



THE RISE OF THE SCOPE 3 AGENDA AMONG ENTERPRISES:

Specialised Software
Expected to Play Key Role in
Effective Carbon Reduction

A Report by
Verdantix and Terrascope

Summary

Managing Scope 3 emissions is becoming a crucial priority for corporate organizations. Scope 3 indirect emissions that occur in the upstream and downstream activities of an organization typically account for the majority of businesses' carbon footprint, and have gained attention as companies strive to meet sustainability targets, gain a competitive edge and comply with emerging disclosure regulations.

While many enterprises have started measuring and reporting Scope 3 data and setting reduction targets aligned with the Science Based Targets initiative (SBTi), preparedness levels vary, and regulatory uncertainty adds to the challenges of establishing effective Scope 3 measurement and management. Enterprises attempting to establish and implement Scope 3 strategies face a range of pervasive competency, logistical, organizational and technical challenges which hinder cross-functional collaboration and effective decarbonization efforts.

To overcome these hurdles, enterprises are expected to substantially increase their investment in commercial software solutions for effective Scope 3 management in the coming years. These solutions are poised to play a central role in collecting, reporting, and managing Scope 3 emissions data, and will be particularly vital for supplier engagement.

Scope 3 Is Taking Centre Stage on Corporate Agendas – As Will Dedicated Software Solutions

Scope 3 emissions are the largest proportion of a business' emissions portfolio, contributing an estimated 75% in typical businesses and close to 100% in financial services firms. As such, focus on Scope 3 has skyrocketed in recent years, and this trend will continue as 2030 milestones creep closer and competitive advantages such as preferential supplier treatment become clearer.

Most enterprises have begun to measure and report Scope 3 data, with some beginning to make progress against Science Based Target initiative (SBTi) approved reduction targets. In addition, many regulatory bodies are now implementing Scope 3 reporting requirements aligned with the Task Force on Climate-related Financial Disclosures (TCFD). For example, the US Securities and Exchange Commission's (SEC) proposed rule change (yet to be finalized as of June 2023) will mandate Scope 3 emissions disclosure for registrants if the emissions are material, or if the company has a GHG emissions target including Scope 3. Similarly, the European Union's Corporate Sustainability Reporting Directive (CSRD) will require Scope 3 reporting, affecting reports starting 2025, while the UK's Streamlined Energy and Carbon Reporting (SECR) policy has been in effect since 2019.

Preparedness for these regulations varies, and most enterprises have yet to establish concrete internal processes for Scope 3 management. As regulations take effect and enterprises look to gain greater insight into the feasibility of 2050 net-zero targets, technology and purpose-built commercial software will take centre stage in Scope 3 emissions data collection, reporting and abatement management.

Methodology

To gain insights into the dynamic landscape of Scope 3 management strategies at corporate organizations, end-to-end decarbonisation SaaS platform Terrascope commissioned research from independent research firm Verdantix. The study involved engaging 100 corporate decision makers across ESG & sustainability (50), operations and supply chain roles (50), representing the following sectors: apparel, fashion & luxury goods (32), agriculture, food & beverage (33) and consumer goods & retail (35). Respondents were drawn from France (26), Japan (20), Switzerland (25) and the UK (29). All participants were drawn from large enterprises with revenues exceeding US\$200 million, with 75% of them boasting revenues surpassing the US\$1 billion mark. Interviewees responded to questions relating to the governance, regulatory landscape, and investment drivers for Scope 3 management, alongside business challenges and preferred solutions.

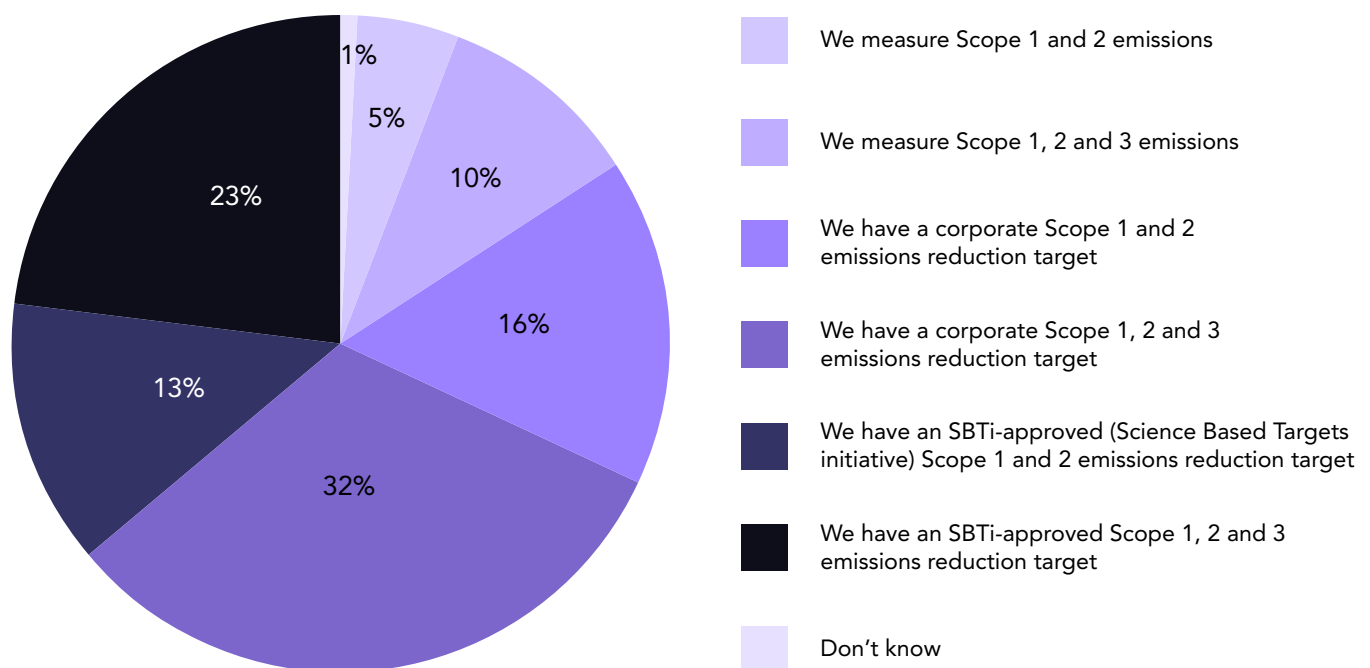
Scope 3 Management is Integral to Corporate Agendas, but Strategies Lack Definition

