



General Programme Instructions

For EPD China

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Version Tracking

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ABBREVIATIONS

- CFP Carbon Footprint
- EPD Environmental Product Declaration
- LCA Life Cycle Assessment
- LCI Life Cycle Inventory
- LCIA Life Cycle Impact Assessment
- PCR Product Category Rule
- PEF Product Environmental Footprint
- RSL Reference service life

1. Introduction

1.1 Background

Type III environmental declarations are a type of environmental label that have become an important measure for countries to guide green consumption, production and communication on important environmental impacts such as climate change. However, there is not yet an established program for environmental product declarations (EPDs) in China in line with international standards and regulations. The lack of relevant programs and regulated practice of EPDs in China will jeopardize the potential for market-driven environmental improvement through encouraging the demand for, and supply of, products that cause less stress on the environment. Ultimately this may hinder the progress of towards carbon neutrality in China.

EPDs provide quantifiable and verifiable environmental impact information, such as climate change impact and water consumption, through quantitative life cycle assessment (LCA) of a product. In recent years, certain EU countries such as France, Italy, Germany and Sweden have made EPDs a mandatory policy requirement during product tendering and public procurement in order to meet carbon neutral and sustainable development targets.

The adoption of a proper EPD scheme in China is still very limited. In the building industry, use of EPDs for building-related products is mostly limited to achieving certification points under green building schemes or as incentive items. In the business bidding process, EPDs are not regarded as a mandatory requirement, which has made EPDs in China to largely go as unregulated labels with an intended effect of promoting consumption and production of products that cause less impact on the environment. Outside building industry, the adoption of EPD scheme is rare and the promotion of EPD in China remains a task in the forthcoming years for EPD China.

EPDs, including single metric labels such as carbon footprints (CFP), water footprint (WFP) is becoming a prerequisite for products entering the market of developed countries in Europe and some other regions. The Chinese government and industries are also giving priority to products with ecolabels by adopting green procurement initiatives and setting policies favoring EPDs.

The establishment of EPD China aims to address above-mentioned deficiencies. EPD China is a non-profit platform jointly founded by a number of private and public professional organizations in China in order to ensure that EPDs published in China meet the relevant requirements of international EPD standards, to help business overcome the environmental performance barriers during international trade and drive more sustainable product and service innovation and development in the world. EPD China aims to establish an authoritative and fair platform for environmental information disclosure in China, including carbon footprints, while also helping Chinese businesses meet the China "30/60 goal" of carbon peak and carbon neutrality.

1.2 EPD China Programme Scope

This document intends to clarify the rules for the development and operation of the ISO 14025-compliant Chinese environmental product declaration programme, i.e., EPD China programme.

The rules of governance of this programme, commonly referred to as the "General Programme Instructions" (GPIs) present the voluntary procedures implemented to ensure that every EPD issued by companies are correctly generated, verified and published according to the requirements

of standard ISO 14025.

The GPI document is developed by EPD China, which is responsible for updating and publishing these General Instructions. Programme documents are available on the website: www.epdchina.cn

The programme “EPD China” aims to support the development and dissemination of EPDs created by manufacturers in China, consulting agencies, evaluation, and assessment agencies, and eventually registered and issued on EPDChina platform.

The objectives of EPD China include:

- Provide relevant and reliable data on the environmental impacts of a product or a service throughout its life cycle.
- Provide quantified, multi-criteria, objective, and comparable environmental data, based on transparent and scientifically validated methods to help clients or decision makers choose among products.
- Encourage the demand for products with less impact on the environment, especially within the scope of eco-responsible public procurement.
- Support companies in relevant sectors controlling the environmental impacts of their products or services, through approaches such as design, R&D, manufacturing and innovation of green products and services.
- Support compliance with existing and upcoming regulatory requirements for environmental declarations or environmental product labeling, ensuring the conditions for fair competition are present.
- To enhance collaboration and jointly serve the interests of consumers, the market, and relevant stakeholders with open and transparent information on environmental impacts of products and the sustainable development of the company.
- Participate in relevant international collaboration platforms, international PCR harmonization activities, and standardization

The EPD China programme is structured in three levels:

- Level 1: General Programme Instructions that define the general framework of the approach and set out the procedures used to draft, verify and publish EPDs in accordance with ISO 14025;
- Level 2: PCR - Product Category Rules. Developing rules and procedures in accordance with ISO 14025 and ISO 14027 that provide a method of environmental data collection and analysis and the declaration format used to report data in the form of an EPD China template. These rules generally consist of:
 - Common Rules applicable to all products or services covered by the Programme.
 - A set of supplementary rules specific to the product categories, called "Product-Specific Rules-PSR".
- Level 3: The publication of Type III EPDs in accordance with the requirements of the EPD China Programme.

1.3 Area of applicability

The EPD China GPI regulates services in the context of the execution and preparation of EPDs made in China in accordance with ISO 14025 and other standards provided in the Normative References section of this document.

The General Programme Instructions are mainly for:

- Declaration holders: companies and supportive organizations who wish to provide environmental data about their products and more particularly the services involved in the design, development, and promotion of the products.
- Data users: parties wishing to know how the data have been generated to understand and use them more effectively (project owners, prime contractors, industrial designers, design offices, etc.).
- Researchers and policy makers: government think tank and policy decision makers who want to better understand the economic circularity, carbon footprint and water footprint, and other environmental and social sustainability of a certain industry, product, or service, to make proper policies to promote sustainable development in a given region e.g., City or province, or in a specific industry, through public green procurement, tax reduction or exemption, or green bonds or investment etc.

