EPD
INTERNATIONAL EPD SYSTEM

GENERAL PROGRAMME INSTRUCTIONS

for the International EPD System

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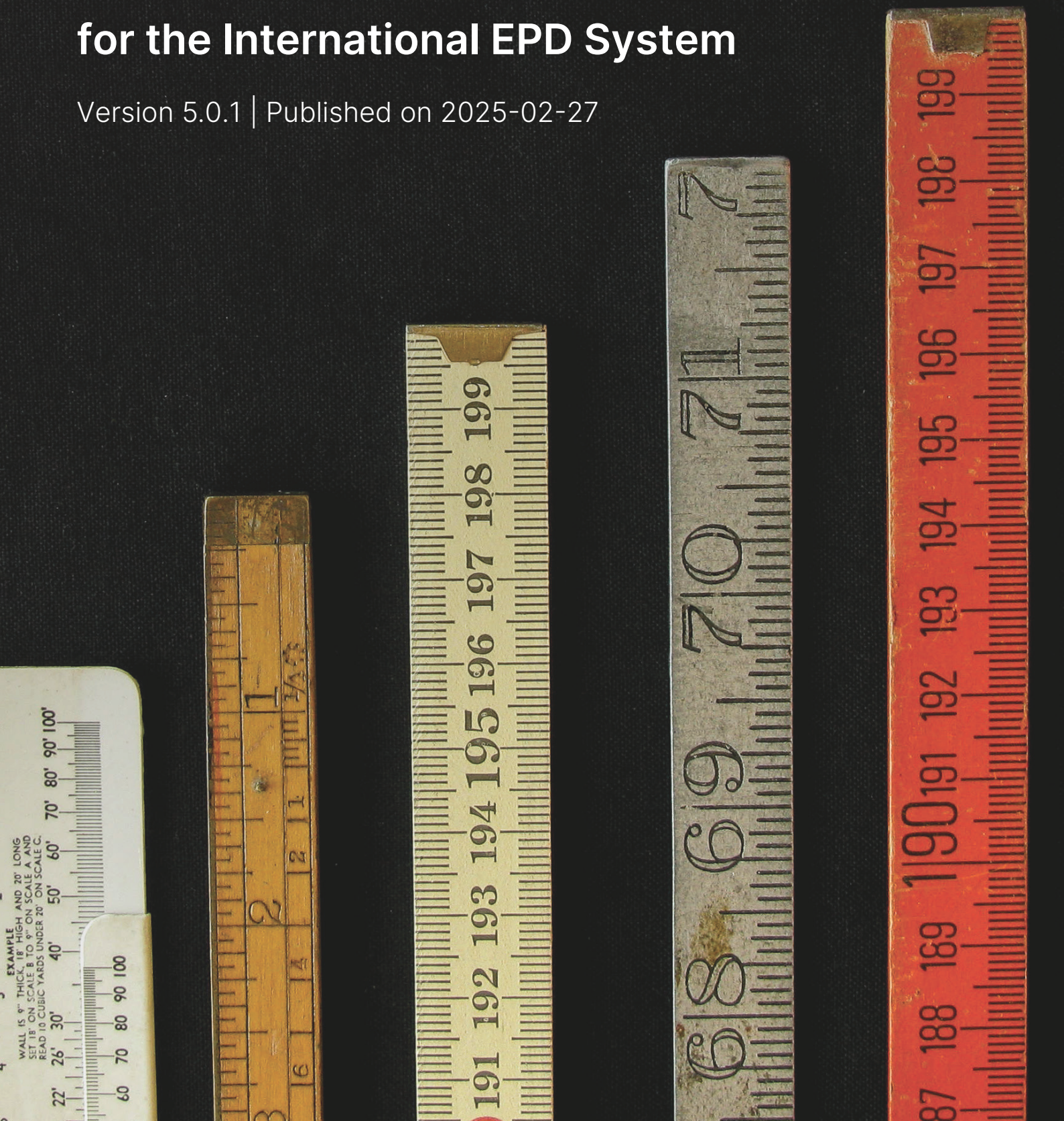

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1 INTRODUCTION

This document, including its annexes, constitutes the General Programme Instructions (GPI) of the International EPD System (henceforth regularly referred to as "the programme"). It forms the basis of the overall administration and operation of a programme for Type III environmental declarations according to ISO 14025. A Type III environmental declaration is referred to as an Environmental Product Declaration (EPD).

References to this document should be:

EPD International (2025) General Programme Instructions for the International EPD System. Version 5.0.1. www.environdec.com.

Within the present document, the following terminology is adopted:

- The term "shall" is used to indicate what is mandatory, i.e., a requirement.
- The term "should" is used to indicate a recommendation.
- The term "may" or "can" is used to indicate an option that is permissible.

For the definition of terms used in the document, see the normative standards.

This document was developed and published in English. Translated versions may be published in addition to the English version, but the English version shall take precedence in case of any discrepancies.

2 PROGRAMME OBJECTIVES AND SCOPE

The main objective of the International EPD System is to support organisations in improving their environmental performance by enabling them to transparently communicate quantified environmental information on the life cycle of their products in a credible, comparable, and understandable way. This is done by:

- offering a voluntary programme for verified Type III environmental declarations according to ISO 14025, ISO 14040/14044, and other relevant standards or methodology guidelines, including but not limited to:
  - EN 15804 and, optionally, ISO 21930 for construction products (including both goods and services),
  - ISO/TS 14027 for the development of Product Category Rules (PCRs),
  - ISO 14026 for footprint communication, and
- ISO 14067 for the calculation of carbon footprint-related indicators;
- contributing to make standardised, verified, and life cycle-based environmental information a useful tool in different applications, e.g. by facilitating different applications and increasing digitalisation and digitisation;
- helping organisations to meet voluntary and/or mandatory (legislation) requirements and specifications when declaring products' environmental performance in international markets; and
- seeking cooperation and harmonisation with other environmental declarations programmes and initiatives (national, regional, sectorial, etc.) to help organisations broaden the use and acceptance of EPDs. This activity includes:
  - Establishing national and/or regional licensees and co-location centres (CLC) based on and fully aligned with the International EPD System, including the GPI.
  - Bilateral and multilateral mutual recognitions with established programme operators as encouraged by ISO 14025 and ISO/TS 14029, as well as in international membership platforms, ECO Platform in particular. Especially harmonised requirements agreed on and released by ECO Platform shall, for product categories within the scope of ECO Platform, be adopted and implemented within the transition period set by ECO Platform rules (currently 12 months).
  - Leading and partaking in international PCR harmonisation activities, standardisation, and policy-related initiatives such as CEN (European Committee for Standardization).

The scope of the programme includes any type of product[1] from any organisation in any country where there is a market demand to communicate its life cycle-based environmental information. The programme operator reserves the right to decline publication of EPDs for certain product categories or countries, e.g., in case of current or future sanctions regimes prompted by the United Nations (UN), the European Union (EU) or others.

The resulting EPDs are open to several applications and target audiences, including but not limited to business-to-business and business-to-consumer communication. It is the responsibility of the EPD owner to ensure that any claims made are compliant with all relevant laws or regulations in the relevant region.

An EPD in the programme may be on one or several products of a single company (covering one or several manufacturing sites), or as the average product of companies in a specific sector and geographical area.. Single-footprint reports, such as climate declarations, may be published in parallel to an EPD as a complementary communication format.

EPDs shall be based on applicable and valid PCRs providing rules and guidelines for defined product categories.

EPD International AB as the International EPD System programme operator reserves the exclusive right to pilot/test and introduce novel services. Such services may not be defined in the valid GPI but shall facilitate the transparent and credible communication of product performances by making the results comparable, third party-verified and life cycle-based.

[1] "Product" is defined to include both goods and services.

3 GOVERNING DOCUMENTS

Figure 1 outlines the general hierarchy of documents that govern the organisation and operation of the International EPD System. The version of the documents (including any amendments) referenced in this document applies, unless applicable PCR(s) and standards refer to another version. If there are conflicting rules in the documents, these should be resolved by guidance in the GPI or in the applicable PCR.

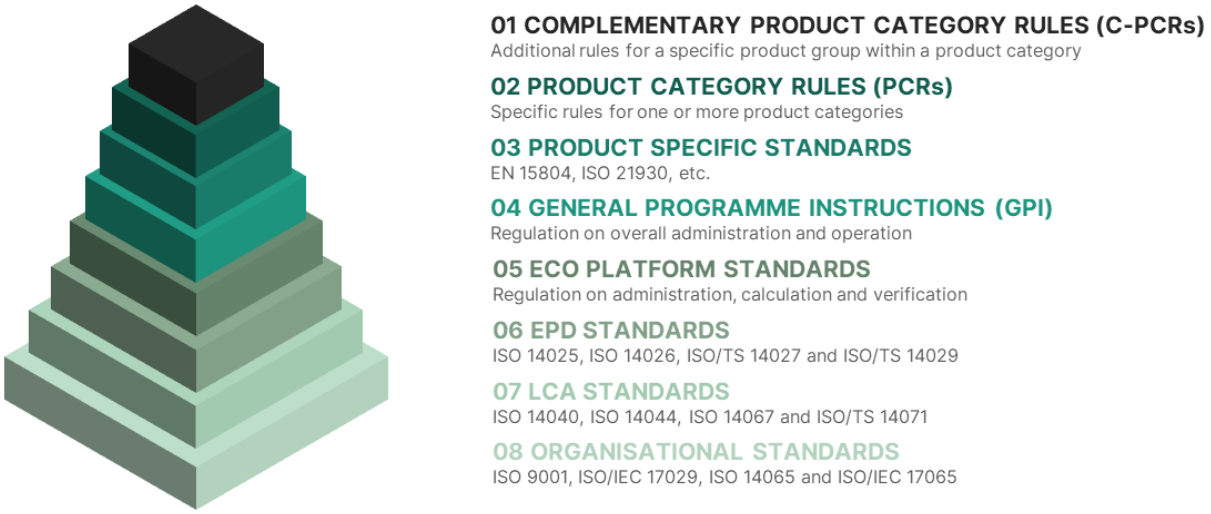

Figure 1. Essential documents for the governance and operation of the International EPD System.

4 PROGRAMME ORGANISATION AND ROLES

The International EPD System is open for any stakeholder to read EPDs[2], participate in PCR development, and be part of the future development of the programme. Its organisational structure includes several parties, in which tasks and responsibilities may be divided into four main processes:

1. Programme administration (see Section 4.1) led by the Secretariat assisted by the Technical Committee (TC) and the International Advisory Board (IAB).
2. EPD development (see Section 4.2) by organisations, such as manufacturing companies or trade associations.
3. Verification (see Section 4.2) involving organisations developing EPDs, and independent verifiers (accredited conformity assessment bodies or approved individual verifiers).
4. PCR development (see Section 4.3) led by a PCR Moderator who coordinates the work of a PCR Committee, with input from a broader PCR stakeholder consultation group, the TC, and the Secretariat, which also administers the process.

4.1 ROLES IN PROGRAMME ADMINISTRATION

4.1.1 PROGRAMME OPERATOR

EPD International AB, a limited company registered in Sweden, is the programme operator and has the overall responsibility for the administration and operation of the International EPD System. The main source of funding for its activities is the fees paid by organisations developing and registering EPDs.

4.1.2 SECRETARIAT

The programme operator shall have a Secretariat in order to:

- prepare, maintain, and communicate the GPI,
- ensure that the GPI is followed,
- monitor changes in the governing documents (see Section 3) and modify the programme and the GPI, if necessary,
- ensure appropriate consultations for maintaining the credibility of the programme,
- facilitate the participation and involvement of interested parties and to publish the names of the organisations involved as interested parties in programme development,
- establish a procedure to safeguard the consistency of data within the programme,
- act as the contact between the PCR Moderator/PCR Committee and the TC,
- guide and oversee the PCR development, updating and adoption processess
- ensure transparent and participatory PCR development and updating processes, compliant with ISO 14027,
- establish a transparent procedure for the definition of product categories,
- establish an accepted open consultation procedure for the development of the GPI and PCRs,
- facilitate harmonisation when developing PCRs,
- prepare guidelines, checklists, and other tools that facilitates PCR development,
- make the reports from the open consultations and reviews of PCRs public upon request,

[2] Terms and conditions may apply.

- ensure the consistency and transparency of procedures for the reviews of PCRs, and the verification of life cycle assessments (LCAs) and EPDs (e.g. through sample checks of EPDs),
- define additional tasks for the PCR review procedure and for the external individual verifiers, if necessary,
- inform the PCR moderator at least one year before the end of the current validity of a PCR,
- maintain a list of independent verifiers and guide an organisation in the selection procedure,
- decide upon the necessity of using third-party verifications via rules in the GPI,
- administer EPD publication based on the verification report and other documentation,
- manage and maintain the website of the programme,
- make publicly available and maintain lists and records of PCRs and EPDs within the programme,
- issue registration numbers and publish PCRs and EPDs in the programme,
- manage and maintain the database of EPDs in machine-readable format, if existent,
- issue a newsletter on a regular basis and to maintain a list of subscribers to the newsletter,
- make publicly available explanatory materials,
- manage membership in the TC to ensure competent independent PCR Review Panel members and to facilitate its work and meetings,
- manage membership in the IAB, and facilitate its work and meetings,
- establish and maintain mutual recognition agreements between the International EPD System and other established programme operators,
- follow-up that approved individual verifiers remain active in the field of environmental declarations and report the results to the TC,
- handle complaints or feedback on published EPDs or other documents, and
- establish procedures to avoid the misuse of references to the programme, its logotype, ISO 14025, and EPDs published in the programme.

The Secretariat is staffed by the programme operator. Some tasks may be delegated to licensees that manage, for example, customer support and EPD publications for specified regional markets (see Section 5.7).

4.1.3 TECHNICAL COMMITTEE

The TC shall assist the Secretariat by:

- acting as the PCR Review Panel (see Sections 9.5 and 9.6),
- proposing changes in the general LCA method (see Annex A) and measures for the development of technical and LCA-oriented issues within the framework of the programme,
- supporting the Secretariat in technical issues,
- reviewing medium and large updates of the GPI (see Section 5.1.1),
- approving individual verifiers and suggesting measures for the follow-up of their competences, and
- performing sample checks to ensure that verifications done by individual verifiers are carried out according to the GPI and applicable PCR.

The TC has a chair, which shall also be a member of the IAB. The TC shall operate according to routines specified in more detail in a separate document.

4.1.4 INTERNATIONAL ADVISORY BOARD

The IAB shall provide wise, complimentary counsel regarding market- and policy-related challenges and opportunities EPD International may be facing. The IAB provides oversight, guidance, and expertise to help the

Secretariat gain new insights and advice to solve business problems or explore new opportunities, and to stay informed about, for example, industry- and policy-related trends and developments.

The IAB provides strategic advice and expertise to the Secretariat by:

- spotting new, innovative market trends in EPD development, and verification,
- following the market acceptance and uptake of the International EPD System and suggest activities and events aimed at promoting its establishment and applicability,
- considering and proposing new potential audiences and applications for EPDs, and
- providing input to the work of preparing the GPI and other activities to revise and update the programme.

The IAB shall advise and assist the Secretariat but has no authority or liability. It has no governance responsibilities and cannot make financial decisions on the Secretariat's behalf. The Secretariat decides whether it will act upon the advice, or not.

The Secretariat coordinates and executes the IAB meetings.The IAB members should contribute in setting and approving the meeting agenda. The IAB will meet with the Secretariat at least four (4) times a year.

The IAB members shall be listed on www.environdec.com and may be contacted via the Secretariat.

4.1.5 ACCREDITATION BODIES

Accreditation bodies shall have the role of accrediting certification bodies[3] for carrying out individual EPD verification (see Section 8.4), certification of EPD processes (see Section 8.5) and verification of pre-verified tools (see Section 8.6).

The accreditation body shall inform the Secretariat of the services they provide, and of certification bodies currently accredited for EPD verification and EPD process certification, along with updates on the validity status of accreditations.

4.2 ROLES IN EPD DEVELOPMENT AND VERIFICATION

4.2.1 SECRETARIAT AND TECHNICAL COMMITTEE

The roles of the Secretariat and TC in relation to EPD development and verification are described in Section 4.1.

4.2.2 EPD OWNERS

An EPD owner may be a manufacturer (for EPDs of goods), a service provider (for EPDs of services), a trader (e.g. a retailer or a wholesaler), or a trade/industry association.

The EPD owner shall have the responsibility to:

- Be the sole owner and to have the liability and responsibility of the EPD.[4]
- Sign the service agreement.[5]
- Collect and calculate LCA data (life cycle inventory (LCI) data and other data of the LCA model) and results and other information to be included in the EPD as prescribed in the GPI and the PCR.*

[3] In the International EPD System, conformity assessment bodies (CABs) are recognized as accredited certification bodies, but they may also operate as verification and validation bodies. Definitions of different types of conformity assessment bodies can be found on https://casco.iso.org/bodies.html.

[4] The EPD owner has full responsibility for all its activities and use relating to the EPD. The EPD owner is solely responsible for all claims, including product liability claims, that may arise in connection with the EPD owner's use, manufacture and sale of products referring to or using the EPD and the use of the Trademarks of EPD International AB.

[5] Available in the footer on www.environdec.com.

- Prepare an LCA report (termed “project report” in EN 15804).*
- Have the LCA report and the EPD (including environmental performance results, additional environmental, social, and economic information, and all other content) independently verified (see Section 8.3) via:
  - individual EPD verification by an accredited certification body or approved individual verifier, or
  - EPD process certification by an accredited certification body, or
  - pre-verified tools by an accredited certification body or approved individual verifier.
- Establish and maintain follow-up procedures during the validity period of the EPD as defined during the initial verification.*
- Apply for EPD publication by providing the prescribed documentation to the Secretariat.
- Provide the Secretariat with correct invoicing information and to timely pay fees.
- Inform the Secretariat in case of updated contact or invoicing information.
- Use the International EPD System logotype based on the guidelines in Annex B and in accordance with applicable laws, rules, and standards.
- Depublish and/or archive the EPD.

Some of the above tasks (marked with *) may be outsourced to a third party (e.g., an LCA consultant). The EPD owner shall remain responsible of any outsourced tasks, and shall be involved in them and aware about their content.

In specific circumstances, such as businesses fusioning of fissioning, transfer of ownership and hence liability of EPD content might be granted by the Secretariat on an exception basis.

4.2.3 INDEPENDENT VERIFIERS – ACCREDITED CERTIFICATION BODIES AND APPROVED INDIVIDUAL VERIFIERS

Verification is carried out by approved individual verifiers or accredited certification bodies. The list of approved individual verifiers and certification bodies is available on www.environdec.com.

Independent verifiers shall have the following roles:

- To independently seek verification assignments.
- Before accepting a verification task:
  - to ensure that they have the necessary knowledge and experience of the types of products, the industry, and the relevant standards of the product covered by the EPD and its geographical scope,
  - to ensure the independence of their role in the verification, and
  - to ensure that they have the necessary language skills for the verification task (e.g., English and the language used in the LCA report).
- After being contracted to perform a verification task:
  - to review the EPD based on the GPI and a valid PCR, including:
    - the underlying data used for the LCA calculations,
    - the way the LCA calculations have been carried out and their compliance with the calculation rules,
    - the presentation of environmental performance results,
    - the presentation of additional environmental, social, and economic information, and
    - any other information included in the declaration.
  - to document the review in a verification report in English,
  - to inform their clients that the publication of an EPD is a mandatory part of developing an EPD,

- to carry out any obligations during the validity period of the EPD as set during the original verification, for example, if agreed with the EPD owner, take part in the follow-up of EPD to confirm whether an update is needed (see Section 8.4.8), and
- to manage, evaluate, and resolve comments regarding potential deviations that passed through the EPD verification in a prompt and appropriate manner (see Sections 5.5).

- To provide the Secretariat with up-to-date contact information for individual verifiers and each verifier in accredited certification bodies.
- To acquire and maintain in-depth knowledge of the International EPD System and its normative standards and to stay up to date on recent developments.
- To provide documentation upon request to the Secretariat proving that the individual verifiers remain active in the field of environmental declarations.
- To inform the Secretariat if they are no longer active in the field of environmental declarations or no longer actively seeking verification assignments within the International EPD System.

4.3 ROLES IN PCR DEVELOPMENT

4.3.1 SECRETARIAT AND TECHNICAL COMMITTEE

The roles of the Secretariat and the TC in relation to PCR development are described in Section 4.1.

4.3.2 PCR MODERATOR

The PCR Moderator[6] has several tasks related to the development of the PCR, primarily to:

- act as the chair and contact person of the PCR Committee,
- invite LCA/EPD/PCR experts, industry experts, and other relevant stakeholders to take part in the development of the PCR as part of the PCR Committee, among others by announcing the development process in relevant industry forums and publications, and be open to new stakeholders willing to participate in the PCR Committee,
- document the above outreach activities, including a list of invited parties, and submit this to the Secretariat within 90 days (about 3 months) of the initiation of the development process (unless a justification for extending this time period is submitted to, and approved by, the Secretariat) and no later than the initiation of the open consultation,
- promote collaboration between PCR Committee members and seek contributions from them,
- submit a time plan for PCR development to the Secretariat and inform the Secretariat of any changes to the time plan during the development,
- propose the scope of product category and identify relevant codes in the UN CPC product classification system,
- lead and be responsible for the overall preparation of the draft PCR by the PCR Committee, including ensuring acceptable quality of the text (e.g. in terms of language and clarity),
- propose stakeholders to be invited to the open consultation as part of the PCR stakeholder consultation group,
- act as contact person for stakeholders in the open consultation process,
- collect and respond to stakeholder comments,

[6] This role may also be referred to as “PCR Committee Chair”.