Scope 3 emissions management is emerging as a critical component of sustainability plans and corporate strategies across enterprises. However, a lack of clarity and transparency continues to surround approaches to Scope 3 management, as corporate strategies are still evolving. The survey found that:

- **Fifty-five per cent of respondents have set a Scope 3 emissions reduction target.**

Although 55% of respondents had set a Scope 3 emissions reduction target, only 23% were aligned with SBTi (see Figure 1). Swiss respondents lagged, with only 12% aligned with SBTi for Scope 3, compared with 27% in other regions. Breaking down by industry, more consumer goods and retail respondents had Scope 3 targets aligned with SBTi, with 34%, compared to 17% across agriculture, food & beverages and apparel, fashion & luxury goods. Globally, over 2,250 firms have set science-based targets, but measuring progress on Scope 3 emissions reduction is challenging, in part owing to a lack of robust mandatory disclosure requirements. Currently, the landscape for disclosures is still evolving, with the Centre for Audit Quality (CAQ) reporting that only one in three S&P 500 firms were providing data across all relevant categories for Scope 3 emissions.

Figure 1. Maturity of respondents' GHG emissions management strategy.
'Which statement best describes your firm's GHG emissions management strategy?'



Note: Data labels are rounded to zero decimal places; percentages below 7% have been written as number
Source: Verdantix analysis

- **ESG, Risk and Strategy functions control the reins in Scope 3 management while Finance, Ops and IT roles are often left in the backseat.**

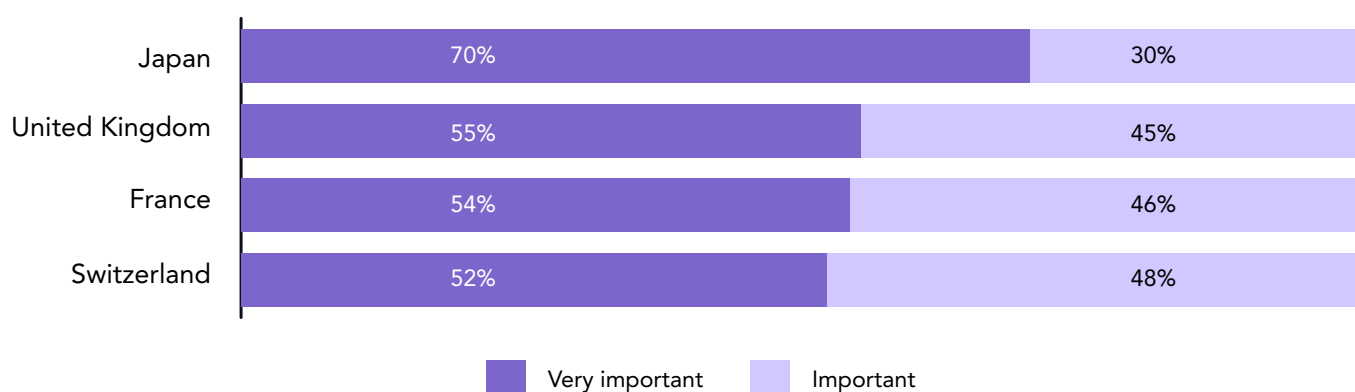
Nearly every respondent noted that ESG/Sustainability and Risk functions had influence in the formulation of Scope 3 management, with 98% highlighting that ESG/Sustainability was a key influencer. This corresponds to wider trends in corporate organizations whereby sustainability has rapidly emerged as a discrete function. Between the 2021 and 2022 iterations of the Verdantix Global Corporate Survey for ESG & Sustainability, the number of respondents identifying the Head of Sustainability as a leading influencer of sustainability strategy more than doubled from 31% to 76%. Operations was regarded as having a role by 63% of respondents, although they were mostly relegated to a secondary position. For most respondents, the finance department had no influence in Scope 3 management.