1.4 Normative References

- [1] CEN (2013) EN 15804:2012+A1:2013, Sustainability of construction works – Environmental product declarations – Core rules for the product category of construction products.
- [2] CEN (2019) EN 15804:2012+A2:2019, Sustainability of construction works – Environmental product declarations – Core rules for the product category of construction products.
- [3] EPD China (2021) General Programme Instructions for the EPD China. Version 1.0, dated 2021-03-29. www.EPDChina.cn.
- [4] ISO (2015a) ISO 14001:2015, Environmental management systems – Requirements with guidance for use.
- [5] ISO (2000) ISO 14020:2000, Environmental labels and declarations – General principles.
- [6] ISO (2016b) ISO 14021:2016, Environmental labels and declarations - Self-declared environmental claim (Type II environmental labelling).
- [7] ISO (2018) ISO 14024:2018, Environmental labels and declaration – Type I environmental labelling – Principles and procedures.
- [8] ISO (2006a) ISO 14025:2006, Environmental labels and declarations – Type III environmental declarations – Principles and procedures.
- [9] ISO (2017) ISO 14026:2017, Environmental labels and declarations — Principles, requirements, and guidelines for communication of footprint information
- [10] ISO (2017) ISO 14027:2017, Environmental labels and declarations — Development of product category rules
- [11] ISO 14029 (under development), Environmental statements and programmes for products — Mutual recognition of environmental product declarations (EPDs) and footprint communication programmes
- [12] ISO (2004) ISO 8601:2004 Data elements and interchange formats – Information interchange – Representation of dates and times.
- [13] ISO (2006b) ISO 14040:2006, Environmental management – Life cycle assessment – Principles and framework.
- [14] ISO (2006c) ISO 14044: 2006, Environmental management – Life cycle assessment – Requirements and guidelines.
- [15] ISO (2014) ISO 14046:2014, Environmental management – Water footprint – Principles,

requirements and guidelines.

- [16] ISO (2013) ISO/TS 14067:2013, Greenhouse gases – Carbon footprint of products – Requirements and guidelines for quantification and communication.
- [17] ISO (2015b) ISO 9001:2015, Quality management systems – Requirements.
- [18] ISO (2016a) ISO 21067-1:2016, Packaging – Vocabulary – Part 1: General terms.
- [19] ISO (2017) ISO 21930:2017, Sustainability in buildings and civil engineering works – Core rules for environmental product declarations of construction products and services.

1.5 Language

This GPI document is developed and published in English. The Chinese version will be released at the same time.

PCRs and EPDs will be developed in English and/or Chinese. For PCR/EPD developed in other languages other than English or Chinese, a translation in English should be provided.

1.6 Terms and definitions

Environmental product declaration (EPD): providing qualified environmental data using predetermined parameters and, where relevant, additional environmental information.

The predetermined parameters are based on the ISO 14040 series of standards, which is mainly concerning ISO 14040 and ISO 14044.

The additional environmental information may be quantitative and qualitative.

[ISO 14025-2016]

Product category rules (PCR): set of specific rules, requirement and guidelines for developing Type III environmental product declarations and footprint communications for one or more product categories.

[ISO 14025-2006]

Carbon footprint of a product (CFP): sum of GHG emissions and GHG removals in a product system, expressed as CO₂ equivalents and based on a life cycle assessment using the single impact category of climate change.

[ISO 14067-2018]

Carbon footprint of a product-product category rules (CFP-PCR): set of specific rules, requirements and guidelines for CFP or a partial CFP quantification and communication for one or more product categories.

[ISO 14067-2018]

PCR review: process whereby a third-party panel verifies the product category rules.

[ISO 14027-2017]

Life cycle assessment (LCA): compilation and evaluation of inputs, outputs and potential environmental impacts of a product system throughout its life cycle.

[ISO 14044-2006]

2. Programme Organization and Administration

2.1 Programme Organization

EPD China is a non-profit entity organized in a multistakeholder engagement approach across the GENERAL PROGRAMME INSTRUCTIONS FOR EPD CHINA 2021. WWW.EPDCHINA.CN

product and business value chain that promotes collaboration for to achieve the programme objectives. The successful operation of the EPD China programme depends on the contribution from the following entities detailed in Figure 1, i.e., Manufacturing companies, consultants, verifiers, EPD China office, with the supports from the EPD China technical platform (One-Metric).

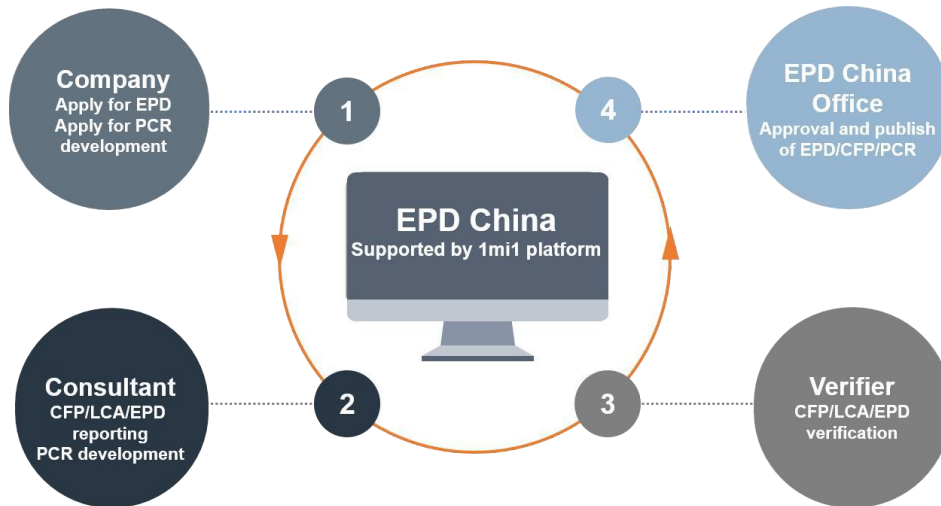


Figure 1 EPD China Operation Mechanism

Companies - based on the needs of carbon footprint and neutrality, EPD and sustainable development, companies carry out carbon footprint and EPD assessment or PCR standard development by engaging internal or external experts such as listed consultants from EPD China platform.

