

Shipper Company Green Logistics CATI Index 2.0 Methodology

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I. Corporate Climate Action Transparency Index (CATI)

During the "14th Five-Year Plan" period, China's ecological civilization entered a critical stage. With a focus on carbon reduction, the country aims to synergize pollution and carbon reduction, facilitate a comprehensive green transformation of economic and social development, and achieve a qualitative improvement in environmental quality. In the meantime, an increasing number of multinational companies have made greenhouse gas (GHG) reduction commitments in the new era under the framework of the Paris Agreement, striving for net-zero emissions across their value chains.

In this context, with technical support from the Chinese Research Academy of Environmental Sciences, IPE upgraded the Supply Chain Climate Action Index (SCTI) developed in 2018 to the Corporate Climate Action Transparency Index (CATI). CATI dynamically analyzes corporate climate action across five dimensions: Governance, Measurement & Disclosure, Carbon Targets Setting, Performance against Carbon Targets, and Emission Reduction Actions.

II. Shipper Company Green Logistics CATI Index

The logistics industry plays a vital role in socioeconomic activity and has become a focal point for emission reduction efforts. Research shows that goods transportation and logistics activities currently account for 8% of global greenhouse gas emissions¹. By 2050, freight demand is expected to double².

For shipper companies, upstream and downstream logistics activities are often emissions hotspots in Scope 3. To achieve net-zero emissions, shipper companies must focus on reducing logistics-related emissions, establish green logistics systems, and drive logistics suppliers to accelerate decarbonization process.

¹ https://smart-freight-centre-media.s3.amazonaws.com/documents/GLEC_FRAMEWORK_v3.2_21_10_25_1.pdf

² <https://www.itf-oecd.org/itf-transport-outlook-2023>

To guide shipper companies in identifying and addressing logistics emissions across Scopes 1, 2, 3, IPE developed the Shipper Company Green Logistics CATI Index based on its long-term CATI research experience and extensive industry research. Similar to CATI, this Index also includes five dimensions: Governance, Measurement & Disclosure, Carbon Targets Setting, Performance against Carbon Targets and Logistics Emission Reduction Actions.

Based on publicly available data, the index can objectively reflect the progress made by shipper companies in green logistics, identify best practices, and assist different stakeholders to develop consensus on value chain decarbonization. In the meantime, the index aims to guide shipper companies to more accurately account for carbon emissions from logistics activities across the value chain, set logistics emission reduction targets, establish an in-house green logistics system, and collaborate with logistics service providers to implement emission reduction projects.

Green Logistics CATI Index for Shipper companies is aligned with:

- **UN Sustainable Development Goals:**
- **GRI 102:** Climate Change 2025
- **GRI 103:** Energy 2025
- **GRI 302:** Energy 2016
- **GRI 305:** Emissions 2016
- **International Sustainability Standards Board (ISSB):** IFRS S1 General Requirements for Disclosure of Sustainability-related Financial Information & IFRS S2 Climate-related Disclosures
- **Task Force on Climate-related Financial Disclosures (TCFD):** Recommendations on climate-related financial disclosure
- **Corporate Sustainability Reporting Directive (CSRD)**
- **Shanghai, Shenzhen, and Beijing Stock Exchange:** Guidelines for Self-Regulation of Listed Companies—Sustainability Report (Trial) and Self-Regulatory Guidelines for Listed Companies No. 1 – Preparation of Sustainable Development Reports



- **HKEX:** Environmental, Social and Governance Reporting Code
- **China Ministry of Finance:** Sustainability Disclosure Standards for Business Enterprises—Basic Standard (Trial) and Sustainability Disclosure Standards for Business Enterprises No.1—Climate (Trial)
- **GHG Protocol:** The GHG Protocol Corporate Accounting and Reporting Standard
- **ISO 14083:2023** (Greenhouse gases — Quantification and reporting of greenhouse gas emissions arising from transport chain operations)
- **Global Logistics Emissions Council Framework (GLEC)**
- **ISO 14067:2018** (Carbon Footprint of Products)
- **ISO 14025:2006** (Environmental labels and declarations - Type III environmental declarations)
- **ISO 14068-1:2023** (Climate change management—Transition to net zero—Part 1: Carbon neutrality)

Data Sources and Limitations

The data used for CATI research comes from the publicly disclosed information from companies, including but not limited to: the official websites, annual reports, CSR reports, ESG reports, sustainability reports and other periodic reports; data released by credible sources and collected by the Blue Map database; publicly disclosed responses to the CDP questionnaire; and environmental information and emissions data independently disclosed by suppliers with the encouragement of companies.

