Progress Report on the Development of the Product Carbon Footprint Management System (2026)

Ministry of Ecology and Environment
of the People's Republic of China
November 2026

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Foreword

The product carbon footprint is an important indicator for measuring the green and low-carbon performance of manufacturing enterprises and products. Accelerating the establishment of the product carbon footprint management system is a practical measure for China to address climate change and achieve its carbon peaking and carbon neutrality goals, and it is also an important lever for promoting green and low-carbon transition and responding to international green trade barriers. The Communist Party of China (CPC) Central Committee and the State Council attach great importance to the work of product carbon footprint. The Fourth Plenary Session of the 20th CPC Central Committee explicitly proposed the steady implementation of policies and mechanisms such as product carbon footprint during the 15th Five-Year Plan period. The Ecological and Environmental Code of the People's Republic of China contains a dedicated article on product carbon footprint management. *The Outline of the 15th Five-Year Plan for National Economic and Social Development of the People's Republic of China* sets out clear arrangements to formulate accounting rules and standards for product carbon footprint, release carbon emission limit standards for key products, establish a carbon labeling and certification system for products, and promote the international mutual recognition of carbon footprint rules and standards. The Report on the Work of the Government 2026 also puts forward the task to improve the carbon footprint management system.

2025 marked a year in which the development of China's product carbon footprint management system was advanced in greater depth. Relevant

departments and localities thoroughly implemented the decisions and arrangements of the CPC Central Committee and the State Council, closely focusing on the tasks set out in policy documents such as *the Implementation Plan for Establishing a Carbon Footprint Management System*. Coordinated efforts and breakthroughs were made in the development of standards, factors, institutions, application scenarios, pilot initiatives, and international alignment. The coverage of product carbon footprint accounting standards continued to expand; meaningful progress was made in factor development and database construction; pilot work on labeling and certification was advanced in an orderly manner; application scenarios continued to broaden; local pilot initiatives actively explored new approaches; international exchange and mutual recognition steadily improved. A preliminary work pattern featuring multi-stakeholder participation, co-development, co-use and shared benefits has taken shape, marking a solid step toward improving China's product carbon footprint management system and achieving the relevant targets set for 2027.

To systematically summarize the progress and outcomes of China's product carbon footprint management system development in 2025 and to present and share China's practical experience, the Ministry of Ecology and Environment organized the preparation of this report with the support of relevant departments and institutions. Focusing on four aspects—consolidating the groundwork, improving institutional arrangements, encouraging local pilot initiatives, and promoting international alignment—the report provides a comprehensive review of progress in China's product carbon footprint work and offers an outlook on further improving the product carbon footprint management system.

I. Consolidating the Foundations and Strengthening Capacity Building

Consolidating the two core foundations of standards and data, while strengthening management capacity, is essential to establishing a product carbon footprint management system. Through sustained efforts, the system of product carbon footprint accounting standards has become increasingly complete, an initial map of basic general factor data has gradually taken shape, database development has steadily advanced, and capacity building in data quality, metrological support, accreditation, and education has moved forward in parallel, providing accounting rules, data, and capability support for improving the product carbon footprint management system.

i. Continuing to improve the system of product carbon footprint accounting standards

Efforts to develop accounting standards for the carbon footprint of key products have been accelerated. Guided by the national general standard for product carbon footprint accounting and the Guidelines for Developing Product Carbon Footprint Accounting Standards, priority has been given to key products with large volumes, broad coverage, and high export exposure in areas such as the “new three” products (electric vehicles, lithium-ion batteries and photovoltaic products),

electronic information products, basic energy products, and bulk commodity raw materials. National, industry, and association standards have been advanced in an orderly and coordinated way, and the system of product carbon footprint accounting standards has continued to improve. By the end of 2025, 15 national standards on product carbon footprint accounting had been issued for products including electrolytic aluminum, chemical fibers, and electronic and electrical products, while more than 200 association standards had been released in sub-sectors such as iron and steel and chemicals.

Table 1. Fifteen National Standards for Product Carbon Footprint Accounting Issued by the End of 2025

Standard No.	Standard Title
GB/T 41638.1-2022	Plastics—Carbon and environmental footprint of biobased plastics—Part 1:General principles
GB/T 41638.2-2023	Plastics—Carbon and environmental footprint of biobased plastics—Part 2:Material carbon footprint—Amount (mass) of CO2 removed from the air and incorporated into polymer molecule
GB/T 41638.3-2023	Plastics—Carbon and environmental footprint of biobased plastics—Part 3:Process carbon footprint—Requirements and guidelines for quantification
GB/T 24067-2024	Greenhouse gases—Carbon footprint of products—Requirements and guidelines for quantification
GB/T 44903-2024	Greenhouse gases—Quantification methodologies and requirements for carbon footprint of products—Livestock products
GB/T 44905-2024	Greenhouse gas—Quantification requirement and method of product carbon footprint—Electrolytic aluminium
GB/T 45540-2025	Greenhouse gas—Quantification method and requirements for carbon footprint of products—Man-made fibres
GB/T 45441-2025	Greenhouse gases—Quantification methods and requirements of carbon footprint of products—Plastic products