Consultants - consultants' work is to support enterprises to carry out product and enterprise carbon footprint, LCA/EPD assessment (collecting data, modeling, compiling evaluation reports, etc.) and PCR standard creation, and work with the verifier to carry out verification work, answer the verifier's review questions and comments.

Verifier - After receiving the verification request sent by the company or consultant, the EPD China accredited verifier will carry out the carbon footprint, LCA and EPD verification work and issue the verification report, indicating whether the report is compliant or not against the standards and requirements.

EPD China Office- The EPD office's main responsibility includes registration and publication of carbon footprint and EPD certification submitted by businesses and consultants, and approved by verifiers, meanwhile, the office is also in charge of the approval and maintenance of the validity of PCR standards, approval of consultants and verifiers, and engagement with stakeholders around EPD China.

Imi1 Platform – the digitalization platform for product carbon footprint and EPD consultation, evaluation, and reporting.

2.2 Programme Administration

As defined in ISO 14025, the programme operator must fulfill a number of responsibilities via different roles. Administrative roles key to the EPD China program include those outlined in Figure 2 and are detailed in sections 2.2.1 – 2.2.7.

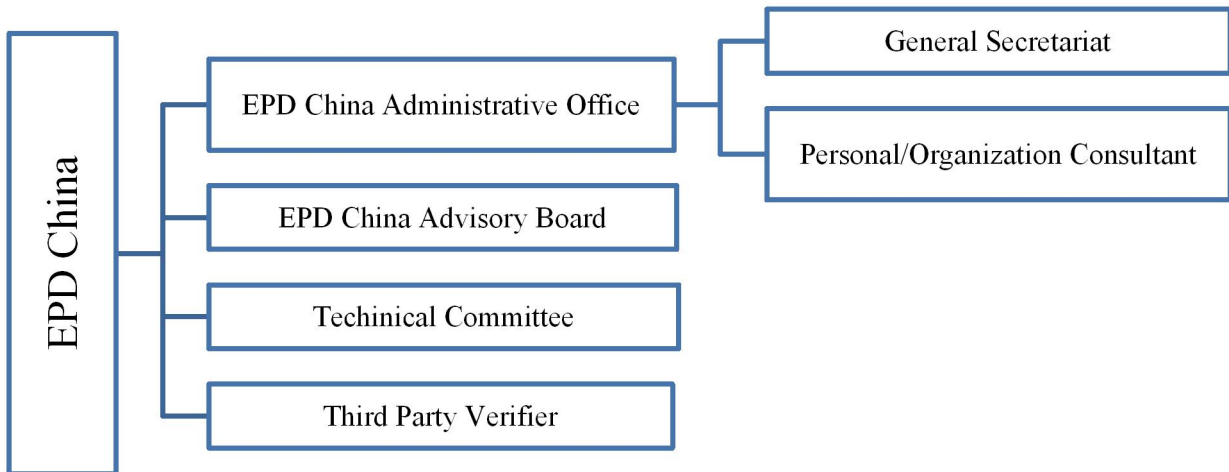


Figure 2: EPD China Organization Structure

2.2.1 Advisory board

EPD China is a non-profit organization initially established based on common interests by:

- One Belt One Road Environmental Technology Exchange and Transfer Center (Shenzhen)
- China Green Industry Foundation
- Ecovane Environmental
- the China-UK Low Carbon College of Shanghai Jiaotong University
- Shanghai Green Manufacturing Alliance

These members form the advisory board. The board shall fulfill the following tasks:

- Conduct market research and provide input from the market and different stakeholders;
- Provide advice on the necessary update and revision of the general programme instructions, including development of PCR procedures and EPD verification processes;
- Promote the EPD China programme across various industries to increase programme applicability and acceptability.

2.2.2 General secretariat (along with the EPD China administrative office)

The general secretariat along with the EPD China administrative office are responsible for the following tasks:

- to publish and communicate general programme instructions;
- to publish the names of entities involved as interested parties in program development;
- to publish PCR documents and Type III environmental declarations developed under the programme and maintaining publicly available lists of those documents;
- to manage the registration and deregistration of the EPDs;
- to respond to the requests and questions regarding the programme by phone or via email;
- to assign verifiers for LCA and EPD verification;
- to establish procedures to avoid misuse of references to ISO 14025, the EPD China programme, EPDs and footprints developed under the program, and where relevant, the EPD China logo.

In addition, together with the administrative office, the task of general secretariat also includes:

- to communicate with other EPD operators in other regions to conduct mutual recognition;
- to organize activities to promote EPD China and training for capacity building in China;
- to collaborate with relevant stakeholders to enhance cooperation and development.

2.2.3 Technical committee

Technical committee is comprised of a minimum of three, and maximum of five members to deal with technical issues. Their responsibilities include:

- preparation and maintenance of the General Programme Instructions
- supporting the Secretariat in technical issues and complaints
- establishing a transparent process for PCR reviews
- reviewing and approving the final PCRs
- identifying and approving competent, independent verifiers
- approving the publication of an EPD
- monitoring procedural changes in other environmental declaration programmes and revising procedures and documentation as necessary
- ensuring that all environmental declaration requirements are followed

2.2.4 PCR moderator/PCR committee chair

A PCR moderator or PCR committee chair is responsible for the development of PCRs. Their

responsibilities include, but are not limited to, the following tasks:

- lead the PCR development procedures and act as primary contact for the PCR committee;
- invite LCA/EPD/PCR experts, industry experts, and other relevant stakeholders to take part in the development of PCRs as part of the PCR Committee, at least one representative from business should be in the committee;
- develop the time schedule and assign work to compile the PCR draft document, make sure the open consultation phase lasts two months minimum.
- organize responding to comments from public and stakeholders and revise the PCR document accordingly.
- submit the final PCR document to the programme technical committee for approval;
- organize the updating of PCRs in case of technical innovation and before the end of its validity, and alert PCR stakeholders at least one month prior to the PCR expiration.