- **Regulations are a key driver of Scope 3 measurement, with Japanese enterprises showing the greatest sensitivity.**

100% of respondents across all geographies identified anticipating future regulations as an important or very important driver of Scope 3 measurement. While European-based enterprises (France, Switzerland and UK) shared consistent views on the importance of regulations, Japanese enterprises displayed greater sensitivity to future regulations with 70% of respondents identifying it as a very important driver (see Figure 2). When asked to identify which regulations would most impact Scope 3 management plans, respondents cited 45 different international- national- industry-specific regulations, emissions trading schemes, frameworks, and international treaties – indicating a high degree of uncertainty.

Figure 2. Anticipating future regulation drives Scope 3 emissions measurement.

'At your firm, how important is anticipating future regulations as a driver for measuring Scope 3 emissions?'



Note: Data labels are rounded to zero decimal places; percentages below 7% have been written as number

Source: Verdantix analysis

- **Perceived business benefits emerged as the major drivers for Scope 3 management among enterprises.**

When asked about the reasons driving their business to measure Scope 3 emissions, emissions reduction and regulation were top, in line with expectations (see Figure 3). Respondents also cited preferential treatment as a supplier, reducing transition risks such as the implementation of aggressive carbon taxes and future-proofing product design. By contrast, progress towards net zero targets was perceived as being less significant, although respondents in the agriculture and food & beverage industry identified this driver as more important (91%) compared to the other two industry sectors (82%) (see Figure 4). This is likely to be influenced by the SBTi's recent requirement for enterprises with 20% or more emissions stemming from FLAG (Forest, Land and Agriculture) activities to set separate targets for these emissions which will more significantly impact enterprises within the agriculture and food & beverage industry sector.

Figure 3. Emissions-reduction opportunities and future regulations were top drivers for respondents. 'At your firm, what are the most important reason(s)/drivers to measure Scope 3 emissions?'

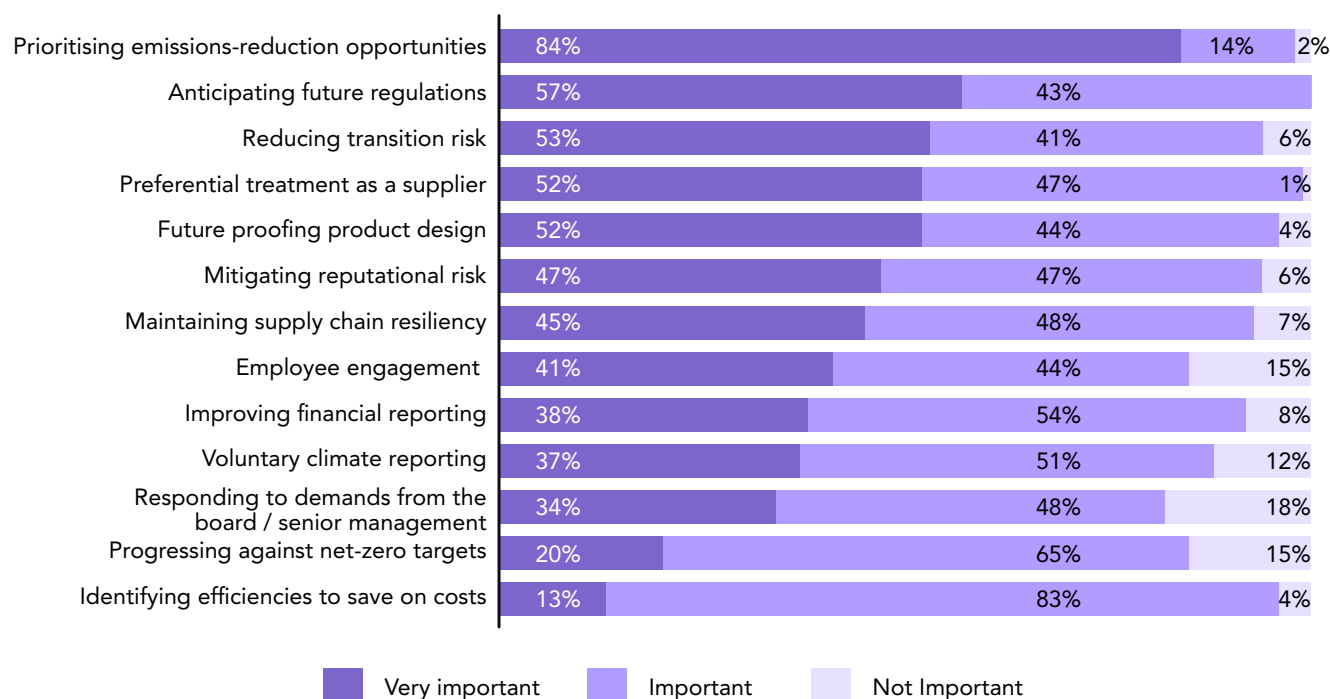
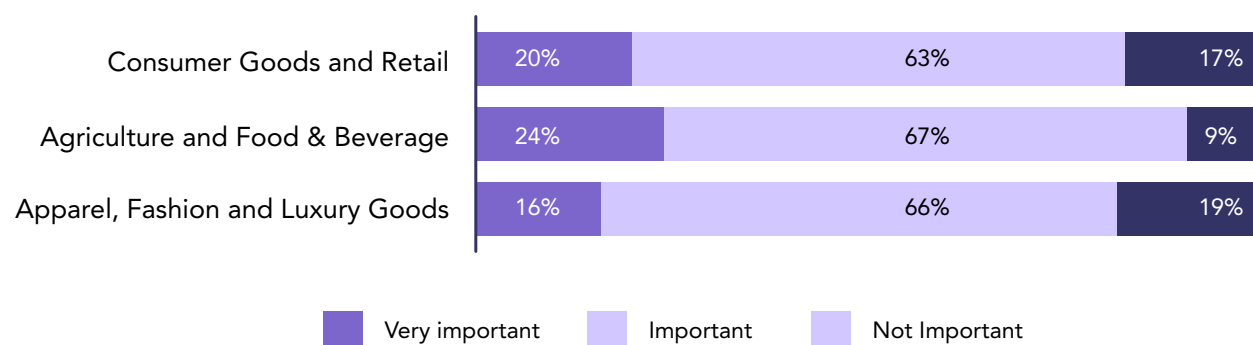


