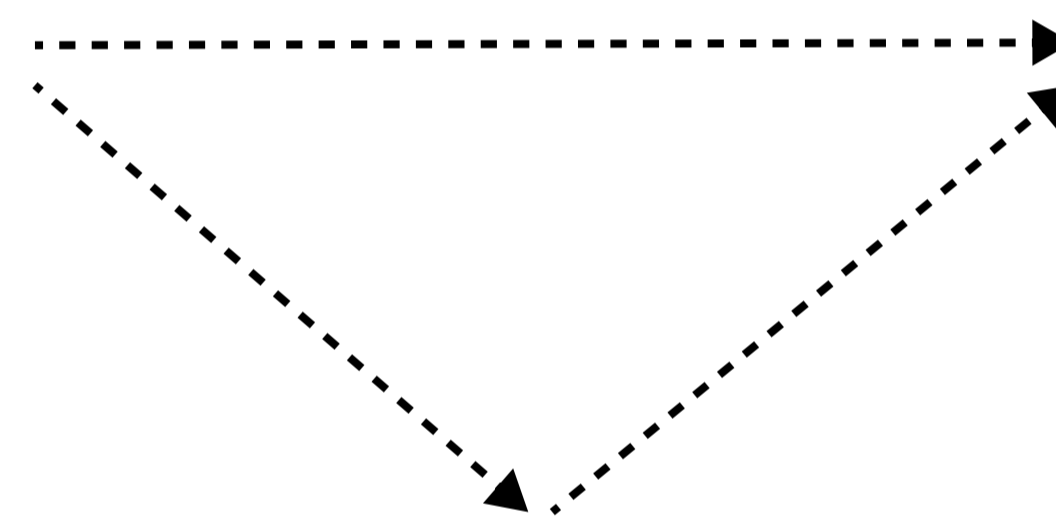
Screen

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 Emitwise.



Calculate

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



Evaluate

Emitwise calculates supplier-specific values following a consistent methodology:

- Emissions intensity factor
- Data quality score



Act

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

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



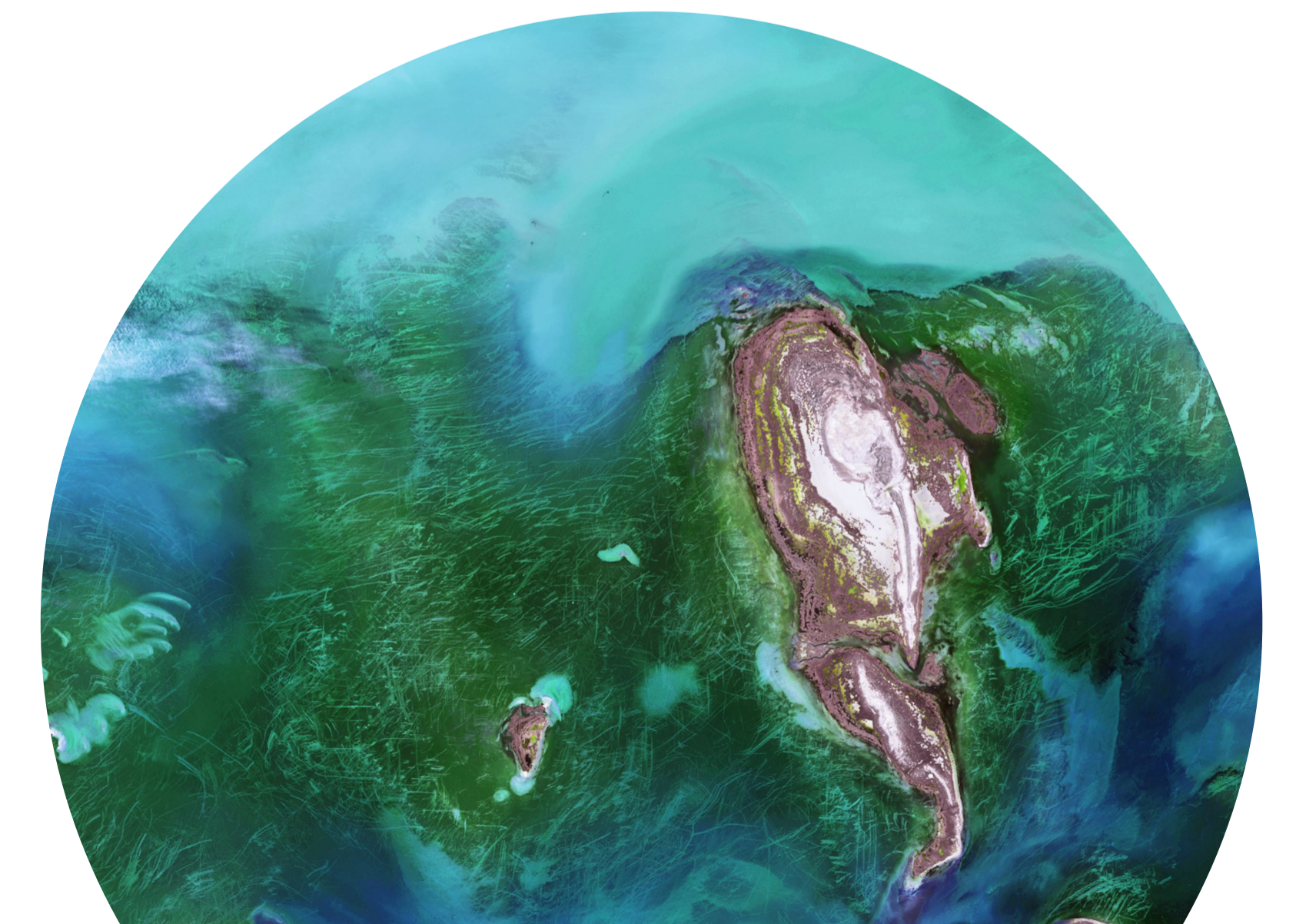
Manufacturers or manufacturing businesses with large direct procurement (\$5-20B) generally have 100-500 suppliers representing the majority of their emissions and can map supplier product carbon footprint (PCF) data to purchases. For indirect purchasing, there are generally much larger supplier bases. 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 emphasises collaboration, incentivising suppliers to adopt emission-reduction initiatives through long-term partnerships and training programs.