2.2.5 PCR committee

The task of the PCR committee is to develop PCR documents. It should be comprised of

- at least one approved LCA consultant or verifier register on EPD China
- at least two relevant industry representatives from at least two independent entities
- at least one representative from other interested parties or stakeholders

2.2.6 Independent third-party verifiers

The verifier must be an individual or entity completely independent from the manufacturers, institutions, or persons that created the LCA and EPD, with no conflicts of interest. See section 5.2.2 for more information. The person or organization must be recognized by EPD China to carry out the verification work of LCA and EPD reports. The task of assigning verifiers for verification is the responsibility of the General Secretariat. Please see www.epdchina.cn for the detailed list of approved independent third-party verifiers.

2.2.7 Programme quality assurance manager

The programme quality assurance manager is responsible for maintaining and enhancing the standard and quality of the programme operation through periodic review and regular monitoring of the general programme instructions. This person is also responsible for conducting investigations regarding complaints and appeals from the public.

2.3 Website

EPD China's official website is www.epdchina.cn. Functions of the website include:

- Establish and publish GPI.
- Search for published PCRs.
- Publish PCRs developed and approved by the Technical Committee Review Panel.
- Search published EPDs (EPD China or other program operators).
- Publish the EPDs.
- Search all the applicable documents.
- Find EPD consultants to support EPD/PCR development.

2.4 EPD Logo

The logo of the EPD China Programme is shown below:

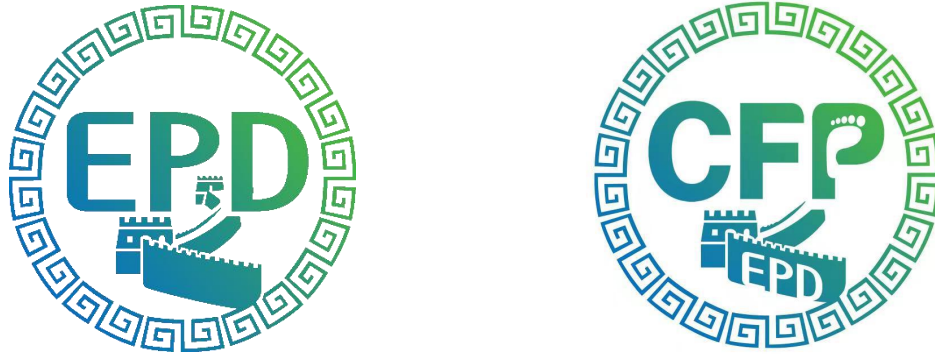


Figure 3: The Logo of EPD China and Carbon Footprint of Product

A logotype has been developed to ensure a well-known identity for the EPD China. The logotype should be used on all official printed materials and declarations connected to the programme to avoid confusion with other types of product-related environmental labels and declarations.

The logotype symbolizes a standardized tool for objective measurement. The EPD measures the environmental performance of products and services in an objective and standardized way. The logotype is available for download in different file formats from www.epdchina.cn. The logotype may be used for different applications:

- **On the EPD:** the logotype shall be included on the cover page and/or as part of the programme-related information.
- **On products and packaging materials:** the logotype may be used together with the EPD registration number, the date of validity and with a reference to www.epdchina.cn to find the EPD and for more information.
- **On information materials:** if an EPD owner wants to use selected information from the EPD for various purposes, they shall indicate that the data is taken from an EPD, use the logotype together with the EPD registration number, the date of validity and refer to the website (www.epdchina.cn) for more information.
- **Other uses of the logotype** are only allowed based on special agreements with the programme operator. The EPD can be used only with reference to the EPD registration number, the date of validity and the website of the EPD China Programme (www.epdchina.cn).

2.5 Fees

There is a fee structure associated with the PCR development, LCA and EPD verification, and registration and publication of EPDs in the EPD China platform, which is the main source of funding for the operation of the programme. These fees may be one-time fees or recurring fees (e.g., annual) to maintain registration, publication, and continued use of their EPDs. Up-to-date information about fees shall be available at www.epdchina.cn. The fee structure and fees should be reviewed and potentially revised annually.

EPD owners (normally companies) may also pay consultants for the consulting service, the fee for verifiers will be paid by EPD China directly, no fee should be collected from verifiers to EPD owners directly.

3. Procedures for PCR development

Product Category Rules (PCR) contain specific instructions detailing LCA-based data collection methods for different product groups, conversion of the collected data to the pre-set indicators, and the format for presentation of the information. PCR enable EPDs to have a consistent framework for calculating and presenting results for different products within the same product category. PCRs under the framework of EPD China shall be developed in English. Translated versions (e.g., Chinese) may be published in addition to the English version.

3.1 Types of PCRs

Under the EPD China framework, several types of PCR may be developed and used when creating EPDs. The product category covered by a PCR shall be based on the function of the product, and shall follow the classification rules of China GB standard. The PCR types and their differences are listed below:

- General PCR template: defines general rules for developing an EPD for products and/or services.
- Industry PCR: specifies the rules for developing EPDs based on more industrial-specific requirements, the industrial PCR can be referred to by EPD developers if a product-specific PCR is not available.
- Specific PCR: provides more specific rules e.g. functional units, scope and other information and requirements (e.g., methodological aspects of specific relevance for its scope, such as recommendations on allocation or modelling of end-of-life scenarios) for a subset of the product category covered by the general PCR, and when suitable, industry PCR. A specific PCR should be in line with general PCR and industry PCR, when applicable, when there is deviation, it should be noted in the specific PCR.