- lead the updating of the draft PCR based on comments received during the open consultation, make a summary of comments accepted and rejected (and their rationale), and submit these documents to the Secretariat,
- lead the updating of the draft PCR based on the PCR review, make a summary of the comments and suggested changes accepted and rejected (and their rationale), and submit these documents to the Secretariat,
- alert stakeholders involved in the process about the outcome of the work and the publication of the PCR,
- remain as the contact person during the time when the PCR is being used on the market for, for example, collecting suggestions for improvement in upcoming revisions. In case this is not possible, the PCR Moderator shall contact the Secretariat and may suggest another person capable of taking over the duties,
- at least six months before the end of the validity period of the PCR, initiate a discussion with the Secretariat on if and how to proceed with updating the PCR to align with the latest GPI, the latest LCA method developments in the sector, and to renew its validity period, and
- inform the Secretariat about any updates to the PCR Moderator's contact information.

4.3.3 PCR COMMITTEE

The PCR Committee is a group of interested parties who jointly have expertise in the product category and in LCA/EPD. The tasks of the PCR Committee are to:

- define the product category and the scope of the PCR together with the PCR Moderator,
- review relevant scientific literature available or submitted during the preparation of the draft PCR,
- attend meetings coordinated by the PCR Moderator,
- provide inputs to the development of the draft PCR and contribute to the writing of the draft PCR when delegated by the PCR Moderator, and
- assist the PCR Moderator in responding to the open consultation and review comments and updating the PCR based on these comments.

PCR Committee members may be dismissed by the PCR Moderator and be excluded from the list of PCR Committee members if there is a lack of engagement and contributions. The Secretariat shall be informed when a member of the PCR Committee is dismissed, with a written justification.

4.3.4 PCR STAKEHOLDER CONSULTATION GROUP

The PCR stakeholder consultation group comprises those stakeholders invited to provide feedback on the draft PCR during the open consultation. Their role is to read and provide comments on the draft PCR during the open consultation.

5 PROCESS FOR PROGRAMME ADMINISTRATION

5.1 GENERAL PROGRAMME INSTRUCTIONS (GPI)

The GPI shall be available at the website (www.environdec.com). There are four categories of rules in the GPI, related to:

- **General operation of the programme**. Upon the release of a new version of the GPI, changes in this category of rules should be implemented by the Secretariat and followed within 90 days (about 3 months).
- **EPD development and maintenance, content of EPDs and LCA rules** (see Sections 6 and 7, and Annex A). Upon the release of a new GPI, changes in this category of rules shall be followed in new PCR development and updating processes (unless deviations are justified and approved in the PCR development/updating process, see Section 6) and, after the publication of these PCRs, in EPDs published under these PCRs.[7]
- **EPD verification procedures** (see Section 8). Upon the release of a new GPI, changes in this category of rules shall be followed in new verifications within 90 days (about 3 months).
- **PCR development, maintenance and content** (see Sections 9 and 10). Upon the release of a new version of the GPI, changes in this category of rules shall be followed in any new PCR developments or updates being initiated.

Information about transition periods between different versions of the GPI shall be published on www.environdec.com.

The GPI may be available in several languages. In case of discrepancies between versions, the English version prevails.

5.1.1 UPDATES AND VERSION CONTROL OF THE GPI

There are three types of GPI updates:

- **Large updates** should be done about every four years, to ensure a balance between following the latest developments in, for example, standards, and consistency and market stability. Large updates can include any type of change, including changes in requirements (“shall”). Large updates may be done sooner than after four years, in case of critical external developments, such as new regulation or updates of important standards. Large updates shall be handled by the Secretariat and be subject to an open consultation and a 60 days (about 2 months) review by the TC. In large updates, the first digit of the version number shall change and the second and third digits shall be set to zero (e.g., the version number is changed from 5.X.X to 6.0.0).
- **Medium updates** can include any type of change, except additions of, or changes in, requirements (“shall”). Medium updates shall be handled by the Secretariat and may be reviewed by the TC. In medium updates, the second digit of the version number shall change, and the third digit be set to zero (e.g., the version number is changed from 5.0.2 to 5.1.0).
- **Small updates** shall only concern editorial changes and be handled by the Secretariat. In small updates, the third digit of the version number shall change (e.g., from 5.0.2 to 5.0.3).

A medium or small update shall be done with caution and only if there is a strong justification for it.

Other organizations may be involved at different stages in in each type of updates, for example to provide expertise on a specific subject, if deemed useful by the Secretariat.

After a small or medium update of the GPI, the previous version may be removed from www.environdec.com. PCRs and EPDs that comply with such previous versions will also comply with the updated version, as no changes in requirements have been done. After a large update of the GPI, the previous version shall be available for

[7] EPD owners can follow newer rules (in the GPI and/or a PCR) even when verifying towards an old PCR, if the new rules are not in conflict with requirements in the old PCR.

download on www.environdec.com as long as there are valid EPDs published under PCRs based on the previous version.

5.2 PUBLICATION OF PCRS AND EPDS

PCRs and EPDs published in the programme shall be made available by the Secretariat on www.environdec.com together with relevant complementary information and supporting materials. PCRs shall not be published (made accessible) elsewhere without the explicit authorisation of the Secretariat. Published EPDs shall only be used in compliance with the General Terms of Use of the International EPD System[8], and should not be published elsewhere unless authorised by the Secretariat (e.g., under an MRA that allows dual registration of EPDs or a procurement requirement/tender). It is strongly recommended that EPD owners and others refrain from uploading and making EPDs accessible via other sources including own(ed) websites, to avoid that EPDs are made accessible in various versions from varying sources. If EPDs are published elsewhere, this shall be accompanied by a statement, that may include a link, that guides the user to the latest version of the EPD available on www.environdec.com. Also, external access to the published content on www.environdec.com is permitted when the General Terms of Use are respected, including via API requests.

5.3 MEMBERSHIP IN THE TECHNICAL COMMITTEE

The TC shall consist of a group of at least eight LCA/EPD/PCR experts. The maximum number of TC members shall be 20 to keep the TC functional. TC members are appointed for a period of three years. TC memberships can consecutively be renewed after the Secretariat's written approval for additional three-year periods without limitations in time. The Secretariat shall support the TC members in their activities by the provision of adequate access to material and (online) meeting infrastructure. For more on the TC tasks, see Section 4.1.3.

5.3.1 APPOINTMENT OF MEMBERS TO TC

Membership in the TC shall be based on unsolicited applications, needs expressed by the Secretariat and/or the TC in terms of skills or capability to fulfil the role as TC member, and nominations by EPD stakeholders. The applicant shall submit a CV and a motivational letter to the Secretariat. The TC shall be involved in the recruitment process of applicants, for example by providing feedback on applications by E-mail or at TC meetings. The Secretariat has the sole right to appoint new TC members.

In appointing new TC members, the following aspects shall be considered:

- Diversity of the TC with respect to gender, age, national origin, race and/or colour.
- Diversity of TC with regards to sector knowledge/experience and geographical coverage (e.g., in terms of current residency or current/past professional experience). Consideration shall be taken to sectors the Secretariat has identified as growth markets.
- Each member should have at least 15 years of credible life-cycle thinking, life-cycle management, LCA and/or EPD experience, including LCA/EPD critical review/verification experience (proven record of accomplishment).
- TC shall have members with insights/experience from other kinds of ongoing and novel sustainability work, for example related to circular economy, ISO/EN standardisation work, eco-labelling, eco-design, EU PEF and the EU Green Deal, organisation-focused sustainability work, etc.
- TC should have members with excellent knowledge in digitalisation/digitisation, especially regarding standards, data quality and formats, system and tool verification.
- TC should have members that are active (contributors, conveyors, etc.) in ISO and other relevant standardisation bodies, to promote LCA and EPD standardisation, harmonisation, and global acceptance.

[8] Available on www.environdec.com/terms-of-use-cookies.

- TC should have members that are updated on the latest developments in life-cycle thinking, life-cycle management, LCA and EPD from a global point of view, including academic and practical/industry knowledge/experience.

If there is need for additional expertise, for example in PCR reviews or when discussing technical topics at TC meetings, external experts may be consulted.

The members of the TC shall be listed on www.environdec.com and may be contacted via the Secretariat.

5.3.2 SUSPENSION OF MEMBERS FROM TC

The Secretariat, in consultation with the TC chair, should initiate adequate measures and/or corrective actions against non-functioning TC members that are consistently and/or repeatedly not delivering on agreed tasks and thereby impede the functioning of the TC in its entirety or parts thereof. Such measures may result in a temporary and/or final suspension of the TC member from the TC. When TC members decide to step down from their TC mandate, the TC member should inform the Secretariat as soon as possible.

5.4 MEMBERSHIP IN THE INTERNATIONAL ADVISORY BOARD

The IAB should be a group of diverse experts from various industries, (private and public) organisations, countries and the like so that they can bring their relevant skills, guidance, and knowledge to the Secretariat; it will offer advice to help the the International EPD System grow and achieve its objectives. For more on the IAB tasks, see Section 4.1.4.

The Secretariat invites and welcomes nominations to IAB membership, and appoint new IAB members.

5.5 FEEDBACK OR COMPLAINTS

Any stakeholder may contact the Secretariat with feedback or complaints on EPDs, PCRs, other documents published on www.environdec.com, verifiers, or on decisions taken during the operation of the programme. Such a complaint shall:

- not be anonymous,
- include a clear description of the scope and nature of the complaint, and
- include a reference to the rule in the GPI, ISO 14025, PCR or other reference that is the topic of the complaint.

The Secretariat should respond to complaints within five working days and act on them within 30 working days. The Secretariat may temporarily depublish the document in question from www.environdec.com pending, and for the entirety of, the investigation until finalization of corrective action by the document owner. If the complaint concerns an EPD and if no corrective action is implemented, or proposed with an agreed deadline for corrective action, within a six-month period, the EPD may be permanently depublished and archived by the Secretariat (see Section 6.7).

5.6 AVOIDING MISUSE

The Secretariat should strive to avoid misuse of the programme and its logotype, ISO 14025, and information provided in EPDs published in the programme. Misuse can for example relate to the following:

- According to ISO 14025, Type III environmental declarations are subject to the administration of a programme operator. Information should be available on www.environdec.com to state this requirement. If a document is identified on the market claiming to be compliant with ISO 14025 or EN 15804, but without the involvement of a programme operator, the Secretariat may contact the organisations responsible for the document for corrective action.
- The International EPD System logotype is a registered trademark in selected markets, and its use is limited to EPDs published within the programme. The Secretariat should contact organisations using the logotype without fulfilling this requirement. The International EPD System logotype is not a Type I environmental

label and should not be used in a way that may confuse it as such. For further rules and guidance on use of the logotype, see Annex B.

- In EPDs and other communication, the EPD programme shall be referred to as the "International EPD System", or "IES" in short, and the EPD programme operator shall be referred to as "EPD International" or "EPD International AB". "Environdec" shall only be used if referring to the address of the website (www.environdec.com).
- EPDs published in the programme shall not be used for greenwashing, as this violates the main objective of the programme to support organisations in improving their environmental performance (see Section 2). For example, communication using EPDs or the information in EPDs shall follow applicable marketing legislation.
- In the case of detected misuse of an EPD, the Secretariat reserves the right to temporarily depublish the EPD to avoid further damage/misuse. From the detection of the misuse, the Secretariat shall contact the EPD owner within 60 days to ask for corrective action. If no corrective action is implemented, or proposed with an agreed deadlline for corrective action, within a six-month period, the EPD may be permanently depublished and archived by the Secretariat.

5.7 ESTABLISHMENT OF LICENSEES

The program operator shall establish routines to ensure that EPDs which have been registered through a licensee fulfil the rules in the GPI and the specific PCR(s). EPDs registered via licensees shall fully comply with the rules in this GPI, be published by the Secretariat in the EPD library on www.environdec.com, and be considered equivalent to other EPDs in all aspects.

An updated list of active licensees shall be available on www.environdec.com.

5.8 MUTUAL RECOGNITION WITH OTHER PROGRAMMES

Mutual and multilateral recognition agreements (MRAs) with other EPD programmes make it possible to, for example, adopt PCRs (see Section 9.8) or dual-publish EPDs. MRAs should follow ISO/TS 14029 requirements whenever possible, but shall as a minimum include:

- the scope of the mutual recognition (e.g., only for EPDs, only for EPDs of a specific product category, only for PCRs),
- licensing fee structures,
- procedures for the harmonisation of PCRs and PCR development,
- procedures for verification,
- procedures for registration, publication and updates,
- procedures to ensure that the conditions for the mutual recognition are kept valid, and
- procedures for routines and claims upon termination of the MRA.

An MRA does not necessarily mean that the EPDs of different programmes are comparable as EPDs. EPD International has the ambition to harmonise its rules with peers and other PCR developers to ascertain comparability of EPDs whenever reasonable and requested.

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

The list of current MRAs shall be available on www.environdec.com.

When harmonisation of rules via a MRA is not possible and the EPD user requires the use of specific PCRs that are outside the International EPD System for compliance (hard law) reasons in selected applications, the Secretariat may develop, on a case-to-case basis, solutions for restricted and clearly defined uses and/or markets. Such solutions may result in the publication of EPDs (or similar publications) that do not comply with all rules in this GPI; all aspects of non-compliance should be identified and clearly communicated to all involved

relevant parties, and all these aspects of non-compliance and the restrictions of the use of the EPD shall be clearly described in the EPD.

5.9 GENERAL LCA METHOD

The general LCA method to be used in EPDs published in the International EPD System is described in Annex A and on www.environdec.com/indicators. The latter is for rules and guidance concerning the environmental performance indicators and their methods. PCRs should refer to Annex A and the website for the general LCA method and not repeat any content of Annex A and the website. PCRs may, however, include additions, specifications, and deviations to the general LCA method, the description of EPD content and format (see Section 7) and other rules in the GPI (see Section 6 for more on PCR development). The content on www.environdec.com/indicators shall be linked to a specific version of the GPI and changes shall only be done in connection to GPI updates (see Section 5.1.1), except editorial changes and clarifications (e.g., with regard to developments in external standards) that may be done at any time.

Aspects of the general LCA method that are found to be frequently misunderstood, or not sufficiently clear, may be clarified at the website in the frequently asked questions (FAQ) section (www.environdec.com/faq) or the methodology guidance and examples section (www.environdec.com/methodology). These clarifications shall not include any additions or changes to requirements or recommendations, but may include guidance as well as additions and changes to permissions.

Information on www.environdec.com/indicators, www.environdec.com/faq and www.environdec.com/methodology shall be connected to a publication date, and removed content shall be archived.

5.10 CHECKING COMPETENCE AND QUALIFICATIONS OF VERIFIERS

EPD verification is carried out by approved individual verifiers or accredited certification bodies. Their competence and qualifications shall be checked, approved, and supervised by the TC supported by the Secretariat or by an accreditation body.

The checking of competence requirements and the supervision of the verifiers should include the following activities:

- review of the verifier's integrity and independence, documentation of competence, and management capacity (quality system, if existent),
- review on-site, at the verifier's site, and scrutiny of verifications carried out or in progress (if found relevant), and
- supervision (follow-up and review) of the operations of the verifier.

An updated list of approved individual verifiers and accredited certification bodies shall be available via www.environdec.com.

5.10.1 COMPETENCE REQUIREMENTS OF VERIFIERS

5.10.1.1 Competence requirements for verifiers

The verifier (individual or team of individuals within a certification body) shall be independent (see Section 8.1) and have the following competences:

- general knowledge of industry and product-related environmental matters,
- process and product knowledge and/or experience, including relevant standards, within the product sector in which the verifier intends to perform verifications,
- knowledge and experience of LCA, including ISO 14040 and 14044,
- knowledge and experience of the relevant standards in the field of environmental labelling and declarations, including ISO 14020, ISO 14025, and EN 15804,

- knowledge and experience of the framework and GPI of the International EPD System and any regional/national licensees under which the verifier intends to perform verifications,
- knowledge of ISO 14071,
- knowledge of the overall regulatory framework in which the concept of EPDs has been introduced,
- experience in reviewing LCAs, verification of EPDs, or the equivalent, and
- sufficient proficiency in English to read and understand the GPI, the PCR and the EPD, and to document the verification in a verification report in English.

5.10.1.2 Specific competence requirements for certification bodies

In general, the team of personnel carrying out the verification in a certification body should have:

- knowledge of ISO 19011,
- at least three years of experience with audits in the specific sector of activity, and
- at least three witness audits in verifying EPDs with a more experienced verifier.

In case the certification body lacks the necessary competence among its own employees, they shall have competence at the management level that make it possible to:

- determine the extent of sufficient competence (as described above) needed for carrying out the verification,
- recruit or contract competent personnel for carrying out reviews and to ensure that they receive adequate training and introduction, and
- ensure that verification are done correctly.

5.10.1.3 Specific competence requirements for individual verifiers

The requirements for the qualification of an individual verifier are:

- documented experience as an LCA practitioner for a minimum of five years, and at least five LCAs performed within the recent five years prior to the application. Among these studies, all shall include multiple environmental impacts, and at least one shall have been critically reviewed according to ISO/TS 14071 or formed the basis of a verified EPD, and
- at least five documented and independent critical reviews of LCAs performed within the recent five years prior to the application according to ISO/TS 14071. One of the critical reviews shall involve assessment of multiple environmental impacts. Verification of EPDs in other programmes and scientific peer reviews of LCAs may also be considered.

In addition to these requirements, general auditor skills and regular auditing or certification experience is an advantage, but not a requirement.

Participation in certification or training programmes may be accounted for the requirement of documented experience. In addition, individual verifiers may build up verification experience by using the process described in Section 5.10.3.2, which may be taken into account for the overall assessment. Such observed or guided verification shall be considered equal to having performed LCA critical review to fulfill the requirement above.

In addition to the competence requirements to become an approved individual verifier, the verifier shall ensure that they have knowledge and experience of the types of products, the industry, and the relevant standards of the product covered by the EPD and its geographical scope before taking on a verification task. The description of this process shall be included in the submission of the application as part of the description of verifier's own processes for managing verification activities according to Section 5.10.3.

During the first EPD verification, the approved individual verifier shall be on probation. The Secretariat reserves the right to determine the probation conditions and withdraw the verifier as an approved verifier based on an evaluation of how well these conditions have been fulfilled.

5.10.2 ACCREDITATION OF CERTIFICATION BODIES

Certification bodies may be accredited to carry out EPD verification, verification of pre-verified tools, and EPD process certification. The accreditation shall include checking conformity with relevant requirements in the GPI and applicable PCR(s), adhering to the procedures outlined in ISO 17065, ISO 17029, or equivalent standards for conformity assessment bodies. The checking of resource requirements shall consider the competence requirements for verifiers and those specifically for certification bodies (Section 5.10.1). The assessment should also consider any limitations of knowledge to specific sectors and/or product categories, and may limit the accreditation to specific PCR(s).

For EPD verification, the bodies should be accredited to ISO 17029 and ISO 14065.

For EPD process certification, the bodies shall be accredited to ISO 17065, or equivalent standards on requirements for bodies certifying processes.

The accreditation of certification bodies shall be made by accreditation bodies that take part in, follow, and have been accepted into the European co-operation for Accreditation (EA)[9], International Accreditation Forum Multilateral Recognition Arrangement (IAF MLA)[10], or the corresponding multinational cooperation agreements.[11] Such accreditation bodies commit to conformity with ISO/IEC 17011.

An updated list of accreditation bodies offering such accreditation services shall be available on www.environdec.com. The accreditation body shall inform the Secretariat of the services they provide, and of certification bodies currently accredited for EPD verification, verification of pre-verified tools, and EPD process certification.

5.10.3 APPROVAL OF INDIVIDUAL VERIFIERS

Experts in LCA and EPD may be approved to carry out EPD verification and verification of pre-verified tools (i.e., not EPD process certification) as individual verifiers. Declaration of competence in a specific product category is covered by a self-declaration of competence for each verification task. The approval to perform EPD verification as individual verifiers shall, as default, cover all kinds of EPDs published via the International EPD System (sector, product-specific, project-specific, etc.) unless otherwise defined. Approved individual verifiers are free to offer their services in any country, except in the markets of regional/national licensee where further approval may be required.

As ISO 17065, ISO 17029, or equivalent standards for conformity assessment bodies, are not applicable for individual LCA/EPD experts, a separate procedure described below is used for checking competence and qualifications, following the rationale of the standards, which specifically secures their independence. To start the evaluation procedure as individual verifier, the applicant shall provide the Secretariat with:

- An application form (the template is available on www.environdec.com),
- A CV demonstrating:
  - compliance with the general and specific competence requirements in Section 5.10.1, and
  - any formal qualifications or training related to LCA, EPDs, and/or auditing practice.
- A description of the verifier's own processes for managing verification activities:
  - a process for managing, storing, and maintaining client-confidential data and information,
  - a process to ensure sufficient knowledge and experience of the product group, relevant standards for the product group, and the geographical area for the specific verification task,
  - a process for maintaining the independence of the verification and the role as individual verifier, including identifying, and eliminate or minimise potential threats to independence, and

[9] www.european-accreditation.org

[10] www.iaf.nu

[11] Other corresponding agreements will be added to future versions of the GPI.

- a process for managing, evaluating, and resolving comments regarding potential deviations that passed through the EPD verification in a prompt and appropriate manner.

- Relevant references.

If the documentation is in any other language than English, an authorised translation of the documents into English shall be submitted. The evaluation of the credentials and approval of the applicant are carried out by the TC supported by the Secretariat. The TC may delegate the task of approving and checking competences of individual verifiers from a regional market to the respective regional/national licensee, if relevant. Information on regional/national licensee performing these tasks shall be published on www.environdec.com. In case the application to become an individual verifier has been rejected, the applicant may reapply again after 12 months from the day the decision from the TC was shared with the applicant. An exception to this time period can be decided by the Secretariat. Any feedback or complaints on the approval of individual verifiers shall use the procedure described in Section 5.5. The approval of individual verifiers may be withdrawn due to not meeting the annual requirements in Section 5.10.3.1, misconduct or other reasons.

The Secretariat and TC reserve the right to check the first EPD verified by an independent verifier to make sure that the EPD and the verification process fulfil the requirements. To support this process and to avoid delays, newly approved verifiers shall inform the Secretariat when a first verification is ongoing to enable planning for such a check by the Secretariat and TC. This check by the Secretariat and the TC should not delay the EPD publication with more than 10 working days. The Secretariat and TC may also make additional checks of future work done by individual verifiers for quality assurance.