IPE will use its best efforts to ensure the reliability, accuracy and completeness of the research results and is willing to communicate with the companies to supplement, correct and revise the relevant information in a timely manner.

IPE does not accept responsibility for any direct or indirect consequences arising from the research results.

III. Shipper Company Green Logistics CATI Index

Primary Indicator	Secondary Indicator	Score
1. Governance (4%)	1.1 Formulate a low-carbon strategy and transition plan for logistics activities	4
2. Measurement & Disclosure (30%)	2.1 Calculate and disclose emissions related to logistics activities	12
	2.2 Collect carbon emissions/activity data from logistics suppliers on a regular basis	12
	2.3 Measure and disclose product carbon footprint (including transport stage)	6
3. Carbon Targets Setting (10%)	3.1 Disclose logistics activities' carbon reduction targets	10
4. Performance Towards Carbon Targets (6%)	4.1 Disclose progress toward logistics carbon reduction targets	6
5. Logistics Emission Reduction Actions (50%)	5.1 Purchase or lease new energy vehicles and disclose project quantitative results	18
	5.2 Optimize the transportation structure via low-carbon multimodal transport and other means and disclose quantitative results	10
	5.3 Optimize and improve transport energy efficiency via other means and disclose quantitative results	8
	5.4 Implement emission reduction or energy-saving projects in warehouses and disclose quantitative results	5
	5.5 Optimize packaging, reduce emissions related to packaging materials or disposal of packaging waste and disclose quantitative results	4
	5.6 Encourage logistics suppliers to implement carbon management and publicly disclose emissions data and climate targets	5

IV. Indicator Description and Scoring Requirements

1. Governance

Governance includes 1 secondary indicator that focuses on whether shipper companies have established a low-carbon development strategy for logistics activities across the value chain, and whether they guide logistics suppliers in reducing emissions.

Secondary Indicator	Description & Scoring Requirements
1.1 Formulate a low-carbon strategy and transition plan for logistics activities (4 points)	Scoring Requirements: Full score requires all 3 conditions • Include logistics in corporate low-carbon strategy (30%³) • Propose low-carbon strategy and transition plan for logistics activities (40%) • Develop mechanisms (e.g., training and capacity building, innovation projects, financial incentives) to guide logistics suppliers to reduce emissions OR Incorporate mandatory limits on logistics carbon emissions intensity or supplier carbon disclosure requirements into the existing low-carbon procurement standards (30%)

2. Measurement & Disclosure

Measurement & Disclosure includes 3 secondary indicators that focus on whether shipper companies calculate and disclose Scope 1, 2, and 3 emissions generated from logistics activities, as well as product carbon footprint data. These indicators aim to direct shipper companies to identify emissions hotspots and improve accounting accuracy through collecting data such as fuel use, distances, vehicle types and load factors from suppliers. Scoring is correlated with the thoroughness of the disclosed data.

³ 30% indicates this condition makes up 30% of the full score.

Secondary Indicator	Description & Scoring Requirements
2.1 Calculate and disclose emissions related to logistics activities (12 points)	Scoring Requirements: Full score requires all 4 conditions • Disclose Scope 1, 2, 3 emissions (20%) • Inclusion of transport/distribution in Scope 1, 2, 3 total emissions (20%) • Disclose emissions for at least one of (40%): – Scope 1&2 mobile sources – Scope 3, category 4 (upstream transport) – Scope 3, category 9 (downstream transport and distribution) • Disclose the share of transportation mode (e.g. proportion of road, rail, waterway and air transport) (20%) <i>Note: If only Scopes 1&2 are disclosed, this indicator scores zero.</i>
2.2 Collect carbon emissions/activity data from logistics suppliers on a regular basis (12 points)	Description: The scope of data collection includes suppliers' carbon emissions, energy consumption, vehicle parameters, and other activities to support the accounting of Scope 3 logistics emissions. Scoring Requirements: Full score requires all 4 conditions • Require all suppliers to collect carbon emissions/activity data (20%) • Explicitly require logistics suppliers to collect emission/activity data (30%) • Require logistics suppliers to use ISO 14083⁴ or GLEC framework⁵ for emissions calculations (30%) • State that data collected from logistics suppliers is used for Scope 3 or product footprint accounting (20%)
2.3 Measure and disclose product carbon footprint (including transport stage) (6 points)	Scoring Requirements: Full score requires all 4 conditions • Disclose product carbon footprint (25%) • The scope is the full lifecycle of the product (cradle-to-grave) (25%)