Figure 4. Agriculture and food & beverages are more incentivized by progressing against reduction targets. 'At your firm, how important is progressing against net-zero targets as a driver for measuring Scope 3 emissions?'



Note: Data labels are rounded to zero decimal places
Source: Verdantix analysis

Enterprises with Mature Scope 3 Management Strategies Face More Pronounced Logistical and Technical Hurdles

Scope 3 emissions management is hindered by a range of competency, logistical, organizational and technical challenges. These challenges – including regulatory uncertainty, lack of internal and external engagement and a lack of available resources – affect enterprises across all geographies and industries. However, relative exposure to these challenges is frequently determined by the level of Scope 3 management maturity. Enterprises with more advanced Scope 3 management grapple with associated challenges that less mature enterprises are often unaware of. The survey found that:

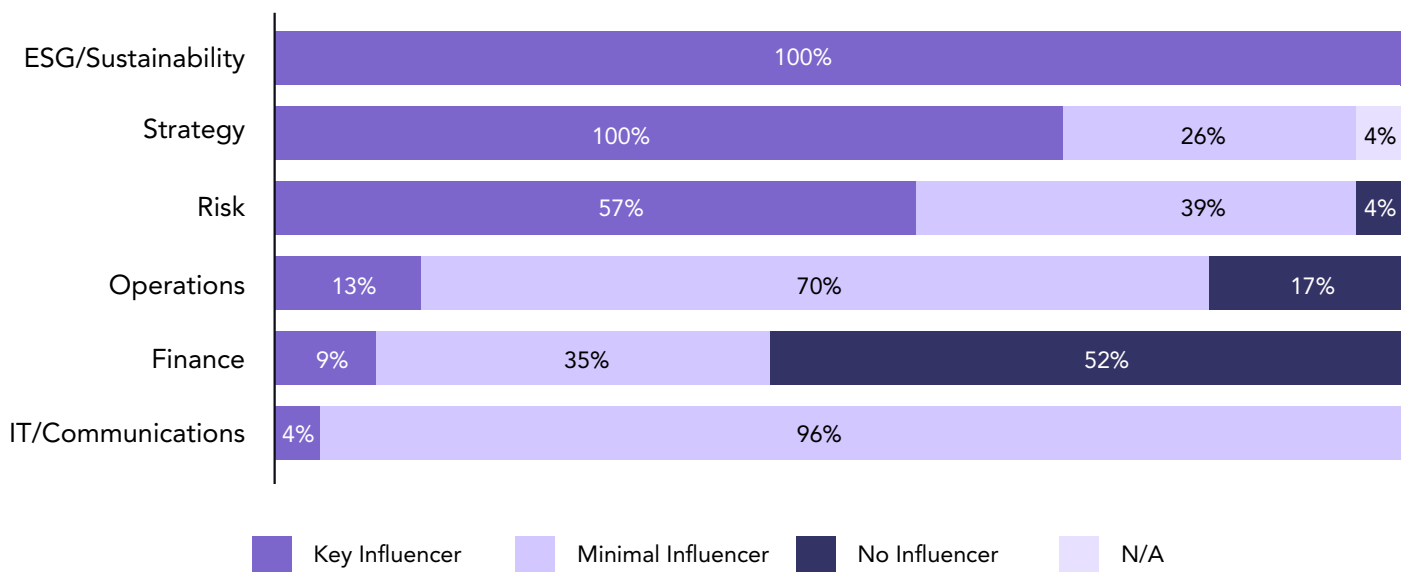
- **Enterprises at a more advanced stage of Scope 3 management require a greater level of cross-functional collaboration to identify and execute reduction initiatives – which brings its own set of hurdles.**

For example, respondents with an SBTi-aligned Scope 3 reduction target were influenced by operations and finance functions at higher rates (83% and 44% respectively) compared to those that did not (58% and 24% respectively) (see Figure 5). Enterprises cited several collaborative challenges including ‘organizational silos and technical barriers that prevent information sharing and technology implementation’, ‘a lack of specific internal expertise across different functions’ and ‘a lack of engagement and awareness of responsibilities from employees in indirectly related departments’.