5.10.3.1 Verifier competences

Verifiers should develop, maintain, and improve their competence through continual professional development and regular participation in EPD verifications. Approved individual verifiers shall stay up to date with the development within the International EPD System, shall be active within the field of environmental declarations, and shall actively take on verification tasks. To uphold recognition as an individual verifier, the verifier shall annually:

- carry out at least one EPD verification within the International EPD System or another appropriate[12] programme for type III environmental declarations, or
- carry out one LCA study leading to an EPD, or
- prepare one PCR in the role of PCR Moderator, or
- carry out one PCR review in the role of a technical committee member.

The verifier should attend meetings held by EPD International AB intended for verifiers or, at a minimum, review the recordings afterward if available.

The Secretariat shall initiate the annual check and check the documentation the verifier has sent and report the results to the TC. The verifier is responsible for submitting annually proof that confirms their status as a verifier. Inactive verifiers shall no longer perform verification tasks and shall be removed from the listing on www.environdec.com.

The verifier is responsible for providing updated contact information to be published on www.environdec.com. If a verifier is no longer actively taking on verification tasks, the verifier shall contact the Secretariat to be removed from the listing on www.environdec.com.

5.10.3.2 Peer-shadowing training

Experts in LCA and EPD may build up verification experience through observing an EPD verification and/or a guided verification, done in accordance with the principles and procedures of Section 8, with an approved individual verifier (the “trainer”). The Secretariat decides whether an approved individual verifier can become a trainer. In case the training provides the experts in LCA and EPD (the "trainee”) EPD verification experience, the

[12] Appropriateness is determined by the Secretariat with the support of the Technical Committee.

requirement on the number of critical reviews conducted by the trainee can be reduced from five to three. The Secretariat will make the decision following an evaluation of the training report which is provided by the trainer.

The trainer shall have conducted at least five verification tasks within the last five years within the International EPD System. It is important that the participants of the training program have experience in performing LCAs, including multiple environmental performance indicators, to ensure the effectiveness of building up verification experience.

For observing verification, experts in LCA and EPD may take part in an EPD verification as carried out by an approved individual verifier in the role of observer. The whole process from the perspective of the approved individual verifier, with access to documentation and dialogue between the EPD owner[13] and the verifier, shall be observed. The approved individual verifier (the "trainer") shall provide the Secretariat with a training report of the observed verification, including but not limited to the following:

- a description of the procedure for the observed verification tasks,
- the number of case studies on EPDs that were verified in real-time or based on previous verifications,
- the GPI version(s) and PCR(s), including their respective versions, to which the EPDs claim conformity, and
- scope of the EPD (e.g., multiple products, conformance with standards such as EN 15804, system boundary, additional indicators).

In a guided verification, experts in LCA and EPD may take part in an EPD verification as carried out by an approved individual verifier. Part of the verification procedure may be jointly performed by the expert and the approved individual verifier. The approved individual verifier (the "trainer") shall provide the Secretariat with a training report, including but not limited to the following:

- a description of the procedure for the guided verification tasks,
- the number of case studies on EPDs that were verified in real-time or based on previous verifications,
- the GPI version(s) and PCR(s), including their respective versions, to which the EPDs claim conformity,
- scope of the EPD (e.g., multiple products, conformance with standards such as EN 15804, system boundary, additional indicators).
- evaluation on at least the competence requirements in Section 5.10 and soft skills,
- any major and minor shortcomings, and
- aspect that requires further improvement.

[13] This can be outsourced to an external LCA practitioner (e.g., an LCA consultant), see Section 4.2.2.

6 PROCESS FOR EPD DEVELOPMENT AND MAINTENANCE

Developing an EPD in the International EPD System includes the following main steps, illustrated in Figure 2:

1. select PCR (Section 6.1),
2. conduct LCA study based on the selected PCR (see Section 6.2),
3. compile information in the EPD reporting format (see Section 6.3),
4. verification (see Section 6.4), and
5. publication (see Section 6.5).

A published EPD may be corrected and amended (see Section 6.8). An EPD will remain published until depublished by the EPD owner or the Secretariat (see Section 6.9).

The development and maintenance of EPDs are carried out in the EPD Portal (https://portal.environdec.com/). For an organisation to publish EPDs in the International EPD System, creating an account connected to an organisation in the EPD Portal is mandatory. A registration number (EPD-IES-XXXXXXX:XXX)[14] is reserved when initiating the EPD development. The registration number is unique for the EPD and shall not be re-used for another EPD.

EPDs shall only be developed for products on the market or intended to be on the market.[15,16]

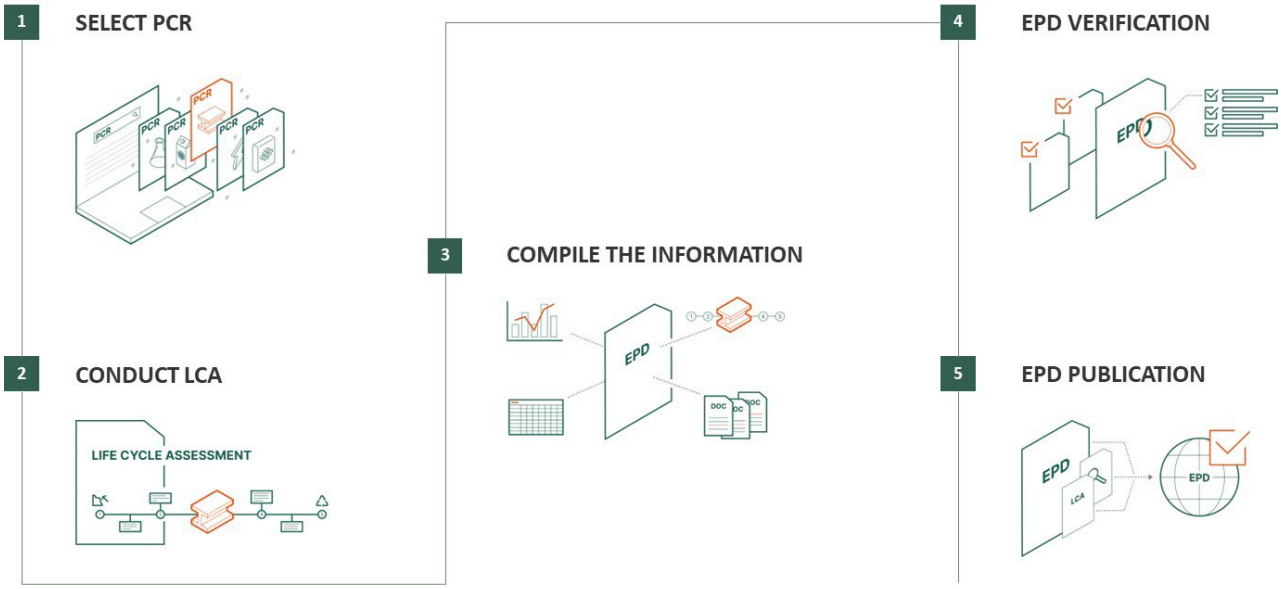

Figure 2. The main steps of EPD development.

6.1 SELECT PCR

The PCR used shall be listed on www.environdec.com and be valid at the time of the verification. The Secretariat may provide guidance in finding the correct PCR, and it should be contacted in case of doubts about the applicability of the PCR to the product in question. The Secretariat may in turn seek support from the PCR Moderator or the TC. If a PCR does not exist for the product category of interest, it may be developed (see

[14] "XXXXXXX" refers to the seven-digit serial number, while "XXX" refers to the three-digit version number.

[15] The market does not need to be an open market, but can be a product offered to one or a few customers, for example in public procurement.

[16] For example, if an EPD is developed for a product manufactured at a specific site, the product manufactured at this site shall, at the point of sale, be distinguishable from other otherwise identical products.

Section 9). For products not yet, or recently, on the market, additional steps in developing the EPD shall be followed (see Sections A.9.4 and A.9.5).

If an applicable complementary PCR (c-PCR) exists in the International EPD System, it shall be used together with the applicable main PCR.

If more than one PCR is applicable, the EPD owner may choose to use any of them, but it is recommended to use the one that is more specific in scope in terms of product function. An alternative is to use, and verify the EPD towards, several applicable PCRs, as long as there are no conflicting requirements in the PCRs.

6.2 CONDUCT LCA STUDY BASED ON PCR

When developing an EPD, the environmental performance of the product shall be described using a life-cycle perspective, why one of the main steps is to carry out an LCA of the product. The LCA may be performed by the organisation itself (in-house) or with the help of a consultant with expertise in LCA and environmental declarations.

The LCA study shall comply with:

- the international accepted principles, framework, methodology and practices for LCA established by ISO 14040 and ISO 14044,
- the general purpose of EPDs in the collection of data, and the methods and assumptions used as advocated in the ISO standard 14025 and described in Annex A of the GPI, and
- the PCR and c-PCR applicable for the specified product category.

If there are conflicting rules in the governing documents used to develop an EPD, the hiearchy in Figure 1 in Section 3 shall be followed. Rules in documents higher in the hierarchy takes precedence over rules in documents lower in the hierarchy. If there are differences in how strict a rule is, the stricter rule applies (e.g., a requirement in a PCR takes precedence over a (conflicting) permission in a c-PCR, even if the c-PCR is higher in the hierarchy).

6.3 EPD TYPES

The most common type of EPD is the single-company, single-product EPD, of a product produced by (or for EPDs of services: provided by) the EPD owner and which has been in production (or provided) for at least a year. This type of EPD describes the life cycle environmental impact of one product from a single manufacturer or service provider. Such an EPD can encompass several manufacturing sites, as long as the products from different sites are not marketed as different products and/or are in no other way distinguishable by a downstream customer.

There are also other types of EPDs accepted within the International EPD System, as listed in Table 1. These other types of EPDs are further described in Section A.9. An EPD can belong to several of these EPD types. As described in Section A.9, these EPDs are in some aspects subject to deviating and/or additional requirements compared to the EPD development and maintenance process described here in Section 6.

Table 1. EPD types accepted within the International EPD System.

Type of EPD
EPD of a single product from a manufacturer/service provider
EPD of multiple products from a company
Sector EPD
EPD published by trader
EPD of product not yet on the market
EPD of product recently on the market

6.4 COMPILE INFORMATION IN THE EPD REPORTING FORMAT

The results of the LCA study (i.e., the environmental performance results) and other information declared in the EPD shall be compiled in the EPD reporting format (see Section 7 and applicable PCR). This may be performed by the organisation itself (in-house) or with the help of a consultant.

Templates for EPD development and instructions on what information to provide are available on www.environdec.com and https://portal.environdec.com/.

6.5 VERIFICATION

Verification shall be carried out in accordance with the principles and procedures in Section 8. Mandatory and optional verification reports are available on www.environdec.com.

6.6 REGISTRATION

Upon completion of the EPD documentation by the EPD owner and following approval by the verifier in the EPD portal, the EPD owner requests for registration of the EPD. Upon this request the EPD owner signs the Service Agreement. The Secretariat subsequently publish the EPD in the EPD library once having confirmed that all requirements are met.

6.7 PUBLICATION

EPDs are published in the EPD portal by the Secretariat after the EPD owner has, with or without help of a consultant, provided all the necessary information and data, and signed the service agreement (note: a consultant cannot sign the agreement on behalf of the EPD owner). The EPD owner shall complete these steps so that the publication can be done within 90 days of the version date of the EPD (see Section 8.4.5).

After publication, EPDs should be publicly available on www.environdec.com. For an EPD intended for business-to-business (B2B) communication, access to the EPD may, however, be restricted, for example due to confidentiality related to procurement processes. If there is an interest in restricted access, the EPD owner shall contact the Secretariat for further guidance. If access is restricted, it shall be stated on the EPD's landing page in the EPD library and on the EPD's cover page that it is intended for B2B communication only.

The programme operator may also publish EPDs in alternative formats to enable further use of the EPD information. The information in alternative formats shall correspond with the information in the EPD.

Upon publication of the EPD, it may be used by the organisation until it has expired or been depublished (see Section 6.9). During this time, the organisation may also use the International EPD System logotype following the guidance in Annex B.

EPD International has the sole publishing rights for EPDs developed using the International EPD System, unless exceptions are allowed by an MRA (see Section 5.2).

6.7.1 COST AND FEES

There is a fee structure associated with the publication of EPDs in the International EPD System, which is the main source of funding for the operation of the programme. These fees may be one-time fees (e.g. registration fee) or recurring fees (e.g., annual fee) to maintain publication, and continued use of the EPDs. Up-to-date information about fees shall be available on www.environdec.com. The fee structure and fees should be revised annually. Any relevant changes in the pricing plan (especially prices going up or down) shall be communicated transparently, considerate and well in advance to the EPD owners, but always in compliance with relevant legislation.

Fees should be paid by the EPD owner based on the company profile in the EPD portal.

6.7.2 REPORTING SINGLE ENVIRONMENTAL PERFORMANCE RESULTS

After publication of an EPD, the information in the EPD may be adapted with the concept of single-footprint reports, also available for download in the EPD Portal. A single-footprint report may, for instance, be a climate declaration, extracting the information related to climate change based on the environmental performance results declared in the EPD. A single-footprint report shall only be published if an EPD is published for the same product. The single-footprint report may be prepared by the Secretariat for a service charge or by the EPD owner itself in which case the Secretariat shall charge a service fee for the publication and the approval check of the contents.

Single-footprint reports shall include the following information as a minimum:

- a reference to the underlying EPD (including the registration number),
- information about the owner of the document (including contact information),
- information about the product,
- life-cycle stages covered,
- description of the declared or functional unit,
- declaration of the environmental performance results for the chosen environmental issue based on the corresponding results as declared in the EPD,
- statements on cover page that the report is a single-footprint report and does not comply with ISO 14025 and other reference standards/documents (e.g., EN 15804 or applicable PCR) that require declaration of a range of indicators,
- information on how to obtain information about other environmental issues of the declared product through the underlying EPD, and
- a statement that: “This single-footprint report only addresses one environmental issue and does not assess other environmental issues of the product. Other environmental issues may be of equal or greater importance than the issue covered by the displayed results.”

Any presentation of results in the single-footprint report shall follow the rules on presentation of results set by the PCR used to develop the underlying EPD, for example rules on what life-cycle stages to declare, how to separate results per life-cycle stage, and whether or not aggregated life-cycle results can be presented.

6.8 UPDATE

An EPD owner may choose to make amendments or other changes to an EPD during its period of validity, for example as an output of the annual follow-up (see Section 8.4.8).

An updated EPD shall undergo re-verification, except when only editorial changes are made (see Section 8.4.9).

An updated EPD shall include a new version date on the cover page and a description of the differences versus the previous version in a section named “Version history” (see Section 7.4.11).

An updated EPD that has undergone re-verification, may set a new validity period based on the new version date (normally five years from the version date, see Section 8.4.7) as long as the PCR is valid. Only the verifier of the EPD is authorised to confirm a new date of validity.

An updated EPD should keep the same serial number (the first part of the registration number, see Section 6) as the previous version, even if it is updated according to a new PCR. A substantial change of the product(s) covered by the EPD shall lead to depublication of the EPD (see Section 6.7), and potentially a new EPD publication (but not an update of the existing EPD). Here, a "substantial change" is when the product's function is neither the same nor similar, and the product is not produced with same major steps in the A3/core processes, compared to before the change.

EPDs of multiple products can be updated with new products as long as the rules in Section A.9 are fulfilled.

In case of disagreements, the Secretariat decides whether a change is mandatory (see Section 6.6.1) or requires re-verification (i.e., whether it is editorial or not).

The Secretariat shall maintain an archive of the old versions of an EPD.

6.8.1 WHEN AN UPDATE IS MANDATORY

An EPD shall be updated and re-verified during its validity if there are errors in the declared information (see Section 5.5 for the procedure to handle complaints) or if changes in technology or other circumstances have led to:

- an increase of 10% or more in the aggregated results over included life-cycle stages[17] for any of the declared environmental performance indicators[18], or
- substantial changes to the declared product information (e.g., change of manufacturing site, change of lifespan, products added in EPD of multiple products), content declaration (e.g., new material/substance, changed composition), or additional environmental, social, or economic information.

If such changes have occurred, but the EPD is not updated, the EPD owner shall depublish the EPD (see Section 6.7).

If the change concerns the LCA model, the EPD owner can wait in updating the EPD until there is one year data available from after the change occurred, as this aligns with the default time period for data collection according to Section A.5.2.

6.9 DEPUBLICATION

Depublication of an EPD is when it is made no longer publicly available on www.environdec.com. This may be done in the EPD Portal by the EPD owner or the Secretariat.

The Secretariat may depublish EPDs if fees are not paid in due time, in case the EPD owner does not comply with the terms and conditions, or if the EPD contains errors that are not corrected by the EPD owner within reasonable time. Such EPDs may be published again by the Secretariat, in case fees are paid, the terms and conditions are again fulfilled, or the errors are corrected.

Depublished EPDs shall not be considered valid, even if the validity period as stated in the EPD has not passed.

Depublished EPDs shall no longer be used. This means that no communication shall be made from the EPD owner that could confuse stakeholders to believe the EPD is still published and valid.

The EPD owner may choose to keep an EPD that has passed the period of validity (i.e., is expired) published on www.environdec.com for, for example, record keeping. Even if it remains published, the expired EPD and its content shall not be used in any kind of market application (e.g., public procurement, software programmes) and/or the market in general, unless an exception in writing is made by the programme operator and accepted

[17] Note that module D (see Section A.7.5) is not a life-cycle stage.

[18] This refers to any of the LCA-based indicators declared in the EPD (see Section A.8). However, for the impact category of climate change, only the change in GWP-total needs to be considered (i.e., the change can be larger than 10% for the sub-indicators).

by the intended user of the EPD information. An expired EPD can only remain published if the EPD owner continues to pay the associated fees (see Section 6.6.1).

For expired EPDs to become valid again, the validity period has to be renewed within one year from its expiration. Otherwise, the EPD shall be published as a new EPD (e.g., with a new registration number and the payment of a new registration fee).

The Secretariat may share depublished EPDs upon request, provided the EPD owner accepts this.

6.10 DEREGISTRATION

EPDs that are deregistered, whether by the EPD owner or the Secretariat, cannot be published again on www.environdec.com. Deregistered EPDs shall be seen as expired, even if the validity period as stated in the EPD has not passed. As for depublished EPDs, deregistered EPDs shall no longer be used, including use in any communication that could confuse stakeholders to believe the EPDs are still published and valid.

When an EPD is deregistered, any obligations to pay the associated fees (see Section 6.6.1) are terminated.

The Secretariat shall maintain an archive of deregistered EPDs.

Deregistered EPDs can be made available upon request, provided the EPD owner accepts this.

7 CONTENT AND FORMAT OF EPD

General rules on content and format of EPDs published in the International EPD System are listed below. Additional or deviating requirements may be set in the applicable PCR. If requirements in the GPI and the PCR differ, the requirements in the PCR prevail. A generic template for EPDs is available on www.environdec.com, but other layouts and formats are allowed.

The EPD content shall:

- be in line with the rules and guidelines in ISO 14020 (Environmental labels and declarations – General principles),
- be verifiable, accurate, relevant, not misleading and unlikely to result in misinterpretation, and
- not include rating, judgements, or direct comparisons with other products or companies.[19, 20, 21]

For EPDs for construction products compliant with EN 15804, the communication format of the EPD shall be in accordance with EN 15942.

An EPD can be published in one or several formats, for example as a pdf and/or a machine-readable format. Different machine-readable formats can be used (e.g., the ILCD+EPD+, OpenEPD or ISO 22057 format), to meet the market's expectations and demands on applicability and usefulness. When published only in a machine-readable format, all mandatory information according to the GPI and PCR, that is missing in the data entries in the specific machine-readable format, shall be added to the EPD Portal to complement the machine-readable format. The content of EPDs published in different formats shall be consistent with each other.

An EPD in pdf format should be made with a reasonable number of pages for the intended audience and use.

Product information declared at the landing page in the EPD Portal shall not include information not present in the EPD.

7.1 EPD LANGUAGES

EPDs shall as a minimum be published in English to ensure global applicability and usefulness, but may also be published in other languages. EPDs in other languages shall have identical content as the version in English, use the same registration number, and also be uploaded on www.environdec.com. EPDs in other languages may be in the form of a verified EPD or a so-called "self-declaration" (see additional requirement for self-declaration in Section 7.4.1). If it is a verified EPD, all content of it shall be verified and it becomes a binding document between parties. The verifier may initiate the verification process according to Section 8 with one version and use it as a reference for cross-checking the others.

7.2 UNITS AND QUANTITIES

The following requirements apply for units and quantities:

- The International System of Units (SI units) shall be used where available, e.g. kilograms (kg), Joules (J), and metres (m). Reasonable multiples of SI units may be decided in the PCR to improve readability, e.g. grams (g) or megajoules (MJ). The following exceptions apply:
  - Resources used for energy input (primary energy) should be expressed as kilowatt-hours (kWh) or megajoules (MJ), including renewable energy sources, e.g. hydropower, wind power, and geothermal power.

[19] Therefore, results of normalisation or weighting are not allowed to be reported in the EPD.

[20] "Other products" include previous or alternative versions of the studied product, i.e., the EPD shall not display changes in the environmental performance results of a product over time, or differences with regard to a hypothetical version of the product using, e.g., alternative production processes or input materials.

[21] The reference to "other companies" means that the EPD shall not in any way imply that the EPD owner is, for example, "a market leader" or "more sustainable" (or similar) compared to its competitors.

- Water use should be expressed in cubic metres (m^3).
- Temperature should be expressed in degrees Celsius (°C).