Standard No.	Standard Title
GB/T 45646-2025	Greenhouse gases—The quantification method and requirement for carbon footprint of products—Internal combustion engines
GB/T 46027-2025	Greenhouse gases—Quantification requirements and methods of product carbon footprint—Room air conditioners
GB/T 46011.2-2025	Road vehicle—General requirements for greenhouse gas management—Part 2: Carbon footprint labels of road vehicle products
GB/T 46486-2025	Greenhouse gases—Quantification requirement and method for carbon footprint of products—Furniture
GB/T 46576-2025	Greenhouse gases—Quantification methods of carbon footprint of products—Mechanical recycling recycled plastic products
GB/T 45818-2025	Greenhouse gases—Quantification methodologies and requirements for carbon footprint of products—Lighting products
GB/T 46041-2025	Greenhouse gases—Quantification method and requirement of product carbon footprint—Electrical and electronic appliances

Steady progress was made in adopting and recognizing existing product carbon footprint accounting standards. In June 2025 and February 2026, the Ministry of Industry and Information Technology, the Ministry of Ecology and Environment, the National Development and Reform Commission, and the State Administration for Market Regulation jointly released the second and third batches of the recommended list of association standards for the carbon footprint accounting of industrial products. Together with the first batch, three batches of recommended lists have been issued, recommending 111 association standards covering industrial products such as iron and steel, cement, ethylene, compound fertilizers, and lithium-ion batteries. This has filled the gap created by the lack of authoritative product carbon footprint accounting rules and

standards in key industries and critical fields, and has provided rule-based support for enterprises carrying out product carbon footprint accounting, calculating product carbon footprint factors, and undertaking labeling and certification.

ii. Continuing to advance the development of product carbon footprint factors

Development of upstream product factors has been accelerated. Active efforts have been made to develop general product factors for primary energy, raw materials, transport, agriculture, and other areas, as well as the basic factors required for accounting for end-consumer products , including foreign trade products , thereby laying a solid data foundation for product carbon footprint accounting. A regular update mechanism for electricity carbon footprint factors has gradually been established. In October 2025, the Ministry of Ecology and Environment, the National Bureau of Statistics, and the National Energy Administration jointly released the 2024 electricity carbon footprint factor data. Building on the quantification work for the 2023 electricity carbon footprint factor, the 2024 release further expanded the number of case samples and increased the share of measured data. China's national average electricity carbon footprint factor for 2024 was 0.5777 kg CO_2e/kWh, down 6.9 percent from the corresponding 2023 figure of 0.6205 kg CO_2e/kWh, reflecting tangible results from the optimization of China's power generation mix and technological innovation.

Table 2. National Average Electricity Carbon Footprint Factor, 2024

Type	Factor (kg CO_2e/kWh)
National average	0.5777

Table 3. Electricity Carbon Footprint Factors by Major Power Generation Type, 2024

Type	Factor (kg CO_2e/kWh)
Coal-fired power	0.9240
Gas-fired power	0.4503
Hydropower	0.0141
Nuclear power	0.0065
Wind power	0.0324
Photovoltaic power	0.0520
Solar thermal power	0.0312
Biomass power	0.0404

Table 4. Power Transmission and Distribution Carbon Footprint Factors, 2024

Type	Factor (kg CO_2e/kWh)
Transmission and distribution (excluding grid losses)	0.0046
Transmission and distribution (including grid losses)	0.0327

Industries and enterprises also explored the development of product carbon footprint factor data. In November 2025, multiple institutions jointly updated and released a background database for the carbon footprint of lithium batteries. The database contained more than 1,200 data entries covering 28 major production locations across China's lithium battery industry chain and covered the main material categories across the full industry chain. Relevant institutions actively advanced the development of an automotive life cycle database. By

May 2026, more than 600 process datasets had been developed, covering automotive parts, processing technologies, automotive energy use, automotive materials, and related data. In the building materials sector, life-cycle factor data have been developed for multiple products with relatively strong data foundations and clear system boundaries, including cement, glass, lime, ceramics, and manufactured sand and gravel.

iii. Accelerating the development of the product carbon footprint factor database

The rules governing the development of the product carbon footprint factor database have been improved. In December 2025, the Ministry of Ecology and Environment, together with the National Development and Reform Commission and five other departments, issued the *Guidelines for Developing Product Carbon Footprint Factor Database*, which clarified the overall approach and technical requirements for database development. The document guides local governments, industries, research institutions, and enterprises in exploring factor data development and database construction, and promotes a scientific, standardized, coordinated, and multi-stakeholder approach to building the database. The Guidelines set out 11 key tasks in four areas:

- Building a coordinated pattern of joint construction and sharing. This includes clarifying the approach to database development and establishing mechanisms for sharing and integrating product carbon footprint factor data.
- Improving full-process management of factor data development.

