Solving for Scope 3:

From Data to Action

August 2026

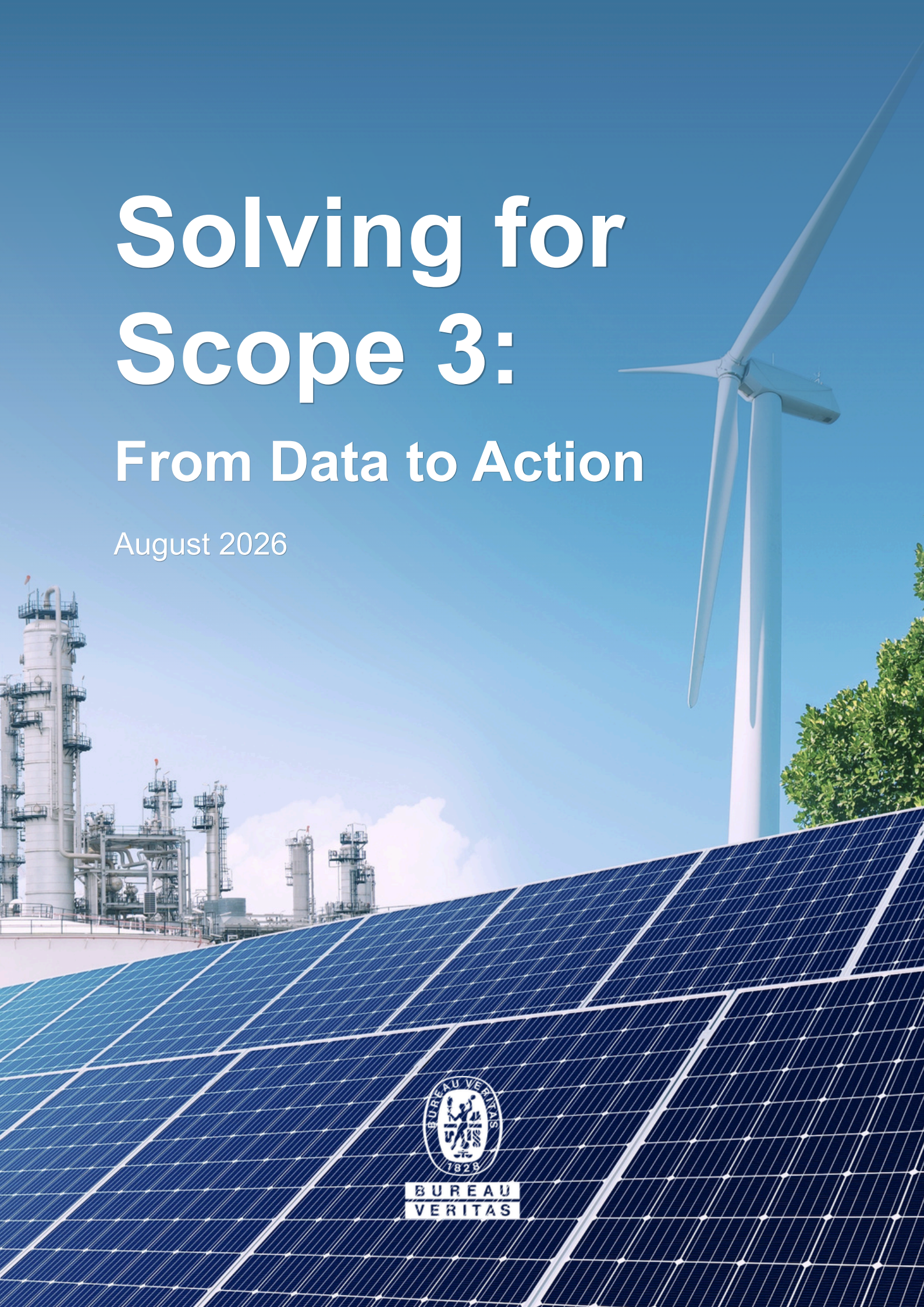




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Executive Summary

Dramatic heat waves around the globe have brought climate change back into public and political discourse. As companies seek to reduce their greenhouse gas emissions, many are struggling to demonstrate meaningful progress. New guidance introduced in Version 2.0 of the Science Based Targets initiative's Corporate Net-Zero Standard, along with changes expected in the upcoming update to the GHG Protocol, are prompting organizations to re-evaluate their approach to Scope 3 and prepare for a new phase of decarbonization, one that extends beyond disclosure and requires greater operational focus and integration.

The majority of a company's carbon footprint is typically generated upstream and downstream in the value chain through Scope 3 emissions. Scope 3 accounts for more than 70% of emissions on average and can represent an even greater share in sectors such as financial services, retail, and technology.

Organizations that treat Scope 3 as a strategic, cross-functional business challenge rather than a reporting requirement will be better positioned to succeed in the years ahead.

The companies that will lead on decarbonization in the next decade are not those that simply report their Scope 3 emissions more completely. They are the companies that use precise, activity-based data to make better sourcing, investment, product design, and supplier engagement decisions that simultaneously reduce emissions and generate measurable financial and operational value.

The gap between Scope 3 measurement and Scope 3 action is not a data problem in isolation. It is an architecture problem. Most organizations have built their Scope 3 capability as a sustainability function tool, when it should be an enterprise operating capability: one that directly informs how decarbonization capital is allocated, how procurement and supply chain teams evaluate and negotiate with suppliers, and how product teams design lower-impact products that meet evolving customer expectations.

This white paper presents a framework for driving Scope 3 transformation. It explores why Scope 3 programs stall, introduces a scalable activity-based LCA approach for building a reliable data foundation, and shows how organizations can turn data into cross-functional, ROI-driven strategies.