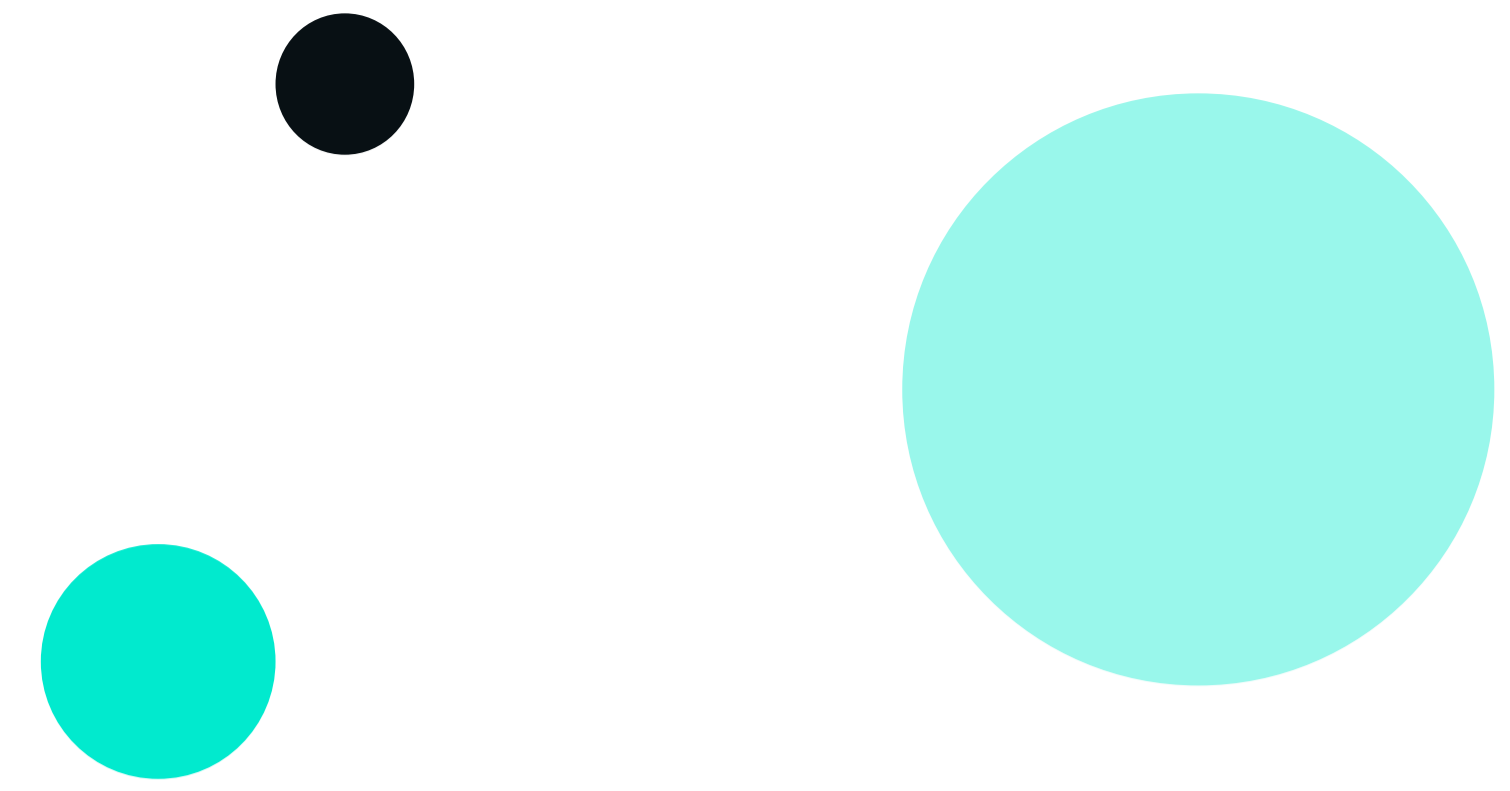
The company also [integrates sustainability](#) into product and service offerings, promoting lower-carbon materials and circular practices across its operations. Similarly, [CBRE](#) provides resources and tools for suppliers to enhance their sustainability practices, fostering deeper collaboration 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 decarbonisation 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



Challenges with current supply chains



Solved by Net Zero Supply Chains

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 decarbonisation initiatives.

Limited ability to understand emissions hot spots



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 Decarbonisation

Data transparency is essential for tracking and reducing emissions across supply chains. Tools like [Emitwise](#) automate emission calculations, providing real-time insights into supplier performance.

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

However, as data accuracy and engagement improve, organisations 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 Input-Output Database](#) (WIOD) ([CBRE, 2023, p. 29](#)).¹