This includes standardizing the factor data development process, clarifying requirements for data sources and updates, carrying out data quality evaluation, and strengthening data security protection.

- Clarifying technical requirements for database construction. This includes standardizing the overall architecture of the database, unifying the naming, classification, and coding system for factor data, and promoting innovative applications of cutting-edge technologies.
- Continuing to strengthen policy safeguards and international exchange. This includes reinforcing support for database development and promoting international exchange and alignment in database-related work.

Construction of the product carbon footprint factor databases continued to advance. In March 2026, the second version of the National Greenhouse Gas Emission Factor Database was launched. Compared with the first version, it was substantially expanded, with 291 greenhouse gas emission factors newly added or updated, bringing the total number of factors to 576. Carbon emission intensity data for key products such as crude steel and unwrought aluminum were incorporated, further improving coverage and representativeness. Relying on the National Greenhouse Gas Emission Factor Database, work has continued on developing a product carbon footprint module, refining business processes and organizational mechanisms, studying and drafting supporting institutional documents, connecting data with a range of stakeholders, and completing the local deployment and

ongoing optimization of the system platform. Relevant departments, research institutions, universities, and industry enterprises have also actively advanced the development of carbon footprint factor databases in sub-sectors including electronics and electrical equipment, lithium batteries, photovoltaics, automobiles, transport, and sustainable aviation fuel, thereby providing data support for the establishment of China's product carbon footprint management system.

iv. Strengthening capacity building and reinforcing supporting safeguards

Data quality has been improved. In April 2025, the National Data Administration organized the first batch of pilot programs for the innovative development of trusted data spaces. Industries such as automobile manufacturing, mineral resources, equipment manufacturing, and new materials actively explored the trusted circulation of data for carbon footprint management through trusted data spaces in support of the "dual carbon" goals and sustainable development. Multiple replicable and scalable application scenarios have been formed. In the automobile manufacturing sector, efforts have been made to establish a carbon footprint data system covering the entire industry chain, effectively promoting the circulation, development, and utilization of carbon-related data among upstream and downstream enterprises and facilitating traceability and precise accounting. In equipment manufacturing, attempts have been made to establish a product carbon footprint labeling and certification system to achieve trusted collection, rights confirmation, and circulation of

carbon emission data from key links in the industrial chain. By building secure, trusted, and mutually recognized data circulation mechanisms, trusted data spaces have laid a foundation for standardized data collection, precise accounting, and international certification of carbon footprint data.

Metrological support has been strengthened. China has continued to advance the development of national carbon metrology centers, strengthen the development and application of carbon-footprint-related metrological instruments, deepen research on metrological technologies related to carbon footprint, and conduct a study on the uncertainty analysis of accounting results and data. It has formulated or revised related metrological technical specifications, including Greenhouse Gases — Product Carbon Footprint Quantification Metrological Technical Specification — Coal-to-Methanol Products and Greenhouse Gases — Product Carbon Footprint Quantification Metrological Evaluation Technical Specification — Electric Energy Meters, thereby providing metrological support for product carbon footprint work. Industry associations, research institutions, and enterprises are also encouraged to cooperate in multi-level and multi-dimensional data analysis and metrological comparison, improve the data quality control system, and support carbon footprint work from the perspectives of metrological instruments, metrological data, and data evaluation.

Accreditation has been leveraged. Supply of accreditation mechanisms for product carbon footprint work has been accelerated. The China National Accreditation Service for Conformity Assessment (CNAS)

formulated and released the Accreditation Scheme for Product Carbon Footprint Verification Bodies, clarifying the technical and management requirements that verification bodies must meet in order to obtain accreditation, including institutional qualifications, personnel, skills training, control over verification activities, and impartiality. Specialized training programs were organized for major domestic product carbon footprint verification bodies, providing accreditation support for improving China's product carbon footprint management system.

Education and training have been strengthened. Efforts have been made to strengthen the curriculum system and promote the full integration of low-carbon education through coursework by revising relevant curriculum and teaching standards to require that content on carbon peaking, carbon neutrality, and other low-carbon issues be incorporated wherever appropriate. Low-carbon education has been appropriately integrated into primary and secondary school courses such as morality and the rule of law (ideological and political studies), chemistry, biology, and geography. A number of national first-class undergraduate courses in the field of product carbon footprint have been recognized and put on the National Higher Education Smart Education Platform, and a number of teaching materials under the 14th Five-Year Plan have been arranged in areas such as new energy and carbon neutrality. The layout of academic disciplines has also been optimized to build a multi-level, full-coverage system of green and low-carbon specialties meeting talent needs in different fields. In higher education, a new undergraduate major in Carbon Neutrality Science

and Engineering was established in 2025. In vocational education, updated teaching standards for carbon-footprint-related disciplines were released, as were the National Occupational Standards for Carbon Sink Measurement and Evaluation Specialists (L/S) and the Training Manual for National Vocational Skill Level Assessment for Carbon Emission Administrators, guiding the development of foundational resources for talent cultivation. In continuing education, more than 160 higher education institutions registered nearly 200 related programs such as energy economics, while more than 80 institutions offered over 150 non-degree education programs such as special courses on the “dual carbon” goals.