> **Not every ton of CO_2 reduced costs the same. Organizations that close the data-to-action gap by translating granular, activity-based LCA data into financially optimized decarbonization strategies will achieve their climate commitments faster, at lower cost, and with measurable business value.**



The Scope 3 Imperative

Why Action Is No Longer Optional

Regulations in Europe and California have made Scope 3 disclosure a requirement, bringing many organizations' attention to Scope 3 for the first time. Simultaneously, Version 2.0 of the Science Based Targets initiative's (SBTi) Corporate Net-Zero Standard (CNZS) has reinforced the importance of Scope 3, requiring large companies starting the target-setting process to establish near-term Scope 3 targets. SBTi's CNZS 2.0 guidance on target implementation also heralds changes in the upcoming GHG Protocol update, which will introduce guidance on Actions and Market Instruments, and further shift the focus from reporting to action.

The regulatory floor is rising — and fast

Scope 3 disclosure has moved from voluntary best practice to legal obligation across major markets globally. While European and California regulations have undergone setbacks and delays, the level of ambition of these new disclosure requirements remains high.

EU CSRD / ESRS E1: The EU Corporate Sustainability Reporting Directive and accompanying European Sustainability Reporting Standards (ESRS E1) require large companies and listed SMEs operating in Europe to report material Scope 3 emissions across all 15 GHG Protocol categories, with third-party assurance.

California SB 253: Mandates Scope 3 disclosure for companies with revenues exceeding $1 billion doing business in the state, with mandatory reporting beginning in 2026. The California Air Resources Board (CARB) may impose penalties of up to $500,000 per reporting year for non-compliance.

ISSB IFRS S2: Requires disclosure of material Scope 3 emissions. As of early 2026, more than 30 jurisdictions — including Australia, the UK, Japan, Singapore, Brazil, and Hong Kong — have adopted, are adopting, or are formally aligned with IFRS S2 [IFRS Foundation, 2025; S&P Global Sustainable1, 2025]. Targeted amendments issued in December 2025 addressed specific implementation challenges for financial institutions while leaving the core Scope 3 disclosure requirement intact [IFRS Foundation, December 2025].

Framework	Jurisdiction	Scope 3 Requirement	Status
EU CSRD / ESRS E1	European Union	Full Scope 3; 15 categories; third-party assurance	In force (phased)
California SB 253	United States	Full Scope 3; CARB enforcement	Mandatory from 2026
ISSB IFRS S2	30+ jurisdictions	Material Scope 3; TCFD-aligned	Adopted / being adopted
Australian ASRS	Australia	Scope 3 aligned with IFRS S2	In force (phased)
GHG Protocol Scope 3 Standard	Global	15-category inventory; methodology guidance	Voluntary baseline; referenced by regulators
SBTi (including FLAG)	Global	Near- and long-term Scope 3 targets; FLAG for land sectors	Voluntary
CSDDD	European Union	Corporate ESG risk management and due diligence duties	In force (phased)

Sources: AASB and AUASB (2024); CARB (2024); European Union (2023/2024); GHG Protocol (2011); IFRS Foundation (2025); SBTi (2022/2026).

Market pressure is compounding regulatory pressure

Supply chains of eight sectors account for half of the world's GHG emissions [WRI / GHG Protocol, 2023], and for many organizations, net-zero commitments are mathematically unachievable without a Scope 3 strategy. The commercial pressure to demonstrate Scope 3 competency is building simultaneously from investors and customers.

The Task Force on Climate-related Financial Disclosures (TCFD), established by the Financial Stability Board in 2015, set the foundational expectation that climate-related financial risks, including those arising from Scope 3 supply chain exposure, should be disclosed to support informed investment and lending decisions. IFRS S2, which fully incorporates and extends TCFD recommendations, is now one of the global standards across major capital markets.

On the commercial side, a 2024 CDP and BCG joint report found that upstream Scope 3 emissions are on average 26 times greater than a company's combined Scope 1 and 2 emissions, yet companies are twice as likely to measure, and 2.4 times more likely to set targets for, their operational emissions than for their supply chain emissions [CDP / BCG, June 2024].

A 2024 Verdantix survey found that two-fifths of respondents had already discontinued a supplier relationship due to poor emissions performance [Verdantix, 2024]. BCG and EcoVadis found that companies actively engaging suppliers on emissions are nine times more likely to improve against Scope 3 goals [BCG / EcoVadis, 2025].

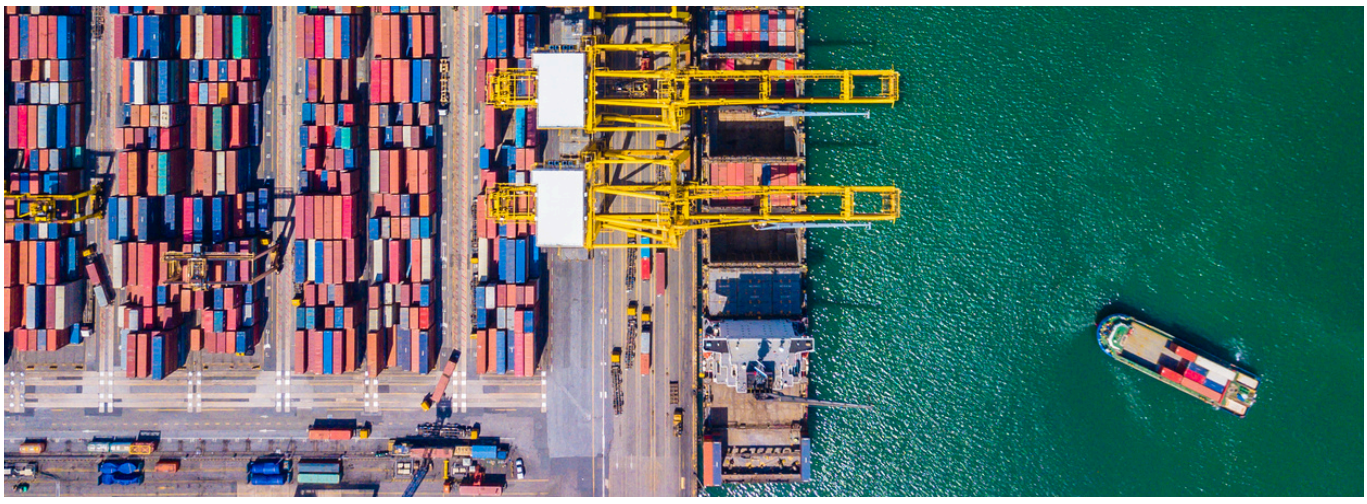
The focus is shifting from disclosure to progress