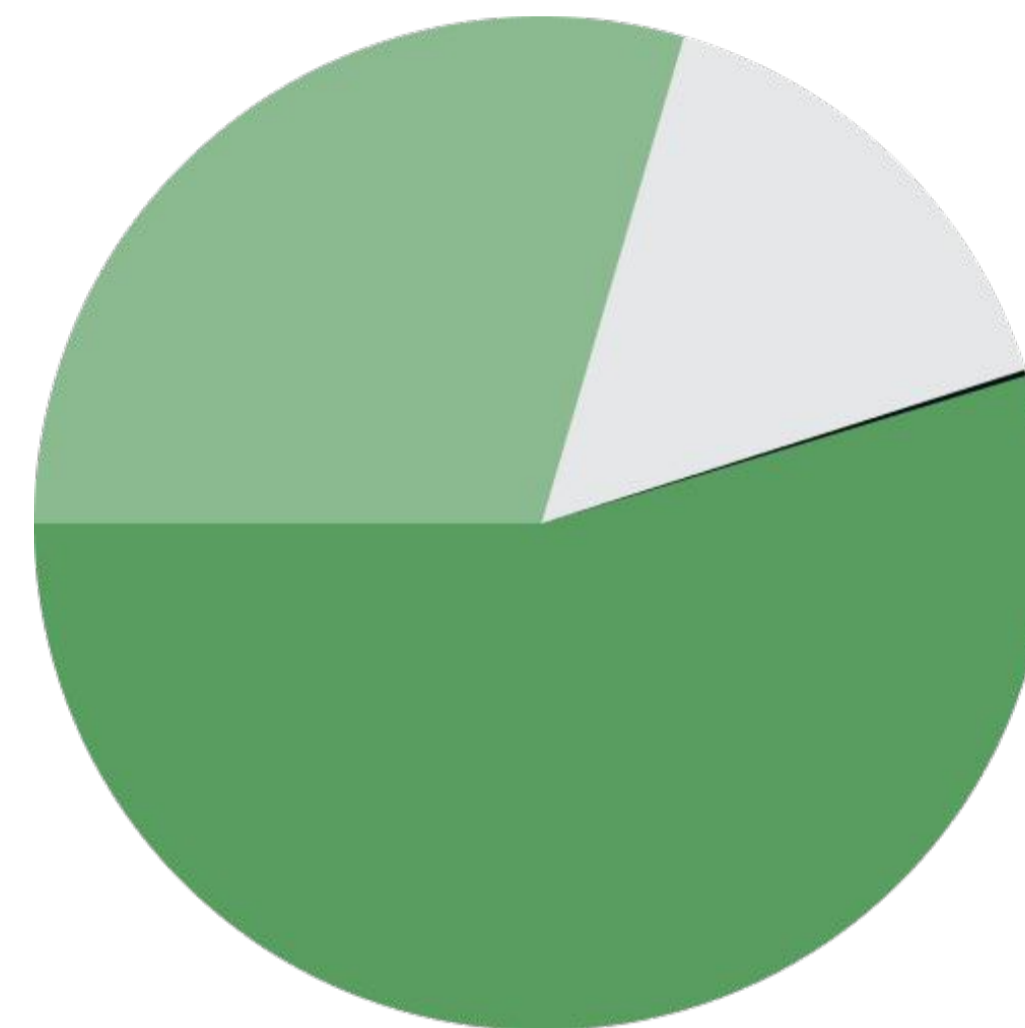
This transition highlights the impact of enhanced data accuracy in building a robust, credible decarbonisation strategy.