II. Improving the Institutional Framework and Expanding Application Scenarios

The national pilot program for product carbon footprint labeling and certification has advanced in an orderly manner. Key industries and sectors have actively explored the establishment of tiered management and information disclosure systems for product carbon footprint. Application scenarios in areas such as government green procurement, low-carbon supply chain development, and green finance have further expanded. These developments have powerfully advanced product carbon footprint work from accounting to application and effectively stimulated market entities' enthusiasm for participation.

i. Accelerating the establishment of a product carbon footprint labeling and certification system

The pilot program for product carbon footprint labeling and certification was laid out in a scientific manner. In January 2025, the State Administration for Market Regulation, the Ministry of Ecology and Environment, the National Development and Reform Commission, and the Ministry of Industry and Information Technology announced the list of pilot areas for product carbon footprint labeling and certification. Centered on products such as lithium batteries,

photovoltaics, iron and steel, and electronic and electrical products, a pilot network covering 57 local areas across 25 provinces, autonomous regions, and municipalities was formed nationwide. On the basis of this pilot list, the *Pilot Certification Catalogue for Product Carbon Footprint Labeling and Certification (First Batch)* was issued in July 2025, covering 17 key products including lithium batteries, photovoltaic products, and iron and steel products. In September 2025, the Certification and Accreditation Administration of China released the *General Implementation Rules for Product Carbon Footprint Labeling and Certification (Trial)* together with 17 product-specific implementation rules, providing enterprises and certification bodies with a certification guide that is operational, applicable, and verifiable. The State Administration for Market Regulation also issued the *Notice on Regulating the Requirements for the Pilot Program for Product Carbon Footprint Labeling and Certification* and conducted field research and assessments in pilot regions, certification bodies, and enterprises.

Support and safeguards for the pilot program were also strengthened. The State Administration for Market Regulation established a dedicated working group for the pilot program, carried out research on key and core technologies, coordinated the resolution of certification issues encountered in the pilots, and in April 2025 released the first pilot work briefing on product carbon footprint labeling and certification. A dual-track certification scheme combining “general basics + product-specific refinement” has been put in place to improve the effectiveness of technical empowerment for green and low-carbon transformation in industrial chains and to open up the “last mile” of implementation

for the labeling and certification system. Pilot regions have organized and advanced pilot work with full effort, holding 126 policy briefing and training sessions and selecting 73 leading enterprises in industrial chains to conduct on-site data collection for accounting product carbon footprint. Pilot certification bodies have carried out certification strictly in accordance with standards and rules and issued the first batch of product carbon footprint labeling and certification certificates covering seven products in five major categories.

Table 5. Pilot Certification Catalogue for Product Carbon Footprint Labeling and Certification (First Batch)

No.	Pilot Product Category	Certification Catalogue Entry
1	Lithium batteries	Consumer lithium-ion batteries
2		Small-power lithium-ion batteries
3		Large-power lithium-ion batteries
4		Energy-storage lithium-ion batteries
5	Photovoltaic products	Photovoltaic modules
6	Iron and steel (including crude steel)	Blast furnace–converter route long-process iron and steel products
7		Electric furnace route short-process iron and steel products
8		Ferroalloys
9	Textiles (including cashmere products)	Textile products
10	Electronic and electrical products (air conditioners)	Room air conditioners
11	Electronic and electrical products (computers)	Desktop microcomputers

No.	Pilot Product Category	Certification Catalogue Entry
12	Electronic and electrical products (laptops)	Portable computers
13	Electronic and electrical products (motors)	Small-power electric motors
14	Tires	Tires
15	Electrolytic aluminum	Electrolytic aluminum
16	Cement	Cement
17	Wood products	Wood-based panels and wood flooring

ii. Exploring the establishment of tiered management and information disclosure systems

Industries and enterprises explored tiered management of product carbon footprint. Research on a tiered management system was carried out, policy experience in related fields at home and abroad was reviewed, and key industries and sectors were encouraged to take the lead in piloting, with a view to exploring a tiered management system for product carbon footprint. The iron and steel sector developed a method for evaluating low-carbon-emission steel, using hot-rolled products as the unit for evaluation and certification and dividing carbon-efficiency ratings into five levels for promotion and application in downstream scenarios. The automobile sector actively studied and explored a tiered management system for product carbon footprint, researched evaluation methods for the carbon footprint grades of complete vehicles, components, and materials, and used digital systems

to form a closed-loop workflow of "data collection – carbon footprint accounting – grade evaluation – public disclosure and promotion – carbon reduction optimization." The electronic and electrical sector explored a "three-star" tiered management system for carbon labels, classifying products into three categories: carbon-disclosure products, carbon-reduction products, and low-carbon products.