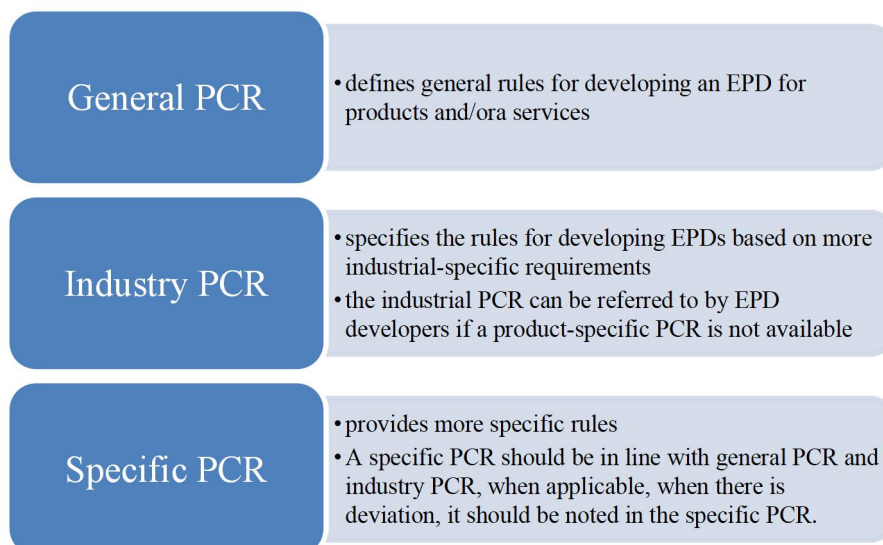


Figure 4: Types of PCRs

For a product/service that has specific PCR, additional requirements documented in specific PCR should be followed besides the General and industrial PCR when applying EPD.

When there is no specific PCR for a product category, the general and or industrial PCR may be
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used to develop an EPD. A product specific PCR can be developed in the meanwhile, EPD owner and other related parties will be the PCR committee members for the development of the specific PCR. The development of PCR should follow the procedure as stated in section 3. If a product specific PCR is developed earlier than the industry PCR, the specific PCR has to only follow the general PCR requirement, and remain valid until the next update, when it should refer to the requirement of the industry PCR and keep alignment to the maximum possible level, and provide note for the major conformance to industry PCR. The Industry PCR developed after the specific PCR should consult with the specific PCRs as much as possible, and make sure the industry PCR as inclusive as possible.

3.2 Application of existing PCR outside China

EPD applicants may apply directly the existing PCR requirements from other EPD programmes like German Institut Bauen und Umwelt (IBU), the international EPD system (Sweden), UL, and EPD Norge (Norway) etc., as long as the EPD operator in other countries or regions has already signed mutual recognition with EPD China. If it is a PCR from an EPD programme that has not been included in the mutual recognition agreement, it is recommended to send the PCR document to the email address PCR@lmi1.cn with the subject "*XXX product PCR application*". The EPD China team will start evaluating the quality of the PCR and the feasibility of mutual recognition.

3.3 Development of new PCR

When there is not a product specific or industry PCR that is available for developing an EPD or PCF, the new industry or specific PCR is required to be developed first. Development of new PCR shall be conducted by a PCR Committee and led by a PCR moderator, while the programme operator shall guide and oversee the process. The technical committee of EPD China shall give the final approval of the before publication. A strict procedure should be followed, including a multi-phase approach for application, preparation, approval and publication, maintenance and updating, detailed below (also refer to ISO 14027 for further reference).

Application: Development of a new PCR may be applied for by a single company, a group of companies, the technical committee of EPD China or by interested industry groups. After receiving the application for developing a new PCR, a PCR moderator can be designated by the technical committee of EPD China or the EPD applicant to lead the PCR committee. The moderator shall invite LCA/EPD/PCR experts, industry experts, and other relevant stakeholders (e.g., suppliers and related manufacturers, NGOs) to take part in the development of PCR documents as part of the PCR Committee.

Preparation: The development of PCR needs to comply with the requirements of ISO 14025 and any other relevant standards. The secretariat and technical committee have developed a product specific PCR template (EPD China PCR Templates) as a reference for developing PCRs. The PCR template may be downloaded on the EPD China website. The PCR moderator shall be responsible for organizing the schedule and assigning PCR development tasks, which shall be in line with the core PCR, industrial PCR, or specific PCR requirements established by EPD China.

Approval and publication: When the PCR draft document is ready, the PCR moderator should submit the draft to the technical committee of EPD China for review and approval (email: PCR@lmi1.cn). After receiving the draft PCR, EPD China will publish the PCR draft document on the EPD China website for open consultation for two (2) months. Comments received during the public consultation period shall be documented and considered in the final draft version of the PCR before the official publication on the EPD China website. The PCR development group should review and make reasonable revisions according to the comment before the technical

committee approves and issues the final version of PCR. The technical committee should be responsible for the final approval of PCR.

3.4 Ownership, responsibility and liability for the PCR

EPD China has the authority and responsibility to maintain a copyright of PCR documents to ensure it is possible to publish, update when necessary, and make available to all organizations to develop and register EPDs. Stakeholders participating in PCR development under EPD China shall be acknowledged in the final PCR document and on the website.

EPD China strives to harmonize PCRs with other international EPD programme operators. This is in line with the mutual recognition agreement (MRA) given in section 5.4, which means PCRs from those EPD programme signed MRA with EPD China may be used to create EPDs for the same product category, provided the necessary adaptation of the PCR is made and MRA rules are followed.

