NAVIGATING THE NEXT GENERATION OF LTL GREENHOUSE GAS EMISSIONS REPORTING

White Paper

Overview

Historically, most companies estimated supply chain-related greenhouse gas (GHG) emissions using broad industry averages. This approach was sufficient when sustainability and Environmental, Social, and Governance (ESG) reporting was largely voluntary and intended to convey a general overview of environmental impact. Today, however, stakeholder expectations are changing. Customers, investors, shareholders, non-governmental organizations, and sustainability rating organizations increasingly expect more accurate emissions data that reflects actual transportation activity rather than broad estimates.

Meeting these expectations presents unique challenges for less-than-truckload (LTL) shipping. Because multiple shipments share trailers and move through complex networks, accurately allocating GHG emissions to individual shipments requires a more sophisticated approach than employing traditional reporting methodologies. This paper explains why the LTL industry is moving toward more precise emissions reporting and how allocated emissions methodologies address the complexities of LTL freight.



What's Driving the Shift

The movement toward shipment-level emissions reporting is being driven primarily by a growing customer demand for more accurate transportation emissions data. Shippers are seeking greater visibility into the emissions associated with moving freight through their supply chains. For many organizations, transportation emissions are reported within Scope 3 GHG inventories. Scope 3 emissions represent indirect emissions that occur throughout a company's value chain and can account for a significant portion of its overall carbon footprint. As organizations improve the quality of their sustainability reporting, transportation providers are increasingly being asked to supply emissions information based on actual shipment activity.

The Role of Emerging Regulations

Regulatory initiatives such as California's Climate Corporate Data Accountability Act (SB 253), the Corporate Sustainability Reporting Directive (CSRD), and other emerging disclosure requirements further reinforce demand for accurate emissions data. While shipment-level reporting is not explicitly required by these regulations, many organizations view more detailed emissions calculations as an effective way to improve the accuracy, consistency, and defensibility of their emissions disclosures.

Likewise, New York state has announced pending legislation that mirrors SB 253's GHG reporting requirements. Other states, especially Oregon and Washington, may also implement requirements that mirror California's as the regulatory landscape continues to evolve.

Organizations that are subject to emerging GHG emissions reporting requirements may face financial penalties and increased regulatory scrutiny for noncompliance, which further bolsters demand for accurate emissions data throughout the supply chain.

Factors Beyond Government Regulation

New regulations are only one factor driving the industry's shift toward more accurate shipment-specific emissions reporting. Others include:

- **Customer Expectations** — Driven by corporate ESG and sustainability commitments, customer-driven decarbonization mandates, investor pressure, and broader stakeholder expectations, more large shippers are requesting shipment-level emissions data as part of their LTL carrier selection process and ongoing sustainability reporting commitments.

- **Reporting Methodologies** — Organizations preparing Scope 3 inventories are increasingly moving away from generalized industry averages and toward carrier-specific emissions methodologies. Traditional freight calculations often rely on direct over-the-road distances and may overlook important operational characteristics unique to LTL shipping, including terminal activity, shipment consolidation, and pickup and delivery operations. These factors can materially influence emissions outcomes and are better reflected through allocated emissions methodologies.

- **Supply Chain Ripple Effect** — Even companies that are not directly subject to reporting regulations may have to provide emissions data to support their customers' sustainability reporting. And as reporting requirements intensify, expectations extend throughout the supply chain.

Why LTL is Different

Unlike truckload shipping, where one truck carries one shipper's goods from pickup to delivery, LTL transports freight from multiple shippers on a single vehicle. This shared-network model improves supply chain efficiency and reduces environmental impact overall, but it also complicates the ability to assign GHG emissions to specific shipments. That's because as freight moves through multiple terminals, it combines with other shipments and travels across the network, so carriers must account for numerous operational variables. For example:

- **Dynamic Weight Share** – Because multiple shipments share trailer space, emissions must be allocated based on each shipment's relative share of trailer capacity rather than assigning identical emissions values across all freight.

- **Segmented Fuel Burn** – Freight often moves across multiple line-haul routes before reaching its destination. Emissions calculations must therefore account for the fuel consumed on each leg of the shipment's journey rather than treating the trip as a single point-to-point movement.

- **Terminal Operations** – LTL networks rely on terminals where freight is unloaded, sorted, consolidated, and reloaded. These activities contribute to the overall emissions profile of a shipment and should be reflected in emissions calculations.

These complexities explain why generalized freight emissions averages often do not fully capture the realities of LTL transportation and why allocated shipment-level methodologies have become increasingly valuable for organizations seeking more accurate transportation emissions data.