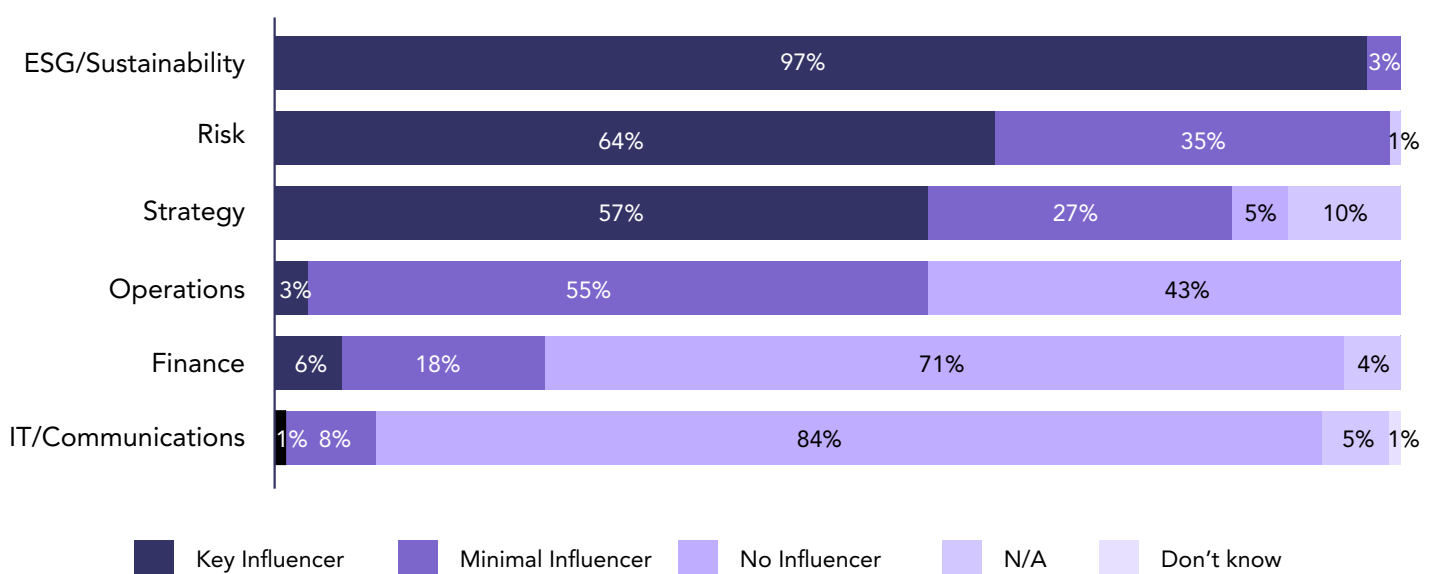
Figure 5. More mature enterprises demonstrate greater cross-functional collaboration.

‘What level of influence do the following functions have in Scope 3 management?’

‘We have an SBTi-aligned Scope 3 emissions reduction target.’



We do not have an SBTi-aligned Scope 3 emissions reduction target.’