3.5 Content of PCR

The content of PCR shall be based on the general LCA methodology, and shall include the following information (according to ISO 14040, ISO 14025, ISO 21930, ISO 14027):

- Product and/or service category to which the PCR applies
- Classification rules according to China national (GB) standard
- Goal, scope and definition for the LCA of the product
- Selection and definition of the functional and/or declared unit
- Selection and description of the system boundaries and life cycle stages
- Data quality requirements
- Cut-off rules
- Allocation rules
- Other relevant calculation procedures
- Selection of specific parameters (e.g. life cycle inventory and life cycle impact assessment parameters) to describe the environmental performance (in addition to the mandatory parameters given in the PCR template)
- Guidance on materials and substances to be declared
- Description of additional environmental information to be reported
- Description of the type of information that should be included in the use phase of the declaration on environmental characteristics
- Choice of units for expression of results
- EPD comparability requirements
- Period of validity

During the development of a specific PCR, if not all the information presented in this section is to be considered, or there are any nonconformities to the PCR content requirement, such deviation should be documented and approved by the technical committee of EPD China.

3.6 PCR Validity, Update and Maintenance

A PCR is generally valid for five years from the effective (updated) release date unless specified differently in the PCR. The PCR may be used to publish EPDs within the validity period. If there

is no application submitted for updating the PCR prior to expiration, the validity period will be automatically extended for one year. The PCR will become invalid after the extension expires and may not be used until the updated version is available.

The PCR may be updated due to editorial changes, clarifications, correction of errors, changes to underlying normative references, and/or alignment of the PCR to a new version of the GPI. Any interested party may comment on an active, published PCR by sending comments via e-mail (pcr@lmil.cn) to the PCR moderator and the secretariat. The PCR may also be updated during its period of validity based on new LCA-based information generated in the relevant industry sector, or special market demands not covered by the existing PCR, or other comments that are of sufficient technical relevance.

The frequency of significant PCR updates (e.g., concerning the LCA method) during the validity shall be kept to a minimum to ensure market stability.

PCRs may be revised as required. Companies or organizations that have an EPD may demonstrate such a need for revision, but others may also do this. Shorter audit periods might be necessary if a single company prepares the PCR. Notification of the need for changes within the period of validity shall be addressed by the technical committee.

The maintenance of a PCR includes the translation of the PCR document into other languages and further interpretation of technical sentences and terms. Any major revisions of existing PCR documents should be approved by the technical committee. The Secretariat shall prepare the final editorial changes and publish the updated PCR at www.epdchina.cn with an updated period of validity and new version number.

4. EPD Administration

4.1 EPD development and publication

The development of an EPD includes the following main steps:

- identify a relevant, valid PCR. A PCR for a new product category must be developed following Section 3.2 if there is no applicable industry or product specific PCR available.
- conduct an LCA conforming with the identified PCR, ISO 14025, ISO 14044, and any other applicable regional, national, and international standards: the organization may perform the LCA study internally or with the help of an external consultant with expertise in LCA. Both approaches are acceptable as long as at least one member participating in the study has received professional LCA training organized by EPD China and obtained the accredited professional certificate of EPD China (EPD-CN-AP);
- compile the LCA report and EPD report;
- verification: the LCA and EPD reports shall be verified by an independent third party recognized by the EPD China programme. The verification report shall be compiled according the EPD China verification report template. (To be updated based on core PCR)
- EPD publication: prior to EPD publication, the organization must register with the EPD China programme. The LCA report, EPD report, and the verification report must be submitted to the General Secretariat for final EPD publication.
- EPDs are assigned a unique declaration number, published and accessible to the public at the EPD China website, www.epdchina.cn.

To develop a product carbon footprint (PCF), additional requirement and procedure should be followed, see section 7.2 for reference.

4.2 EPD ownership, responsibility and liability

The authorization for the use of an EPD is incumbent on the owner of the EPD. A manufacturer or a group of manufacturers are the sole owners and have liability and responsibility for an EPD. When an organization wants to develop an EPD based on an existing EPD that is owned by their Original Equipment Manufacturer (OEM), the organization shall receive approval from the OEM. Afterwards, the organization shall seek separate registration and EPD registration numbers, and has individual responsibility to have the information verified before publication.

The verifier of the LCA and EPD reports must be an independent third-party recognized by EPD China as identified in section 2.2.6. The relevant participants of the EPD project must ensure that the submitted information (including data and materials) and related evidence are authentic and reliable. The EPD China technical committee will organize annual spot checks and auditing protocols on the published EPDs randomly, the check could be either online or on-site. Once the committee has investigated and confirmed that the company, the consultant, or the verifier has deliberately falsified or cheated in the process of LCA and/or EPD reporting, EPD China will suspend the programme membership of the participating organization. They are not allowed to register or use the EPD China platform to support any environmental statement activities for three (3) years. If the same case happens again, the membership of the organization will be permanently cancelled.

4.3 EPD types

Within the EPD China programme, manufacturers or groups of manufacturers may declare their products with the following types of EPDs:

- **Manufacturer's EPD**
 - Declaration of a specific product from a specific manufacturer's plant
 - Declaration of a specific product as an average from several of the manufacturer's plants
 - Declaration of an average product from a specific manufacturer's plant
 - Declaration of an average product as an average from several of the manufacturer's plants.
- **Sector EPD**
 - Declaration of a specific product as an average from several manufacturers' plants
 - Declaration of an average product as an average from several manufacturers' plants

Similar products included in average EPDs should not differ in their environmental impact indicators by more than $\pm 10\%$. Where larger impact differences are found for the companies/sites and/or products evaluated, these need to be justified in the project report or the system separated, or separately report the results of each product.