- Time should be expressed in the units most practical, e.g. seconds, minutes, hours, days, or years.
  - Results of the environmental performance indicators shall be expressed in the units prescribed by the impact assessment methods, e.g. kg CO_2 equivalents.
- Two significant digits[22] should be adopted for all results and the content declaration. The number of significant digits shall be appropriate.
- Scientific notation may be used, e.g. 1.2E+2 for 120, or 1.2E-2 for 0.012.
- The thousand separator and decimal mark in the EPD shall follow one of the following styles (a number with six significant digits shown for illustration):
  - SI style (French version): 1 234,56
  - SI style (English version): 1 234.56

  In the event of potential confusion or intended use of the EPD in markets where different symbols are used, the EPD shall state which symbols are used for thousand separator and decimal mark.
- Variations, in percentage, between two numbers shall be calculated by dividing the absolute value of the difference between the numbers by the average of the numbers, and then multiplying by 100. See example in footnote.[23] When the rules asks for the declaration of variation between more than two numbers, the maximum variation shall be declared.
- Dates and times presented in the EPD should follow the format in ISO 8601. For dates, the prescribed format is YYYY-MM-DD, e.g. 2017-03-26 for March 26th, 2017.
- The result tables shall:
  - only contain values or the letters “ND” (Not Declared). It is not possible to specify ND for mandatory environmental performance indicators. ND shall only be used for optional indicators that are not quantified because no data is available.[24]
- contain no blank cells, hyphens, less than or greater than signs, or letters (except “ND”).
  - use the value “0” only for parameters that have been calculated to be zero.
  - use footnotes to explain any limitation to the result value.

7.3 USE OF IMAGES AND GRAPHICS

Any image used in the EPD should be relevant to the declared product. Images may in themselves be interpreted as an environmental claim (such as trees, mountains, and wildlife that are not related to the declared product) and shall, therefore, be used with caution and in compliance with national legislation and best practices in the markets in which the EPD is intended to be used. In case of disagreements with regards to the correct application and interpretation of the rules on the use of images in the EPD, theSecretariat decides.

EPDs claiming compliance with ISO 14026 shall fulfil the the requirements on footprint graphics in ISO 14026.

[22] Significant digits are those that carry meaning contributing to its precision. For example with two significant digits, the result of 123.45 shall be displayed as 120, and 0.12345 shall be displayed as 0.12. In scientific notation, these two examples would be displayed as 1.2E+2 and 1.2E-2.

[23] For example, if the variation between the values 9 and 10 is calculated, the following calculation shall be made: 1/9.5*100 = 10.526…% ≈ 11% (with two decimals).

[24] This requirement does not intend to give guidance on which indicators are mandatory or optional.

7.4 REPORTING FORMAT PER SECTION

The EPD shall include the following sections. Other sections shall not be included, and other headings shall not be used, unless an applicable PCR says otherwise:

- Cover page (see Section 7.4.1)
- General information (see Section 7.4.2)
  - Programme information
  - PCR and verification
  - Ownership and limitations on use of EPD
- Information about EPD owner (see Section 7.4.3)
- Product information (see Section 7.4.4)
- Content declaration (see Section 7.4.5)
- LCA information (see Section 7.4.6)
- Environmental performance (see Section 7.4.7)
- Version history (see Section 7.4.11)
- Abbreviations (see Section 7.4.12)
- References (see Section 7.4.13)

The following sections may be included:

- Additional environmental information (see Section 7.4.8)
- Additional social and economic information (see Section 7.4.9)

The following sections shall be included, if applicable:

- Information related to sector EPDs (see Section 7.4.10)

7.4.1 COVER PAGE

The EPD shall be limited to include below information on the cover page.

The following shall be included on the cover page:

- Product name: <*name of the product*>
- EPD owner: <*name of EPD owner*>
- Logotype of EPD owner.
- The text “Environmental Product Declaration” and/or “EPD”.
- Programme: The International EPD System, www.environdec.com
- Programme operator: EPD International AB
- Logotype of the International EPD System, the national/regional licensee or CLC.
- EPD registration number as issued by the programme operator.[25]
- Version date: 20YY-MM-DD
- Validity date: 20YY-MM-DD

[25] The EPD shall not include a “registration number” or “certification number” if such is provided by the certification body, as this may be confused with the registration number issued by the programme operator.

- Statement: “An EPD may be updated or depublished if conditions change. To find the latest version of the EPD and to confirm its validity, see www.environdec.com.”
- A statement of conformity with ISO 14025.

The following may be included on the cover page:

- Visual representation (e.g., an image) of the product.
- One brand/product logotype of the EPD owner, when relevant

In the case of EPDs registered through a regional or national licensee (see Section 5.7), the cover page shall in addition to above information include the following:

- Licensee: *<name of licensee>*

Where applicable, the cover page shall also include the following:

- For EPDs of multiple products from the same company (see Section A.9.1): a statement that the EPD covers multiple products and a list of all products covered by the EPD (if the EPD covers more than 10 products, the list of products may instead be included in the product information section of the EPD; then this list shall be referred to on the cover page) and information on the type of EPD: “EPD of multiple products, based on the average results of the product group”, “EPD of multiple products, based on a representative product”, “EPD of multiple products, basedon several representative products”, or “EPD of multiple products, based on worst-case results”.
- For sector EPDs (see Section A.9.2): a statement that the EPD is a sector EPD.
- For EPDs of products not yet on the market (see Section A.9.4): a disclaimer saying “Product not yet on the market – Results of this EPD shall be used with care as the LCI data is not yet based on 1 year of production which may result in increased uncertainty”.
- For EPDs of products recently on the market (see Section A.9.5): the following disclaimer: “Product recently on the market – Results of this EPD shall be used with care as the LCI data is not yet based on 1 year of production which may result in increased uncertainty”.
- When relevant, information about dual registration of EPD in another programme, such as registration number and logotype.
- When relevant, a statement of conformity with other standards (e.g., ISO 14067, ISO 14026) and methodological guidelines.

See the brand book for layout examples for the cover page (EPD International 2024).

In case an EPD is published in an additional language as a self-declaration (see Section 7.1), it shall contain the following disclaimer on the cover page (translated to the language of the self-declaration): "This is a self-declared translation of an EPD *[add registration number of the verified and valid EPD]* that can be accessed at *[add link/reference to the verified EPD]* and is published for convenience purposes. Only the original EPD is valid and binding between parties.”

7.4.2 GENERAL INFORMATION

7.4.2.1 Programme information

The EPD shall include the following in the subsection on programme information:

- The address of the programme operator: EPD International AB, Box 210 60, SE-100 31 Stockholm, Sweden, E-mail: support@environdec.com

7.4.2.2 Product category rules

The EPD shall include information about the PCR (and c-PCR, if applicable) used according to Table 2. Any text displayed in grey is solely for guidance and shall not be included in the EPD.

Table 2. Information on Product Category Rules (PCR).

Product Category Rules (PCR)
For EPDs of construction products: CEN standard EN 15804 serves as the core Product Category Rules (PCR) *If the EPD complies with ISO 21930, "ISO standard ISO 21930" shall be added to the above text.*
Product Category Rules (PCR): *<name, registration number, version and UN CPC code(s)>* *If applicable, the corresponding information about c-PCR shall also be included.*
PCR review was conducted by: *<name and organisations of the review chair, and information on how to contact the chair through the programme operator>* *If applicable, the corresponding information about c-PCR shall also be included.*

7.4.2.3 Verification

The EPD shall include information about verification according to Table 3. Any text displayed in grey is solely for guidance and shall not be included in the EPD.

Table 3. Information on verification.

Verification
External and independent ('third-party') verification of the declaration and data, according to ISO 14025:2006, via EPD verification through: ☐ Individual EPD verification without a pre-verified LCA/EPD tool ☐ Individual EPD verification with a pre-verified LCA/EPD tool ☐ EPD process certification* without a pre-verified LCA/EPD tool ☐ EPD process certification* with a pre-verified LCA/EPD tool ☐ Fully pre-verified EPD tool In case of individual EPD verification without a pre-verified LCA/EPD tool: Third-party verifier: *<Name, and organisation of the individual verifier>* or *<Name of certification body (incl. address.)>* Approved by: The International EPD System or Accredited by: *< Name of accreditation body & accreditation number, where applicable>* In case of individual EPD verification with a pre-verified LCA/EPD tool: Third-party verifier: *<Name, and organisation of the individual verifier>* or *<Name of certification body (incl. address.)>* Approved by: The International EPD System or Accredited by: *< Name of accreditation body & accreditation number, where applicable>* Pre-verified LCA tool or Pre-verified EPD tool: *<Name and version>* Third-party verifier, accountable for the tool verification: *<Name, and organisation of the individual verifier>* or *<Name of certification body (incl. address)>* Approved by: The International EPD System or Accredited by: *< Name of accreditation body & accreditation number, where applicable>*

In case of EPD process certification without a pre-verified LCA/EPD tool: Third-party verifier, accountable for the certification: *<Name of certification body (incl. address)>* Accredited by: *<Name of accreditation body & accreditation number, where applicable>* In case of EPD process certification with a pre-verified LCA/EPD tool: Third-party verifier, accountable for the certification: *<Name of certification body (incl. address)>* Accredited by: *<Name of accreditation body & accreditation number, where applicable>* Pre-verified LCA tool or Pre-verified EPD tool: *<Name and version>* Third-party verifier, accountable for the tool verification: *<Name, and organisation of the individual verifier>* or *<Name of certification body (incl. address)>* Approved by: The International EPD System or Accredited by: *< Name of accreditation body & accreditation number, where applicable>* In case of fully pre-verified EPD tool: Fully pre-verified EPD tool *<Name and version>* Third-party verifier, accountable for the tool and EPD verification: *<Name, and organisation of the individual verifier>* or *<Name of certification body (incl. address)>* Approved by: The International EPD System or Accredited by: *<Name of accreditation body & accreditation number, where applicable>* Include the following statement in case of EPD process certification: *EPD process certification involves an accredited certification body certifying and periodically auditing the EPD process and conducting external and independent verification of EPDs that are regularly published. More information can be found in the General Programme Instructions on www.envrondec.com.
Procedure for follow-up of data during EPD validity involves third-party verifier: ☐ Yes ☐ No

Note that procedure for follow-up the validity of the EPD is at minimum required once a year with the aim of confirming whether the information in the EPD remains valid or if the EPD needs to be updated during its validity period (see Section 8.3.2). The follow-up can be organised entirely by the EPD owner or together with the original verifier via an agreement between the two parties. In both approaches, the EPD owner is responsible for the procedure being carried out. If a change that requires an update (see Section 6.6.1) is identified, the EPD shall be re-verified by a verifier.

7.4.2.4 Ownership and limitations on use of EPD

The EPD shall include the following information about ownership and limitations on use of EPD:

- A statement that: “The EPD owner has the sole ownership, liability, and responsibility for the EPD.”
- A statement, adapted from ISO 14025 and ISO 14020, that: “EPDs within the same product category but published in different EPD programmes, may not be comparable. For two EPDs to be comparable, they shall be based on the same PCR (including the same first-digit version number) or be based on fully aligned PCRs or versions of PCRs; cover products with identical functions, technical performances and use (e.g. identical declared/functional units); have identical scope in terms of included life-cycle stages (unless the excluded life-cycle stage is demonstrated to be insignificant); apply identical impact assessment methods (including the same version of characterisation factors); and be valid at the time of comparison.”

7.4.3 INFORMATION ABOUT EPD OWNER

The EPD shall include the following information about the EPD owner:

- Address and contact information of the EPD owner.

- Description of the organisation of the EPD owner. This may include information on product-related or management system-related certifications (e.g. ISO 14024 Type I environmental labels, ISO 9001- and 14001-certificates and EMAS-registrations) and other relevant work the organisation wants to communicate (e.g. SA 8000, supply chain management and social responsibility). Any information related to environmental, economic or social sustainability shall follow the rules in Sections 7.4.8 and 7.4.9.
- Address and contact information of the LCA practitioner commissioned by the EPD owner, if applicable.

This section may also include:

- Visual representation (e.g., an image) of the EPD owner as an organisation.

7.4.4 PRODUCT INFORMATION

The EPD shall include the following information about the product:

- Product identification by name, and an unambiguous identification of the product by standards, concessions, or other means.
- Visual representation (e.g., an image) of product.
- Identification of the product (name and code) according to the UN CPC product classification system, if there is an applicable UN CPC code. Other relevant codes for product classification may also be included, for example:
  - Common Procurement Vocabulary (CPV),
  - UN Standard Products and Services Code (UNSPSC),
  - Classification of Products by Activity (NACE/CPA),
  - Australian and New Zealand Standard Industrial Classification (ANZSIC), or
  - Global Trade Item Number (GTIN)[26, 27]. Note that if the GTIN used when ordering a product is different from the GTIN used when delivering a product, the GTIN used in the ordering system is preferable in an EPD.
- Description of the product in accordance with the product classification system(s) used (see above), and description of the technical performance of the product, including its application/intended use and key functionalities.
- Brief description of main processes of manufacturing (for EPDs of goods) or service provision (for EPDs of services).
- Technical or actual lifespan, if applicable.
- Location of the production site(s), including, as a minimum, the city (or municipality, if not located in a city).
- References to any relevant websites for more information or explanatory materials.

This section may also include:

- List of products (see Section 7.4.1)
- Name of manufacturer(s) and site(s)
- Description of the material properties of the product with a declaration of relevant physical or chemical product properties, such as density, etc.

[26] GTINs need to be verified and accessible here: https://www.gs1.org/services/verified-by-gs1/results.

[27] If a Global Model Number (GMN) is established on the market, which groups several producer-specific GTINs to a common product type, GMN may be used instead of GTIN, or as a complement.

7.4.5 CONTENT DECLARATION

If relevant, the EPD shall include a section on content declaration according to the below rules (see also examples below). The content declaration may not be relevant for EPDs for intangible products, such as services. If not relevant, the PCR shall specify that the content declaration shall not be included in EPD.

- The mass (weight) of one unit of a product, as purchased or per declared unit, shall be declared.
- Information about the content of the product in the form of a list of materials and substances, and their mass, shall be declared.
  - Proprietary materials and substances of confidential nature are exempted from the above requirement (see Section 8.2.3). If not declared, these shall be replaced by a generic term/description of the material/substance and/or a range[28] of values (instead of specific values), provided that the applicable rules for declaration of hazardous are followed (see below).
- The mass and the content of distribution and/or consumer packaging shall be declared, when applicable.
- The gross mass of material in the content declaration shall cover 100% of one unit of product and its packaging.
- If there is more than 5% biogenic content in the product, this share (in mass-%) shall be declared along with the mass of biogenic carbon content in kg C per product or declared unit. If below 5%, this may be declared.
- If there is more than 5% post-consumer recycled content in the product, this share shall be declared. If below 5%, this may be declared. The share of pre-consumer recycled content of the product may also be declared, and shall then be declared separately from the share of post-consumer content.[29] The share of pre-consumer recycled content may further be divided into content originating from within, or from outside, the manufacturing site/company.
- If there is more than 5% biogenic content in the packaging, this share shall be declared. If below 5%, this may be declared. Also the share of recycled content of the packaging material may be declared; if the share of pre-consumer recycled content is declared, it shall be declared separately from the share of post-consumer content.
- If the share of biogenic/recycled material is unknown, this part of the content declaration can be left out or be declared as 0% (a conservative estimate) or unknown.
- EPDs of multiple products or sector EPDs shall include a description what the content declaration represents.
- Information on the environmental and hazardous/toxic properties of a substances contained in the product shall be declared if the substance is in the candidate list of Substances of Very High Concern (SVHCs) which exceeds the limits for registration with the European Chemicals Agency (i.e., if the substance constitute more than 0.1% of the weight of the product). The candidate list of SVHCs is available via the European Chemicals Agency[30].
- The content declaration shall also include other information on substances with hazardous and toxic properties that can be of concern for human health and/or the environment, if required by normative standards or regulation applicable in the market for which the EPD is valid. Note that declaration of toxic/hazardous substances shall be done irrespective of whether the substances have been included or excluded from the LCA model based on, for example, the cut-off rules.

[28] The declared range shall be reasonable (e.g., not be a very broad range, such as 20-80% of the mass of the product).

[29] Together, pre- and post-consumer recycled content corresponds to recycled content as defined in ISO 14021. Pre-consumer recycled content consists of pre-consumer material, and post-consumer recycled content consists of post-consumer material, as defined in ISO 14021. Note that the indicator *secondary material,* included among the environmental performance indicators (see www.environdec.com/indicators), considers all post- and pre-consumer materials that enter the product system from another product system, and not just the material contained in the product, and is therefore a complementary indicator.

[30] https://echa.europa.eu/candidate-list-table

- Information on the environmental and hazardous properties of substances should follow the requirements given in the latest revision of the Globally Harmonized System of Classification and Labelling of Chemicals (GHS)[31] issued by the UN or national or regional applications of the GHS.

The declared share of biogenic/recycled materials shall be based on the actual share of biogenic/recycled material in the product (in average over the studied time period, normally one year of production). In other words, the share of biogenic/recycled materials of, for example, global average production of the constituent materials, for example as stated in generic LCI datasets, shall not be used as the basis for the declaration of biobased/recycled content. As such, the declared content information may be different from the product content as stated in the LCA model (as this may partly be based on generic LCI data).

Claims that a product is "free" of a specific hazardous material or substance should be done with caution and only when relevant, following the rules in ISO 14021 on self-declared environmental claims. For example, such a claim shall not be done for a material/substance that has never been associated with the product category, is not included in the product category, or if the product category is legally required not to include the material/substance in the market(s) covered by the geographical scope of by the EPD.

The content declaration shall be consistent with the product's technical data sheet (if any). The product's safety data sheet (if any) shall be made available to the verifier, for example to enable confirmation of presence/absence of SVHC in the product.

Additional rules for the content declaration may be set by the PCR. For example, for complex products consisting of very large numbers of materials/substances, it may make sense to allow the presence of hazardous substances to be presented as a reference to the corresponding notification number in the SCIP (Substances of Concern In articles as such or in complex objects (Products)) database[32]. Furthermore, for some product categories (e.g., food, feed, beverages, chemicals) it may be suitable to declare the water content.

Table 4. Example of content declaration of a product.

Product content	Mass, kg	Post-consumer recycled material, mass-% of product	Biogenic material[1], mass-% of product	Biogenic material[33], kg C/product or declared unit
Filler	15	10	0	0
Pigment	15	0	0	0
Polymer	10	20	10	5
Other	10	5		0
Total	**50**	**35**	**10**	**5**

Table 5. Example of content declaration of packaging.

Packaging materials	Mass, kg	Mass-% (versus the product)	Biogenic material[34], kg C/product or declared unit
Steel	2	4	0
Total	**2**	**4**	**0**

Table 6. Example on content declaration of hazardous substances.

Hazardous substances from the candidate list of SVHC	EC No.	CAS No.	Mass-% per functional or declared unit
Isobutyl 4-hydroxybenzoate	224-208-8	4247-02-3	0.5
1,4-dioxane	204-661-8	123-91-1	0.2

[31] The GHS document is available on www.unece.org.

[32] See https://echa.europa.eu/scip.

[33] 1 kg biogenic carbon in the product/packaging is equivalent to the uptake of 44/12 kg of CO_2.

[34] 1 kg biogenic carbon in the product/packaging is equivalent to the uptake of 44/12 kg of CO_2.

7.4.6 LCA INFORMATION

The EPD shall include a section on LCA information including the following:

- Geographical scope of the EPD per module or life-cycle stage (or other division of the product life cycle, if defined in the PCR), i.e., which countries or regions have the processes in modules A1-A5 (upstream and core processes) been modelled to represent, and which countries/regions have the use (module B) and end-of-life (module C) stages been modelled to represent.
- The geographical scope can be "global", for example for module A1 if the raw materials are produced in several continents or for modules B or C if the EPD represents a product sold on the global market.
- If the environmental performance section (see Section 7.4.7) declares results for additional scenarios for modules A4-C (construction/installation, use, end-of-life stages), that represent different geographical scopes, the declared geographical scope shall reflect the main scenario.
- Declared/functional unit, and conversion factor to mass if mass is not used as functional/declared unit (not applicable for services). In addition, physical material properties of the product shall be declared to allow converting the declared/functional unit into other units of relevance for downstream modelling, such as:
  - If the declared unit is given in an area unit, area density (kg/m^2) and thickness (m) shall be declared.
  - If the declared unit is given in a volume unit, volumetric mass density (kg/m^3) shall be declared.
  - If the declared unit is given in a length unit, linear mass density (kg/m) shall be declared.
- Reference service life (RSL) and its relationship with the technical/actual lifespan, if applicable.
- Description of the EPD system boundary as "cradle-to-gate," "cradle-to-gate with options," "cradle-to-grave" or any other type of system boundary defined in and permitted by the PCR.
- Information on which life-cycle stages are not considered (if any), with a justification for the omission.
- Process flow diagram of the product system, divided into the life-cycle stages and modules (or other division of the product life cycle, if defined in the PCR), showing the main processes includes and the system boundary of the LCA. The diagram shall make it clear when the end-of-waste state is reached for main input flows of reused/recycled materials and recovered energy (e.g., in core/modules A3 processes), and for output flows of reused/recycled materials and recovered energy exiting the end-of-life stage.
- Name and version of the LCA software, if applicable.
- A summary of the data quality assessment, in line with requirements in Section A.5.4.
- Declaration of data sources, reference years, and share of primary data, in line with requirements in Section A.5.4.
- Information on the modelling of infrastructure/capital goods, if relevant, in line with requirements in Section A.3.1.2.
- Description of scenario(s) used in the modelling of downstream stages and module D, if applicable, see Sections A.7.2-5.
- List of characterisation methods for all declared environmental performance indicators, with reference to the source(s). The list shall also include a description of the version number (e.g., EF 3.0 or EF 3.1) of the EN 15804 reference package used, if applicable. An example: "GWP100, EN 15804. Version: EF 3.1, February 2023".

This section should also include:

- Additional relevant information about the LCA, such as cut-off rules, data quality, allocation methods, other methodological choices and assumptions, and results from the interpretation (see Section 8.3.1.2). EPDs claiming compliance with ISO 14026 shall include quantitative or qualitative information about the uncertainties of the LCA results.

