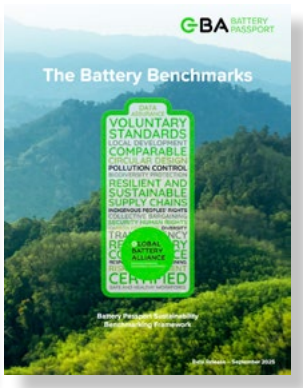
Quantifying Progress – How the GBA's Greenhouse Gas Rulebook Supports SBTi Goals

Executive summary

In this brief we explain how the Greenhouse Rulebook:

- **Establishes a harmonised, primary-data standard for battery carbon footprints aligned with SBTi**
- **Includes integrated verification and data-quality metrics enabling credible Scope 3 accounting**
- **Drives value-chain decarbonisation and consistent global benchmarking through the Battery Passport**
- **Transforms compliance into competitive advantage and regulatory readiness based on verified data**



With the growing demands for transparency and verification, the **GBA Greenhouse Gas Rulebook v2.1** stands out as an immediate and comprehensive solution. Developed to harmonise the calculation of battery carbon footprints (CFs), it provides the reliable and comparable data required to support credible decision-making while meeting the SBTi's standards for data integrity, boundary clarity, and methodological rigour.

The Rulebook establishes globally harmonised rules for calculating the "cradle-to-gate plus recycling" Battery Carbon Footprint (CF) for lithium-ion batteries. This scope specifically covers the manufacturing and end-of-life stages. Within the wider GBA framework, the SBTi is also referenced as a level AAA benchmark for good practice reporting in the Greenhouse Gas and Energy Efficiency module of the **Battery Benchmarks**, highlighting its role as a leading reference point for credible and transparent corporate climate disclosure.

> Foundation in Primary Data and International Standards

To meet the SBTi's expectations for verifiable emissions accounting, Rulebook's methodologies are grounded in widely recognised international standards, including ISO 14040/44/67 and the GHG Protocol. This alignment provides a common and transparent language for reporting, ensuring cross-sector consistency.

The Rulebook's most critical technical feature is the mandate for primary data. It requires process-specific primary data for material inputs (e.g., nickel, cobalt, lithium, graphite), energy consumption, and direct emissions at every production step, from mining and refining through cell and pack assembly. This mechanism ensures that the calculated carbon footprints are based on measured values specific to the supply chain rather than relying on generic industry averages.

> Quantifying Data Integrity: The Primary Data Share Metric

Beyond defining methodological standards, the Rulebook also provides a mechanism to measure data quality through the Primary Data Share metric. This indicator allows companies to demonstrate precisely what proportion of their battery carbon footprint is based on high-quality, supply-chain-specific primary data. It offers a direct, measurable response to the SBTi's demand that improvements in data quality be transparently tracked.

Furthermore, the Rulebook aligns with the strictest principles of climate governance by explicitly excluding offsetting mechanisms in its CF calculation methodology. This supports the core SBTi principle that carbon credits should only be used to neutralise residual emissions after deep, verifiable reductions have been achieved, keeping the focus solely on absolute emission reduction within the value chain.

Note – SBTi: The Science Based Targets Initiative

> Integrated Verification for Streamlined Compliance

Ensuring compliance and confidence, the Rulebook's governance structure transforms Scope 3 data collection from a high-risk, fragmented process into a streamlined, pre-assessed system. It prescribes detailed mass- and carbon-balance checks, mandates documentation requirements, assigns data quality ratings, and requires that an independent verification body perform final quality assessments on a sampling basis. When an EV manufacturer receives a **Battery Passport**, the carbon footprint of the most significant component of their product arrives pre-assessed, providing a substantial trust advantage. This integrated verification system significantly reduces the compliance burden and shortens the SBTi validation process.

By enforcing mandatory primary data collection, the Rulebook generates a market signal that rewards suppliers investing in low-carbon energy and process efficiency. This verified differentiation directly translates into competitive advantage, encouraging further investments in decarbonisation.

TURNING ALIGNMENT INTO ACTION: THREE PILLARS FOR SBTI COMPLIANCE

Having established its technical foundations, the Rulebook's practical contribution becomes clear when viewed through the lens of SBTi compliance. Its structure enables companies to address three critical areas of climate accountability.

> Pillar 1: High-Quality Scope 3 Inventory

The granularity mandated by the GBA Rulebook directly targets the emissions hotspot of the battery pack, which is the core source of Scope 3 Category 1 for OEMs. The Rulebook mandates the collection of granular, process-specific data for every production stage, from the mining and refining of key materials to cell assembly and pack integration.

When a battery manufacturer issues a GBA Battery Passport to an automaker, they are delivering a trustable dataset that enables the automaker to calculate their Category 1 emissions with an accuracy that meets SBTi's high data quality expectations. This is further reinforced by the Primary Data Share metric, which provides a transparent means for OEMs to track and demonstrate improvement in data quality year-over-year, fulfilling a key requirement for substantiating progress against SBTi targets.