Version 2.0 of the SBTi Corporate Net-Zero Standard (CNZS) provides new guidance on how organizations can demonstrate Scope 3 progress, through the accounting of interventions at the activity, activity-pool, and sector levels [SBTi, 2026].

CNZS v2.0 introduces a chapter on Target Implementation, providing long-awaited guidelines on how interventions can be selected and accounted for. The guidance prioritizes activity-level emissions reductions within a company's own value chain over broader approaches, and verifiable interventions over those that lack attribute-claim systems.

The new hierarchy provides clarity on how to select and report on actions and market instruments, in a flexible framework defining what constitutes an acceptable intervention or instrument. This approach notably incentivizes action over exactitude and signals what organizations may need to prepare for next. Further guidance on value chain interventions is expected in the upcoming GHG Protocol update, as previewed in the GHG Protocol's Actions and Market Instruments Working Group White Paper [GHG Protocol, 2026].

As expectations shift from disclosure to measurable progress, organizations increasingly need strategies that leverage the data, tools, and stakeholder engagement to track, prioritize, and disclose verifiable, activity-based reductions.





Why Scope 3 Programs Stall

Three Structural Problems

Despite growing urgency, many corporate Scope 3 programs are not delivering on their potential. Three structural problems explain why even well-resourced organizations find themselves reporting emissions without meaningfully reducing them.

PROBLEM 1

The accounting credibility gap

According to a Verdantix 2024 survey, companies receive primary emissions data from only 26% of their suppliers on average [Verdantix, 2024]. The majority of the remaining supply chain is estimated using spend-based factors or industry averages, where available, meaning a significant portion of reported emissions is based on estimates rather than primary data.

In CDP's annual climate questionnaire, 45% of reporting companies omit categories that are material to their sector [CDP, 2025]. This reflects a genuine capability gap: organizations cannot credibly disclose what they cannot accurately measure, and spend-based proxies may systematically miss the most carbon-intensive parts of a supply chain.

The GHG Protocol's proposed update to the Scope 3 Standard, which would require companies to report at least 95% of required Scope 3 emissions to remain in conformance, signals that the standards body itself recognizes the current gap between formal compliance and genuine coverage [GHG Protocol, 2025].

PROBLEM 2

The granularity gap

Scalable corporate carbon accounting platforms typically operate at the category or spend level. They can tell an organization that Category 1 (purchased goods and services) represents 60% of its Scope 3 footprint. They cannot identify which specific materials, components, manufacturing processes, or energy inputs drive those emissions, nor can they model how emissions would change if those inputs were modified through mitigation actions.

At the opposite end, traditional product-level life cycle assessments (LCAs) deliver the granularity needed for action but often struggle to scale across thousands of products. Each detailed LCA requires significant time and expertise, making comprehensive portfolio coverage challenging and expensive for most organizations.

CDP's 2024 Full GHG Emissions Dataset confirms that "the Scope 3 data reported to CDP is considerably less consistent" than Scope 1 and 2 data, reflecting this structural limitation [CDP, 2024]. Organizations either have scale without precision, or precision without scale, neither produces actionable intelligence for businesses to make sound, value-accretive or risk-mitigating decisions.

PROBLEM 3

The missing ROI layer

According to Cozero's analysis of CFO roles in climate strategy, climate risk "cuts across financial risk, capital allocation, planning, and performance management" [Cozero, 2025], yet most organizations still lack the carbon metrics to integrate emissions performance into core financial decision-making.

BCG and EcoVadis estimate that by 2030, companies could face more than $500 billion in annual global liabilities tied to carbon pricing on Scope 3 supply chain emissions [BCG / EcoVadis, 2025].

Organizations without a financially grounded prioritization capability are accumulating an exposure they are not equipped to manage.



The Data-to-Action Gap

Why Many Tools Fall Short

Spend-based method

Necessary starting point, insufficient long-term operating model

The spend-based methodology estimates supply chain emissions by multiplying procurement expenditures by economic emissions intensity factors. The GHG Protocol recognizes it as a compliant option when primary supplier data is unavailable [GHG Protocol, 2011]. However, as a long-term operating model, it has several fundamental limitations:

- Vulnerable to price fluctuations as a commodity price spike inflates apparent emissions with no change in physical activity.
- Cannot identify granular hotspots within categories, distributes emissions proportionally to spend, not to actual emissions intensity.
- Cannot distinguish between a supplier using renewable energy and one using coal-fired power for the same product.
- Cannot model the emissions impact of material substitutions, process changes, or energy transitions.
- Cannot meet FLAG target requirements, as SBTi FLAG guidance requires commodity-level tracking of land-use emissions, which is achievable only through activity-based modeling [SBTi FLAG, 2022; SBTi, 2026].

