

Carbon Accounting Playbook for Logistics Service Providers



Carbon Accounting Playbook for *Logistics Service Providers*

This playbook helps logistics service providers (LSPs) navigate carbon accounting and emissions reporting amid growing regulatory and customer pressures. It covers key regulations like SB 253 and the EU CSRD, along with industry standards such as the GHG Protocol and GLEC Framework.

Beyond compliance, the guide shows how carbon tracking can enhance competitiveness, secure ESG investment, and meet customer sustainability demands. It provides practical strategies for Scope 3 emissions management, data transparency, and reporting efficiency—helping LSPs align with best practices and succeed in a low-carbon economy.

1. Why Carbon Accounting?

The Growing Importance of Carbon Accounting

In today's evolving regulatory and business landscape, carbon accounting and reporting has become an essential requirement for logistics service providers (LSPs). Companies operating in the transportation sector are under increasing scrutiny, both from regulators and customers, to track and disclose their emissions. For many, compliance is no longer optional - it is a fundamental aspect of business operations.

Understanding Regulatory Pressure

Governments and regulatory bodies worldwide are enforcing stricter emissions reporting requirements. Logistics service providers, particularly those operating in multiple regions or serving large shippers, need to be aware of the key regulations impacting their business:

- **SB 253 (California Climate Corporate Data Accountability Act)**
 - This law applies to most U.S. companies generating over **\$1 billion in revenue**.
 - It mandates **corporate-wide reporting of Scope 1, 2, and 3 emissions**.
 - Many LSPs will be indirectly affected, as shippers and clients covered under SB 253 may request emission data from their service providers.
 - Additional guidance from **CARB (California Air Resources Board)** is expected soon, providing further clarity on compliance requirements.
- **EU Corporate Sustainability Reporting Directive (CSRD)**
 - This regulation expands mandatory **GHG disclosure** for companies within the European Union.

- LSPs servicing **EU-based customers** will likely need to provide emissions data to meet reporting obligations.
- **SEC Climate Disclosure Rule (on pause)**
 - This rule, when and if enacted, would require **publicly traded U.S. companies** to disclose **climate-related risks and emissions data**.
 - Implementation is paused in 2024 due to legal challenges.
 - The more likely final outcome is a delayed implementation with less stringent requirements. It is unlikely to be permanently stalled.

Business Incentives Beyond Compliance

While regulations are a key driver, there are additional business incentives for LSPs to embrace carbon accounting and disclosure:

- **Customer Expectations:** Shippers and retailers increasingly demand supply chain transparency, making emissions disclosure a prerequisite for maintaining contracts.
- **ESG & Investor Requirements:** Institutional investors and banks prioritize companies with strong environmental, social, and governance (ESG) practices.
- **Competitive Advantage:** A well-executed sustainability strategy can differentiate an LSP from competitors, positioning it as a responsible and forward-thinking provider.

2. Key Carbon Accounting Frameworks for Logistics

Navigating Multiple Reporting Frameworks

There are numerous carbon accounting frameworks, each with distinct applications. Understanding the differences and selecting the right approach is crucial for logistics carriers:

- **Greenhouse Gas Protocol:** The globally recognized corporate GHG accounting framework; .
- **GLEC Framework & ISO 14083:** The most widely adopted methodologies for logistics emissions accounting.
- **Science-Based Targets initiative (SBTi) – Transport Guidance:** Focused on setting clear emissions reduction targets for transport service providers.
- **EPA SmartWay:** A voluntary **U.S. program** used by freight carriers for benchmarking and emissions tracking.
- **European Norm EN 16258:** A standard emissions **reporting methodology used in Europe**.



Aligning with SB 253 and Other Regulations

Since **SB 253 mandates compliance with the GHG Protocol**, LSPs should ensure their emissions calculations align with the GHG Protocol. Additionally, aligning reporting methodologies with **GLEC** and **ISO 14083** will facilitate customer disclosures and enhance credibility to investors.

3. A Practical Strategy for Carbon Disclosures

Step 1: Define Your Reporting Goals

Not all carbon disclosure or GHG reporting are the same. Who you are reporting to and what frameworks are required dictate the depth and granularity of data collection, and hence the total cost of implementation. A pragmatist would define their **business goals** before developing an emission reporting process, making sure the investment is justified.

- **Regulatory Compliance:** Meeting legal requirements such as **SB 253 or CSRD disclosure rules**.
 - For example, if your concern is SB 253 or CSRD compliance, you only need to report at the corporate level.
- **Customer Demands:** Addressing Scope 3 emissions data requests from shippers.
 - See Section 6 for responding to customer requests.
- **Market Differentiation:** Using sustainability performance to enhance brand value and win new contracts.
 - For branding and differentiation, you would need a concrete carbon management plan that you can reasonably achieve, which calls for a more granular data gathering and tracking system.
- **Attracting Green Investment:** Demonstrating emissions reduction efforts to gain access to ESG-focused financing.
 - Investors are more likely to rely on widely accepted frameworks such as SASB or SBTi, each respectively have their requirements.