Work on product carbon footprint information disclosure was also guided. In December 2025, the Ministry of Finance and eight other departments issued *the Sustainability Disclosure Standards for Business Enterprises No. 1 — Climate (Trial)*, standardizing the disclosure of corporate sustainability information and steadily advancing the development of China's sustainability disclosure standards system. The document specifies that enterprises shall disclose their total absolute greenhouse gas emissions by Scope 1, Scope 2, and Scope 3. Where an enterprise is still unable to estimate Scope 3 greenhouse gas emissions after making every reasonable effort, it shall disclose how it manages Scope 3 greenhouse gas emissions.

iii. Expanding product carbon footprint application scenarios

Product carbon footprint requirements were incorporated into green procurement. Government green procurement policies have continued to improve, procurement of green products has been expanded, and the demonstration and leading role of government green procurement has been strengthened. Centrally administered state-owned enterprises have been guided to expand the scope and scale of green product procurement. A total of 91 central state-owned

enterprises (SOEs) incorporated the preferential use of green and low-carbon products into their procurement standards, and 22 central SOEs conducted tiered and category-based evaluation and management of suppliers based on their green and low-carbon performance. Policies on government procurement of energy-saving and environmentally friendly products have continued to be implemented, actively promoting mandatory procurement and priority procurement of products meeting energy-saving and environmental protection requirements by government agencies, public institutions, and social organizations at all levels.

Innovative applications of carbon footprint in the financial sector have continued to advance. The green finance policy system was further improved. The National Financial Regulatory Administration, together with the People's Bank of China, issued the *Implementation Plan for the High-Quality Development of Green Finance in the Banking and Insurance Sectors,* clarifying development goals and key tasks for green finance. Green finance evaluations were carried out for financial institutions, guiding them to enrich financial products and services based on carbon footprint and to introduce innovative loan products linked to carbon footprint, such as "Carbon Easy Loans" and "Carbon Reduction Loans." Financial institutions were also encouraged to promote personal carbon accounts and broaden their application scenarios.

Development of green and low-carbon supply chains of central SOEs has been accelerated. In March 2026, the *Guidelines on Building Green and Low-Carbon Supply Chains for Central State-*

owned Enterprises (Trial) were issued, explicitly setting out the task of "strengthening carbon footprint management." Central SOEs are guided to focus on key raw materials, products, and services, scientifically determine priorities and coverage for carbon footprint management, systematically carry out carbon footprint accounting, standardize data formats and datasets, and explore the use of carbon footprint certification results in scenarios such as supplier evaluation, procurement decisions, and corporate information disclosure.

Management and applications of product carbon footprint in key areas have been strengthened. The Ministry of Commerce actively advanced the development of a carbon-footprint support system for foreign trade. In October 2025, it issued the *Implementation Opinions on Expanding Green Trade*, which clearly proposed accelerating the construction of a carbon footprint database for foreign-trade products, improving the capacity of third-party green and low-carbon service providers, and developing and releasing a batch of accounting standards for the carbon footprint of key foreign-trade products. The Ministry of Industry and Information Technology explored pilot work on carbon footprint management for automotive power batteries. In December 2025, it issued the *Notice on Launching Carbon Footprint Data Reporting for Automotive Power Batteries*, releasing accounting rules and implementation guidelines for the carbon footprint of power batteries and promoting coordinated progress in standards and rules, factor data, testing and metrology, evaluation, and certification.

Box 1

Examples of product carbon footprint application scenarios

Shandong Province: Financial service products have been innovated. Weihai Bank designed an incentive-based financing instrument linking product carbon footprint to loan interest rates and successfully provided RMB 22 million in credit support to an enterprise. The Binzhou branch of Industrial Bank linked lending rates to the "product carbon footprint value per functional unit" of the enterprise and successfully issued a carbon-footprint-linked loan of RMB 50 million. Qingdao released association standards for carbon guarantee and green financial products, increased credit support by tier according to evaluation results, and cumulatively issued more than RMB 62 million in "Carbon Benefit Guarantee – Dairy Cow" loans and more than RMB 12 million in "Carbon Benefit Guarantee – Pig" loans.

Guangxi Zhuang Autonomous Region: Green finance services have also been innovated. While advancing the pilot program for product carbon footprint labeling and certification, Guangxi actively explored a mechanism for integrating carbon footprint labeling with green finance. It signed a strategic cooperation agreement on green credit for carbon footprint labeling and certification with Industrial Bank, providing credit support to pilot enterprises, effectively reducing certification costs, and enhancing enterprises' willingness to participate.