Activity-based LCA

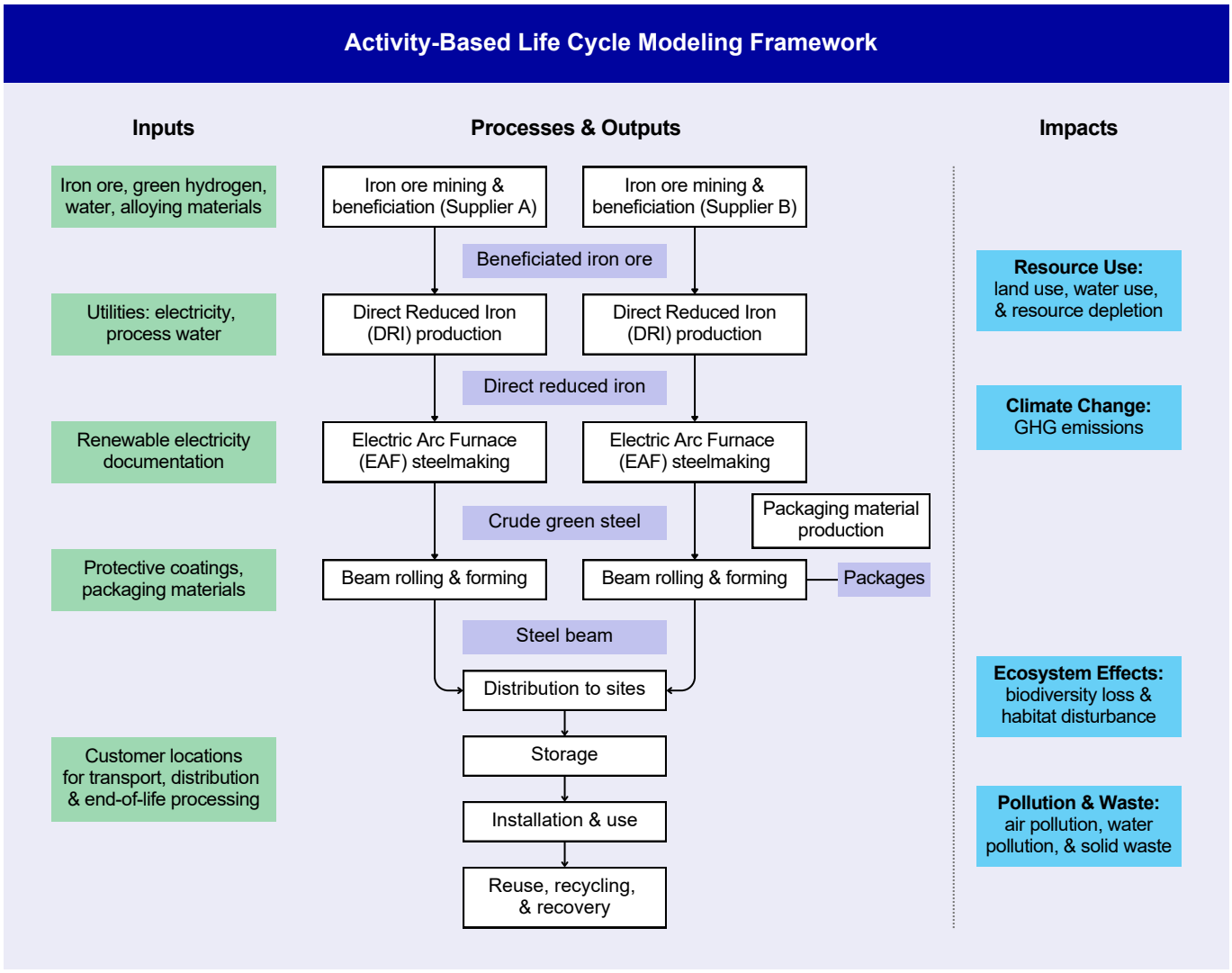
The operating backbone for action

Activity-based LCA, also known as process-based LCA, replaces financial proxies with physical activity data: volumes of materials, components, energy inputs, production processes, and logistics flows modeled using process-level data from LCA databases and supplier primary data. The resulting insights are fundamentally different:

- Hotspot identification at the material, component, process, and energy level, not just at the supplier or category level.
- Accurate tracking of specific improvements, including supplier renewable energy adoption, sustainable material transitions, and process efficiency gains, with measurable attribution.
- Quantitative basis for intervention modeling and scenario comparison.
- Commodity-level emissions data required for FLAG target-setting and carbon removal quantification.

McKinsey research found that retailers could reduce Scope 3 emissions by up to 50% through supply chain interventions, but only when informed by granular, activity-level understanding of where emissions originate [McKinsey, 2024]. The magnitude of reduction available is large; accessing it requires the precision that spend-based analysis cannot provide.

Why Activity-Based LCA Matters: The Green Steel Beam Example



Activity-based LCA maps physical inputs, supplier-specific processes, material flows, distribution, use, and end-of-life stages to generate granular impact insights across resource use, climate change, ecosystem effects, and pollution or waste. By replacing financial proxies with activity-level data, it reveals emissions hotspots, distinguishes supplier and process performance, and provides the detail needed to evaluate decarbonization opportunities. While spend-based methods can support initial Scope 3 estimates, activity-based LCA delivers the actionable understanding required to prioritize interventions, compare scenarios, and measure progress over time.



The Scope 3 maturity model

The progression from spend-based to activity-based capability follows a recognizable maturity trajectory. Understanding where an organization sits is essential for planning the investments needed to close the data-to-action gap, and for aligning the right internal stakeholders at each stage.