⁴ ISO 14083 is an international standard for accounting and reporting greenhouse gas emissions in the transportation chain, covering various modes of transportation and hub operations such as land, water, and aviation (<https://www.iso.org/standard/78864.html>)

⁵ The GLEC framework is a methodology for calculating greenhouse gas emissions from freight transportation, which is compatible with the ISO 14083 standard (<https://www.smartfreightcentre.org/en/our-programs/emissions-accounting/global-logistics-emissions-council/calculate-report-glec-framework/>)

	• Disclose emissions for each stage, including transport (30%) • Product carbon footprint verified by third party (20%)
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3. Carbon Targets Setting

Carbon Targets Setting includes 1 secondary indicator that focuses on whether shipper companies set and disclose measurable and traceable logistics-related carbon reduction targets. Scoring is correlated with the scope and thoroughness of the targets.

Secondary Indicator	Description & Scoring Requirements
3.1 Disclose logistics activities' carbon reduction targets (10 points)	One of the two disclosure options (In the case of satisfying both, the higher score prevails with no double scoring): 1) Full score requires all 5 conditions • Set Scope 1, 2, 3 absolute or intensity-based targets (10%) • Discloses the base year (20%) • Discloses base-year emissions (20%) • Target scope includes logistics emissions (i.e. Scope 3, category 4 upstream transport and/or category 9 downstream transport and distribution) (40%) • Targets certified or approved by a third party, such as the Science Based Targets initiative (SBTi) or other initiatives (10%) Note: This indicator scores zero if only carbon neutrality targets for Scope 1, 2 and 3 are set. OR 2) Set climate targets for value chain logistics activities (10/100%). Target types include but are not limited to: GHG emission reduction targets for logistics activities, carbon emission targets per unit turnover, reducing empty container ratios, increasing the use of electric trucks, increasing the share of green electricity or green fuel in transport equipment, expanding multimodal transport coverage, joining the EV100 initiative, etc.

4. Performance Towards Carbon Targets

Performance Towards Carbon Targets includes 1 secondary indicator that focuses on whether companies track progress towards emission targets and adjust strategies accordingly.

Secondary Indicator	Description & Scoring Requirements
4.1 Disclose progress toward logistics carbon reduction targets (6 points)	One of the two disclosure options (In the case of satisfying both, the higher score prevails with no double scoring): 1) Disclose progress of Scope 1, 2, 3 targets (100%) OR 2) Disclose progress of value chain logistics climate targets (100%)

5. Logistics Emission Reduction Actions

Logistics Emission Reduction Actions includes 6 secondary indicators that focuses on whether shipper companies implement transportation vehicles, warehousing/hubs and cargo packaging emission reduction projects across their own operations (mobile sources within Scope 1&2) and value chain logistics (upstream and downstream transportation in Scope 3 between suppliers, shipper companies and customers/consumers). This indicator also aims to guide companies to empower logistics suppliers to conduct carbon management and implement climate actions. Scoring is correlated with the type of emission reduction actions taken, the adequacy of disclosure, the scale of the project, and the progress in promoting carbon management among logistics suppliers.

Secondary Indicator	Description & Scoring Requirements
5.1 Purchase or lease new energy vehicles and disclose project quantitative results (18 points)	Description: New energy transport carriers refer to transportation tools powered by electricity, hydrogen energy and other alternative energy sources, such as electric and plug-in hybrid electric vehicles, as well as automobiles, ships and airplanes using hydrogen fuel cells, biofuels, etc.

	Full score requires all 4 conditions: • Use new energy vehicles in road transport and disclose quantified project performance: ○ Disclose the purchase or leasing of new energy vehicles (30%); ○ Disclose quantitative performances such as emission reduction data, energy substitution data, and the proportion of transport by new energy carriers (30%); • Use new energy carriers in water (including inland waterway and maritime) transport, air transport, rail transport and disclose emissions: ○ Disclose the purchase or leasing of new energy carriers (20%); ○ Disclose quantified performance such as emission reduction data, energy substitution data, and the proportion of transport by new energy carriers (20%).
5.2 Optimize the transportation structure via low-carbon multimodal transport and other means and disclose quantitative results (10 points)	Description: Companies can reduce carbon emission by optimizing their transportation structure, including: shifting from road to rail and from road to waterway for medium- and long-distance freight transport, and reduce the proportion of air cargo; developing multimodal transport and promoting road-rail and road-waterway intermodal transport to achieve the synergy of emission reduction, cost reduction and transport efficiency improvement. Scores are assigned based on the number of emission reduction projects and disclosure of emissions reduction performance: • Implement 1 project WITHOUT disclosing quantified performance (25%) • Implement 1 project and disclose quantified performance such as emission reductions, energy