Table 7 provides an example of how modules declared and geographical scopes may be declared. If reported in a table, the following rules apply:

- Modules/processes/life-cycle stages declared shall be noted with "X".

- Modules/processes/life-cycle stages not declared shall be marked as “ND”.
- Geographical scope shall be reported by the country code(s) (e.g. UK, FR, DE) and/or name of the region(s) (e.g. EU 27, Global).

Table 7. Example for the reporting of modules declared and geographical scope.

	Product stage			**Distribution/ installation stage**		**Use stage**							**End-of-life stage**				**Beyond product life cycle**
	Raw material supply	Transport	Manufacturing	Transport	Distribution/installation	Use	Maintenance	Repair	Replacement	Refurbishment	Operational energy use	Operational water use	De-construction demolition	Transport	Waste processing	Disposal	Reuse/recovery/recycling potential
Module	A1	A2	A3	A4	A5	B1	B2	B3	B4	B5	B6	B7	C1	C2	C3	C4	D
Modules declared																	
Geography																	

7.4.7 ENVIRONMENTAL PERFORMANCE

The EPD shall include a section on environmental performance including the following:

- LCA results of the product. See Section A.8 and applicable PCR for rules on this declaration, including the indicators and impact assessment methods to use.
- Declaration of the variation in results between products and sites in line with requirements in Section A.9, if applicable, and any other declaration of variation in results (e.g., as required by the applicable PCR).
- A statement that “the environmental performance results are relative expressions and do not predict impacts on category endpoints, the exceeding of thresholds, safety margins or risks” (adopted from EN 15804).

If the EPD covers the end-of-life stage, a statement that recommends the user of the EPD to always consider the results of the end-of-life stage. For example, “The results of the end-of-life stage (module C) should be considered when using the results of the production stage (modules A1-A3).”

In addition to the main environmental performance results, this section may declare additional LCA results in a separate subsection. The subsection with additional LCA results shall clearly describe the scenario/method used to calculate the results, including how it differs from the scenario/method of the main environmental performance results. The following additional results may be included:

- Results for additional scenarios for modules A4-C4 (the downstream stage). If this is done, the most representative scenario (for the geographical scope of the EPD) shall be declared as the main environmental performance results, and the other scenarios shall be declared in the separate subsection.
- Results of alternative LCA modelling, if such an alternative modelling approach is explicitly allowed by the applicable PCR or the GPI. This GPI allows two alternative modelling approaches:
  - Alternative GWP-biogenic results, if GWP-biogenic would allow consideration of permanent (more than 100 years) storage of biogenic carbon, either in the product, in a landfill, or because of applying carbon capture and storage (CCS) to the incineration of biogenic carbon.
  - Alternative results using location-based modelling of electricity and biogas (supplied in a grid and used for energy purposes), see Sections A.6.2 and A.6.3.

7.4.8 ADDITIONAL ENVIRONMENTAL INFORMATION

An EPD may declare additional environmentally relevant information not derived from the LCA. Any additional environmental information declared shall be substantiated and verifiable, and be derived using appropriate methods and be specific, accurate, not misleading, and relevant to the specific product. Quantitative information is preferred over qualitative information.

Examples of additional environmental information that may be relevant to declare:

- the release of dangerous substances into indoor air, soil, and water during the use stage,
- instructions for proper use of the product, e.g., to minimise energy or water consumption or to improve the durability of the product,
- instructions for proper maintenance and service of the product, e.g., to minimise energy or water consumption or to improve the durability of the product,
- information on key parts of the product that determine its durability,
- information on recycling including, e.g., suitable procedures for recycling the entire product or selected parts and the potential environmental benefits gained,
- information on a suitable method of reuse of the product (or parts of the products) and procedures for disposal as waste at the end of its life cycle,
- information regarding disposal of the product, or inherent materials, and any other information considered necessary to minimise the product's end-of-life impacts, and
- a more detailed description of an organisation's overall environmental work, in addition to the information listed in the Section 7.4.3 on information about EPD owner, such as:
  - the existence of any type of organised environmental activity,
  - information on where interested parties may find more details about the organisation's environmental work.

The PCR may specify rules on additional environmental information to be declared in the EPD (see Section 9.3.4).

It is recommended to add information enabling comparisons with sector benchmarks (outside of the EPD) or, if not available, with benchmarks of common products preferably based on the concept of declared/functional unit. Such comparisons shall, however, never be done in the EPD.

The additional environmental information section, or any other section of the EPD, shall not include any claims (e.g., including certificates) related to the environmental performance indicators, or other LCA indicators, that do not comply with the LCA rules of this GPI or applicable PCR. For example, carbon-neutrality claims are not allowed, neither are claims on the reductions of GHG emissions, or reporting of certificates, based on a mass balance approach (MBA; see Section A.5.2).

7.4.9 ADDITIONAL ECONOMIC AND SOCIAL INFORMATION

An EPD may include relevant social and economic information as additional information. This may be product information or a description of an organisation's overall work on social or economic sustainability, such as activities related to supply chain management or social responsibility[35].

Any additional social and economic information declared shall be substantiated and verifiable, and be derived using appropriate methods and be specific, accurate, not misleading, and relevant to the specific product. Quantitative information is preferred over qualitative information.

The PCR may specify rules on additional social or economic information to declare and adjust and amend the above guidance accordingly. Methods used to report such information shall be specified or referenced. A justification for the choice of additional social or economic information shall be included in the PCR.

[35] For more information about social responsibility, see ISO 26000:2010 Social responsibility.

Further information on which indicators that could be used can be obtained by the Global Reporting Initiative documents available on www.globalreporting.org.

7.4.10 INFORMATION RELATED TO SECTOR EPDS

For sector EPDs (see Section A.9.2), the following information shall be included:

- a list of the contributing manufacturers that the sector EPD covers,
- a description of how the selection of the sites/products has been done and how the average has been determined, and
- a statement that the document covers the average values for an entire or partial product category (specifying the percentage of representativeness) and, hence, the declared product is an average that is not available for purchase on the market.

7.4.11 VERSION HISTORY

A section shall be included describing the current and previous versions of the EPD, including the version dates. The first version shall be described as the “original version of the EPD”. For each subsequent version, a description of the differences versus the previously published version shall be included.

7.4.12 ABBREVIATIONS

A section shall be included describing all abbreviations used in the EPD (if any).

7.4.13 REFERENCES

A reference section shall be included, including a list of all sources referred to in the EPD and in the LCA report, including the GPI (including version number) and PCR (registration number, name, and version) used to develop the LCA and the EPD.

8 PROCESS FOR EPD VERIFICATION

As part of the process for developing EPDs outlined in Section 6, the International EPD System employs three external and independent ("third-party") EPD verification procedures:

- Individual EPD verification (Section 8.4)
- EPD process certification (Section 8.5)
- Pre-verified tool (Section 8.6)

The verification process shall be carried out by an approved individual verifier or an accredited certification body with knowledge and experience of the types of products, the industry, and relevant standards of the product covered by the EPD and its geographical scope. Approved individual verifiers and accredited certification bodies are listed on www.environdec.com. See Section 5.10 for information on the process of checking the competence and qualifications of verifiers.

Only accredited certification bodies are authorized to conduct EPD process certification.

8.1 INDEPENDENCE OF VERIFICATION

The verification processes shall be carried out independently. The verifier is accountable for maintaining the independence of its activities and shall not allow commercial, financial, or any other pressures to compromise this independence. The verifier shall monitor its activities and its relationships to identify any threats to its independence, including those related to its personnel, where relevant. If a threat to independence is identified, actions shall be taken to eliminate or minimize its adverse influence on verifier's activities to ensure that independence is not compromised. Examples of threats to independence include self-interest, self-review, familiarity (or trust), and intimidation.

To maintain independence, the verifier shall not offer or provide:

- both consultancy and verification services for the same EPD(s),
- verification services to clients (e.g., EPD or tool owners) with whom the verifier has a relationship that poses an unacceptable threat to its independence, and
- verification services to clients (e.g., EPD or tool owners) who have received consultancy from an organization with whom the verifier has a relationship that poses an unacceptable threat to its independence.

The consultancy services includes, but are not limited, to the following:

- execution of LCA,
- development of EPD, and
- development of pre-verified tools used to generate EPDs subject to verification.

The verifier shall consider and take actions to eliminate or minimise potential threats to independence (e.g., familiarity/trust) when providing verification services to the same client (e.g., EPD or tool owner) on multiple occasions. The Secretariat reserves the right to assign verifiers to clients as deemed necessary.

The contract between the verifier and the client (e.g., EPD or tool owner) shall be written in such a way that there is no commercial, financial or other pressures that compromise independence. The verifier shall report any perceived pressure by the client to the Secretariat, who may assist with arbitration, if necessary.

The verifier's activities shall not be marketed or offered by any consultancy organisation, including tool owners.

The verifier shall contact the Secretariat upon becoming aware, for example, through a complaint, of any inappropriate associations or announcements made by consultancy organisations, including tool owners, suggesting or implying that verification would be simpler, easier, faster or less expensive by employing the verifier's services. Similarly, the verifier shall not suggest or imply that verification would be simpler, easier, faster or less expensive by engaging a particular consultancy organisation.

The verifier shall take action to respond to any threats to its independence arising from the actions of other persons and organisations. This includes the actions of those to which verifier activities have been outsourced.

The verifier may perform both tool verification and EPD verification generated by that same tool.

For verification of several EPDs at the same time, the amount of time for the verification of each EPD may be reduced due to common aspects of these EPDs. For verification of EPDs generated by a pre-verified tool, the amount of time for verification may also be reduced due to simpler verification.

8.2 PRINCIPLES FOR VERIFICATION

Based on the GPI, the PCR and relevant standards, the verification shall cover the following main areas:

- the underlying data used for the LCA calculations,
- the way the LCA calculations have been carried out and their compliance with the calculation rules,
- the presentation of environmental performance results,
- the presentation of additional environmental, social and economic information, and
- any other information included in the declaration.

The verifier may choose to organise the verification either as an “on-desk” or “on-site” exercise. The decision to conduct an on-site exercise is made by verifiers, but EPD owners may also request to adopt this approach to protect and minimise itself against the risk of sharing business sensitive information outside a controlled environment (i.e., a manufacturing site or the like).

When on-desk exercise is applied, with or without remote techniques for virtual visits, it shall be performed in a way that equal reliability and quality is ascertained as if performed on-site.

8.2.1 VERIFICATION

Verification is a process to confirm that data and information, through the provision of objective evidence, comply with specified requirements.

The objectives of the verification are to confirm:

- the conformance of the LCA and EPD with relevant requirements of GPI, applicable PCR(s), and standards,
- the plausibility, quality, and accuracy of the LCA and EPD by evaluating precision, completeness, representativeness, consistency, reproducibility, sources, and uncertainty, and
- that the EPD owner has established feasible procedures for updating the LCA and EPD when needed (see Section 8.3.2).

8.2.2 VALIDATION

Validation according to ISO 17029 and 14065 may be used as a conformity assessment when deemed appropriate.

8.2.3 DATA CONFIDENTIALITY

Business data may be of confidential nature because of competitive business aspects, intellectual property rights, or similar legal restrictions. Such confidential data are not required to make public in the EPD, as the EPD typically only provides data aggregated over the full, or relevant parts of, the life cycle. If information in the content declaration is confidential, generic names, or descriptions, of materials/substances and/or range of values (instead of specific values) can be declared in the EPD, provided that the applicable rules for declaration of hazardous are followed; but specific information shall be provided in the LCA report. Business data identified as confidential and provided during the verification process shall be kept confidential by the verifier unless otherwise agreed.

8.2.4 LEVEL OF ASSURANCE

The level of assurance as defined in ISO 14050 for verification should be at the reasonable assurance level, which entails a high level of confidence but does not guarantee absolute certainty. This recommendation applies to individual EPD verification, verification of EPDs developed using a pre-verified tool or within an EPD process certification, and tool verification.

8.3 EPD OWNERS' OBLIGATIONS FOR VERIFICATION

EPD owners developing an EPD shall:

- ensure that the LCA modelling and report, and the EPD, are independently verified,
- present data and information, on-desk and/or on-site, for verification (Section 8.3.1), and
- establish internal follow-up procedures (Section 8.3.2).

8.3.1 PRESENTATION OF DATA AND INFORMATION FOR VERIFICATION

Data for verification shall be presented in the form of an LCA report – a systematic and comprehensive summary of the project documentation that supports the verification of an EPD. The LCA report is not part of the public communication. The LCA report shall be written in English.

In the presentation of data for verification, references shall be made to the PCR, the GPI, as well as other documents used. In the event the verifier finds the LCA modelling, the LCA report or the EPD not in conformance with the requirements, the verifier may ask for additional information or further refinement of the underlying data. This dialogue shall be documented.

The presentation of the environmental performance results and other EPD content shall be sufficiently comprehensive to facilitate the examination by the verifier. Some guidance for the organisation providing data and information to the verifier is given below with regard to:

- layout of the presentation, and
- description of the LCA modelling and other background documentation for information declared in the EPD.

For construction product EPDs compliant with EN 15804, the requirements for the LCA report in Section 8 ("Project report") of the standard apply.

8.3.1.1 Layout of the presentation

The presentation of data from the LCA modelling shall be done in a consistent way to cover the most important aspects related to the accuracy and relevance of the data. Data on unit processes, modules and life-cycle stages shall be described in a transparent way, including references to any data used. The same rules apply regardless of the type of data, i.e., for primary and secondary data (see Annex A for definitions of these data categories), for data from databases and literature sources, from questionnaires, or derived from personal communication.

8.3.1.2 Description of the LCA modelling

Presentation of data, data quality assurance and data handling are central parts of the LCA model and the LCA report. Primary data collected from manufacturing processes shall be documented on the process or site level. Information on secondary data shall be reported on the level of aggregation available for use in the calculation, but more detailed data can be reported, if relevant.

Data and meta data relevant for the EPD shall be documented, as specified below per LCA phase.

Goal and scope definition: the following information shall be included in the LCA report, where relevant:

- definition of declared or functional unit, including technical specifications, product lifespan and reference service life, when relevant,
- description of key methodological elements, including documentation and justification of procedures for allocation, averaging data, and cut-off,

- the technical system (type of system, geographical location, system boundary, and description of life-cycle stages/modules including omissions of life-cycle stages/modules).

Inventory analysis: the following information shall be included in the LCA report, where relevant:

- the technical system (qualitative/quantitative description of unit processes, accounting for data confidentiality),
- data collection (primary/secondary data, collection procedures, time period for data collection, identification and handling of missing data and assessment of their influence on results, checks of data collection being performed, references, and other administrative information),
- assessment of data (internal quality assurance procedures; routines for identification, follow-up, and treatment of missing data; references to external critical reviews of data already assessed),
- presentation of LCI data and how they relate to the reference flow and the declared/functional unit, and
- other key assumptions made.

Impact assessment: the following information shall be included in the LCA report:

- results of the impact assessment,
- references to all characterisation methods and factors used, and
- a statement that "the environmental performance results are relative expressions and do not predict impacts on category endpoints, the exceeding of thresholds, safety margins or risks" (adopted from EN 15804).

Interpretation: the following information shall be included in the LCA report:

- identification of environmentally important aspects of the product system (e.g., inventory data, life-cycle stages and processes contributing substantially to the results),
- evaluation of impact assessment results (e.g., completeness check, sensitivity analysis/check, consistency check, uncertainty analysis)
- data quality assessment which cover data that together contribute to at least 80% of the results of each of the declared environmental impact indicators; the assessment shall cover at least the geographical, technical and temporal representativeness of the data (in line with requirements in Section A.5.4, based on EN 15941),
- limitations of the LCA results identified by the data quality assessment and sensitivity analysis, and
- conclusions and recommendations to specific decision makers based on the findings of the LCA study, for example related to reducing the environmental impact of the product system.

All parts of the interpretation shall be done in accordance with the goal and scope definition.

As a supplement to verifying the LCA modelling based on the LCA report, the verifier may verify aspects of the LCA modelling based on direct access to the LCA/EPD tool, the LCA software or underlying documentation (e.g., documentation of LCI datasets).

8.3.2 ESTABLISHMENT OF INTERNAL FOLLOW-UP PROCEDURES

Internal follow-up procedures shall be established with the aim of confirming whether the information in the EPD remains valid or if the EPD needs to be updated during its validity period (see Section 6.6). The parameters that may mandate an update shall be identified through the identified environmentally important aspects of the product system (see Section 8.3.1.2) and a sensitivity analysis. The established procedure may or may not involve a contracted verifier (see Section 8.4.8). The follow-up shall be done at least annually, based on last version date, and should be made with a frequency that will allow for an acceptable coverage of changes that might occur.

The procedure should include how the organisation monitors any significant changes that have taken place in the information submitted as input data for the information in the EPD, such as raw material acquisition, transportation modes, manufacturing processes, changes in product design, or updated legislation. The follow-up procedure may be integrated in an existing quality or environmental management system.

8.4 INDIVIDUAL EPD VERIFICATION

EPD verification is the assessment of LCA data (including LCI data and other data of the LCA model) and results, additional environmental, social, and economic information, and other information presented in an EPD based on the GPI and an applicable PCR(s).

EPD verification can be conducted by an approved individual verifier or an accredited certification body, which is the process described here in Section 8.4, or via EPD process certification, as is described in Section 8.5.

8.4.1 LCA AND PCR COMPLIANCE

The verifier shall check that the following have been performed in accordance with the GPI, the PCR, and relevant standards:

- collection of LCA data and choice of methods,
- inventory analysis, and
- impact assessment.

When reviewing the underlying data from the inventory analysis, the verifier shall examine that:

- each unit process is defined as specified in the PCR,
- all relevant information is documented for each unit process and module, i.e. is sufficiently consistent and understandable to enable an independent evaluation of the relevance of the data in accordance with the PCR, and
- data validity is reliable.

With regard to checking information from the inventory analysis, the verifier can make use of sample checks for the unit processes/information modules to check their conformity to original data sources. The organisation developing the EPD shall provide the verifier with information about the underlying data and calculations carried out upon request.

When reviewing the environmental performance results, the verifier shall check that the calculations are made in a correct way based on the inventory analysis results and the prescribed characterisation factors.

Sample checks should be carried out for:

- those unit processes/modules that have a significant influence on the inventory analysis results, and
- a random sample of unit processes/modules.

8.4.2 EPD INFORMATION

The verifier shall check the consistency of the information in all parts of the EPD related to the GPI, the PCR, and relevant standards, including, but not limited to, information about the product, the environmental performance results, the additional environmental, social, and economic information, as well as the mandatory statements. These rules also apply to any information of a more qualitative nature related to the organisation making the declaration.

The examination of the presentation of the EPD shall specifically consider that:

- the background information is presented in a transparent and understandable way,
- the presentation is credible and neutral,
- the declaration format follows requirements and recommendations on the overall layout,
- information in different presentation formats, for example EPDs in pdf and xml (i.e., machine-readable format), correspond with each other, and that
- information and guidance are given on where to find supplementary explanatory materials.

8.4.3 VERIFICATION OF SECTOR EPD

The verification procedure for a sector EPD should be stricter than company-specific EPDs due to the multiple character of information from the considerable number of operations and manufacturing sites to be covered in a sector EPD. The following aspects shall be handled in a specific way:

- a verification procedure whereby a verifier can assure inclusion of all operations and manufacturing sites, and
- the appointment of a person responsible for reporting all significant changes in the underlying material relevant for the sector EPD for all operations and manufacturing sites that may lead to adjustments in the EPD.

When defining a reasonable size for a representative sample of manufacturing sites as a basis for a sector EPDs, there are several possible points of departures, for example:

- to consider the verification procedure for environmental management systems in case of a corporate certification indicating that approximately one-third of the total number of sites should be visited annually so all sites should be covered over a period of three years (this rule may not be applicable for sector EPDs if the number of sites becomes too extensive),
- to consider if there exist clear differences among the sites with regard to the upstream processes or the manufacturing processes – and if so, make a representative sample out of each such category,
- to randomly check a number of sites and find out if there are any substantial differences to consider – if not, there is the possibility to apply basic theories of statistics indicating that reaching a sample size of approximately 25 sites will give reasonably good and accurate information about the average situation prevailing among the sites, or
- to decide about a suitable selection of sample size, for example covering a certain percentage, such as 20%.

Regardless which approach is taken, the sample size should be adjusted to the inherent uncertainties in traditional LCA studies and in the PCR.

8.4.4 OUTSOURCING

Certification bodies may outsource the verification task only if they are accredited to either ISO 17065 or ISO 17029, and follow the standards' requirements for outsourcing.

Individual verifiers are prohibited from outsourcing their verification tasks.

8.4.5 EPD VERIFICATION REPORT

The verification procedure shall be transparent and result in a verification report in English. One report may be used for the verification of several EPDs, if the EPDs are using the same PCR and follow the same periods of validity. The report shall document the verification process, including the dialogue between the LCA practitioner and the verifier, while adhering to the rules of data confidentiality. The dialogue shall include the following information:

- index of the comment,
- reference of the LCA report/EPD addressed by the comment,
- type of comment (editorial, general, or technical),
- verifier comment and recommendation,
- practitioner of the LCA study response, and
- final verifier statement

The verification report shall be dated and signed by the verifier. This date is the date the EPD is approved, and becomes the version date of the EPD[36]. If the verifier has an additional approval process subsequent to the verification report, the version date may be determined for that process provided it is documented and submitted together with the verification report. The version date shall be within the validity period of the PCR.

The report shall include the following information:

- Registration number of EPD(s)
- Product name(s)
- EPD owner
- PCR and c-PCR(s), including registration number, name and version
- Validity date
- Additional comments from verifier, if relevant
- Title and version of the LCA report
- Name of the LCA practitioner, if applicable
- Revision date of the EPD(s), if applicable
- Name and version of the pre-verified LCA/EPD tool, if applicable
- Name of the organisation and the outsourced reviewer(s) involved in the verification process (see Section 8.4.4), if applicable
- Name of the verifier(s) which has been replaced, if applicable
- Name and organisation of the verifier
- Approval date, location and signature by verifier

The verification report shall be submitted during the EPD publication process and be available to any person upon request.