Level	Capability	What It Enables	Primary Owner	Key Limitation
Level 1: Spend-based reporting	Financial proxy estimation using EEIO factors	Regulatory baseline disclosure; rough impact ordering	Sustainability / CSO	Cannot identify all hotspots; insufficient for FLAG; vulnerable to price distortion
Level 2: Supplier data collection	Engagement programs to gather supplier-reported Scope 1/2 data; CDP Supply Chain participation	Improved category coverage; partial supplier scorecarding	Procurement + Sustainability	Low (average ~26%) supplier response rate [Verdantix, 2024]; cannot model intervention impacts
Level 3: Activity-based modeling	Process-level LCA across priority materials, components, and supply chain tiers; product carbon footprint	Hotspot identification; FLAG compliance; targeted supplier engagement; product footprint credibility	Sustainability + Product + Procurement	Requires data infrastructure, internal process integration, and application of LCA expertise
Level 4: Scenario optimization	Intervention modeling, MACCs, integration with financial planning	Investment prioritization; SBTi target-setting; capital allocation with emissions as a variable	CSO + CFO + Procurement	Requires cross-functional data integration and a common financial-environmental framework
Level 5: ROI-driven portfolio management	Financially optimized decarbonization strategy with tracked execution; enterprise-wide coordination	Capital allocated to most cost-effective abatement; verified reductions; multi-impact resilience management	CEO + CSO + CFO + CPO + COO + Supply Chain + Product	Requires fully integrated cross-functional operating model and external assurance capability

Sources: GHG Protocol (2011); Verdantix (2024); SBTi (2022/2026)

A 2024 Verdantix survey found that 68% of firms stated supply chain decarbonization was a high or very high priority [Verdantix, 2024], yet most organizations currently operate at Levels 1 or 2.

Organizations that reach Levels 4 and 5 of carbon emissions management develop operational and financial capabilities that drive genuine business value, moving beyond compliance to strategic advantage.



Activity-Based LCA at Scale

AITrack's Approach

The practical barrier preventing most organizations from advancing beyond Level 2 maturity is not conceptual, but operational. Activity-based LCA has historically required specialized expertise and significant time investment for each product or supply chain segment modeled. AITrack Solutions by Bureau Veritas resolves this constraint through three integrated capabilities.

The scalable LCA approach: four operational steps

1

Identify the largest Scope 3 contributors

Use existing spend-based analysis and procurement data to develop a preliminary impact ranking across Scope 3 categories [GHG Protocol Scope 3 Standard, 2011], identifying the key categories that drive the majority of emissions.

2

Collect volume data for materials and components

Shift from financial data to physical activity data: quantities, unit volumes, material weights, component counts from bill of materials (BOM) data, internal PLM, compliance, purchasing, and financial systems.

3

Develop LCA models based on specific value chain activities

Build process-level LCA models for priority materials, components, manufacturing processes, and energy inputs using AITrack's curated activity database, supplier primary data, and relevant third-party LCA databases, aligned with leading standards such as ISO 14040 and ISO 14044.

4

Evaluate and prioritize mitigation levers

Model changes down to actionable decision points, including specific materials, processes, components, and energy sources. Generate quantitative estimates of the emissions reductions achievable through each intervention and combine them with cost data to support financially informed prioritization.

What makes AITrack's approach distinctive

The industry's largest LCA activity database

AITrack's curated database covers hundreds of thousands of agricultural, industrial, and energy unit processes globally: actual physical activities across value chains, not economic proxies or aggregated emission factors. Our custom LCA models reflect the specific production practices, energy mixes, and material sources relevant to each client's supply chain, rather than relying on generic industry averages.

The majority of our data consists of proprietary models developed through direct partnerships with industry leaders, grounded in 300+ primary and secondary sources. The database grows rapidly and is updated annually to incorporate the latest production technologies and evolving profiles for energy, water, and other impact areas.



AI-powered software platform with automated workflow and audit trail

The software platform automates data ingestion, mapping, and quality management workflows that make enterprise-scale LCA modeling operationally feasible. AI-powered data mapping reduces the manual effort required to connect internal systems to LCA models.

The platform supports precise LCAs for thousands of products within months, enabling impact forecasting, scenario analysis, and audit-ready reporting. Automated audit trails and transparent documentation support third-party verification and assurance requirements under SBTi and sustainability-linked finance frameworks.



Integrated LCA practitioners and business-aligned sustainability strategists

AITrack's integrated expertise distinguishes it from software-only or database-only approaches by helping translate precise activity-based data into organizational action.

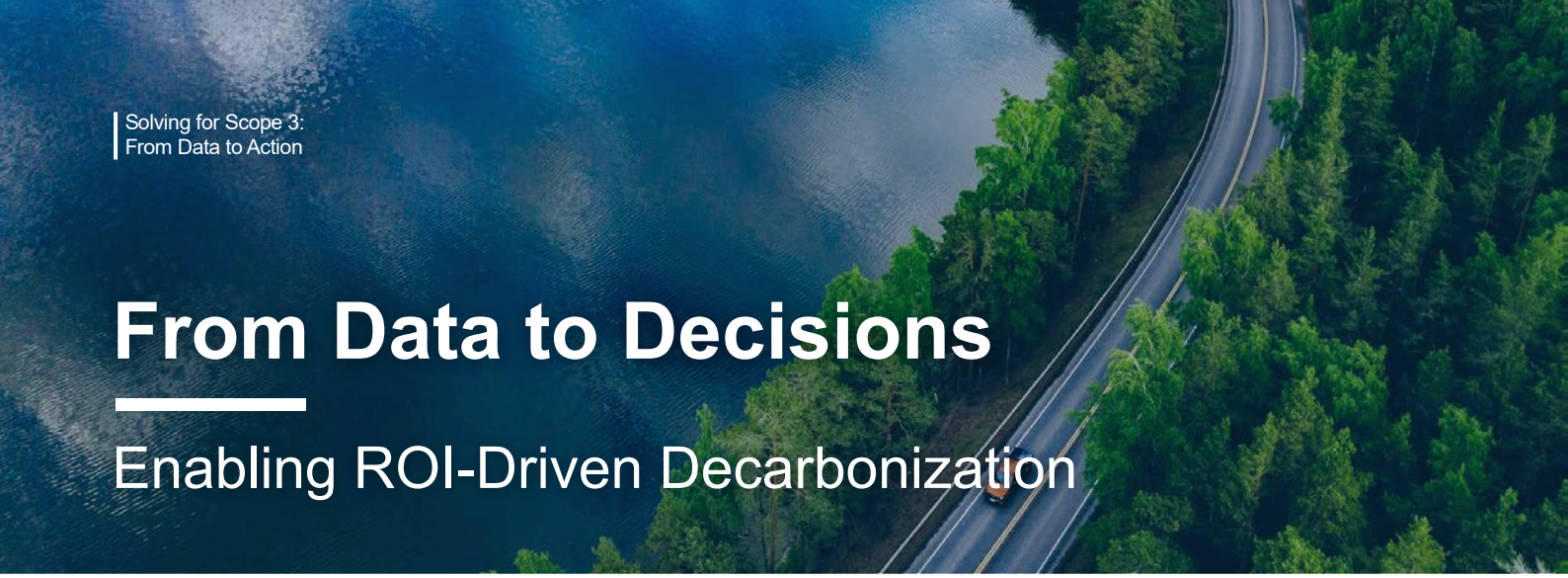
Accurate LCA modeling requires deep expertise in life cycle methodology, industrial systems, and agricultural and energy processes. Turning that intelligence into funded decisions, supplier negotiations, and design changes requires strategists who speak the language of CFOs, CPOs, and supply chain leaders, connecting decarbonization opportunities to the financial, commercial, and risk frameworks that govern resource allocation.