Industry-level Insights: HVAC I&M Example

Insights

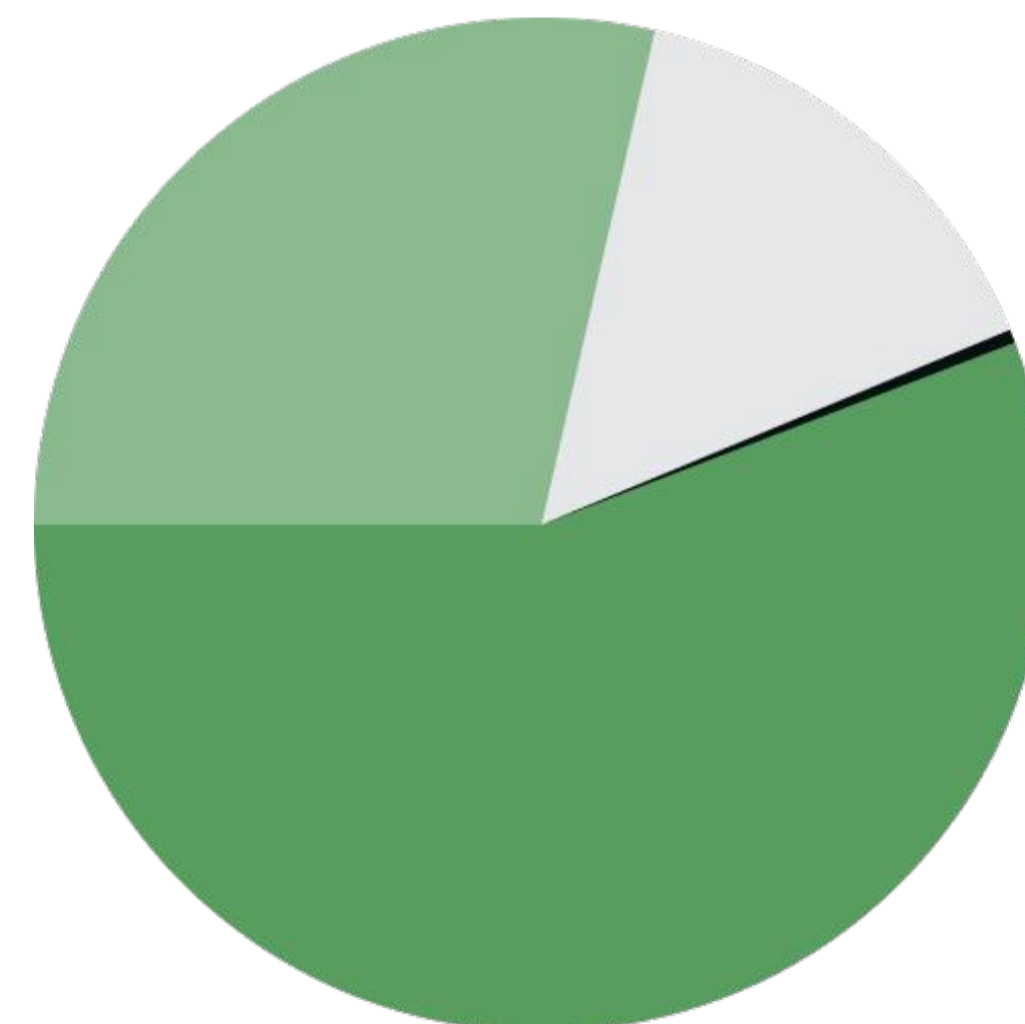
- Both companies have low Scope 2 compared to other cradle-to-gate emissions categories → possible investment in renewables.
- Company B has lower Scope 1 / fleet related emissions → possible investment in EV.
- Potential differences in waste management options → possibly leveraging circularity options.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