4.4 EPD content

The content of an EPD report shall be structured to fulfill the requirements of the relevant PCR. It is recommended to use the EPD China platform to carry out the LCA study and compile the EPD report. The platform will incorporate the corresponding report templates based on the PCR

requirements of different product categories. The EPD developer will be able to generate the EPD report on the EPD China platform after correctly inputting product-related information. An EPD report shall include the following mandatory information:

- Basic information: EPD programme operator, declaration number, name and address of the EPD owner, reference PCR, publication date, validity period, EPD scope, third-party verifier, etc.;
- Product information: product description, application, technical parameters, product formula/material composition;
- Life cycle stages information: production stage, environmental and health during production, packaging, product installation, use stage, environmental and health during use, reference service life (RSL), unusual effects (fire, water, mechanical destruction), end-of-life phase;
- LCA calculation rules: declared unit/functional units, system boundary, estimation and assumptions, cut-off rules, data sources and data quality, allocation, LCA scenarios and additional technical information;
- LCA results: resource use, output flows and waste production, environmental impacts;
- Interpretation of LCA results: contribution analysis of the LCA results;
- Transparency information: other environmental information not derived from the LCA-based calculations;
- References.

4.5 EPD validity and EPD updating

An EPD is valid for five (5) years from the date of issue. Upon EPD expiration, the underlying LCA and EPD shall be recalculated with updated data before an EPD may be republished.

Minor amendments or changes such as changes of product name or product marketing image, are allowed to an EPD during its period of validity without verification. However, if significant changes have occurred to the declared product information, content declaration, or additional environmental information, and have led to a change of $\pm 10\%$ or more of any of the environmental indicators, the LCA background report and EPD must be adjusted and reverified.

5. Programme General Rules

5.1 General Rules for LCA Studies

EPDs conforming to the EPD China programme shall be based on LCAs compliant with the ISO 14040 series standards, PCR, and programme GPIs. Data and relevant evidence on input and output flows used to perform these LCAs shall be clearly documented in the LCA report for the EPD and made available upon request for verifiers, programme audiences and all interested parties, in full respect of applicable data confidentiality.

Geographical, time-related and technological data representation is an essential quality criterion of the EPD. Within the framework of the EPD China programme, life cycle inventory data (LCI) - whether produced by the company or made available by a supplier of LCI datasets - shall meet technical specifications detailed in the PCR.

Scientifically renowned environmental impact calculation software and databases are eligible for the EPD China programme. A company who wishes to publish EPDs under the EPD China programme needs to ensure and demonstrate the compliance of the tool and database with the

reference standards and requirements stipulated in the PCR. Commonly used LCA tools in China that are approved by EPD China include EPD China EPD & PCF platform, SimaPro 9.2 or later version, etc. For those who want to use other tools and databases, the requirement listed below and in the general and or specific PCR shall apply.

- The tool should support all LCIA indicators and latest methods as required in the GPI.
- The generic dataset in the tool should be less than 5 years old, and preferably less than 3 years old for Chinese LCI dataset.
- The tool should allow for modeling and assessment following relevant LCA and PCF standards and PCRs

The company shall include documentation and, where necessary, provide justification in the LCA report of:

- origin of primary data used for the LCA (readings on production sites, measurements, etc),
- origin of secondary data (life cycle inventory databases, version, date),
- bibliographic references,
- modelling assumptions,
- expert evaluations and verification,
- suitability of data for the purpose of the analysis,
- production models for electricity, raw materials, transport, etc.
- assumptions and scenarios proposed by the company for the life cycle stages.

5.2 General Rules for Verification

5.2.1 EPD verification principles

EPD verification consists in confirming through tangible evidence that the requirements specified in the PCR, ISO 14025, GPIs, and other normative references have been met throughout the EPD generation process.

The verification is conducted externally of the organization publishing an EPD, by a verifier previously accredited by the EPD China programme and independent of the process of developing the EPD under verification.

The role of the verifier is to ensure that the EPD conforms to the requirements of the relevant PCR, ISO 14025, the programme GPIs, and any other relevant standards (e.g. ISO 21930). In compliance with the ISO 14025 standard, the verification focuses on:

- confirming information is reported per the requirements of the PCR
- the LCA methodology (accompanying verified report, software, processes used);
- the plausibility of the results;
- the accuracy of the information published.

5.2.2 Requirements for verifiers

Requirements for verifiers include:

- Expertise in Life Cycle Assessment (LCA): familiarity with the concepts, tools, methods and knowledge of the corresponding standards in the ISO 14040s series;
- Knowledge of relevant sector, product and product-related environmental aspects

- Knowledge of relevant standards in the fields of environmental labelling, declarations, and LCA
- Familiarity with the EPD China Programme reference documents: PCR and General Programme Instructions;
- Knowledge of the process activities related to the product or service under verification and of the environmental aspects associated with their life cycle;
- Knowledge of the language in which the verifier conducts verifications.

5.3 Complaints and Appeals

Any complaints about the programme operation, PCR/EPD development, EPD registration, or third-party verification issues could be addressed by contacting the programme Secretariat. The complaints should be concrete enough to include the description of the issue and the referred standard or GPI rules.

The programme quality assurance manager shall conduct an investigation of the complaints within two weeks. Investigation processes should be reasonable and any reasons for delay should be recorded. In the end, an appropriate response or remedy shall be provided.

If the person who originated the complaint(s) is not satisfied with the received response or remedies, appeals should be raised within three (3) months. Further communication or investigation will be carried out in accordance with specific conditions.

6. Mutual recognition with other programme operators

With the purpose of promoting the cooperation and communication with other EPD programme operators, EPD China strives to cooperate with other EPD programme operators. A **mutual recognition agreement (MRA)** is a bilateral agreement between two EPD operators that provides an assurance that EPD operators recognize consistency between each other's policies and procedures.