AITrack brings both. LCA practitioners ensure the technical integrity of inventories that are defensible under third-party assurance, aligned with relevant standards, and granular enough to support decision modeling. Business-aligned sustainability strategists translate those inventories into ROI frameworks, intervention roadmaps, and organizational narratives that help procurement, finance, and supply chain leaders act.



AITrack's integrated data, software, and expertise support organizations across short-, medium-, and long-term decarbonization objectives while addressing the full set of material dimensions that define corporate resilience, not just focused on GHG emissions.

Dimension	Short-term (1–3 years)	Medium-term (3–7 years)	Long-term (7+ years)
GHGs	Accurate Scope 3 inventory; regulatory compliance; SBTi target-setting	Activity-based hotspot reduction; supplier engagement programs; FLAG target-setting	Net-zero value chain; verified removals; MACC-driven portfolio optimization
Water	Water-use intensity mapping across priority supply chain tiers	Sourcing diversification away from water-stressed geographies	Watershed-level stewardship embedded in supplier agreements
Biodiversity	TNFD LEAP assessment [TNFD, 2023]; deforestation exposure mapping	No-deforestation commitments operationalized in procurement	Nature-positive supply chain architecture; SBTi FLAG land removals
Costs	Identification of cost-effective abatement; avoided carbon pricing exposure	MACC-driven reallocation of decarbonization CapEx; supplier co-investment programs	Energy and material cost resilience through supply chain redesign
Supply & community resilience	Physical climate risk mapping across supply chains	Sourcing diversification; supplier capability building	Long-term supply agreements structured around performance and sustainability criteria
Regulatory exposure	CSRD, SB 253, IFRS S2 compliance; CBAM cost assessment	Preparation for expanding supply chain due diligence requirements	Proactive positioning ahead of emerging carbon pricing and nature-related regulations



From Data to Decisions

Enabling ROI-Driven Decarbonization

Not every ton of CO_2 reduced has the same cost. Activity-based LCA, applied at the decision level, changes the equation from 'decarbonization optics' to 'decarbonization strategy'.

APPLICATION 1

Targeted supplier engagement — finding the real hotspots

The conventional approach to supplier engagement sends data requests broadly through Excel templates, prioritized by spend and focused primarily on Tier 1 suppliers, generating response rates of only about one in four suppliers [Verdantix, 2024]. The activity-based approach inverts this process: model first to identify hotspots, then target supplier engagement, enabling faster and more meaningful data collection.

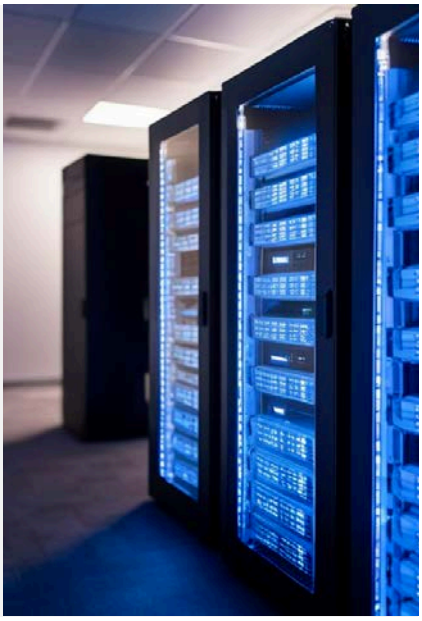
McKinsey's analysis of Scope 3 supplier engagement found that "the drivers of Scope 3 emissions differ for each subsector, meaning companies need to engage with their suppliers to formulate and implement appropriate decarbonization strategies," and concluded that the most effective approach focuses resources on the highest-impact supplier relationships [McKinsey, 2024].

The CDP 2024 Supply Chain report emphasizes that "procurement teams can leverage their purchasing power to initiate a positive feedback loop and drive change across their suppliers, strategically engaging high carbon contributors first," and notes that creating transparency in supplier emissions data is the prerequisite for setting targets and establishing contractual obligations [CDP / BCG, 2024].