	savings, emission reductions per unit of transport turnover, or multimodal transport coverage ratio (50%) Implement 2 or more projects and disclose quantified performance (100%)
5.3 Optimize and improve transport energy efficiency via other means and disclose quantitative results (8 points)	Description: Implement other transport energy efficiency improvement projects, including but not limited to: - Digital and intelligent management: Improve overall transport energy efficiency through intelligent dispatching, route optimization, intelligent inventory early warning and other functions; - Cargo loading: Consolidate freight transportation; improve container loading efficiency to reduce transport trips; optimize container sizes; and lower empty load rates; - Transport routes: Optimize transport network design to shorten transport distances, reduce congestion and frequent starts and stops, improve traffic efficiency, and cut fuel consumption and emissions. Scores are assigned based on the number of emission reduction projects and disclosure of emissions reduction performance: - Implement 1 project WITHOUT disclosing quantified performance (25%) - Implement 1 project and disclose quantified performance such as emission reductions, energy savings, emission reductions per unit of transport turnover, or empty container rates (50%) - Implement 2 or more projects and disclose quantified performance (100%)
5.4 Implement emission reduction or energy-saving projects in warehouses and disclose quantitative results (5 points)	Description: The company itself, or require logistics suppliers to improve energy efficiency, uses building materials with thermal insulation, optimizes warehouse layout, adopts energy-saving lighting, applies temperature control, uses efficient cold source systems, uses environmentally-friendly refrigerants, and uses renewable energy; plans the internal layout of the warehouse to

	reduce the moving distance of staff and equipment, thereby reducing energy consumption; optimizes warehouse layout. Full score requires all 2 conditions: • Publicly disclose warehouse-related emission/energy-saving project(s) or obtained green warehouse certifications including LEED⁶, BREEAM⁷, and Requirements and Evaluation for Green Warehouses (SB/T 11164-2016)⁸ (50%) • Disclose quantitative metrics (e.g., energy savings/emission reductions) (50%)
5.5 Optimize packaging, reduce emissions related to packaging materials or disposal of packaging waste and disclose quantitative results (4 points)	Description: The company itself, or require logistics suppliers to carry out emission reduction projects for cargo packaging, such as using lower carbon packaging materials or recycled materials, using reusable packaging, reducing the use of cargo packaging materials, and promoting the recycling and reuse of packaging etc. Full score requires all 2 conditions: • Publicly disclose emission reduction project(s) for packaging (50%) • Disclose quantitative metrics (e.g. reduction in emissions, low-carbon & recycled packaging usage, or packaging circular utilization rate etc.) (50%)

⁶ LEED (Leadership in Energy and Environmental Design) is an internationally recognized green building rating system developed by the U.S. Green Building Council (USGBC). It issues Certified, Silver, Gold, and Platinum certifications based on quantitative scoring across dimensions such as energy, water, materials, and indoor environmental quality throughout a building's full life cycle. It also includes certification for green warehouses.

⁷ BREEAM (Building Research Establishment Environmental Assessment Method) is a green building assessment system developed by the Building Research Establishment (BRE) of the UK. It adopts quantitative scoring across the full life cycle of buildings, covering dimensions including energy, water, materials, health and well-being, waste, and transportation. It grants five levels of certification: Pass, Good, Very Good, Excellent, and Outstanding. As a widely recognized authoritative standard for sustainable buildings in Europe and globally, it also includes certification for green warehouses.

⁸ Requirements and Evaluation for Green Warehouses (SB/T 11164-2016) is a Chinese trade industry standard issued by the Ministry of Commerce of the People's Republic of China and implemented on May 1, 2017. It stipulates requirements and establishes a scoring system covering warehouse area planning, energy conservation, water conservation, material conservation, environmental performance, operation management and other aspects. Green warehouses are classified into three grades: One Star, Two Star, and Three Star (the highest level).