For construction product EPDs, the verification report template available on www.environdec.com shall be used.

8.4.6 PROVIDING INFORMATION ABOUT EPD PUBLICATION

During EPD verification, the verifier shall inform the organisation developing the EPD that for the output to be called an EPD and to be valid, then its publication on www.environdec.com is mandatory, and that any other publication shall not be referred to as an EPD.

8.4.7 SETTING EPD VALIDITY

An EPD becomes valid as of its version date (see Section 8.4.5). When an EPD is originally published, the validity period is normally five years starting from the version date; shorter validity periods are also accepted, for example if decided by the EPD owner. For validity periods in case of updates of EPDs, see Section 6.6. The version date and the period of validity shall be stated in the EPD (see Section 7.4).

Publication of a new version of the PCR or the GPI does not affect the validity of already published EPDs.

8.4.8 FOLLOW-UP DURING THE EPD VALIDITY PERIOD

As part of the verification, a procedure to follow-up and monitor any changes that would require an update of the EPD during its validity period shall be made (see Section 6.6 and Section 8.3.2). Recalculation of the LCA results may be necessary to determine if the change(s) lead to an increase of 10% or more in the aggregated

[36] The version date corresponds to the “date of publication” according to ISO 14025 and “date of issue” according to EN 15804.

results over the included life-cycle stages for any of the declared environmental performance indicators (see Section 6.8.1).

The follow-up may be organised either:

1. fully by the company itself during the EPD period of validity. If the established follow-up procedure identifies changes needed in the EPD, a verifier shall be contracted to perform verification, or
2. as the responsibility of the EPD owner, but with a follow-up in which a verifier is contracted to take part in the follow-up throughout the period of validity of the EPD.

The annual follow-up shall be documented and available upon request. A voluntary template for the follow-up is available on www.environdec.com.

Any change requiring an EPD update, according to Section 6.8.1, shall be corrected within a 6-month period; otherwise, the EPD may be permanently depublished and archived by the Secretariat (see Section 5.5).

8.4.9 VERIFICATION OF EPD UPDATES

All EPD updates shall undergo re-verification according to Section 8, except for editorial changes (see below). This verification may be based on one of the following options:

- The same version of the PCR[37] as was used in the original verification, even if it is not a currently valid version or if the PCR has expired. The revised EPD shall then maintain its original period of validity
- A current, valid version of the PCR. The new period of validity for the EPD may then be set based on its new version date (see Section 8.4.5).

The verification shall result in a verification report. The updated EPD and proof of verification shall, thereafter, be provided to the Secretariat to update the published version on the website.

If the changes made are only editorial, such as a change of logotype or correction of spelling errors, this shall be done without re-verification. In such cases, the version date shall be the date of the latest version that was uploaded on the website and the period of validity shall be maintained.

8.5 EPD PROCESS CERTIFICATION

EPD process certification can be used to simplify the process for EPD owners in collecting data, conducting LCAs, and developing EPDs on a large scale. With EPD process certification, the EPD owner handles the management of EPD data involved in the independent verification procedure by themselves and issues EPDs without a third-party verifier being involved in each case. An EPD process certification may be implemented under a multi-site approach, i.e., covering several subsidiaries or entities of an organisation, if the EPD process covers all sites included under the EPD process certification. The ownership of the EPD may be delegated to the other entities and subsidiaries that are covered in the same scope of the EPD process certification.

An organisation that has an EPD process certification assessed and certified by an accredited body on a regular basis, is allowed to:

- develop and issue new EPDs for publication on www.environdec.com, and
- update published EPDs.

Terminology of EPD process certification is described in Section 12.

[37] Including the same version of the default list of environmental performance indicators on www.environdec.com/indicators.

8.5.1 THE EPD PROCESS

8.5.1.1 General requirements

The organisation subject to the EPD process certification shall establish, document, implement, and maintain a systemized EPD process and continually improve its effectiveness in accordance with the requirements of this document.

The organisation shall:

- determine the sequence and interaction of the EPD process and other processes within the organisation,
- determine the criteria and methods needed to ensure that both the operation and control of the EPD process are effective,
- ensure the availability of the resources and information necessary to support the operation of and to monitor the EPD process,
- monitor, measure where applicable, and analyse the EPD process, and
- implement actions necessary to achieve planned results and continual improvement of the EPD process.

Where an organisation chooses to outsource any part of the EPD process that affects the conformity of the EPD result, the organisation shall ensure control over such process parts and retain full responsibility.

An internal verifier from the organisation holding the EPD process certification shall perform verification procedure according to Section 8.4 on the LCA and EPD developed within the EPD process before publication. This procedure shall be documented in a verification report and submitted during the EPD publication process (see Section 8.4.5).

The EPD process shall be certified by an accredited certification body that has evidence of competence in audit of management systems for all personnel involved in EPD process certification, and the certification shall be done as an accredited service under the supervision of a accreditation body.

8.5.1.2 Document requirements

The documentation of the EPD process shall include:

- a general description of the EPD process,
- description and records of evaluation of internal verifier competences, and
- documented procedures and records required by this document.

8.5.1.3 Management responsibility

The internal EPD process certification process shall be outlined according to the "PDCA (Plan Do Check Act) principle":

- **Planning:** Setting up resources needed for this activity, assessment plans, and defining criteria for approval. Records of this shall be kept.
- **Doing:** Executing assessments according to plan with trained internal staff at defined intervals and according to the criteria for approval. Records of this shall be kept.
- **Checking:** An internal independent party shall review that the EPD process certification activity is outlined well and works effectively and according to the norms.
- **Acting:** Finally, management shall confirm in a written statement that the above process works properly and effective and according to the norms. The statement shall be updated annually.

Top management shall ensure that responsibilities and authorities related to the EPD process are defined and communicated within the organisation. An EPD process ownership and EPD responsible publisher shall be defined.

Top management shall explicitly declare its intensions and ambitions with the EPD process in the form of one or several policies, strategies, or similar type of documents.

Top management shall annually, based on the results from internal assessments and annual audit (see section 8.5.4), evaluate the EPD process concerning its effectiveness, relevance, and appropriateness and draw conclusions and define actions needed for the continuous improvement of the EPD process.

8.5.1.4 Provision of resources

The organisation shall determine and provide the resources needed to implement and maintain the EPD process and continually improve its effectiveness.

Personnel performing work affecting conformity to the EPD process requirements shall be competent regarding appropriate education, training, skills, and experience.

The organisation shall:

- determine the necessary competence for personnel performing work affecting conformity to the EPD process requirements,
- where applicable, provide training or take other actions to achieve the necessary competence,
- evaluate the effectiveness of the actions taken,
- ensure that its personnel are aware of the relevance and importance of their activities and how they contribute to the conformity of EPD process requirements, and
- maintain appropriate records of education, training, skills, and experience.

The organisation shall determine, provide, and maintain the infrastructure needed to achieve conformity to the EPD process requirements. Infrastructure includes, where applicable,

- workspace and associated utilities,
- process equipment (both hardware and software),
- supporting services (i.e. information systems), and
- experience as an LCA practitioner according to Section 5.10.1.3.

8.5.1.5 Planning the EPD process

The organisation shall plan and develop the EPD process. The planning of the EPD process shall be consistent with the requirements of the GPI and applicable PCR(s). In planning the EPD process, the organisation shall consider the following:

- CPC code(s) and applicable PCR(s),
- applicable GPI version(s)[38],
- production site(s),
- type of EPD (see Section 6.2),
- the need to specify activities within the EPD process and to provide specific resources for these (i.e., data collection, LCA modelling, LCA results review, EPD preparation, EPD verification, maintenance of the period of validity of EPDs, and representativeness),
- required verification of the LCA and EPD,
- records needed to provide evidence that the EPD process meets the EPD process certification requirements.

[38] In case the PCR is based on an older version of the current GPI, both versions are applicable. See Section 5.1 for a description of when different parts of a new version of the GPI becomes applicable.

In planning the EPD process, the organisation shall also consider the following, where applicable:

- pre-verified tools (see Section 8.6),
- single-footprint report (see Section 6.5.2), and
- machine-readable EPD format (see Section 7 and 8.4.2).

Status check of relevant requirements

The organisation shall determine and ensure it has the ability to meet the requirements in the applicable PCR(s), GPI and relevant standards.

The organisation is responsible to check for changes in the requirements, for example by monitoring upcoming GPI and PCR updates. Any changes affecting the EPD process shall be communicated to the certification body that issued the certificate. The certification body shall require appropriate corrections and corrective actions within a reasonable time limit and without undue delay to maintain the certification. The implementation of the corrections shall be reviewed and approved by the certification body and, if appropriate, it may be postponed to the annual audit (see Section 8.5.4).

Records such as status checks and actions arising from the review shall be maintained.

8.5.1.6 Operation of the EPD process

Collecting information

The organisation shall ensure that collected data conforms to data quality requirements according to GPI and applicable PCR(s). The type and extent of control applied to the data collection activity shall be dependent upon the effects the gathered information will have on the LCA result and the representativeness of the EPD.

The organisation shall establish and implement controlling activities necessary to ensure that the information used in the LCA for EPDs is relevant, consistent, and up-to date.

Operation of the LCA and EPD development

The organisation shall plan and carry out the LCA and EPD under controlled conditions. Controlled conditions shall include, where applicable:

- the availability of information that describes the characteristics of the actual product group,
- the availability of work instructions, where necessary,
- the use of suitable equipment and communication tools, and
- the availability and use of internal or external verification of EPDs.

Some information in EPDs is not connected to an LCA but shall be planed and controlled similarly, securing sources and quality of data.

Maintenance of the EPD during its validity

The organisation shall ensure the EPD's representativeness during its validity period (see Section 6.6.1 and 8.3.2).

The EPD process shall contain measures that identify changing conditions that risk making the EPDs out of date or not representative. Efficient control and applicable action shall be applied to such identified risks.

8.5.2 EPD PROCESS ASSURANCE

8.5.2.1 EPD process assessment

The organisation shall conduct internal EPD process assessments at planned intervals to determine whether the EPD process:

- Conforms to the planned arrangements, to the requirements in the GPI and applicable PCR(s), and to the EPD process requirements established by the organisation, and
- is effectively implemented and maintained.

An assessment programme shall be planned, taking into consideration the status and importance of the activities within the EPD process to be assessed, as well as the results of previous assessments. The assessment criteria, scope, frequency, and methods shall be defined. The selection of assessors and conduct of assessments shall ensure the objectivity and independence of the audit process. Assessors shall not assess their own work.

A documented procedure shall be established to define the responsibilities and requirements for planning and conducting assessments, establishing records, and reporting results. Records of the assessment results shall be maintained.

The management responsible for the activity being assessed shall ensure that any necessary corrections and corrective actions are taken without undue delay to eliminate detected non-conformities and their causes. Follow up activities shall include a review of the effectiveness of any corrective action taken and the reporting of these results.

8.5.2.2 EPD management review

Top management (or a representative with the role of EPD process owner) shall annually review the organisation's EPD process to ensure its continuing suitability, adequacy, and effectiveness. This review shall include assessing opportunities for improvement and the need for changes to the EPD process.

Records from such reviews shall be maintained.

Review input

The input to management review shall include information on:

- results from internal assessments,
- reaction from EPD audience and other stakeholders,
- result from the annual audit (see Section 8.5.4) of the EPD process performance and EPD conformity,
- status on corrective actions,
- follow-up actions from previous management reviews,
- changes that could affect the launched EPDs, as well as the development of new EPDs, and
- recommendations for improvement.

Review output

The main output of the review is the EPD process assurance statement, which ensures the conformity of the present EPD process with the GPI.

Other outputs from the management review shall include any decisions and actions related to

- the improvement of the effectiveness of the EPD process and its activities,
- the improvement of individual EPDs related to input from the EPD audience or other relevant stakeholders, and
- resource needs.

8.5.3 EPD PROCESS CERTIFICATION

The EPD process certification assessment has the form of a check of the quality assurance of the internal competence and skills in an organisation to:

- conduct the prescribed LCA calculations according to the GPI and the PCR(s) as determined based on the scope of the process certification,
- develop EPDs according to the GPI and the PCR(s) as determined based on the scope of the process certification, and
- have regular follow-up routines in place to accurately check the relevance of the current information in published EPDs.

The result is an EPD process certificate, stating that the EPD process and EPD process assurance activity adhere to the GPI and applicable PCR(s), including their respective versions. Without changes to the EPD process, the EPD Process Certification shall be valid for a maximum of one year. A valid certificate shall be submitted to the Secretariat during the EPD publication.

EPDs developed in a certified EPD process shall be considered as a third-party verified EPDs.

The expiration of the EPD process certification does not affect the validity of previously published EPDs during the certification's validity period.

8.5.4 ANNUAL AUDIT

During the validity period of the EPDs following the EPD process, there shall be an annual audit done by an accredited certification body, as a complement to the internal assurance activity.

The audit shall cover the EPD process and the internal EPD process assurance activity. The audit shall follow the praxis from management systems standards, such as ISO 9001, ISO 14001 and ISO 50001. To minimize redundancy, audits for processes included in EPD process certification, already certified under ISO 9001 or equivalent management system standards, should be avoided where reasonable. The accredited certification body decides whether prior certification is of sufficient quality to be applied/considered under the EPD process certification.

The annual audit shall also include verification, according to Section 8, on a sample of EPDs, with at least one EPD selected per product category, and one manufacturing site, as published by the organisation. If the EPD process includes several manufacturing plants, the sample should alternate between those. The certification body may choose to organise the annual audit either as an “on-desk” or “on-site” exercise.

8.6 PRE-VERIFIED TOOLS FOR EPD DEVELOPMENT

The International EPD System allows the use of *pre-verified tools*. The application of these tools simplifies the individual EPD verification (Section 8.4) or replace it with an annual EPD verification.

A simplification of the EPD verification means that the verifier does not need to review and confirm the conformity of requirements related to the LCA and the EPD that have already been pre-verified in the tool.

A pre-verified tool that only generates LCA results is categorised as a *pre-verified LCA tool.* If the tool generates a complete EPD, including LCA results and all mandatory EPD information, it is categorised as a *pre-verified EPD tool*. For both tool types, the individual EPD verification can be simplified. If a pre-verified EPD tool can ensure the integrity of all the input and output data, the individual EPD verification can be replaced with an annual EPD verification, categorised as *fully pre-verified EPD tool*. In Table 8, the different types of pre-verified tools are summarised.

Table 8. Classification of pre-verified tools.

Tool types	Final outputs	Benefits
Pre-verified LCA tool	LCA results	Simplified individual EPD verification
Pre-verified EPD tool	EPD	Simplified individual EPD verification
Fully pre-verified EPD tool	EPD	Replacing individual EPD verification with annual EPD verification

All tool types shall be accompanied by and/or generate the following (see Section 8.6.7):

- tool project report,
- LCA report,
- LCA results or an EPD,
- pilot-EPD verification report,
- tool verification report,
- simplified EPD verification report, and
- any relevant guidance related the tool.

Valid pre-verified tools shall be registered on www.environdec.com.

The quality of the simplified EPD verification or annual EPD verification that is enabled when using pre-verified tools shall be the same as for individual EPD verifications.

Any tool can be used for EPD development but only tools that have undergone tool verification can be recognised as *pre-verified tools.*

8.6.1 SCOPE OF PRE-VERIFICATION

The prerequisite for pre-verified tools is that the user shall not be able to modify or manipulate data and information that have been pre-verified. The collection of pre-verified data and information in a tool is defined in the *scope of pre-verification*. The scope shall be comprehensively described in the tool project report by the tool owner, including but not limited to:

- a disclosure of all pre-verified data and information,
- the procedures in place to prohibit modification and manipulation to ensure the integrity of the data and information, and
- the product categories to which the tool is limited.

8.6.2 TOOL VALIDITY AND PCR COVERAGE

Pre-verified tools should be valid for a single PCR but may also be valid for several defined PCRs, including a certain one-digit version number of each PCR[39]. The validity of the tool shall be the same as the PCR to which it complies, with a maximum of five years. In case the tool is compliant with several PCRs, the validity shall be in accordance with the validity date of the PCR which expires first. The transition period of a PCR, as described in Section 9.6, is also applicable for tools. The tool shall be re-verified at the end of the validity period or the transition period of the PCR to maintain its validity.

To extend the scope of the pre-verified tool to other PCRs, it shall be re-verified against these PCRs. In cases where the PCR can be applied for different subcategories of products (e.g. with different functional or declared units), the scope of the pre-verified tool shall be further specified, using for example relevant c-PCRs, CPC

[39] For example, if the PCR is updated from version number 1.1.0 to 1.1.1 or 1.2.0, the tool covers the updated versions, but if the PCR is updated from 1.1.0 to 2.0.0, the tool does not cover the updated version (see Section 9.6).

codes, and/or other relevant product classification systems. The owner of the pre-verified tool is responsible to check any relevant changes, e.g. changes in the PCR(s), which may require an update of the pre-verified tool (see Section 8.6.3).

For PCRs divided into a main PCR and c-PCRs (see Section 9.1), a pre-verified tool cannot be based on the main PCR only. The Secretariat may, on a case-by-case basis, allow a pre-verified tool to be based on a main PCR. In these cases, the LCA model in the tool shall be adapted and configured for each user, considering changes in, but not limited to, bills of material, transportation, manufacturing, and scenarios. The LCA model and user's data shall be pre-verified and documented in the tool verification report as part of the tool verification (See Section 8.6.7).

8.6.3 TOOL UPDATES

The tool owner is responsible to update the tool if conditions have changed, e.g., if the data quality requirements are no longer fulfilled. Any change to the tool beyond the variation of user-defined input parameters shall be documented and communicated to the Secretariat by the tool owner and result in a new version of the tool. All changes that may affect numeric results of the LCA or may potentially jeopardize fulfilment of formal requirements to the final document require a re-verification of the tool. The re-verification may be limited to the parts of the tool that were modified. Only verified versions of the tool shall be used to develop EPDs. The tool versions shall be archived for the validity period of the last EPD created with the tool. The tool owner shall be responsible for archiving the tool versions.

Re-verification of the tool shall also include pilot EPD verification(s).

8.6.3.1 Tool logbook

To facilitate tool verification in case of future updates, the tool owner shall maintain a tool logbook. The tool logbook shall include records of any changes made to the tool, including but not restricted to:

- new data,
- modification of formulae and algorithms,
- modification of background data,
- expansion to additional PCRs, and
- changes to format and content of output.

The tool logbook shall also include the date of any changes made and a clear numbering of the tool's versions.

8.6.4 VERIFICATION OF EPDS FROM PRE-VERIFIED TOOL

EPDs developed using a pre-verified tool that do not fulfil requirements for a fully pre-verified EPD tool in Section 8.6.9 shall undergo a simplified form of the individual EPD verification outlined in Section 8.4. The extent of simplification to the verification (e.g., conformity check on requirements) depends on the tool's scope of pre-verification. The elements that are pre-verified in the tool have already been approved and should not need to be included in the verification of EPDs generated by the tool.

The following documentation shall be provided by the tool owner to the EPD owner for the simplified EPD verification performed by an approved verifier:

- simplified EPD verification report,
- LCA report,
- LCA results or an EPD, and
- any relevant guidance related the tool.

The tool project report and tool verification report should also be shared if deemed necessary by the EPD owner or verifier.

The simplified EPD verification may be restricted to the following aspects:

- evaluation of plausibility and representativeness of input and output data[40],
- fulfilment of reporting requirements (see Section 7.4 and applicable PCRs),
- additional environmental, social, and economic information, and
- internal follow-up procedures during EPD validity (see Section 8.3.2).

8.6.5 NON-CONFORMITY AFFECTING ALREADY PUBLISHED EPDS

If the non-conformity is related to the tool, the tool owner has the responsibility to handle the tool deviation according to their internal management procedure for tool deviations. The procedure shall include a root-cause analysis, a process of identifying which versions that are affected, and a communication strategy to inform involved parties, such as all users of the tools and the Secretariat.

To determine appropriate corrective actions for tool deviations, they are categorised as either minor and major deviations. The classification depends on the extent to which it affects the quality of the EPD generated by the tool and its application. More information can be found in Sections 8.6.5.1 and 8.6.5.2.

Note that all deviations shall be reported to the Secretariat, which has the final decision on the nature of the deviation.

8.6.5.1 Minor tool deviation

If the tool deviation and its impact on the quality of the generated LCA results or EPDs is negligible, it is defined as a minor deviation. A minor deviation shall not affect:

- the environmental performance results with more than 10%, or
- the transparency in a way that limit the interpretation and comparability of results.

Corrective actions for a minor tool deviation can be postponed to a tool update that is planned in a reasonably near future.

In case there are several minor tool deviations, the Secretariat can decide that these constitute one major deviation.

8.6.5.2 Major tool deviation

If the tool deviation substantially impacts the quality of the generated LCA results or EPDs, it is defined as a major deviation. A deviation is considered major if it does not meet the criteria for a minor deviation outlined in Section 8.6.5.1.

Corrective actions for a major tool deviation shall be initiated as soon as possible. Meanwhile, access of the tool or relevant parts of the tool shall be immediately restricted for all users, unless a workaround has been reviewed and approved by the Secretariat. The tool may be temporarily withdrawn from the International EPD System as a precautionary measure.

If the tool owner can provide a temporary solution to the major deviation, the corrective actions for the deviation may be deferred until a tool update planned in the reasonably near future, provided that the Secretariat approves both the temporary solution and the timeframe for the next tool update.

[40] Plausibility checks on input data include, for example, checks of raw data elaboration before it is fed in the tool (e.g., calculating the energy consumption for the manufacturing stage) in a way that is compatible with the input interface of the tool (e.g., kWh/FU or MJ/FU). Checks on the output data may include, for example, checking whether any intentional or accidental manipulations have been done before the data (e.g. environmental performance results) were added to the EPD outside of the tool. This verification process requires the verifier to have access to the tool and/or unedited tool outputs.