MRAs aim to:

- Enable greater efficiency by harmonizing PCRs (make better use of available PCRs and reduce the risk of PCR proliferation for the same product categories);
- Increase programme operating efficiency;
- Increased comparability and reliability of EPDs and footprints provided from different programmes
- Encourage international harmonization, leading to a structured and cost-effective way of cooperation;
- Reduce the barriers of facilitating market access.

MRAs with other established programmes shall, when relevant, include:

- Alignment of GPIs
- Appropriate level of compatibility and consistency required between EPD programmes (e.g. equivalent or identical)
- Scope of EPD, footprint, and PCR recognition and additional requirements, if needed
- Procedures for harmonization of PCRs and PCR development,
- Equivalence of data quality and integrity of data used in EPDs and footprints
- Alignment of verification and quality assurance procedures

- Procedures for registration and publication, including additional requirements if specified in an MRA, and
- Procedures to ensure that the conditions for the mutual recognition are kept valid (e.g. monitoring procedures).
- Licensing fee structures

EPDs published by EPD program operators who have signed an MRA with EPD China may be registered simultaneously under the EPD China programme if all requirements are met according to the MRA, and any relevant fees are paid between parties.

An MRA does not necessarily mean that the information contained within different programme EPDs is comparable, given EPDs from different programmes may not be comparable.

The use of the logotype of the other programme is dependent on the terms and conditions specified by the other programme.

A list of current EPD program operators with signed MRAs with EPD China is available at the EPD China website: www.epdchina.cn.

MRA shall follow requirements below:

ISO 14029 "Mutual recognition agreements between Type III Environmental Declaration (EPD) Programme Operators — Principles and procedures" (in development as of October 8, 2021)

ISO/TC 207/SC 3 N 665, ISO/NP TS 24375 Mutual recognition agreements between Type III Environmental Declaration (EPD) Programme Operators -- Principles and procedures.

7. Annex

7.1 LCA methodologies

This Annex describes the general application of LCA methodology under the EPD China framework. These rules follow the international standards ISO 14040/14044 with intended use in an EPD.

The LCA methodology consists of:

- Goal and Scope (including functional/declared unit and other needed indicators for LCA calculation)
- System boundary (including system boundary diagram and life cycle stages)
- Key assumptions
- Excluded processes
- Cut-off rules
- Data quality assessment
- Life cycle impact categories
- LCI analysis and LCIA
- Results interpretation
- The following international standards shall be used for data collection:
 - ISO 14040:2006, Environmental management – Life cycle assessment – Principles and framework
 - ISO 14044:2006, Environmental management – Life cycle assessment –

Requirements and guidelines

In addition to the standards above, the requirements of the EPD China's GPI and the requirements given in the relevant PCR shall be met.

7.2 Special requirements for carbon footprints

This annex is related to the special requirements regarding development of PCR and EPD with relevance to the content of calculating carbon footprint (CFP) of products and services, following requirements in ISO 14026, ISO 14067, and the European Commission Product Environmental Footprint (PEF) pilot.

When addressing the PCR requirements for product LCA, the product or service system-generated CO₂-equivalent (CO₂e) emissions must consider the following relevant aspects of the carbon cycle:

- Changes in carbon stocks fixed in biomass, such as plant branches, leaves and soil
- Emissions from fossil and non-fossil fuels such as combustion of biomass;
- Process emissions (e.g., decomposition of carbonates in cement kilns);
- Emissions from landfills or other end-of-life treatment processes;

To enable transparency into CO₂e reporting, different sources of CO₂e emissions shall be reported separately. Emissions of CO₂e from fossil fuel combustion should be defined as "CO₂e, fossil fuel", while for biomass fuels, CO₂ emissions should be defined as "CO₂e, biogenic". CO₂e emissions from biofuel combustion are associated with carbon absorbed in the atmosphere during the recent planting cycle. Changes of carbon within soil are primarily caused by land-use changes and land cultivation activity such as continuous tillage, and "CO₂, land use and land use change, luluc" shall be used. For cases where the source of CO₂e emissions is unknown, it should be simply recorded as "CO₂". These differences are provided to allow PCR developers of LCA models to decide whether certain emissions should be included or excluded when calculating greenhouse gas pollutants according to IPCC guidelines and respective standards, and to provide additional information for the overall balance of the carbon cycle.

Carbon dioxide emissions are a special topic relevant to climate change and especially the interests of entities pursuing carbon neutrality. PCR developers should consider efforts to address the following issues and resolve potential disputes among the stakeholders:

- The greenhouse gases shall not be reported aggregately in kg CO₂ eq without disclosing the fossil fuel carbon, the biogenic carbon and land use carbon separately.
- The allocation method, for simplification, follows the cut-off approach to leave the burden and benefit of reuse, recycling of the waste products to the next life cycle product generation or module D, so as to avoid double counting. This is aligned with the approach taken in LCA and EPDs.
- The carbon footprint results may be reported in two approaches, either through 1) the EPD which covers the carbon footprint or 2) through a carbon footprint specific declaration, which should follow the same PCR requirements, but use a CO₂e specific template that addresses the impact and issue of climate change.
- Each PCR should include a section on CO₂e emissions and indicate the level of conformance to the CO₂e requirements in the general PCR or an amendment based on specific conditions.



this GPI, however special attention should be paid to:

1. the CFP may use the same PCR (industrial or product specific) of an EPD, but CFP declarations shall follow the requirements of the ISO 14067 standard when calculating the GWP indicator;
2. the CFP report shall be independently verified, even though the LCA and EPD report have already been verified;
3. the requirements from EPDs and LCA also applies to CFP, with a special focus on carbon emissions. Whenever a conflict arises from applying EPD requirements to a CFP report, the CFP practitioner shall inform the general secretary and to receive suggestions on how to solve the issue, by either revisiting and updating the PCR/GPI, or changing how the CFP is conducting to be compliant with existing standards;