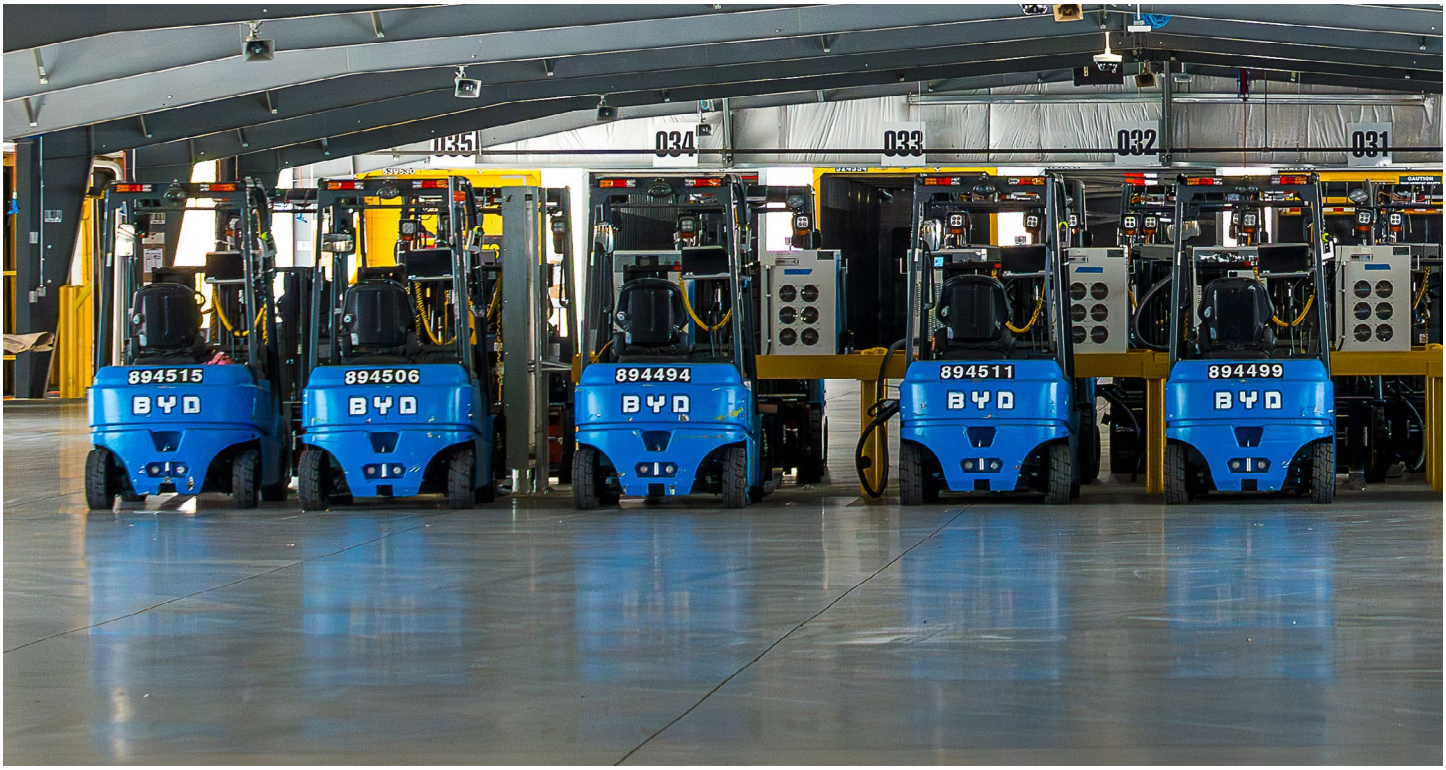


Industry Reporting Standards and Frameworks

As demand for shipment-specific GHG emissions data grows, the LTL industry is responding by adopting standardized methodologies, leveraging advanced carbon accounting technologies, and developing customer reporting capabilities that deliver more accurate and transparent emissions data.

The industry is employing the following standards and frameworks to help address demands for more accurate shipment-level emissions reporting:

- **GLEC Framework** – The Global Logistics Emissions Council (GLEC) establishes an internationally recognized methodology for calculating logistics emissions across transportation modes and supply chains. Developed by Smart Freight Centre and recognized by organizations including the Carbon Disclosure Project (CDP), the framework improves consistency and comparability in emissions reporting and serves as the practical implementation guide for ISO 14083, the international standard for transport emissions accounting.
- **EPA SmartWay** – The EPA SmartWay Transportation Partnership is a voluntary program that helps freight shippers, carriers, and logistics companies measure, benchmark, and improve transportation efficiency. SmartWay provides standardized methodologies, tools, and performance data to support more consistent calculation and reporting of fuel use and transportation-related emissions.
- **SMC³ Technology and Reporting** – SMC³'s Next-Generation LTL Carbon Emissions Calculator helps carriers apply standardized emissions calculations using detailed shipment and operational data. The platform also meets the verification and audit trail frameworks required by the California Corporate Climate Data Accountability Act (or SB 253), which facilitates third-party data assurance.



Regulatory Context: The Growing Need for Granular Emissions Data

California's SB 253 and similar proposed disclosure regulations are increasing the emphasis on reliable value chain emissions data. While shipment-level emissions reporting is not explicitly required for compliance, more granular transportation data can help organizations improve the quality and accuracy of Scope 3 emissions disclosures and prepare for assurance and verification requirements.

For organizations operating globally, alignment with recognized methodologies such as GLEC can also support greater consistency across regulatory and voluntary reporting frameworks.

Estes' Allocated Emissions Reporting Program

Estes' commitment to sustainability and transportation emissions measurement spans decades, beginning with its participation as one of the first carriers to join the EPA's SmartWay Transportation Partnership in 2004. Today, Estes builds on that commitment by helping customers gain greater visibility into the emissions associated with their transportation activity.

Through its Allocated Emissions Reporting Program (AERP), Estes provides customers with detailed, shipment-level GHG emissions data that can help turn transportation activity into actionable sustainability insights. Developed in collaboration with SMC³ and aligned with the Smart Freight Centre's GLEC Framework, AERP accounts for line-haul, pickup and delivery, Well-to-Wheel, and shipment weight to provide a more complete picture of the emissions associated with individual shipments.

This level of detail can help organizations strengthen Scope 3 emissions reporting, track progress toward sustainability goals, and better understand where transportation emissions occur across their supply chains.

AERP emissions reporting is available to Estes customers upon request on a quarterly or annual basis. To request a report or learn more about AERP, contact Sustainability@estes-express.com.