8.6.5.3 EPD deviations

The EPDs that may have been affected by tool deviation(s) shall be reported to the Secretariat according to the procedures in Section 5.5. In case EPD deviation(s) is identified, it shall be handled according to the procedures in Section 6.8.

8.6.6 APPLICATION FOR TOOL VERIFICATION

The tool owner is responsible for organising the verification of the pre-verified tool. Verifiers, both individual verifiers and certification bodies, shall obtain case-by-case approval from the Secretariat before conducting the tool verification. Additionally, certification bodies may need to check with their accreditation body whether tool verification is within their current certification and if there are any other requirements to consider.

An application to act as the verifier of a pre-verified tool shall be submitted to the Secretariat. The application form is available at www.environdec.com.

8.6.7 TOOL REGISTRATION

For tool registration in the International EPD System, the tool owner shall, at a minimum, submit the following documents to the Secretariat after obtaining approval from the tool verification:

- tool verification report,
- pilot EPD verification report, and
- simplified EPD verification report.

The Secretariat may request additional information and a demonstration of the tool if deemed necessary. Additional requirements and guidelines related to tool registration may be available on www.environdec.com.

8.6.8 GENERAL REQUIREMENTS FOR VERIFICATION OF PRE-VERIFIED TOOLS

A pre-verified LCA or EPD tool undergoes verification and approval based on the following:

- the tool and tool project report,
- LCA report,
- LCA results or an EPD,
- pilot EPD verification report,
- tool verification report,
- simplified EPD verification report, and
- tool introduction training.

8.6.8.1 Tool and tool project report

The tool owner shall provide the tool and the tool project report to the verifier, and report shall include the following:

- ownership of the tool (legal entity),
- identification of the tool including the version number,
- scope of the tool,
- applicable PCR(s), including the PCR version,
- description of the LCA model of the tool,
- assumptions on which the model is based, including system boundary, cut offs, allocation method and other calculation rules,

- scope of pre-verification (see Section 8.6.1),
- identification of the variable parameters with significant impact on the environmental performance results,
- description of the data quality, data sources and references,
- conditions under which the tool is to be used, including data and software security, and usability,
- information included in the LCA report,
- internal management procedure for tool deviations (see Section 8.6.5),
- definition of roles and processes,
- training and guidance for users, and
- procedures for maintenance and update of the tool.

After tool verification, changes to the tool shall be restricted to modifying user-defined input parameters. The tool owner is responsible to ensure that users are unable to modify or manipulate any aspects within the scope of pre-verification.

To maintain data integrity, one common method is to employ locking mechanisms, which can range from simple password-based locks to more advanced access control and permission systems. These mechanisms restrict access and modification rights based on user roles and privileges. Other methods can also be applied, as well as in a combination with locking.

8.6.8.2 LCA report

For pre-verified tools, the LCA report serves as a complementary document to the tool project report, which is generated by the tool and includes data and information that is unique to users' input. If the tool does not generate an LCA report, justification shall be provided during the application procedure (see Section 8.6.6), including an explanation of how the data and information are handled.

The tool project report and pilot EPD(s) should support the structuring of the LCA report. The LCA report shall include:

- relevant information for EPD verification in accordance to Section 8.3.1,
- a reference to the tool version and the tool project report,
- a description and explanation of the variable input data and the main drivers for the indicator results, and
- a description of the data quality of the variable input data.

8.6.8.3 LCA results or an EPD

Pre-verified LCA tool shall generate and provide documentation on the LCA results according to the requirements in the GPI and applicable PCR(s).

Pre-verified EPD tool shall generate a complete EPD, including LCA results and all mandatory EPD information according to the requirements in the GPI and applicable PCR(s).

8.6.8.4 Pilot EPD verification

The verification of pilot EPD(s) developed by a tool shall be included in the tool verification. Real or fictive products may be used for this purpose. The verification of pilot EPD(s) shall follow the requirements outlined for individual EPD verification (see Section 8.4), and the results shall be documented in a verification report.

The tool verifier shall determine the number of pilot EPDs to be included in the tool verification process. Once the tool has been verified, and registered in the International EPD system, pilot EPD(s) on real products may be published.

8.6.8.5 Tool verification report

The tool verification shall be documented by the tool verifier in a *tool verification report*. The tool verification report shall present how the tool meets the relevant requirements in the GPI and applicable PCR(s). The report shall also include the solutions approved by tool verifier for preventing manipulation of pre-verified data and information, in accordance with the defined scope of pre-verification outlined in the tool project report.

8.6.8.6 Simplified EPD verification report

For pre-verified tools that require EPDs to undergo a simplified EPD verification, a simplified EPD verification report based on the tool shall be developed and used when conducting simplified EPD verifications. The report shall be developed by the tool owner and approved by the tool verifier during the tool verification process. It shall include all relevant requirements from the GPI and applicable PCR(s). Requirements that are already pre-verified within the tool shall be marked as approved to avoid duplication of verification efforts. The tool owner is responsible for ensuring the template is kept up to date. If applicable, mandatory verification report templates available on www.environdec.com shall be adopted. The verification report shall comply with the requirements outlined in Section 8.4.5.

8.6.8.7 Tool introduction training

The introductory training shall be designed to equip new users, including verifiers, with the essential skills needed to effectively use the tool. The training should cover an overview of the tool's scope, a detailed walk-through of its key features, and practical examples. By the end of the training, users shall be capable of navigating the tool's interface, utilizing its primary functionalities, and understanding how it performs calculations.

8.6.9 REQUIREMENTS FOR VERIFICATION OF FULLY PRE-VERIFIED EPD TOOL

A fully pre-verified EPD tool refer to EPD tools integrated into electronic and administrative systems to maintain the integrity of pre-verified data and information. This allows for the publication of EPDs without an individual or simplified EPD verification, with exceptions for verification of pilot EPD(s) described in Section 8.6.7.1 and EPDs included in the *annual EPD verification* described in Section 8.6.9.3.

8.6.9.1 General requirements for verification of fully pre-verified EPD tools

For the verification of fully pre-verified EPD tool, the same requirements as for other pre-verified tools apply (see Section 8.6.7).

To ensure data integrity, the tool should have an automated data input feature, and the source of data and the transfer process shall be reasonably safeguarded against manipulation, whether intentional or accidental. To meet this requirement, one or a combination of the following sources of data can be considered:

- systems to control production processes,
- accounting systems, or
- other data management systems.

When the integrity of data and information can't be ensured through automated data transfer from sources secured against manipulation, other solutions may be used. One example, as mentioned in Section 8.6.2, is to customise the tool for each user, where the customised LCA model and user's input data are pre-verified during the tool verification. If input data can't be pre-verified, another potential solution could be to implement automated plausibility checks within the tool.

All data and information to be included in an EPD shall be provided by the tool as an output and automatically transferred via API to the EPD Portal.

Due to the novelty of this type of tool, the Secretariat may require additional testing before approval, if deemed necessary. These tests may be conducted by the Secretariat or the TC and can also be outsourced if needed.

8.6.9.2 Additional requirements for tool logbook

To facilitate the third-party annual EPD verification (see Section 8.6.8.3), the tool logbook (see Section 8.6.3.1) shall be complemented with documentation of at least the following information for all EPDs generated:

- name and registration number of the EPD,
- date of generation,
- name and contact information of the EPD owner,
- all user-defined input parameters,
- identification of the product according to Section 7.4.4, and
- location of the production site(s) according to Section 7.4.4.

The above information shall be saved automatically and made available for the verifier during the annual EPD verification.

8.6.9.3 Annual EPD verification

At least once a year, a third-party verification of a reasonable number of EPDs, relative to the total number of EPDs generated, shall be conducted by an approved verifier. The EPD verifications follow the requirements outlined for individual EPD verification (see Section 8.4). The sampling shall consider records in the tool logbook, and select EPDs dependent on various criteria, including but not limited to EPD owners, products and product categories, and locations of production sites.

Each annual EPD verification shall be documented in an EPD verification report that shall include the mandatory information according to Section 8.6.8.6 and the following as a minimum:

- the number of EPDs generated and published with the tool since the last annual EPD verification, and
- the description of the sample considered in the verification and how it was determined.

The tool owner is responsible for ensuring that the annual EPD verification is carried out.

Deviations that are identified during the annual EPD verification shall be handled according to Section 8.6.5.

9 PROCESS FOR PCR DEVELOPMENT AND MAINTENANCE

Product Category Rules (PCR) provide rules and guidelines for developing EPDs for specific product categories. They shall be used together with the GPI, and relevant reference standards, when developing EPDs. A PCR should enable different practitioners to generate consistent results when assessing products of the same product category, to as far as possible support comparability of products within a product category.

PCRs shall include rules enabling comparability within the product category, including rules related to EPD content and LCA method. The GPI shall be the main reference for PCR development and the PCR shall be developed in accordance with the rules in the GPI and, for rules on the environmental performance indicators, at the website (www.environdec.com/indicators). PCRs should refer to Section 7 of this GPI for rules on EPD content and format, and Annex A of this GPI and the website for rules on the LCA method, and not repeat any content of Section 7, Annex A, and the website. PCRs may, however, include additions, specifications and deviations to the rules set in the GPI and at the website, as further described below. Any non-conformity with the GPI and the website shall be documented and is subject to approval during the PCR review.

The process for PCR development described in the following sections is compliant with ISO/TS 14027.

PCRs in the International EPD System shall be developed and published in English. Translated versions of the PCRs may be published in addition to the English version, but the English version shall take precedence in the event of any discrepancies and the English version shall be used as the basis for verification. For version control, the date of the publication of the translated version shall be declared at its cover page.

PCRs shall be based on one or more LCAs representing the full product life cycle conducted in accordance with ISO 14044 and other relevant LCA-based footprint studies, including any supporting studies performed in parallel to the PCR development. The PCR Committee should review relevant scientific papers available or submitted during the preparation, as appropriate. The final PCR shall reference the supporting studies, but they do not have to be publicly available.

PCRs developed in the International EPD System should have a global scope, to be as applicable as possible and to avoid creating unnecessary trade barriers.

PCRs shall aim to account for all environmentally relevant aspects of the product life cycle.

PCRs shall be developed with the intention of publishing and enabling others to publish EPDs.

The PCR development should be done by a PCR Committee, led by a PCR Moderator. The review and approval of PCRs shall be done by the TC. The Secretariat shall guide and oversee the process. Section 4.3 describes the roles in PCR development in more detail.

The development of a PCR shall be done in an internationally accepted manner based on an open, transparent, and participatory process. The PCR Committee should consist of multiple organisations, which jointly shall have expertise in the product category and in LCA/EPD. Reasonable efforts should be made to achieve consensus throughout the process.

The Secretariat may terminate the development of a PCR, for example in the event of repeated delays or the non-fulfilment of review comments.

The programme operator shall maintain the copyright of the draft and final PCR to ensure that it is possible to publish, update when necessary, and make available to all organisations to develop and register EPDs. Stakeholders participating in PCR development should be acknowledged in the final document and on the website.

The PCR development process consists of the following steps:

1. Initiation (see Section 9.2)
2. Preparation (see Section 9.3)
3. Open consultation (see Section 9.4)
4. Review, approval, and publication (see Section 9.5)

A checklist for PCR development is available on www.environdec.com.

After publication, a PCR may be updated (see Section 9.6) and later depublished if expired and no longer relevant (see Section 9.7).

9.1 MAIN PCR AND COMPLEMENTARY PCR

PCRs covering broad product categories (e.g., construction products) may be complemented by c-PCRs providing further rules and guidance for a subcategory (e.g., cement products). PCRs that may be complemented by c-PCRs are main PCRs.[41] The system of a main PCR complemented by several c-PCRs should be used for industrial sectors:

- in which the use of EPDs is widespread and expected to grow,
- have a wide and diverse set of product categories (making it impractical to handle the many methodological variations in a single PCR),
- in which there is an interest to as far as possible harmonise methodological aspects between product categories, and
- in which there is an interest to gather the common methodological guidance in a single document (the main PCR), instead of in many separate PCRs.

Main PCRs should only allow declaration of environmental performance per declared unit, and thus a c-PCR may be needed to declare the environmental performance per functional unit (declared and functional units are defined in Section A.2). Apart from functional unit, a c-PCR may provide rules and guidance on other methodological aspects of specific relevance for its scope, but only rules and guidance that differ or is additional to the main PCR. A c-PCR should follow the same version of the GPI as the main PCR, but if a main PCR is updated to a newer version of the GPI, the c-PCR remains valid for use together with the updated main PCR. If requirements in the main PCR and a c-PCRs differ, the requirements in the c-PCR shall prevail.

The development/updating of c-PCRs should follow the same process as the development/updating of regular PCRs. The only exception allowed is if the c-PCR is an adoption of an external PCR or standard that in turn has undergone sufficient consultation and review processes. In such cases, the content of the external PCR/standard shall be reviewed by the Secretariat to ensure an acceptable quality, if necessary with support from the TC, before being adopted as a c-PCR in the International EPD System. An example of such adoption is the c-PCRs for construction products, for which EN standards outlining product category rules for a subcategory of construction products shall be adopted when available.[42]

The rules on validity period of PCRs in Section 9.5.3 apply also for c-PCRs developed within the International EPD System, i.e., the expiration date should by default be four years from the version date of the original version of the c-PCR or the most recent large c-PCR update. C-PCRs developed under a previous version of this GPI may, however, have expiration dates that were set at the expiration date of the main PCR; if the expiration date of the main PCR is extended, the validity period of such c-PCRs may be extended until five years after the version date of the original version of the c-PCR or the most recent large c-PCR update.

For the c-PCR to be applicable, the main PCR shall also be valid.

If the main PCR has undergone an update (see Section 9.6), the c-PCR is applicable under the updated main PCR, even if it refers to a previous version of the main PCR. The Secretariat may decide on exceptions to this, which then shall be communicated on www.environdec.com.

It is mandatory to use an applicable and valid c-PCR if it has been published or adopted by the International EPD System for more than 90 days (about 3 months). If more than one c-PCR is applicable, the EPD owner may choose to use any of them, but it is recommended to use the one that is more specific in scope in terms of product function. An alternative is to use, and verify the EPD towards, several applicable c-PCRs, as long as there are no conflicting requirements in the c-PCRs.

[41] In other EPD programmes, main PCRs and c-PCRs are sometimes referred to as Part A PCRs and Part B PCRs, respectively.

[42] Available and upcoming EN standards are listed on www.cencenelec.eu.

9.2 INITIATION

9.2.1 DEFINE THE PRODUCT CATEGORY

The definition of the product category covered by a PCR shall, as far as possible, be based on the function of the product, i.e., so that the same functional unit may be applied to products within the scope of the PCR. When defining the product category, the following aspects should be considered:

- primary and secondary functions of the product,
- exchangeability of products, e.g., in the way that an increase in price for a product on the market leads to an increase in the price of other products,
- results from screening study/existing LCA literature for the product group,
- UN CPC code(s), and
- product category definition used in similar or related contexts, e.g., in international standards, criteria used for Type I environmental labels, or green public procurement.

The product category definition should be made so that the development of the PCR is practical and feasible, accounting for existing PCRs, market situation, industry structure, potential applications, and the size of the stakeholder group affected. The scope should be decided during PCR development in a discussion between the PCR Moderator, the PCR Committee, and the Secretariat, which may ask the TC for support when necessary, with the aim to reach consensus, as far as possible. The scope may be reconsidered at a later stage based on the experience gained when using the PCR.

The product category definition should include commonly used synonyms to the product category name as well as information about which similar or related products that are not included in the scope.

To facilitate organisation and searchability of the PCR library, the PCR scope should be classified at a three-, four-, or five-digit level in the latest version of the UN Central Product Classification (UN CPC)[43]. The PCR should also include a classification according to other commonly used product classification systems that are relevant depending on the geographical scope, applications, and product category, such as the Common Procurement Vocabulary (CPV), UN Standard Products and Services Code (UNSPSC), Classification of Products by Activity (NACE/CPA), or Australian and New Zealand Standard Industrial Classification (ANZSIC).

The programme operator shall have the right to decline the development of PCRs for certain product categories.

9.2.2 CONSIDER AVAILABLE PCRS

The adoption of an existing PCR shall be preferred over developing a new PCR.

Existing PCRs available on www.environdec.com shall be considered before starting the development of a new PCR to avoid overlaps in scope. Existing PCRs that cover a part of the life cycle of the product in question, for example agricultural products for processed food items, should be referenced for harmonisation across product categories and in supply chains.

Existing PCRs available in other programmes shall also be considered. The International EPD System may recognise and adopt PCRs prepared by other programme operators operating in accordance with ISO 14025.

If a PCR with a relevant scope is identified in another programme or in an international standard, the PCR may be adopted following the adoption process described in Section 9.8. If the PCR is not adopted, harmonization with the PCR shall be considered in the further development of a PCR.

The programme operator may establish agreements for mutual recognition of PCRs with other programme operators, to enable adoption of their PCRs (see Section 5.8). Information about such agreements should be available on the website.

[43] See http://unstats.un.org and https://unstats.un.org/unsd/classifications/Econ/CPC.cshtml.

If no existing PCR is identified for the product category, the PCR development shall continue with the steps described in the following sections.

If an existing PCR is identified but not adopted, and a new PCR with overlapping scope is developed, the new PCR shall include a justification for why its development was deemed necessary.

9.2.3 APPOINT A PCR MODERATOR

PCR development is coordinated by a PCR Moderator (see Section 4.3.2 for a list of the roles). The PCR Moderator is appointed by the Secretariat based on an application.

The PCR Moderator shall have good project management skills, familiarity with EPDs and the industry and product category, and at least basic understanding of LCA.

9.2.4 FORM THE PCR COMMITTEE

PCRs should be developed as an open co-operative effort by a PCR Committee, assembled and led by the PCR Moderator. The PCR Committee should be balanced and include as many interested parties as possible from the geographical scope of the PCR, for example representatives from different companies and trade associations, to ensure broad acceptance and high quality of the final PCR. Stakeholders that should be considered are those that:

- manufacture products in the product category,
- use products in the product category,
- are experts in the product category,
- represent manufacturers or users of products in the product category,
- have commercial interests in the product category,
- are in the chain of accountability,
- have authority or decision-making power over some aspect of products in the product category,
- are programme operators,
- are developers of PCRs in other programmes and/or of similar product categories,
- are experts in the field of product sustainability, and
- are non-governmental organisations (NGOs) or other organisations interested in societal wellbeing or environment protection.

The PCR Committee shall have competence in LCA and the key processes of the product life cycles of the product category covered by the PCR. The PCR Committee should be composed of enough independent members to assure that the interests of one party do not dominate the PCR development process. Any potential conflicts of interest by PCR Committee members, or if a PCR Committee member is reimbursed by another organisation for its involvement in the committee, should be announced within the PCR Committee.

In case of the development of a new PCR with overlapping scope with another (expired or expiring) PCR of the International EPD System, the PCR Moderator of the new PCR shall invite the PCR Moderator of the other PCR to become PCR Committee member and encourage him/her to invite the PCR Committee members of the other PCR.

If there is a disagreement on the constitution of the PCR Committee, the Secretariat shall decide.

9.2.5 PLAN THE PCR DEVELOPMENT

The PCR Moderator shall develop and maintain a time plan for the PCR development, and keep the Secretariat informed about dates of important milestones.

9.2.6 ANNOUNCE PCR DEVELOPMENT

When a decision is taken to start developing a PCR, the development process shall be announced by the Secretariat on www.environdec.com together with relevant information, including:

- preliminary name and scope of the PCR,
- name, organisation, and contact information of the PCR Moderator,
- list of members of the PCR Committee, and
- preliminary time plan of PCR development.

The announcement should also be done by the Secretariat through other channels, such as newsletters, social media, or direct contact with stakeholders.

The PCR Moderator shall announce the development process in relevant industry forums or industry publications, and by contacting the potential stakeholders identified in Section 9.2.4, so that interested parties may join the PCR development process. It shall be documented that a broad range (in terms of stakeholder types and geographical representativeness) interested parties was invited by listing members of the PCR Committee and invited parties that chose not to participate. If any interested party is excluded, this shall be justified and documented. The attempt to involve other stakeholders is especially important if single companies initiate the work to develop a PCR. The PCR Moderator shall describe these outreach activities, including a list of invited parties, and submit this to the Secretariat within 90 days of the initiation of the development process (unless a justification for extending this time period is submitted to, and approved by, the Secretariat) and no later than the initiation of the open consultation.

The final list of PCR Committee members shall include their names and/or affiliations as well as any dependencies. For example, if a member (including the PCR Moderator) is reimbursed by another organisation for its involvement in the PCR Committee, this shall be displayed (e.g. “John Smith, Organisation A, on behalf of Organisation B”). A list of the affiliations of the PCR Committee members, and potential dependencies, shall be included in the PCR.

9.3 PREPARATION

9.3.1 USE OF PCR TEMPLATE

The Secretariat, with support from the TC, shall develop a PCR Template to be used when developing PCRs. Any non-conformity with the PCR Template and the GPI (e.g., Section 7 on EPD content and format, and the general LCA method of Annex A) shall be documented and is subject to approval during the PCR review (see Section 9.5.2).

9.3.2 SPECIFY LCA METHOD

PCRs shall be based on the general LCA method of the International EPD System as described in Annex A, but may provide deviations, clarifications, and specifications of relevance for the product category, that may, for example, relate to:

- definition of declared/functional unit,
- definition of reference service life (RSL) or product lifespan, when applicable,
- description of system boundary, including what division of life-cycle stages/modules to use, processes to include or exclude, and a system diagram,
- cut-off criteria,
- allocation rules,
- data quality requirements and underlying specific or generic data,
- recommended databases, for data that are particularly important for the environmental performance results, or

- environmental performance indicators (see Section 9.3.3).

Existing, related PCRs, such as those covering a part of the life cycle of the product in question, should be referenced to encourage harmonisation across related product categories and within supply chains.

Due to legal requirements or other market demands in specific countries or regions, a PCR may set requirements that are only valid for certain geographical markets. In such cases, the PCR shall be clear on the geographical validity of these requirements.