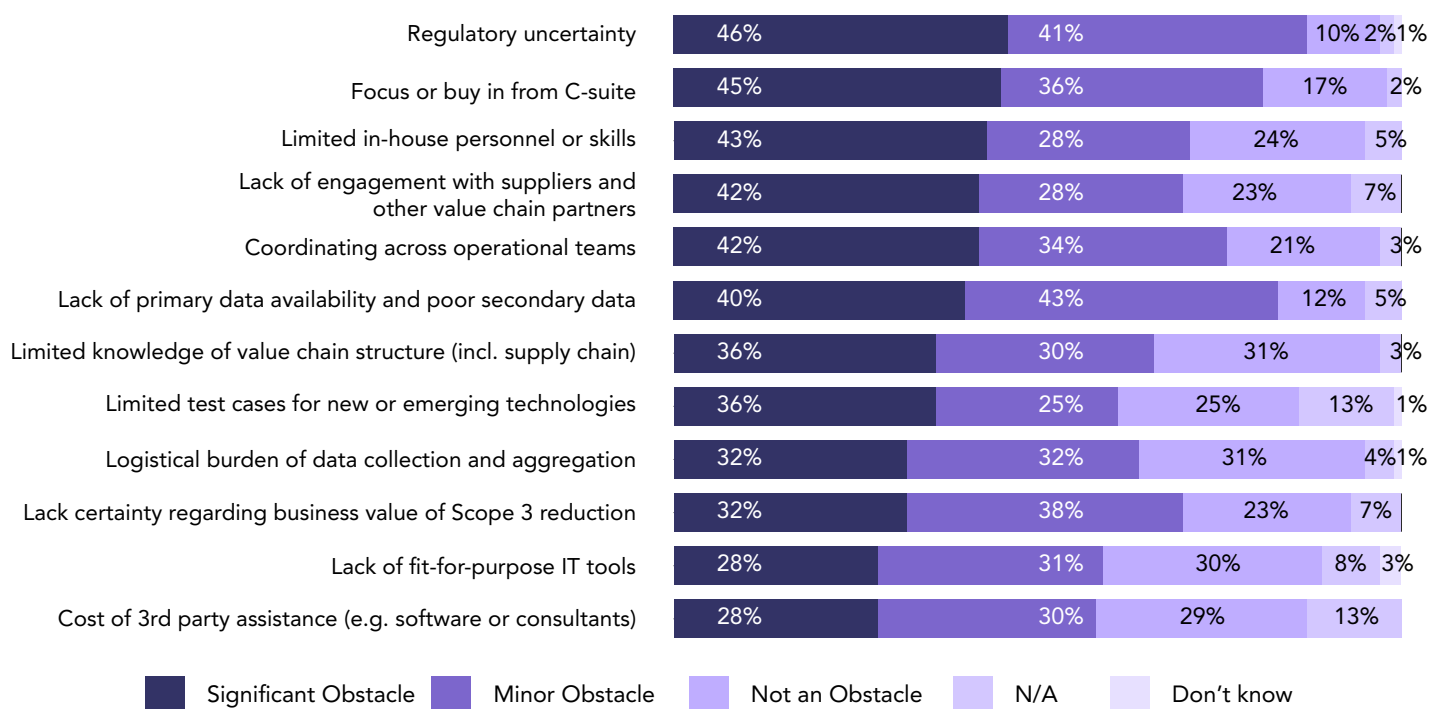


Note: Data labels are rounded to zero decimal places; percentages below 7% have been written as number
Source: Verdantix analysis

- **Enterprises face a range of pervasive, interlinked challenges related to Scope 3 management, with Japanese enterprises experiencing exacerbated challenges.**

Respondents highlighted a wide array of technical, organizational and logistical challenges associated with Scope 3 management. These challenges tend to be interconnected and mutually reinforcing, resulting in a clustered and undifferentiated severity level overall (see Figure 6). However, distinct differences exist between geographies regarding perceived exposure to certain challenges. For instance, Japanese enterprises are more significantly hindered by limited in-house skills (65%) compared to French (27%), Swiss (40%) and UK (45%) respondents. Additionally, half of Japanese enterprises were significantly challenged by limited test cases for new management technologies compared to only a third of European-based enterprises. This is likely due to the lower presence of dedicated carbon management software firms in Japan. In 2022, the carbon management software market in APAC was more than 50% smaller than the EMEA market (see Verdantix Market Size and Forecast: Carbon Management Software 2021-2027).

Figure 6. Enterprises face a range of challenges associated with Scope 3 management.
'How significant are the following obstacles to your firm's Scope 3 emissions management?'



Note: Data labels are rounded to zero decimal places; percentages below 7% have been written as number
Source: Verdantix analysis

- **Smaller enterprises face greater challenges in implementing emerging technologies for Scope 3 management.**

The limited availability of test cases for new and emerging technologies has a greater impact on smaller enterprises, with 52% of respondents with revenues between US\$200 million and US\$1 billion recognizing it as a significant obstacle, compared to only 31% of respondents with revenues exceeding US\$1 billion. This is likely due to greater budgetary constraints reducing the willingness of smaller enterprises to invest in unproven emission management solutions. In 2022, 70% of larger enterprises had software budgets greater than US\$10,000 for Scope 3 management compared to only 44% of smaller enterprises.

- **Enterprises at a more advanced stage of Scope 3 management, such as those looking to achieve reduction targets, face different challenges to those at an earlier stage.**

For example, executing reduction initiatives requires a faster pace of data collection and more sophisticated data interpretation to identify and track reduction opportunities. Significantly, 45% and 44% of respondents with Scope 3 reduction targets identified integrating data on a real-time basis and interpreting data to inform decarbonization strategy as major obstacles, in contrast to only 33% and 27% in respondents without such targets. These advanced challenges are less prevalent among enterprises without reduction targets, as they have yet to require real time data integration and enhanced analytical capabilities. Conversely, these enterprises are more significantly challenged by basic activities such as comprehensive data collection, which more mature enterprises have partially overcome.



Implementing new technologies or systems for decarbonization can be challenging, particularly if there are technical barriers or compatibility issues.

Supply Chain Director,
France, Retail



Silos within an organization can prevent information from being shared, which makes it difficult to create and carry out successful decarbonization initiatives.

Chief Sustainability Officer,
France, Fashion



Number of Enterprises Spending US\$100,000+ On Scope 3 Management Software is Set to Increase 600% by 2025

As the Scope 3 management needs of enterprises mature, and enterprises face greater exposure to more advanced challenges, recognition of the growing necessity to move away from internally created systems and spreadsheets towards dedicated carbon management software increases. The results of the survey indicate that:

- **Most enterprises still lack specialised capabilities for Scope 3 management.**

Across the ten Scope 3 use cases posed in the survey, an average of 39% of respondents indicated they had no special capability to manage Scope 3 activities, with 28% using internally developed software, and only 20% using commercial software. The distinction is more pronounced in smaller enterprises. An average of 55% of respondents at organizations with revenues between \$200 million to \$1 billion had no special capabilities for each of the ten use cases, compared to 33% at organizations with more than \$1 billion in revenues.