III. Local Pilot Initiatives to Explore Full-Chain Management of Product Carbon Footprint

Acting on the task requirements set out in the *Implementation Plan for Establishing a Carbon Footprint Management System*, more than 20 provinces, autonomous regions, and municipalities—including Jiangsu, Zhejiang, Hainan, Chongqing, Guizhou, and Shaanxi—have carried out pilot and trial work based on local realities. They have studied and formulated local carbon footprint management plans and supporting policy documents. On the basis of the overall requirements for carbon footprint work, they have set development goals and key tasks in light of local industrial characteristics and practical conditions, and have actively advanced work in areas such as accounting standards, factor data, trial carbon footprint calculations, and labeling and certification, thereby exploring ways to establish an end-to-end carbon footprint management framework.

i. Focusing on standards and factors to consolidate the groundwork

Product carbon footprint accounting standards have been developed on the basis of locally advantageous industries. In accordance with the national standard Greenhouse gases — Carbon footprint of products — Requirements and guidelines for quantification and documents such as the *Guidelines for Developing Product Carbon*

Footprint Accounting Standards, localities have actively participated in developing accounting standards for featured and advantageous products, filling domestic gaps and providing unified and standardized rule support for product carbon footprint accounting. Guangdong released eight association standards on technical specifications for evaluating the carbon footprint of products such as cement and lithium iron phosphate. Shaanxi released association standards on carbon footprint evaluation for featured products such as primary magnesium and electroplated diamond wire. Guizhou compiled and issued association standards on carbon footprint evaluation for Baijiu(Chinese liquor) and phosphogypsum products. Hubei focused on sectors including phosphorus chemicals, communications, and automobiles in researching and developing association standards for the carbon footprint accounting of key products. Zhejiang carried out research and development on accounting standards for key industries and products such as textiles and apparel. Tianjin, Jiangxi, and Yunnan actively participated in the development of national standards on products such as sodium carbonate (soda ash), biobased plastic materials, and electrolytic aluminum.

Development of localized product carbon footprint factor databases has been accelerated. Shanghai, Zhejiang, Shanxi, Sichuan, Tianjin, and Fujian actively explored the development of localized factor databases, formulated related technical specifications, and organized data collection, factor calculation, and database reporting and entry, thereby providing local experience for the standardized conduct of carbon footprint work and exploring alignment with the national

product carbon footprint factor database. Zhejiang, focusing on its textile industry with full-industry-chain advantages, established a localized carbon footprint database for textile and apparel products and completed a full dataset covering the entire chain of "chemicals – petrochemicals – chemical fibers – textiles – printing and dyeing – garments," with more than 400 factors developed and entered into the database. Shanxi established a preliminary framework for a localized database, launched data collection work, and drafted the *Implementation Plan for the Collection and Reporting of Product Carbon Footprint Factors* in Shanxi Province, clarifying requirements on the scope of data collection, data sources, data collection content, verification, and data quality control.

ii. Actively carrying out carbon footprint accounting for featured products

Distinctive and competitive products were selected for carbon footprint accounting. Local governments selected representative products reflecting their industrial strengths to carry out carbon footprint accounting, accumulating valuable experience for scaled-up industry carbon footprint accounting and management. Shandong carried out pilot industry carbon footprint accounting, completing accounting for four sectors—iron and steel, electrolytic aluminum, tires, and textiles—and selecting 250 products from 102 enterprises for carbon footprint accounting. This work produced 243 product carbon footprint factors and involved 1,230 factor items and more than one million valid activity-data records. The Inner Mongolia Autonomous Region focused

on advantageous sectors such as crystalline silicon, rare earths, iron and steel, cashmere, and dairy products, and actively carried out work on product carbon footprint accounting methodologies, trial calculations, and certification. Jilin advanced product carbon footprint accounting for transport equipment, completing carbon footprint accounting for more than 120 vehicle models, as well as carbon footprint accounting and certification for two typical products: a standard Type A metro train and the Fuxing intelligent EMU operating at 350 km/h.

iii. Advancing product carbon footprint labeling and certification in an orderly manner

Localities actively participated in product carbon footprint labeling and certification. After the first batch of pilot areas for product carbon footprint labeling and certification was announced in January 2025, pilot regions moved forward actively and in an orderly way. They issued pilot work plans and supporting technical specifications and carried out accounting and certification using pilot products as the entry point, thereby accumulating experience for nationwide promotion and application of product carbon footprint labeling and certification. Hebei issued the *Implementation Opinions on Conducting Pilot Work on Product Carbon Footprint Labeling and Certification for Iron and Steel and Textile Products*, clarifying implementation principles of "coordinated advancement, urgent needs first, dual-wheel drive, and international orientation," and launched the textile pilot, selecting six enterprises and 19 product categories in the first batch to carry out related work. Ningxia issued the *Implementation Plan for the National*