Step 2: Create a Scope 3 Roadmap

The unique carbon accounting challenge for LSP is their partner network. LSPs often act as service aggregators for shipper's logistics needs. By doing so, they are also expected to be the de facto data aggregator. When a shipment is outsourced to a 3rd party carrier, the associated emissions are still categorized as Scope 3 emissions, or value chain emissions for the LSP. Further, such emissions also fall under the Scope 3 value chain emissions for the shipper. So whether it is for regulatory compliance or to meet shipper requests, LSPs often find themselves grappling with the complexity of Scope 3 emissions.

Collecting and processing emission data from a large number of carrier partners can be resource-intensive, and it should not be the default option for LSPs to prepare their Scope 3 emissions data. Instead, LSPs should, working internally or with external consultants, gain a thorough understanding of the methodology options to quantify Scope 3, and create a roadmap that allows it to start from basic Scope 3 quantification, and gradually move to more accurate or direct data collection. This is a pragmatic approach to balance cost with the need to satisfy customer and regulatory requirements, while also paving the way for improving sustainability performance over time.

Step 3: Plan for Data Management

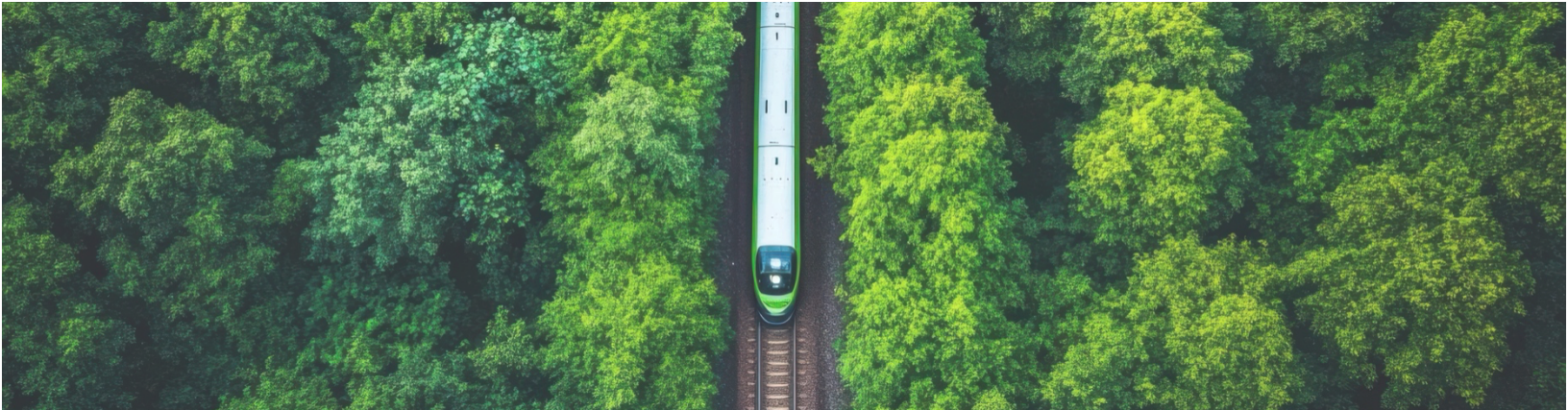
Regulatory reporting usually comes with assurance requirements (you'll need to have your data audited by an independent 3rd party). Investor or other external reporting should be accurate and stay consistent year-over-year for progress tracking. Companies who have done carbon accounting for more than one year know how challenging it is to keep track of the diverse sources of data and calculation results from various stages, plus all the ad-hoc assumptions and estimates they have made.

If you decide to build an in-house system, make sure you have domain expertise to ensure compliance with reporting standards. You should have sufficient budget to continue to evolve the system as standards and regulations change.

If you decide to use a 3rd party software to do your carbon accounting, data transparency and portability is key. If the 3rd party software is not automated enough and still requires too much manual processing before data gets entered into the software, you are losing track of the traceability between raw data and processed data, you may run into headaches at the time of external verification.

If you have been using external consulting services to file your reports, and if the consultants' activities are either manual or excel-based, you are on an unscalable path for data manageability. Consider combining their services with adoption of a software system.

In whatever way you get to it, your GHG data management system should provide you **auditability, efficiency, and adaptability** as reporting regulations and business needs evolve.



4. Building the Emission Inventory

What is an Emission Inventory?

An **emission inventory** serves as the foundation of carbon accounting. It systematically compiles all emission sources within an organization, ensuring that reported emissions accurately reflect operational realities. A well-structured inventory enables companies to identify key emission sources and uncover opportunities for reduction.

Structuring the Inventory for Logistics Service Providers

LSPs should organize their **emissions inventory** according to their main operational structures, separating emissions from their direct activities and energy use (Scope 1 and 2) from their Scope 3 value chain emissions. Within Scope 3, further distinguish Scope 3 categories that are quantified by internally available data, versus categories that are calculated using partner data.