- **Enterprise spending on Scope 3 management software will rise considerably by 2025.**

While only 12% of respondents reported spending more than US\$100,000 on software for Scope 3 management in 2022, this figure is projected to surge to 53% by 2025. Similarly, the proportion of interviewees investing more than US\$200,000 was 5% and is predicted to reach 23% within two years. European respondents anticipate the most drastic change, with 21% foreseeing expenditures surpassing US\$200,000, a substantial increase compared to the 3% who spent that amount in 2022. This 700% increase is significantly larger than the 200% increase predicted by Japanese respondents. This correlates with an expectation that advanced software solutions, offering automated functionality for emissions data collection, calculation processes as well as enhanced abatement modelling, entail greater solution expenditure (see Figure 7).

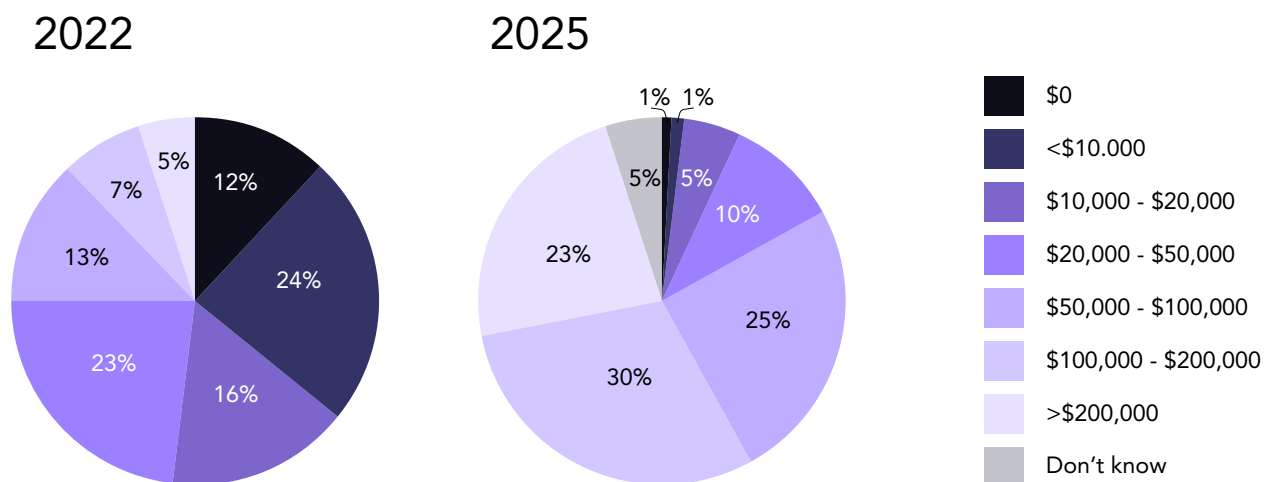


We are not spending much on the software at the moment, but the main point of investing would be to collect real time data.

Director of Sustainability, Luxury Fashion, Switzerland



Figure 7. Enterprises expect substantial increases in Scope 3 software spend.
 'What was your 2022 spend on software for Scope 3 management and what will your spend be in 2025?'



Note: Data labels are rounded to zero decimal places; percentages below 7% have been written as number
 Source: Verdantix analysis

- **Enterprises are expected to prioritise software solutions that aid supplier engagement.**

Recognising that a lack of supplier engagement can exacerbate other challenges, such as limited access to primary data and low confidence in existing data quality, 70% of enterprises identified it as an obstacle. Despite this, the majority (64%) of enterprises currently meet supplier engagement requirements using internal capabilities and only 25% use commercial software. Consequently, 87% of respondents identified supplier engagement capabilities as either a very high or high priority in future selection of a software provider.

- **Enterprises with more mature Scope 3 management are prioritizing more advanced software capabilities.**

Advanced capabilities are still in the early stages of adoption in Scope 3 management. Automated data ingestion and emissions factor allocation, AI-assisted next best actions, and decarbonization scenario modelling were a very high priority in the solution selection criteria of only 20, 20 and 10% of respondents respectively. However, when examining enterprises with SBTi-aligned targets for Scope 1, 2 and 3 emissions, a higher percentage 30% and 26% respectively) rated automated data ingestion and AI-assisted next best actions as a very high priority, compared to respondents without a Scope 3 SBTi-aligned target, (17% and 18% respectively) (see Figure 8).