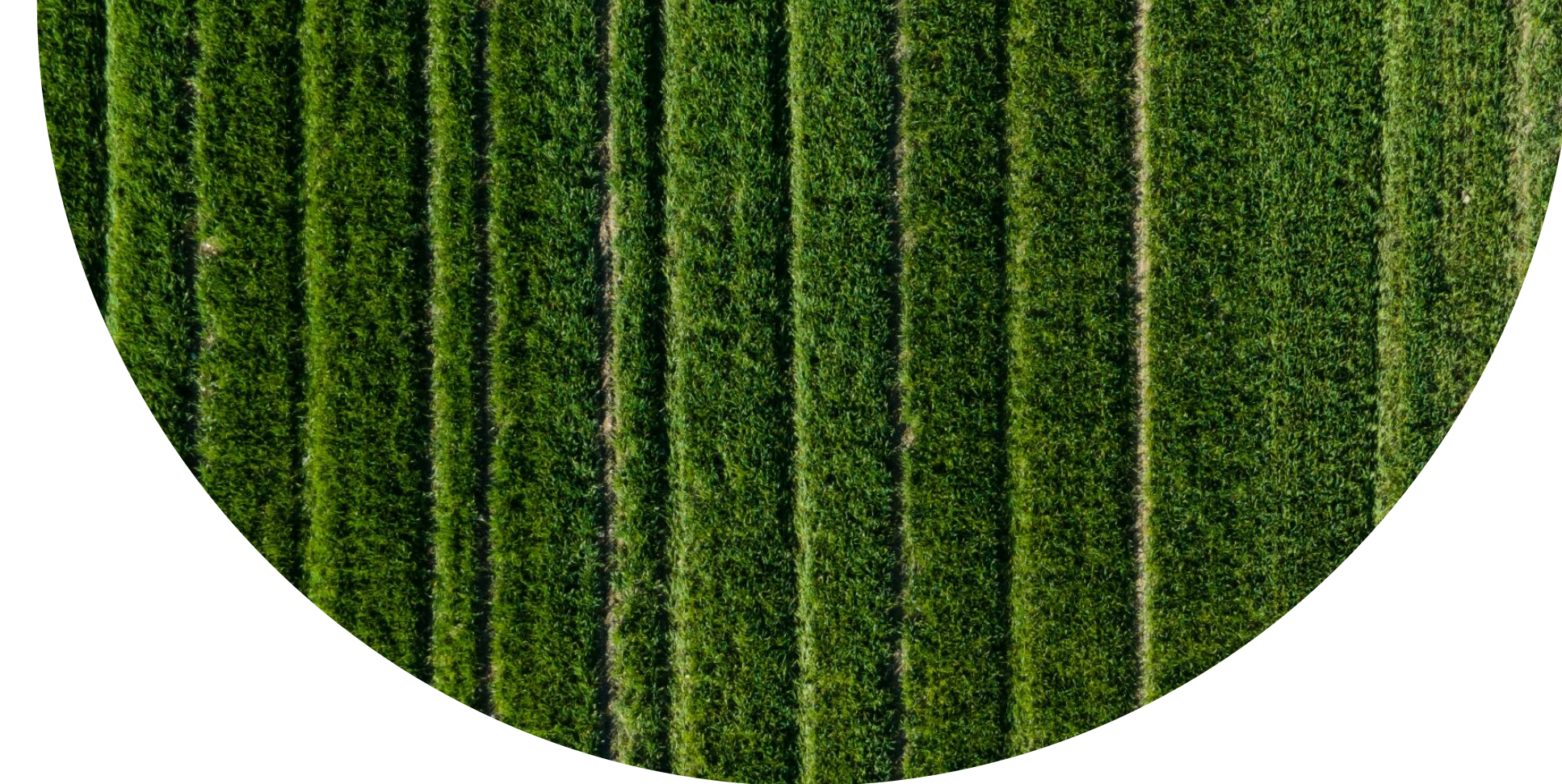
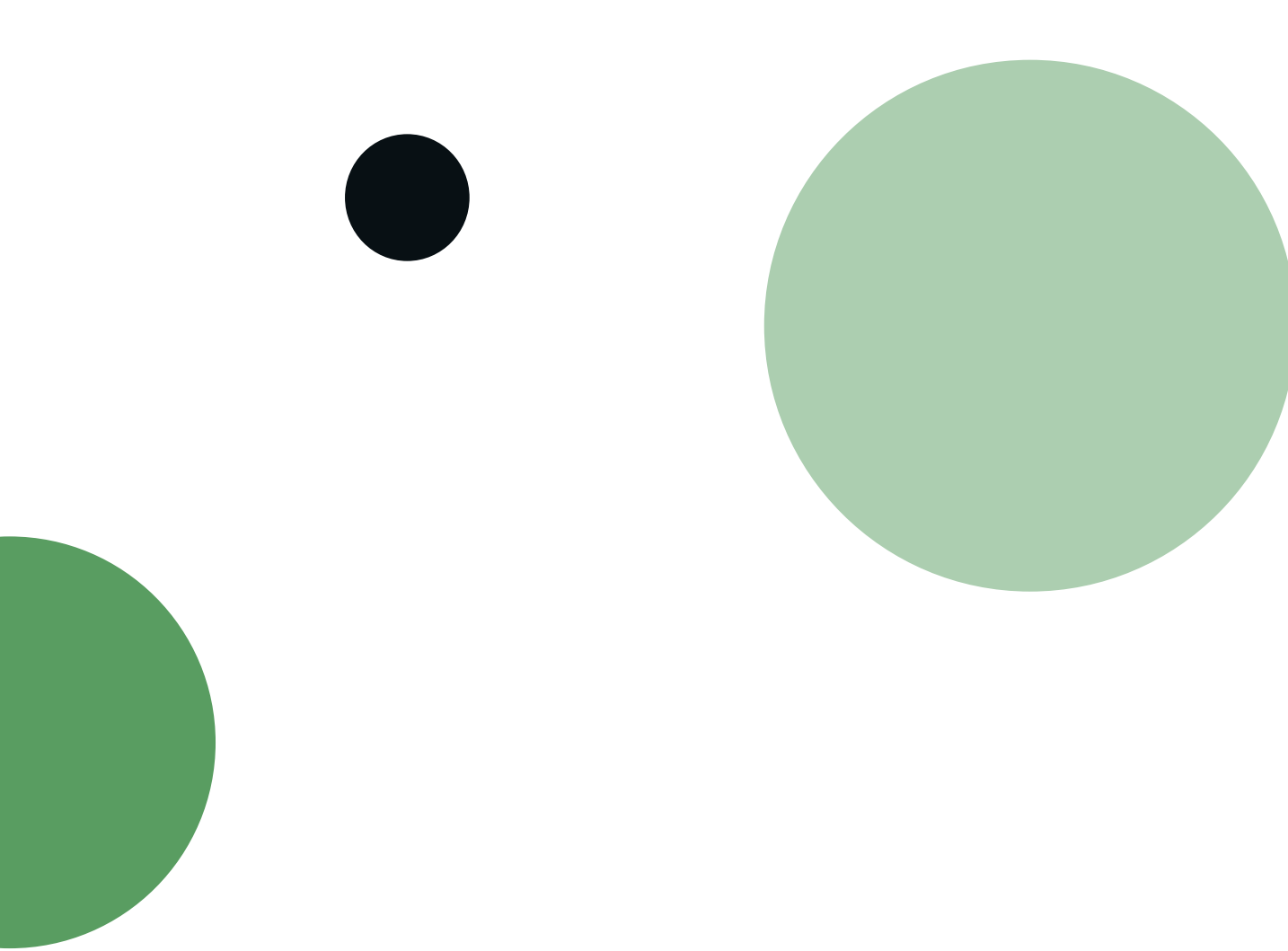
- Emissions intensity factor **0.224 kgCO₂e/\$**
- **53% higher** than relevant average industry intensity factors (Exiobase)