5.6 Encourage logistics suppliers to implement carbon management and publicly disclose emissions data and climate targets (5 points)	Full score requires all 2 conditions: • Require logistics suppliers to publicly disclose climate emissions data: 50% of logistics suppliers (25%), 100% of logistics suppliers (50%) • Require logistics suppliers to publicly disclose climate targets: 50% of logistics suppliers (25%), 100% of logistics suppliers (50%)
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Appendix | Terms and Definitions

1. Shipper Company

A shipper company owns the goods and entrusts logistics service providers to carry out transportation, warehousing, distribution, and other logistics operations.

2. Logistics supplier

An economic organization engaged in logistics business design and system operation within the scope of basic logistics functions (such as cargo transportation, warehousing, and distribution), equipped with an information management system compatible with its own business, and practicing independent accounting and independent civil liability.

3. Green logistics

The process of reducing the environmental impact of logistics activities by fully utilizing logistics resources, adopting advanced logistics technology, and planning and implementing logistics activities such as transportation, storage, loading and unloading, handling, packaging, distribution processing, delivery, and information processing.

4. New energy transport equipment

Vehicles that utilize unconventional energy sources, such as electricity and hydrogen, for propulsion, primarily encompass pure electric vehicles, plug-in hybrid electric vehicles, as well as automobiles, ships, and aircraft that employ hydrogen fuel cells etc.

5. Greenhouse Gas (GHG)

GHGs are the seven gases listed in the Kyoto Protocol: carbon dioxide (CO₂); methane (CH₄); nitrous oxide (N₂O); hydrofluorocarbons (HFCs); perfluorocarbons (PFCs); sulphur hexafluoride (SF₆); and nitrogen trifluoride (NF₃).

6. Carbon Neutrality

In CATI, carbon neutrality and net zero are used interchangeably. They both refer to the state of carbon dioxide or greenhouse gas neutrality or net zero. This can be achieved when anthropogenic emissions of carbon dioxide/greenhouse gases to the atmosphere are balanced by anthropogenic removals over a specified period.

7. Scope 1 Emissions

Emissions from operations that are owned or controlled by the reporting company.

8. Scope 2 Emissions

Emissions from the generation of purchased or acquired electricity, steam, heating or cooling consumed by the reporting company.

9. Scope 3 Emissions

All indirect emissions (not included in scope 2) that occur in the value chain of the reporting company, including both upstream and downstream emissions. Some examples of scope 3 activities are extraction and production of purchased materials; transportation of purchased fuels; and use of sold products and services.

10. Scope 3 - Category 4: Upstream transportation and distribution

The process of raw material transportation and distribution between the enterprise's own operations and its primary suppliers (without utilizing vehicles and facilities owned or controlled by the enterprise), encompassing inbound logistics, outbound logistics, as well as transportation and distribution within the company's own facilities.

11. Scope 3 - Category 9: Downstream transportation and distribution

The process of product transportation and distribution between the enterprise's own operations and its customers (without utilizing vehicles and facilities owned or controlled by the enterprise), encompassing retail sales and warehousing.

12. Activity Data

Characteristic value of the amount of production or consumption activities that lead to greenhouse gas emissions

13. Product Carbon Footprint

Sum of GHG emissions and GHG removals in a product system, expressed as carbon dioxide equivalents and based on a life cycle assessment.

14. Life Cycle

Consecutive and interlinked stages related to a product, beginning from raw material extraction or generation from natural resources to end-of-life treatment.

References:

IPCC, Global Warming of 1.5°C, Annex I: Glossary

IPCC WGIII, Climate Change 2022 Mitigation of Climate Change

ISO, ISO 14067: 2018

WBCSD & WRI, The GHG Protocol Corporate: A Corporate Accounting and Reporting Standard

WBCSD & WRI, The GHG Protocol Corporate: Corporate Value Chain (Scope 3) Accounting and Reporting Standard

WBCSD & WRI, The GHG Protocol Corporate: Product Life Cycle Accounting and Reporting Standard

Supply chain risk management guideline GB/T 24420-2009

Logistics terminology GB/T 18354

Green logistics indicators and accounting methods GB/T 37099-2018

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The Institute of Public & Environmental Affairs (IPE) is a non-profit environmental organization based in Beijing, China. Since its establishment in 2006, IPE has developed and operated the Blue Map Database (www.ipe.org.cn), and launched the Blue Map app in 2014, promoting environmental information disclosure and public participation, empowering enterprise green transition and development as well as improving environmental governance mechanisms.

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