Pilot Program on Carbon Footprint Labeling and Certification for Cement Products (Yinchuan City), detailing full-process requirements on carbon footprint accounting, label application, certification review, and supervision and management, and guiding pilot enterprises to establish mechanisms for data collection, accounting, and reporting. The Guangdong-Hong Kong-Macao Greater Bay Area has continued to advance product carbon footprint certification, preliminarily establishing a regional labeling and certification system, releasing relevant general standards and more than 80 product certification standards and rules, launching a public service platform for product carbon footprint labeling and certification in the Greater Bay Area, and issuing more than 500 carbon footprint labeling certificates in total.

iv. Exploring the development of product carbon footprint service platforms

Development of local carbon footprint service platforms has been accelerated. Local public carbon footprint service platforms have been accelerated through digital reform. Many localities have moved quickly to build public carbon footprint service platforms integrating full-process functions such as data collection, accounting, certification, and disclosure, effectively improving both service effectiveness and management efficiency in product carbon footprint work. Hubei's product carbon footprint public service platform officially went online in July 2025, becoming a data aggregation center, management platform, and service hub for carbon footprint work and enabling one-stop management of accounting, certification, labeling, and disclosure.

Jiangsu completed development of the core business functions of its public carbon footprint service platform, structured as “one portal + one database + three functional modules for accounting, certification, and recognition.” The database has already aggregated more than 5,000 items of public basic data and more than 20,000 items of third-party and commercial data. Shanghai has actively promoted the establishment of an industrial carbon management public service platform. Focusing on sectors such as automobiles and electronics and electrical equipment, the platform has provided online carbon footprint accounting services for 30 enterprises, developed and launched 160 product accounting models, and generated more than 300 product carbon footprint accounting reports. Anhui is planning product carbon footprint service applications under the framework of its integrated “dual carbon” management platform, identifying enterprises and products for accounting in the “new three” sectors and supporting leading enterprises in key industries in building carbon footprint factor databases covering upstream and downstream links of the industrial chain.



IV. Promoting International Alignment and Enhancing China's International Influence in Global Rule-making

China is actively building a product carbon footprint management system aligned with international practice. Through proactive planning and by making use of various platforms and channels, China has continuously strengthened international exchanges and cooperation on carbon footprint, tracked developments in international carbon footprint policies and rules, actively participated in the formulation of international carbon footprint rules, deepened multilateral and bilateral exchanges and mutual trust, and promoted international alignment and mutual recognition of China's accounting standards, factor data, and certification results, thereby continuously enhancing China's influence and initiative in global climate governance.

i. Strengthening international exchanges and cooperation

China has expanded international communication and exchanges. China has expanded exchanges with Belt and Road countries, the European Union (EU), and international carbon footprint factor database initiatives, and has worked with the United Nations Environment Programme (UNEP) to promote joint development of a global life cycle assessment (LCA) platform and deepen carbon

footprint exchange and capacity building. China has actively participated in consultations and discussions under mechanisms such as the Group of Twenty (G20), BRICS, and the Asia-Pacific Economic Cooperation (APEC) forum on issues related to green trade, green and sustainable development, and green supply chains. China has actively presented its policies and measures on ecological and environmental protection and green development and contributed to the formulation of green economic and trade rules. China has also actively participated in discussions under the Inclusive Forum on Carbon Mitigation Approaches (IFCMA), engaging on topics such as mitigation policy databases, carbon intensity, and spillover effects, and has held multiple exchanges on strengthening technical cooperation.

China has actively articulated its position. Guided by climate diplomacy at the leadership level, China has publicly stated its position on multiple occasions, including the Leaders' Summit on Climate and the Just Transition, the United Nations Climate Change Summit, the High-Level Meeting on the Global Development Initiative, and the Belém Climate Summit at the 30th session of the Conference of the Parties to the United Nations Framework Convention on Climate Change. China has called on the international community to uphold multilateralism, strengthen solidarity and cooperation, and clearly oppose unilateralism. China also promoted the inclusion of language opposing unilateral measures in relevant multilateral platform documents, including the chair's statement of the BRICS Foreign Ministers' Meeting in April 2025 and the BRICS Leaders' Declaration on the Climate Finance Framework.

China has continuously tracked developments related to the Carbon Border Adjustment Mechanism (CBAM). It has closely followed the EU's CBAM policy and has made repeated representations to the EU regarding its unilateral implementation of CBAM, explaining China's position. China has continuously placed the issue on the agenda of meetings of the WTO Council for Trade in Goods and the Committee on Market Access, expressing concern about CBAM and urging the EU to ensure that related policies comply with WTO rules and avoid creating new green trade barriers. The General Administration of Customs led the development of an auxiliary filing platform for CBAM, helping 92 enterprises exporting to the EU complete standardized reporting, providing online and offline reporting support and policy interpretation services to 10 enterprises, and collecting 56 carbon-data items related to products exported to the EU.

ii. Participating in the formulation of international rules

China has tracked and assessed international rules related to carbon footprint. It has continuously followed the latest developments regarding the EU Battery Regulation and its implementing rules, with a focus on analyzing provisions on accounting boundaries, data quality requirements, and third-party verification mechanisms, while systematically conducting comparative research between Chinese and European carbon footprint accounting methodologies. In response to unreasonable technical requirements in the draft EU rules on the carbon footprint accounting of electric vehicle batteries, China has made full use of WTO rules to continue negotiations and consultations with

the EU. Prospective studies have also been carried out on existing or planned product carbon footprint policies in countries such as France, the Republic of Korea, and Japan.