> Pillar 2: Boundary Integrity for Vehicle-Cycle and WTW Accounting

The 'cradle-to-gate plus recycling' boundary defined by the GBA Rulebook aligns perfectly with the manufacturing and end-of-life boundaries required for SBTi compliance. By providing verified CF data for the manufacturing phase, the Passport allows automakers to

accurately model their aggregated emission intensity for target-setting under the Absolute Contraction approach.

Furthermore, while the GBA Rulebook currently focuses on manufacturing and recycling and excludes the use phase, it enables full compliance with the Land Transport Guidance's WTW requirement. Companies can combine the verifiable Passport data (vehicle-cycle emissions) with real-world energy consumption data (use-phase) to achieve the complete Well-to-Wheel accounting mandated for automakers.

The utility of the GBA Rulebook extends beyond the immediate scope of SBTi validation. By providing a single, globally harmonised standard, the GBA eliminates the methodological conflicts that arise when suppliers use differing regional calculation rules. This standardisation is a potent decarbonisation tool, enabling like-for-like comparison and transparent benchmarking.

> Pillar 3: Operationalising Value Chain Engagement and Decarbonisation

The SBTi requires robust supplier engagement, urging companies to collaborate across the value chain to increase the Scope 3 target boundary from 67% in the near term to 90% in the long term. The GBA Battery Passport operationalises this requirement through a cascading mechanism. By requiring GBA Passports from suppliers, the OEM effectively introduces a standardised, verifiable decarbonisation framework throughout the supply chain. This transforms the traditional buyer–supplier relationship into a collaborative data partnership. Suppliers receive a clear market signal that decarbonisation is a core purchasing criterion, which justifies their investments in lower-carbon processes and materials.

The granular data collected allows both battery manufacturers and OEMs to pinpoint specific emission hotspots from mining to recycling, enabling highly strategic engagement and focused emission reduction efforts. The adherence of the Rulebook to rigorous methodologies and its focus on verifiable CF data also creates essential regulatory synergy, meaning companies using the GBA framework for voluntary climate alignment (SBTi) are simultaneously preparing for mandatory disclosure requirements, such as those established under the EU Battery Regulation.

The Solution: The GBA Battery Passport

The Global Battery Alliance (GBA) GHG Rulebook, which underpins the Battery Passport, provides the technical infrastructure to meet these demands. Its design is based on three core pillars.

Mandatory Primary Data
The Rulebook mandates the use of primary, process-specific data for calculating carbon footprints, replacing generic averages.

Harmonized Boundaries
It defines a clear 'cradle-to-gate plus recycling' boundary, aligning with ISO standards and the GHG Protocol for comparability.

Verified & Auditable
The framework ensures data is reliable, accessible, and trusted, enabling third-party verification required by SBTi.

STRATEGIC ADVANTAGES AND THE ROAD AHEAD

As industry evolves, the strategic implications of this alignment are becoming more pronounced. Reliable data quality is no longer simply a compliance requirement but a defining factor of competitive differentiation.

> Transforming Compliance Risk into Competitive Edge

The verified carbon footprint data provided by the Battery Passport allows OEMs and battery manufacturers to move beyond simple environmental declarations. They can differentiate their products based on tangible, third-party assessed sustainability performance, marketing batteries based on low-carbon credentials derived from validated primary data.

For companies pursuing SBTi validation, the pre-assessed, verified CF data for the most complex component of their value chain dramatically streamlines the overall process. The ability to demonstrate inventory integrity and track data improvements via the Primary Data Share metric accelerates the SBTi validation timeline, conserving significant internal resources. Furthermore, the GBA Passport functions as an external validator of core ESG performance, reducing the perceived climate transition risk for investors.

> Operationalising Trust

The development of the GBA Battery Passport represents a pioneering partnership combining responsible sourcing, digital technology, carbon-footprinting, and multi-stakeholder consensus building. The work of the fellowship occurred just as the GBA was preparing for the next critical phase: the Operational Trials.

Following the launch of the GBA Battery Benchmarks and the updated GHG Rulebook v2.1 in September 2025, the Operational Trials are scheduled to launch around December 2025 and run into Q1 and Q2 of 2026. These trials are designed to stress-test the framework in real-world scenarios, ensuring that the consensus-based metrics and data collection templates are practical and scalable across the global value chain. The results of these trials will pave the way towards a fully operational Battery Passport certification, reinforcing the GBA's commitment to scaling a sustainable, responsible, and circular battery value chain by 2030.

It is important to acknowledge that the success of the Battery Passport programme hinges on the power of collective action. The Rulebook is the product of approximately 45 individuals from 41 GBA members, representing the full EV battery value chain, civil society, and government bodies, working towards common sustainability goals. This multi-stakeholder consensus ensures that the resulting standard is technically robust, globally harmonised, and practically implementable.

The era of relying on generic carbon accounting proxies for high-impact categories is rapidly closing. Industry leaders from OEMs to raw material suppliers and recyclers adopt the GBA Battery Passport as the definitive mechanism for transparently calculating, verifying, and disclosing their footprint. By embracing this standardised framework, the industry can accelerate credible, verifiable decarbonisation, securing its competitive position in the net-zero economy and meeting the ambitious climate transition targets required by the SBTi, and others.