Use Case: Technology Hardware

AITrack's activity-based LCA modeling of a server rack product family revealed that solid-state drives (SSDs) account for approximately 70% of the product's total life cycle GHG emissions, a concentration that spend-based analysis completely missed, because SSDs are typically sourced from Tier 3 suppliers and their procurement expenditure represented a much smaller share of total component cost than its emissions share.

This single insight changed the supplier engagement strategy: rather than distributing data collection effort across dozens of component suppliers in proportion to spend, the organization concentrated validated primary data collection on SSD manufacturers whose production practices and energy inputs had the most material impact on the overall product footprint.





APPLICATION 2

Cost-effective interventions using Marginal Abatement Cost Curves (MACCs)

The Marginal Abatement Cost Curve (MACC) ranks available decarbonization interventions by their cost per tonne of CO_2e abated. With a precise Scope 3 inventory as its foundation, MACCs become a practical planning instrument that connects the sustainability function directly to the financial and operational frameworks governing capital allocation.

A MACC reveals the relative cost-effectiveness of mitigation levers, providing a clear basis for investment decisions. For example, it may show that product specification changes, such as transitioning to green steel, deliver emissions reductions at a lower cost per tonne than renewable energy certificates. Without activity-based LCA and a MACC framework, these opportunities often remain hidden. With them, organizations can reallocate decarbonization investment toward higher-impact, lower-cost interventions.

AITrack's dynamic MACC capability links mitigation projects directly to the corporate Scope 3 inventory, enabling real-time comparison of intervention cost-effectiveness, scenario modeling against SBTi targets, and live project tracking by global teams. This represents a significant improvement over static MACCs by embedding a rigorous, adaptive process into the organization that can evolve with changing technologies and business conditions:

- **Static MACCs are one-time exercises**. Dynamic MACCs establish a software-enabled process that allows teams to continuously update inputs as new technologies and solutions become available.

- **Static MACCs are often centralized and performed by external consultancies.** Dynamic MACCs enable internal teams, including facility-level and supplier-facing personnel, to build and maintain libraries of mitigation opportunities and interventions.



The Scope 3 Operating Model

Powering Decisions Across Business Functions

Winning Scope 3 programs are not sustainability programs.
They are enterprise operating models.

The Chief Sustainability Officer
Measurement architecture and strategic credibility

The CSO owns the measurement framework, regulatory compliance posture, and the emissions reduction strategy. Activity-based LCA gives the CSO credible, verifiable data infrastructure required for public commitments that can be substantiated under external assurance.

CSO's primary LCA dependency: Granular, auditable, category-level inventory data supporting SBTi commitments, CSRD compliance, and third-party verification.

CSO's primary organizational dependency: A cross-functional mandate giving sustainability the authority to connect data to decisions across procurement, finance, and product functions.

The Chief Financial Officer
Capital allocation, risk management, and sustainable finance

The CFO's stake in Scope 3 spans three dimensions.

I) **Capital allocation for decarbonization investment:** According to Cozero's analysis of CFO climate responsibilities, "the CFO is the person who owns financial risk, capital allocation, planning, and performance management — and climate risk now cuts across all of these domains" [Cozero, 2025]. Without a MACC framework built on activity-based data, decarbonization CapEx competes with other capital priorities based on qualitative rather than quantitative grounds.

II) **Regulatory and transition risk quantification:** Carbon border adjustment mechanisms create financial exposure for organizations with emissions-intensive supply chains. For example, the EU's CBAM requires emissions reporting for imported steel, aluminum, cement, fertilizers, and electricity. Quantifying these exposures at the product and supply chain level requires process-level emissions data.

III) **Sustainable finance access:** Sustainability-linked financing instruments, including green bonds, sustainability-linked loans, and transition finance facilities, increasingly require verified, granular emissions data to secure favorable terms. The ICMA Green Bond Principles and Sustainability-Linked Bond Principles both require transparent KPI disclosure and third-party verification of emissions performance [ICMA, June 2025].

CFO's primary LCA dependency: Financially comparable intervention options with cost-per-tonne estimates, payback modeling, and scenario trajectories connecting emissions outcomes to capital allocation decisions and balance sheet risk.

Procurement and supply chain
The operational execution layer

Category 1 (purchased goods and services) and Category 4 (upstream transportation) are often the largest Scope 3 categories for most manufacturing, technology, and consumer goods companies.

McKinsey identified integrating ESG into procurement and optimizing upstream Scope 3 as one of the ten critical CPO/COO priorities for 2024, noting that "creating transparency on CO_2 emissions is now necessary given the need to comply with new regulations." McKinsey also highlights procurement's expanding role across "the entire ESG spectrum," including "working with suppliers to establish clear guidelines, support, and incentives for sustainable sourcing" [McKinsey, 2024].

Activity-based LCA transforms procurement in four concrete ways:

I) **Supplier selection and qualification:** Emissions performance becomes a genuine evaluation criterion alongside quality, cost, and delivery.

II) **Supplier negotiations**: Process-level data creates a specific, quantitative basis for conversations about energy sourcing, production efficiency, and material transitions. Research in *Business Strategy and the Environment* (2024) confirms that effective engagement helps suppliers mitigate Scope 3 emissions and enables buyers to overcome conflicting targets [Butt et al., 2024].

III) **Supplier capability development**: Organizations can target investment in joint renewable energy procurement, energy efficiency programs, and shared logistics optimization for high-impact suppliers.

IV) **Category strategy**: Material substitutions can be evaluated using precise estimates of emissions impacts, cost differentials, and functional performance, integrating decarbonization into category management.

Product development and design
The highest-leverage upstream intervention point

Product design decisions determine material selection, manufacturing processes, production energy intensity, and end-of-life profile. Yet most product development teams operate without access to emissions data to inform material selection and design choices.