China has actively participated in the development of international carbon footprint standards. Under the International Telecommunication Union Telecommunication Standardization Sector, China took the lead in formulating and releasing Methodologies for greenhouse gas emissions accounting for base station sites (ITU-T L.1421), and promoted the development of international standards for the carbon footprint evaluation of products such as smartphones, servers, and lithium batteries for telecommunications. Under the International Electrotechnical Commission (IEC), China led the development and release of a horizontal international standard on life cycle assessment for electrical and electronic products—that is, a general standard—which provides a unified basis for developing international carbon footprint standards for such products. China also participated deeply in the research work of the informal working group on automotive life cycle assessment under the World Forum for Harmonization of Vehicle Regulations (UN/WP.29). Under frameworks such as the International Organization for Standardization (ISO) and the IEC, 352 experts were newly registered to participate in international standardization activities related to the “dual carbon” goals, and China led the formulation and release of 45 international standards in this field, thereby strengthening China’s international influence in international standard-setting.

iii. Promoting international mutual recognition

China has explored international mutual recognition of standards and factors. Relevant technical institutions were organized to follow the requirements of international certification schemes for green fuels and to participate constructively in consultations on sustainability recognition and certification standards for sustainable aviation fuel under the International Civil Aviation Organization. Together with the International Coalition for Green Development on the Belt and Road, China carried out multiple international exchange activities on carbon footprint themes and convened expert seminars to promote mutual recognition of carbon footprint standards under the Belt and Road Initiative. At the China Carbon Market Conference, the study China Electricity Carbon Footprint Factors 2024 was released, promoting the sharing and application of China's electricity carbon footprint factors in Belt and Road partner countries. China has also strengthened communication and exchanges with international database institutions and international organizations such as UNEP to explore pathways toward international recognition of domestic factor data.

China has strengthened exchanges and cooperation with international certification bodies. Relevant domestic institutions have maintained exchanges on carbon footprint work with international organizations such as the Korea Environmental Industry & Technology Institute (KEITI), TÜV Rheinland of Germany, and the Swedish Environmental Research Institute, actively advancing cooperation and exploring mutual recognition of carbon footprint labels so as to provide Chinese enterprises with convenient and reliable one-stop international carbon certification services for exports.

Prospects

In 2025, China made meaningful progress in developing its product carbon footprint management system in areas including standards development, factor development, labeling and certification, application scenarios, international alignment, and capacity building, laying a solid foundation for steadily implementing product carbon footprint policies and mechanisms during the 15th Five-Year Plan period. Going forward, China will build on the existing foundation and practical needs, strengthen overall coordination, explore full-process management of product carbon footprint, continue to advance implementation of all tasks, and ensure effective results.

Coordinating the formulation and revision of standards to promote standardization and consistency. China will coordinate work on the formulation and revision of product carbon footprint standards, accelerate the development of accounting standards for key products, clarify which key products are covered by national standards and the rules governing the administration of industry standards, guide the orderly development of association standards, and promote coordination and synergy among national, industry, and association standards.

Accelerating factor development and database construction to

strengthen the data foundation. China will accelerate development of carbon footprint factors for key areas such as coal, oil and gas, other primary energy products, bulk commodities and raw materials, and transport, so as to better identify the carbon profile of products. It will also speed up the construction of the national product carbon footprint factor database and promote the openness and sharing of data. Unified review of product carbon footprint factor data will be organized, the structural format and quality requirements for factor data will be standardized, database construction rules will be refined, and compatibility, mutual trust, and alignment with relevant international rules will be promoted.

Strengthening institutional supply and expanding application scenarios. China will advance the pilot program for product carbon footprint labeling and certification in an orderly way, carry out research and application of tiered management, and promote the inclusion of product carbon footprint in policies related to information disclosure. Policy incentives will be improved, and research will be conducted into incorporating product carbon footprint indicators into policies on government procurement, green finance, and market access. Localities and enterprises will be encouraged to take the lead in piloting and exploring ways to connect the entire chain of carbon footprint work.

Strengthening international exchanges and cooperation to continue enhancing influence. China will continue to track and assess policy measures related to carbon footprint at home and abroad, strengthen dialogue and exchange with the EU, UNEP, international databases, and

other institutions, and actively respond to international carbon-related trade barriers. Industry associations, enterprises, and other stakeholders will be organized to actively participate in the formulation and revision of international rules related to product carbon footprint, while steadily promoting international recognition of domestic accounting standards, factor data, professional personnel, and service institutions.

