

PRACTITIONER PLAYBOOK

Logistics Decarbonization Playbook

A practical guide to understanding, measuring, and reducing logistics emissions.

CHAPTER 01

Why Decarbonizing Logistics is Critical

Logistics systems remain heavily dependent on fossil fuels, with **road and air freight contributing the majority of emissions**.

Logistics decarbonization is no longer optional — it is a **cost, risk, and competitiveness issue**.

CORE DRIVER OF EMISSIONS	REGULATORY PRESSURES	BUSINESS IMPLICATIONS
— Expansion of e-commerce — Increasing urban consumption — Globalized supply chains	— Net-zero commitments across industries — Scope 3 disclosure requirements — Carbon pricing & green procurement	— Direct cost exposure from fuel & carbon — Increased compliance requirements — Pressure to redesign supply chains

PROGRAM DETAILS · SECURE YOUR SPOT

COHORT STARTS June 2026 Starts 19 June 2026.	FORMAT 20 Hours 10 Live Sessions over 4–5 Weeks.	SEATS AVAILABLE 20 Seats Only First Come, First Served.
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CHAPTER 02

Logistics Emissions in India

India's logistics system is structurally emissions-intensive.

13–14%

Logistics share of national emissions

>85%

Of logistics emissions from road freight

4×

Potential emissions growth by 2047 without action

BY THE NUMBERS

- Logistics contributes ~13–14% of national emissions
- ~70% of freight is transported via road
- Road accounts for >85% of logistics emissions
- Heavy-duty trucks contribute ~38% of CO₂ emissions

UNDERUTILIZED ALTERNATIVES

- Rail, coastal shipping, and inland waterways remain underutilized
- Multimodal integration is limited

With rapid growth across manufacturing, e-commerce, and urban demand, logistics emissions could increase **up to 4× by 2047 if no action is taken.**

CHAPTER 03

Fundamentals of Logistics Emissions

Most emissions are concentrated in transportation.

TRANSPORTATION (70–90%)

- Line-haul: long-distance movement
- First-mile: supplier to warehouse
- Last-mile: delivery to end customer

WAREHOUSING

- Energy consumption (lighting, HVAC, equipment)

HANDLING & PACKAGING

- Material production and processing

CARBON ACCOUNTING SCOPES

- Scope 1: owned fleet emissions
- Scope 2: warehousing energy
- Scope 3: outsourced logistics

EMISSIONS BY TRANSPORT MODE

Emissions vary significantly by transport mode:

MODE	EMISSION LEVEL
Air	Highest emissions
Road	Flexible, carbon-intensive
Rail	Lower emissions
Sea	Most efficient

KEY DRIVERS OF EMISSIONS

Factors that determine the emission footprint of a shipment:

Distance traveled

Total km moved across the route

Mode of transport

Air, road, rail, or sea

Load factor (utilization)

Capacity used vs. available

Fuel type & vehicle efficiency

Fossil vs. alternative, engine performance

CHAPTER 04 · CURRICULUM

10 sessions. Every one built for execution.

Each session is designed to move you from concept to capability with real tools, frameworks, and decisions you can apply immediately.

SESSION 01 2 HOURS Fundamentals of Sustainable Logistics Sustainable logistics fundamentals, emissions accounting, low-carbon solutions, and partner engagement.	SESSION 02 2 HOURS Logistics Emissions Deep Dive Scope 1, 2 and 3 logistics emissions, boundary setting, calculation methods, hotspot analysis, and data challenges.	SESSION 03 2 HOURS GLEC / ISO 14083 Deep Dive GLEC and ISO 14083 frameworks, emissions calculations, emission factors, and disclosure preparation.
SESSION 04 2 HOURS Decarbonisation Levers Logistics decarbonization levers, including efficiency, modal shift, electrification, alternative fuels, and intervention planning.	SESSION 05 4 HOURS Road Freight Decarbonisation Road freight decarbonization, including fleet and fuel management, freight electrification, EV emissions, TCO, and charging ecosystems.	SESSION 06 2 HOURS Building Resilient Logistics and Decarbonization Roadmap Explore how transport choices impact emissions, cost, and supply chain performance.
SESSION 07 2 HOURS Procurement & Scope 3 Engagement Procurement strategies to engage carriers, strengthen disclosures, and reduce Scope 3 emissions.	SESSION 08 2 HOURS Financing Decarbonisation Green finance, carbon markets, book-and-claim, and building investment cases for decarbonization.	SESSION 09 2 HOURS Building a 3-Year Logistics Decarbonisation Roadmap Build a 3-year logistics decarbonization roadmap with baselines, interventions, investment plans, and reduction targets.

CHAPTER 05

Measuring & Reducing Logistics Emissions

MEASURING LOGISTICS EMISSIONS

Accurate measurement is the foundation for effective reduction.

Activity-Based Method

BEST PRACTICE

Distance × Load × Emission factor

Most accurate and decision-useful

Spend-Based Method

Spend × Emission factor

Easier to apply, less precise

Industry Average Method

Based on standard emission factors

Effective measurement enables:

- Identification of emission hotspots
- Better supplier and mode decisions
- Integration into procurement strategy

REDUCING LOGISTICS EMISSIONS

Emission reduction requires a combination of operational and strategic interventions.

Modal Shift

Road to rail, air to sea

Network Optimization

Redesign warehouse footprint, reduce total distance

Load Optimization

Improve fill rates, reduce empty runs

Fleet & Fuel Transition

EVs, LNG, biofuels, efficiency improvements

Operational Efficiency

Route optimization, reduced idle time

Demand & Service Design

Reduce expedited shipping, align inventory with transport strategy

Execution requires coordination across **logistics, procurement, and sustainability functions**, along with active engagement of logistics partners.

Move from insight to execution, join the **Fitsol x SFC Advanced Logistics Decarbonization Program**.

Register here — fitsol.green/resources/courses/advanced-logistics-decarbonization-program

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