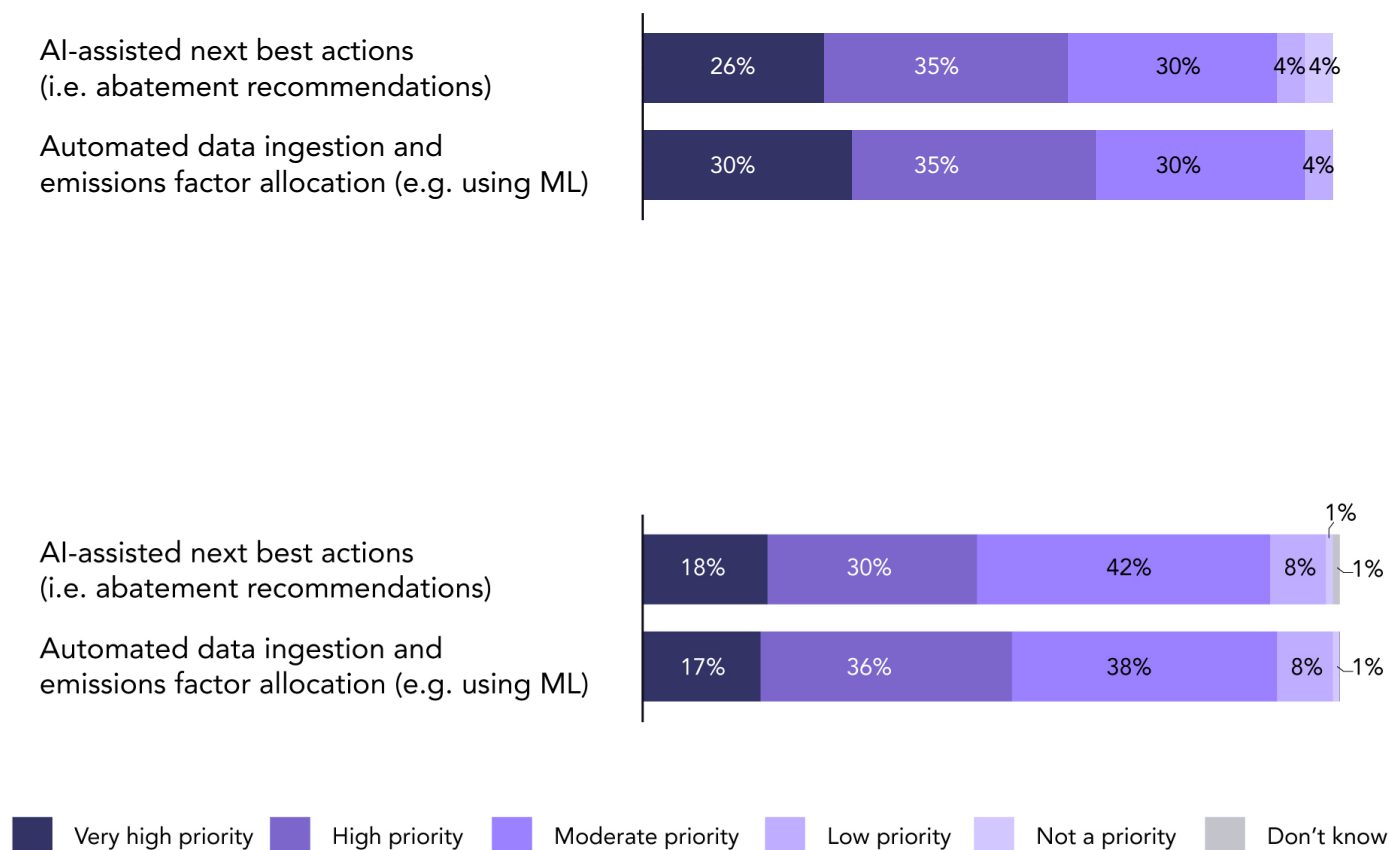


We can identify possible emissions-related supply chain issues by forecasting Scope 3 emissions. By being aware of these risks, we can proactively take action to reduce them and strengthen the resilience of our supply chain.

Consumer Goods,
 Senior Manager Supply Chain, Japan



Figure 8. Enterprises looking to reach emissions reduction targets are prioritizing more advanced software capabilities. 'What Scope 3 capabilities would your firm prioritize when selecting a software provider?' 'We have a Scope 3 emissions reduction target.'



KEY FINDINGS & RECOMMENDATIONS

- Regulatory requirements are accelerating the adoption of Scope 3 measurement and management by enterprises across industries and geographies.

Regulatory bodies worldwide are now implementing reporting requirements for Scope 3 emissions, which will drive enterprises to embrace the adoption of dedicated software solutions for Scope 3 data collection, reporting, and abatement management.

- While an increasing number of enterprises have set general targets and plans for Scope 3 management, implementation remains siloed and ill-defined.

Across enterprises, Scope 3 management continues to be primarily led by ESG/Sustainability and Risk functions. But for it to be effective, Finance, Operations, and IT teams also need to be involved – working collaboratively, with common data in a single source of truth.

- Scope 3 management entails a range of significant, complex challenges that only become apparent as enterprises adopt more mature strategies.

The adoption of advanced Scope 3 management practices brings forth a deeper understanding of associated challenges, and increases the appreciation for dedicated Scope 3 management software to address them effectively.

- Most enterprises continue to rely on cumbersome systems and spreadsheets to track and manage these emissions.

Breaking free from this limited approach is imperative to unlock the full potential of Scope 3 emissions management.

- Enterprises are starting to recognise the considerable value of purpose-built software for effective Scope 3 management.

Though only 12% of respondents spent more than US\$100,000 on software for Scope 3 management in 2022, this is expected to rise to 53% by 2025. This upward trend underscores the growing appreciation for the transformative role software and tech will play in driving effective Scope 3 emissions management strategies.

ABOUT TERRASCOPE

At Terrascope, we empower enterprises to chart a credible pathway to net zero. Our end-to-end decarbonisation platform provides insights and digital tools to take the uncertainty out of carbon measurement and build effective decarbonisation strategies, with a focus on Scope 3 emissions.

Contact us to get started.

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