When engineers and designers can see the carbon or environmental impact of material selection decisions, including choices between alternative materials, manufacturing processes, or sourcing strategies, emissions performance becomes a genuine design parameter. Emissions reductions achieved at the design stage are often far less costly than those pursued through supply chain interventions after commercialization.

Investment and financing
Linking emissions performance to capital access

Sustainability-linked financing instruments require the auditable, process-level emissions inventories enabled by activity-based LCA, which spend-based approaches cannot provide.

As institutional investors increasingly integrate Scope 3 data into equity and fixed-income analysis under IFRS S2 and TCFD-aligned frameworks, the FTSE Russell / LSEG analysis confirms that the quality and verifiability of Scope 3 data directly affect how transition risk is assessed and managed [FTSE Russell / LSEG, 2024].



Future-Ready Scope 3

Beyond Carbon

The Scope 3 landscape is actively expanding. While carbon accounting remains foundational, it is increasingly just one dimension of a broader corporate sustainability data agenda encompassing nature, water, biodiversity, and systemic resilience.

Nature and biodiversity
The TNFD imperative

The Taskforce on Nature-related Financial Disclosures (TNFD) released its final recommendations in September 2023, providing a structured framework for organizations to assess, manage, and disclose nature-related dependencies, impacts, risks, and opportunities across their value chains [TNFD, 2023]. The framework builds directly on the TCFD architecture, extending scope from climate to the full set of nature-related impacts.

As of July 2025, over 600 organizations across more than 50 countries had publicly committed to reporting in line with TNFD recommendations [Clyde & Co, 2025]. The World Economic Forum estimates that more than $44 trillion of economic value, over half of global GDP, depends on nature and its services [WEF, 2020].

TNFD's LEAP (Locate, Evaluate, Assess, Prepare) assessment process requires organizations to map the interfaces between their value chains and natural systems, leveraging many of the same data elements generated through activity-based LCA [TNFD, 2023]. The SBTi FLAG guidance operationalizes this connection at the target level, requiring no-deforestation commitments as a prerequisite for FLAG target-setting.

Water
Burden-shifting and resource stewardship

Freshwater use and water quality impacts are increasingly material to supply chain risk assessments, particularly in water-stressed geographies. LCA methodology, correctly applied, captures water use intensity at the process level alongside carbon impacts, enabling organizations to assess their water footprint using the same activity-based data architecture that supports carbon footprinting.

This multi-impact capability avoids burden-shifting: ensuring that decarbonization interventions are evaluated against their full environmental profile, not just their carbon reduction potential. For example, an intervention that reduces carbon but dramatically increases water consumption in a water-stressed region may not represent a net environmental gain and may introduce additional risks to the business.

Supply chain
Resilience and regulatory readiness

Physical climate risk is increasingly quantifiable using similar supply chain maps that activity-based LCA produces. Organizations that understand their supply chain at the activity level are better positioned to overlay physical risk scenarios and to make sourcing diversification decisions informed by both emissions impact and resilience considerations.

The EU Corporate Sustainability Due Diligence Directive (CSDDD), CBAM expansion, and the growing network of IFRS S2 adopters are collectively creating a compliance landscape that will increasingly require granular, verifiable supply chain emissions data. Activity-based LCA capability is the data foundation for compliance requirements that are clearly and rapidly converging across major markets.



Conclusion

Closing the Data-to-Action Gap

Organizations that will lead on Scope 3 decarbonization in the next decade will not do so by simply reporting more completely. They will build the data architecture and organizational capabilities needed to translate precise, activity-based emissions intelligence into financially optimized decisions across risk management, product design, capital allocation, procurement, and supply chain strategy.

Closing this gap requires three things working together:

Precise data

Activity-based LCA, built on process-level modeling of actual supply chain activities, is the foundational requirement. Spend-based approaches cannot produce the granularity needed for effective climate strategy modeling.

Decision intelligence

Marginal abatement cost curves, scenario modeling, and intervention tracking tools that connect emissions data to financial frameworks, enabling CFOs, procurement leaders, and supply chain teams to incorporate environmental performance as a genuine decision variable.

Cross-functional architecture

An organizational operating model that connects carbon measurement and strategy with procurement, finance, product, and supply chain functions to execute decarbonization and transition management across the enterprise, governed by the CFO, CPO, and CSO rather than the CSO alone.

AITrack by Bureau Veritas supports organizations at every stage of this journey — from establishing credible activity-based Scope 3 inventories to enabling the full ROI-driven decarbonization portfolio management at the leading edge of corporate climate action.

The imperative is clear. The technology and expertise exist. The gap between where most organizations are and where they need to be is closable, but only if Scope 3 is treated not as a sustainability exercise, but as the enterprise transformation it needs to be.



About AITrack Solutions

AITrack by Bureau Veritas helps companies turn complex Scope 3 data into precise, auditable emissions intelligence that drives action. By integrating product-specific life cycle assessment (LCA) with corporate inventory, AITrack enables activity-based Scope 3 accounting at enterprise scale, supporting regulatory compliance, science-based target progress, and ROI-driven decarbonization decisions.

- **Technology for scalable LCA:** Industry's largest LCA activity database with AI-powered data mapping and high-performance software.
- **Integrated corporate-product assessment:** Seamless footprinting capabilities for consistent, granular insights across corporate and product levels.
- **Trusted sustainability and LCA expertise:** Industry- and region-specific support from LCA practitioners and sustainability strategists.
- **Global supply chain support:** On-the-ground presence in 140+ countries for data collection, verification, and project implementation.
- **Secure, intelligent data workflows:** Streamlined data uploads and API integrations with enterprise-grade access controls and certified security.
- **Future-proof solutions:** Comprehensive environmental coverage, backed by Bureau Veritas' 200 years of expertise and a global base of 400,000 clients.

Ready to accelerate your Scope 3 progress?

Schedule a free consultation

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