HVAC I&M Company B

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

● - Scope 1 ● - Scope 2 ● - Scope 3 ● - Other Scope 3 Upstream



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 utilise 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 decarbonisation landscape. IoT devices enable real-time monitoring of emissions, while AI-driven analytics identify patterns and optimisation 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 decarbonisation initiatives, supported by decarbonisation playbooks and generative AI.

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

Navigating the Regulatory Landscape: Key Regulations Driving Decarbonisation

The regulatory landscape around decarbonisation 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 decarbonisation.

Climate Corporate Data Accountability Act (SB 253)

This legislation requires large companies to disclose greenhouse gas emissions data, including Scope 3, highlighting the importance of transparency.

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)

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

New York City Climate Mobilization Act (specifically Local Law 97)

These requirements push companies to include Scope 3 emissions in disclosures, adding pressure to manage upstream and downstream impacts.

These regulations act as a call to arms, compelling businesses to adopt robust decarbonisation practices. They require not only reporting but also tangible actions, particularly regarding supplier engagement on environmental and social considerations. Having started decarbonising the supply chain, these will feel like a tailwind and further justification of the business case. Having not started, they will feel like a headwind.

Tracking progress towards decarbonisation 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.



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.



Decarbonisation success requires robust metrics.



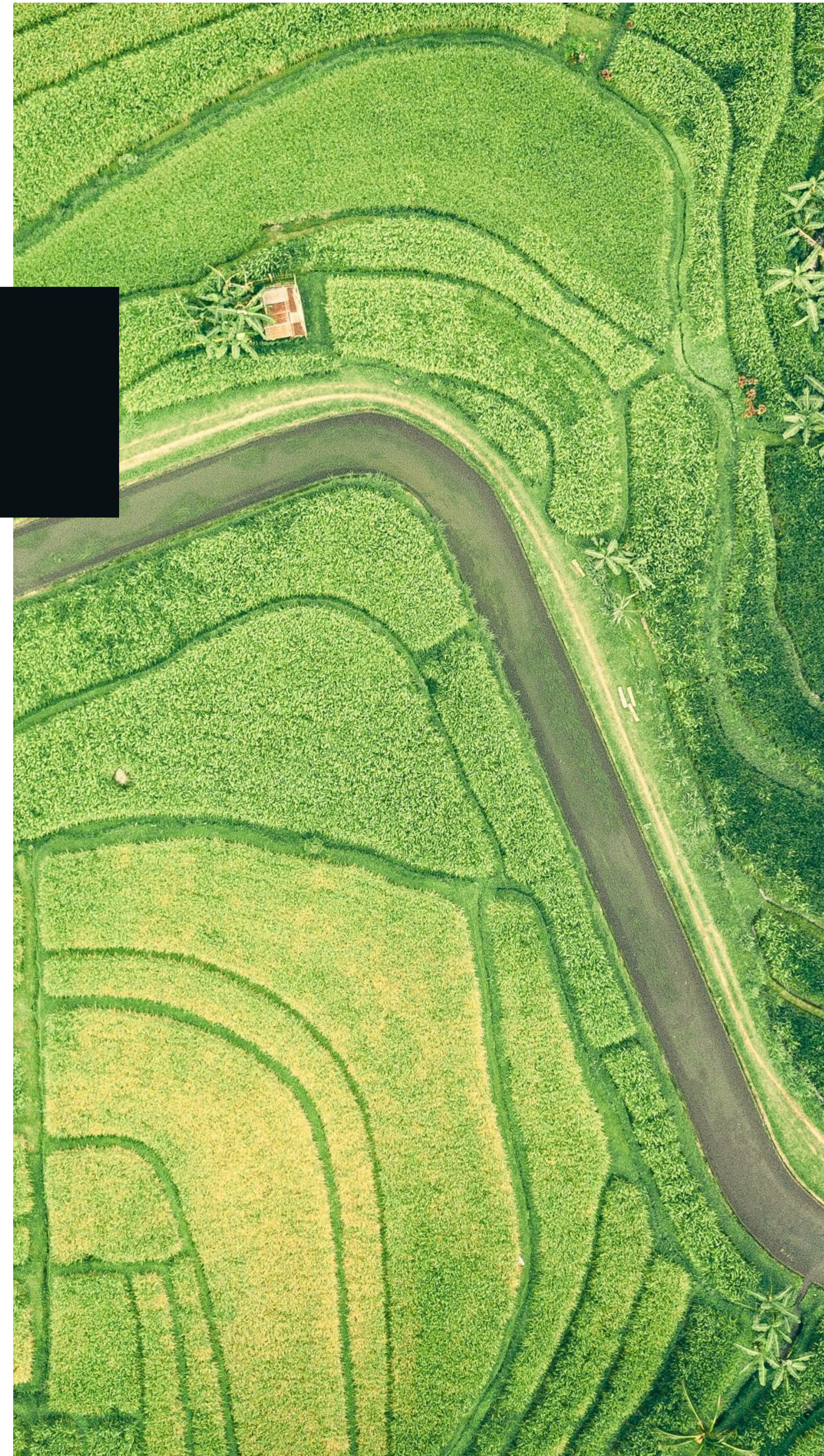
Conclusion and Next Steps

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

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

[The PowerPoint presentation](#) referenced throughout this paper provides additional insights, serving as a visual tool to reinforce the concepts discussed.

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



Thank you!

Emitwise[®]