Under each operational unit, there should typically be multiple **emission sources**. An emission source is a unit of business operations that is associated with a well-understood set of emissions, quantifiable by defined data inputs.

For an LSP which handles multi-modal transport, the following organizational structure and major emission sources are commonly used:

Scope 1 & 2

1. Own or Operated Fleets (e.g. Trucks, Aircraft)

- a. Transport fuel combustion (Scope 1)
- b. Fugitive emissions from refrigerants used in refers (Scope 1)
- c. Electricity used by electrical vehicles (Scop 2)

2. Hubs & Warehouses

- a. Electricity use for HVAC, lighting and operating electrical equipment (Scope 2)
- b. Fuel use by material handling equipment (Scope 1)
- c. Fuel combustion for heating and other purposes (Scope 1)
- d. Fugitive emissions from refrigerants used in HVAC systems (Scope 1)

3. Corporate or Business Offices

- a. Office utilities, primarily electricity (Scope 2) and natural gas (Scope 1)

Scope 3

1. Corporate and business functions (using internal data or estimates)

- a. Purchased goods and services, such as vehicle/fleet purchases, IT services (Category 1 and 2)
- b. Employee commute and business travel (Category 6 & 7)
- c. Waste disposal, primarily paper, electronics, and food wastes (Category 5)
- d. Upstream emissions associated with energy use (Category 3)

2. Outsourced logistics (Category 4, using internal data or estimates)

- a. Transport activities
- b. Storage and warehousing
- c. Refrigerants
- d. Packaging & others

3. Outsourced logistics (Category 4, using partner data)

- a. Partner A
- b. Partner B
- c. Partner C

This list is not exhaustive but covers the primary types of emission sources as organized by the types of operational boundaries. For any given company, there are likely multiple fleets and hubs in the organizational structure.

5. Selecting the Right Methodology

Considerations in Methodology Selection

An **carbon accounting (or emission) methodology** is a systematic collection of emission calculation methods for various emission activities in a particular country, domain or industry. Some frameworks define their own emission methodologies (such as GLEC), others only have reporting guidelines without prescribing a certain methodology.

Different emission methodologies permit the use of different “tiers” of emission calculation methods. These methods vary in terms of their accuracy and therefore their requirements on data collection and data granularity. Methodologies also differ on:

- **Type of Activity Data:** e.g. actual fuel use, modeled estimates, or default industry factors
- **Scope of Emissions:** e.g. Well-to-Wheel (WTW) vs. Tank-to-Wheel (TTW).
- **Level of Detail:** e.g. aggregate fleet emissions vs. trip-level tracking.



Our Principles for Methodology Selection

- **For compliance-driven reporting**, follow prescribed methodologies (e.g. GHG Protocol for **SB 253**).
- **For efficiency, start with** the basic methods that align with existing data collection capabilities. Don't overdo it.
 - For example, if you do not currently track refrigerant refills, use the leak rate estimate methods, even though it may be less accurate and more conservative. This will limit your initial costs and allows you additional time to add new data collection processes.
- **For tracking carbon reduction targets**, make sure you use granular and accurate enough methodologies to track progress.
 - For example, if you are working on switching to bioenergy for some of your vehicles or fleet, you will need a methodology that uses direct fuel data to compute emissions. If you stay with a default factor method that relies on ton-miles transported, you'll never be able to quantify any progress after adopting biofuels.

6. Responding to Customer Emission Data Requests

Understanding Customer Expectations

Customer requests for sustainability data have become more common, but not all of them are the same. It is important you understand where they come from, so that you can efficiently meet their expectations.

1. **Scope 3 Reporting:** To calculate their own Scope 3 emissions linked to freight movements. Given that Scope 3 calculation standards are currently more flexible across the board, most likely you can meet their needs without having to provide trip-specific emission data.
2. **Supplier Benchmarking:** To compare carbon efficiency across logistics providers, often per unit of transport activity (e.g. ton-km). If you don't have a lot of granular data, you may be able to provide just a single emission intensity for your entire operations, such as CO₂e per ton-km transported. However, keep in mind that this metric doesn't compare fairly across different types of carriers and may put you at a disadvantage. For better meeting their needs, we advise you to

follow the GLEC Framework either in part or in full in order to provide reliable intensity benchmarking data to customers.

3. **Broader Sustainability Assessment:** To evaluate long-term sustainability commitments. Customers often do such assessment as a part of supplier evaluation. If such assessments do not require granular benchmarking, then total corporate emissions and its trending over time would be more important. Initiatives underway to meet emission reduction targets would also be essential.
-

Conclusion: Strengthening Carbon Accounting Practices

With growing regulatory and business pressures, **Carbon accounting is no longer optional for logistics carriers**. Companies that align with established frameworks, develop robust data management systems, and integrate sustainability into business strategy will gain a competitive advantage. Investing in emissions tracking and reporting now will position logistics carriers for long-term success in a low-carbon economy.

[Learn more](#) about Atomiton's **carbon accounting solutions for transport & logistics**.