9.3.3 SELECT LCA INDICATORS

As mandated by ISO 14025, all relevant environmental aspects of the product throughout its life cycle shall be taken into consideration and be part of EPDs based on the PCR. For aspects that are relevant but not covered by the LCA indicators, see Section 9.3.4.

A default set of LCA indicators (also termed environmental performance indicators) to declare in EPDs of the International EPD System, and associated methods for inventory and/or impact assessment shall be available on the website (www.environdec.com/indicators). Rules in the PCR may deviate from the default list of indicators. Such deviations shall be justified in the PCR development process and be based on:

- the results and interpretation of the supporting LCA studies, including the use of normalisation and weighting of results to determine the most relevant impact categories,
- a literature review of relevant impacts for the product category (the review may cover LCA and non-LCA literature),
- a review of key environmental concerns regarding the product category, e.g. from NGOs, civil society, customers, and other stakeholders, for the geographical applicability of the PCR, and
- a review of requirements in other standards or methodological guidelines of relevance for the product category, to which harmonisation is desirable, such as EN 15804 for construction products.

The selection of indicators shall focus on their environmental relevance for the product category. The selection shall also account for the scope of the PCR, regional aspects or requirements, and the maturity of the methods to ensure that they are not misleading. To harmonize across product categories, rules on indicators in PCRs of similar and/or related product categories shall be considered. If a PCR requires or recommends other indicators than those in the default list, it shall describe the inventory and/or impact assessment methods to use, including references to the original source and specification of the version of methods and characterisation factors. Such indicators should be based on international standards or similar documents developed in a transparent procedure.

If the selection of indicators is based on an effort to harmonize with international standards or other external documents outlining product category rules, the PCR shall include a statement saying that the alignment/adoption of indicators from the external product category rules does *not* imply that the EPDs can claim to be aligned or compliant with the external product category rules. Alignment/compliant with external product category rules requires alignment/compliant of the entire method applied, and not just the selection of indicators.

9.3.4 SELECT ADDITIONAL ENVIRONMENTAL INFORMATION

Environmentally relevant information not covered by the LCA indicators may be declared in the EPD as additional environmental information. See Section 7.4.8 for examples and rules on such information.

The PCR shall specify which, if any, additional environmental information that is required or recommended to declare in the EPD and, if relevant, provide guidance for deriving and/or verifying the information (e.g. in terms of method to use or certification scheme to adhere to).

9.3.5 SELECT ADDITIONAL SOCIAL AND ECONOMIC INFORMATION

Social or economic information not covered by the LCA indicators may be declared in the EPD as additional social and economic information. See Section 7.4.9 for examples and rules on such information.

9.3.6 DEFINE RULES FOR COMPARABILITY

Rules for comparability of EPDs based on the PCR shall be defined with reference to Section 6.7.2 of ISO 14025, with additions as relevant for the product category.

9.3.7 QUALITY CHECK BEFORE CONSULTATION

When the PCR Moderator and PCR Committee have finished a draft PCR for open consultation, the draft shall be submitted to the Secretariat. The Secretariat should check the draft before the open consultation to ensure that no obvious and unjustified contradictions to the GPI exists, to make editorial changes and to suggest other improvements for clarity.

The TC, via the Secretariat, may also provide guidance on how to interpret the GPI before the draft PCR goes to open consultation.

9.4 OPEN CONSULTATION

The open consultation shall be a transparent, open, and internet-based process that enables all interested parties to contribute, thus ensuring credibility and acceptance of the final document.

9.4.1 IDENTIFY THE PCR STAKEHOLDER CONSULTATION GROUP

The stakeholders that are invited to the open consultation constitute the PCR stakeholder consultation group. This group shall be notified of the start of the open consultation.

The identification of relevant stakeholders to include in the stakeholder consultation group should be carried out in cooperation between the PCR Moderator, the PCR Committee, and the Secretariat based on a list of stakeholders proposed by the PCR Moderator.

The PCR stakeholder consultation group should be selected to representatively cover knowledge and skills in different sectors of society that are both nationally and internationally relevant for the PCR under development. The group should have a geographical diversity related to the scope of the PCR.

Organisations/stakeholders contributing during the open consultation shall be listed in the PCR if they agree to be listed.

9.4.2 PREPARE PUBLIC MEETINGS

The open consultation may include a public meeting, for example in the form of an online seminar, organised by the PCR Moderator, to inform stakeholders and collect stakeholder feedback. The PCR Moderator shall inform the Secretariat of any planned public meeting, so that information about the meeting can be included in the invitations to the open consultation and/or published on www.environdec.com.

9.4.3 INITIATE THE OPEN CONSULTATION

The initiation of the open consultation shall be done by the Secretariat, with support from the PCR Moderator, and include:

- the publication of the draft PCR,
- the publication of a template for comments,
- an announcement of the open consultation on www.environdec.com, and
- an E-mail invitation to the PCR stakeholder consultation group announcing that the draft PCR is available and open for comments.

The announcement and the invitation shall include a deadline for the consultation period and information on how to provide comments, including information about public meetings, if any (see Section 9.4.2). Stakeholders should be encouraged to spread information about the consultation to other relevant stakeholders.

The open consultation period shall start at the earliest four weeks from the initiation of the PCR development process, and last for at least eight weeks for new PCRs, but may be shorter for updates (see Section 9.6).

9.4.4 COLLECT COMMENTS DURING OPEN CONSULTATION

During the open consultation period, the PCR Moderator shall guide stakeholders in the open consultation process and collect stakeholder comments. Public meetings or webinars may be held, when relevant (see Section 9.4.2).

9.5 REVIEW, APPROVAL, AND PUBLICATION

9.5.1 PREPARE UPDATED DRAFT

The PCR Moderator and PCR Committee shall prepare an updated draft PCR. The updated draft shall take the comments received during the open consultation into consideration and endeavour to resolve conflicting comments.

The PCR Moderator and PCR Committee shall prepare a summary of the open consultation that includes a description of the open consultation process, the parties participating in the consultation by providing comments, the comments received and how they have been handled. In case comments are not considered or are rejected, the omission or rejection shall be justified. The PCR Moderator and PCR Committee should also reply individually to all stakeholders that have provided comments during the consultation.

The PCR Moderator shall send the updated draft PCR and the summary of the open consultation to the Secretariat.

The Secretariat shall share a public version of the summary of the open consultation to any interested parties upon request. Names or contact information of a stakeholder that has provided comments shall only be disclosed in the public version of the summary in case the stakeholder has agreed to this.

9.5.2 REVIEW AND APPROVAL

The PCR review shall ensure that the PCR and the process to develop the PCR are done in accordance with the GPI and reference standards, and that the methods of the PCR are scientifically and technically sound. The review may also guide the further improvement of the PCR, for example in terms of requests or recommendations of clarifications or amendments.

The updated draft PCR provided by the PCR Moderator after the open consultation (see Section 9.5.1) shall be reviewed by the TC (see Section 4.1.3) functioning as the PCR Review Panel, supported by the Secretariat. Members of the TC shall recuse themselves from the PCR Review Panel if they have any conflicts of interest, including if they are the PCR Moderator or part of the PCR Committee, or belong to the same organisation as the PCR Moderator or the PCR Committee. The review shall have a chair, and may have one or several co-chairs, who shall be independent of the industries producing and supplying the products covered by the product category or supplying to them.

The results of the review shall be documented in a PCR review report, which shall include information on:

- whether the PCR has been developed in accordance with the GPI, and ISO 14025, 14040, 14044, 14046, 14067, and/or ISO/TS 14027,
- whether the rules set in the PCR are in accordance with the GPI, except when deviations are justified,
- whether the environmental performance indicators, together with the additional environmental information prescribed by the PCR, provide a description of the significant environmental aspects of the product,
- how the PCR Moderator and PCR Committee have handled the feedback received during the open consultation,
- any dissenting views within the PCR Review Panel, and
- the review statement, for example expressed as:

- approval of the draft PCR, without the need for changes,
- approval of the draft PCR, after comments and suggested changes have been satisfactorily addressed,
- further review needed, after comments and suggested changes have been addressed, or
- further open consultation and review needed, after comments and suggested changes have been addressed.

Before the PCR review report is sent to the PCR Moderator, the Secretariat may make editorial changes (e.g., clarifications of comments) and add complementary comments. Complementary comments may concern dissenting views between the Secretariat and the PCR Review Panel.

The PCR review report shall not be published but should be made available upon request.

If changes of the draft PCR are requested, the PCR Moderator and PCR Committee shall ensure that the review comments and suggested changes are considered in updating the draft PCR.

If the review statement says that the draft PCR can be approved after comments and suggested changes have been satisfactorily addressed, the Secretariat is responsible for checking whether the comments and suggested changes have been satisfactorily addressed. If they have not been satisfactorily addressed, or if there are uncertainties regarding whether they have been satisfactorily addressed, the Secretariat shall check with the PCR review chair before final approval and, if there is a need, initiate another round of review.

The PCR may need several rounds of review by the PCR Review Panel and revision by the PCR Moderator and PCR Committee before its final approval.

If there is a need, the Secretariat may initiate another open consultation before the next round of review. The additional open consultation may be shorter in duration than the initial open consultation.

If the PCR Review Panel does not agree on the approval of a PCR, there should be a majority vote and dissenting views shall be documented in the PCR review report. If there is a tie, the review chair shall decide on recommendation for approval or not.

In principle, the Secretariat should follow the recommendation for approval, or not, as set out in the PCR review report. Notwithstanding, the Secretariat holds an exclusive veto-right. This veto-right shall only be exerted in exceptional cases and it is reasonably justified that the future existence of the programme may be at risk. Reasonable justification is not limited to risk for non-compliance with technical/methodological rules, but can also concern, for example, political, economic, social, and technological factors.

9.5.3 PUBLICATION

When the draft PCR has been approved, the Secretariat shall make final editorial changes, assign a registration number, and publish the final version of the PCR on the website together with associated information that, for example, enables the identification of which PCR to use for a specific product. This information shall include:

- PCR name,
- registration and version number of the PCR[44],
- definition of the product category,
- synonyms for the name of, or other keywords relating to, the product category, if relevant[45],
- UN CPC code(s) and, if relevant, classification in other product classification systems,
- related or similar products not covered by the PCR, with reference to other PCRs covering these products, if relevant,
- validity period of the PCR,

[44] The registration and version numbers shall together be considered the “registration code” in the terminology of ISO 14027.

[45] The name of a product category can have different denotations for different geographical regions or cultures. This should be considered when listing synonyms for the name of the product category.

- name and contact details of PCR Moderator and names of organisations in the PCR Committee,
- standards conformance of the PCR,
- life-cycle stages considered in the PCR,
- geographical coverage of the PCR, and
- name and contact details of the programme operator.

The Secretariat shall set a validity period for the PCR in the range three to five years. Four years should be the default validity period, deviations from this shall be justified in the PCR.

The validity period of a published PCR is not influenced by an update of the GPI. If there is a small or medium GPI update (changing the second- or third-digit version number of the GPI, see Section 5.1.1), this is the version of the GPI that shall be used together with any PCR based on the same first-digit version of the GPI.[46] If there is a large GPI update (changing the first-digit version number of the GPI), the PCR needs to be updated for the rules in the updated GPI to be valid (see Section 9.6). Note that this concerns rules that are governed by the PCR, i.e., rules on EPD development and maintenance, content of EPDs, and LCA rules. Other rules set by the GPI have other implementation periods, see Section 5.1.

EPD International has the sole publishing rights for PCRs developed using the International EPD System, unless exceptions are allowed by an MRA (see Section 5.2).

9.5.4 ANNOUNCE PUBLICATION

The PCR Moderator shall inform the PCR Committee and other stakeholders involved in the PCR development process about the outcome of the work and publication of the PCR. The Secretariat should announce the publication on www.environdec.com, in a newsletter and/or via other communication channels.

9.6 UPDATES

A PCR is valid for a pre-determined time period to ensure that it is updated at regular intervals. Any interested party may comment on a published PCR during its validity. Such comments may lead to an update during the period of validity, otherwise they should be used as input when the PCR is updated when it is about to expire.

An expired PCR shall not be used to develop and register a new EPD and shall not be used to make an update of a published EPD that prolongs its validity period. To use for these purposes, the expired PCR shall first be updated or have its validity period prolonged according to Section 9.6.2.

An updated PCR shall be assigned an updated version number or, if its scope has changed significantly, a new registration number. The assignment of version number depends on whether the update is a large, medium, or small update, as is described in the below subsections.

9.6.1 SMALL AND MEDIUM UPDATES

A PCR may be updated without extending its validity period, provided there are significant and well-justified proposals for changes or amendments. This includes editorial changes, clarifications, correction of errors, or additions or changes in recommendations or permissions. The basis for such updates may be new LCA information generated in the relevant industry sector, or special market demands not covered by the existing version of the PCR, or other comments that are of sufficient technical relevance. The extent of such updates can be medium or small.

Medium updates can include any type of change, except additions of or changes in requirements (“shall”). Medium updates shall be handled by the Secretariat, shall be communicated to the PCR Moderator, may involve the PCR Moderator and the PCR Committee, should be reviewed and approved by the PCR Review Panel if the changes concern LCA rules, and may involve an open consultation if the changes are of a nature that requires stakeholder input (such an open consultation may be shorter than the minimum eight weeks prescribed in the

[46] For example, if a PCR refers to version 5.0.0 of the GPI, and then the GPI is updated to version 5.0.1 or 5.1.0, the newer version of the GPI shall be used together with the PCR.

regular PCR development process, see Section 9.4). If changes done in a medium update concern LCA rules or verification, the previous version of the PCR shall be valid in parallel during a transition period of at least 90 days (about three months), but not exceed its previously set validity period. Information about such transition periods shall be published on www.environdec.com. In medium updates, the second digit of the version number shall change, and the third digit be set to zero (e.g., the version number can be changed from 1.0.2 to 1.1.0). The frequency of medium PCR updates shall be kept to a minimum to ensure market stability.

Small updates shall only concern editorial changes and be handled by the Secretariat. For example, a small update may be justified when there is a change in the information about PCR Moderator, such as a change of PCR Moderator or the contact information of the PCR Moderator. In small updates, the previous version should be immediately removed from the PCR library in the EPD Portal and there should be no transition period. In small updates, the third digit of the version number shall change (e.g., from 1.0.2 to 1.0.3).

9.6.2 LARGE UPDATES

A large update can include any type of change, including changes in requirements (“shall”). Typically, large updates shall be done when the PCR is about to expire. The PCR Moderator shall initiate a discussion with the Secretariat on if and how to proceed with updating the PCR to align with the latest GPI, the latest LCA method developments in the sector, and to renew its validity period. The Secretariat shall remind the PCR Moderator of the need to update the PCR at least a year before its expiration. There should be a market demand to register EPDs to initiate a large update. If no PCR Moderator exists for the PCR when it is time to initiate a large update of the PCR, the Secretariat shall try to find a new PCR Moderator.

In large updates, the first digit of the version number shall change and the second and third digits shall be set to zero (e.g., the version number can be changed from 1.2.2 to 2.0.0).

For large updates that prolong the validity period of the PCR, the updating process shall follow the PCR development process as described in Sections 9.2 to 9.5.

A large update may be done without prolonging its validity period, in case there have been changes in requirements in documents that International EPD System shall follow or adopt (e.g., if a corrigendum of an EN standard is published or in case of a new version of the ECO Platform verification checklist). Large updates that do not prolong the validity period of the PCR shall not include any changes in requirements beyond those made in the normative document. Large updates that do not prolong the validity period PCR do not have to follow the updating process as described in Sections 9.2 to 9.5, i.e., they can be done without open consultation and review.

In case of a large update, the previous version of the PCR shall be valid in parallel during a transition period of at least 180 days (about six months), but not exceed its previously set validity period.

When an updating process for a large update with a prolonged validity period has been initiated and announced, the Secretariat may prolong the validity period of the current version of the PCR with the time period expected for the PCR update to be finalised, but not exceeding one year from its previous expiration date. Such an extension of the validity period of an existing PCR may also be done when a new PCR is being developed that will fully, or partly, replace the existing PCR. An extension of the validity period should be communicated to the PCR Moderator and on www.environdec.com, and, normally, not be done more than once for the same first-digit version of the PCR. If there is a delay in the PCR development process, the validity period may be prolonged a second time, but not exceeding 18 months from the expiration date before it was prolonged the first time.

9.7 DEPUBLICATION

Expired PCRs shall be available in the PCR library on www.environdec.com as long as there are valid EPDs published under the PCR. Once there are no valid EPDs published under a PCR, it should be depublished, to ensure an up-to-date, consistent and useful PCR library. Depublished PCRs may be made available upon request, for example to be used as input to the development of new PCRs or for research purposes.

The Secretariat should inform the PCR Moderator about depublication. If an updating process is initiated within one year from depublication, the PCR may once again become published, either by prolonging the validity period of the existing version during the updating process (see Section 9.6.2) or when the updated version of the PCR is published.

9.8 ADOPTION

PCRs in other EPD programmes or in international standards may be adopted in the International EPD System. Adoption of PCRs from other EPD programmes may require an MRA, and other EPD programmes can only adopt PCRs of the International EPD System if there is an MRA (see Section 5.8).

Anyone who identifies a PCR that may be relevant to adopt may contact the Secretariat. If the Secretariat decides that adoption of the PCR is relevant (e.g., a relevant scope with a market demand for EPDs) and may be possible (e.g., dependent on the MRA status), it shall initiate an adoption process. The adoption process should be announced on www.environdec.com.

For adoption of PCRs of another EPD programme, a review and approval process shall be initiated following the description in Section 9.5. If the existing PCR is approved by the PCR Review Panel and the use of the PCR is approved by the other programme operator, the PCR shall be considered adopted, and information about the adoption of the PCR shall be published on www.environdec.com. The information at the website may include further requirements, specifications of the rules in the PCR, and restrictions to the use of the PCR (which, e.g., may be an output of the review process). The adopted PCR may, thereafter, be used to develop and register EPDs within the International EPD System. If the PCR is not approved, the reason for non-approval shall be submitted to person/organisation that suggested the PCR to be adopted and to the programme operator issuing the PCR, for consideration in for future updates of the PCR, upon which the PCR may again be considered for adoption.

For adoption of PCRs in international standards, the decision to adopt such documents shall be made by the Secretariat and may be supported by the TC, when relevant. The quality of the standard and whether it is, or expected to be, widely used by the market shall be considered in the decision. After adoption, information about the adoption of the PCR shall be published on www.environdec.com.

An adoption of a PCR is valid, regardless of any updates done during the validity period of the PCR. The adoption is also valid for versions of the PCR with (short-term) extended validity periods done due to an initiated updating process. Once the updating process has been finalised, with a (long-term) extended validity period, a new adoption process is required to adopt the new version of the PCR.

10 CONTENT AND FORMAT OF PCR

PCRs should contain the following information:

- Cover page.
- Introduction.
- General information:
  - Name of PCR.
  - Registration number and version.
  - Identification of programme (International EPD System), programme operator (EPD International AB), logotype, contact information, and reference to www.environdec.com.
  - Information about PCR Committee and PCR Moderator, including contact information for PCR Moderator.
  - Date of publication and latest revision.
  - Date of validity.
  - Schedule for renewal.
  - Standards conformance, including version of the GPI.
  - PCR language(s).
  - Definitions of terms, if relevant for the product category.
- Scope of PCR.
- Product category definition and description (e.g. synonyms, function/use/application, and technical performance):
  - Classification of product category using UN CPC code(s), and other relevant product classification systems.
  - Products not covered by the PCR, if relevant.
  - Geographical scope of the PCR.
- Maximum period of validity of EPDs based on the PCR.
- PCR review and background information.
  - Information about review, e.g. dates, review panel, chair of PCR review, and contact information.
  - Information about open consultation.
  - Existing PCRs for the product category and reasoning for developing the PCR.
  - Reasoning for development of the PCR.
  - Underlying studies used for the PCR development.
- LCA method:
  - Declared/functional unit.
  - Technical specification, lifespan, and reference service life (RSL), if applicable.
  - System boundary, including cut-off rules and information on life-cycle stages not considered and omitted in the EPD, if relevant.
  - System diagram.
  - Allocation rules.
  - Data and data quality rules.

  - Other rules on LCA and scenario development, if relevant.
  - Specific rules per life-cycle stage and module D, if relevant.
  - Environmental performance indicators, with reference to the website for default list of indicators and information on inventory and impact assessment methods, and adjustments or amendments of default list, if relevant.
  - Specific rules per EPD type.
- Instructions for the content and format of EPDs based on the PCR.
- Requirements for comparability between EPDs.
- Rules for the product content declaration, if applicable.
- Rules for the provision of additional environmental as well as social and economic information
- Mandatory statements, e.g. regarding verification.
- Version history.
- List of abbreviations.
- References.
- Version history of PCR

If any of above information is not included in the PCR, it shall be justified in the PCR and approved during the PCR review.

PCRs should not repeat any content of Section 7, Annex A or www.environdec.com/indicators. For example, if the PCR prescribes the same allocation rules as in Annex A, its section on allocation rules should simply refer to Annex A and not repeat any rules and guidance in Annex A.

10.1 PCR LANGUAGES

PCRs shall be published in English but may be translated into other languages. Translated versions of PCRs are considered to be duplicates of the English version and shall therefore not be subject to additional review. The version date (i.e., the date of its publication) of the translated PCR shall be included in the document. In the event of any discrepancy between versions, the English version shall take precedence. Valid translations of PCRs shall be available on www.environdec.com.

11 DEVELOPMENT OF GPI

11.1 VERSION HISTORY

This document has been issued in the following versions:

- 2008-02-29: Version 1.0
- 2013-06-04: Version 2.0, with minor revision 2013-09-18
- 2015-05-11: Version 2.5
- 2017-12-11: Version 3.0
- 2019-09-18: Version 3.01
- 2021-03-29: Version 4.0
- 2024-06-19: Version 5.0.0
- 2025-02-27: Version 5.0.1 (this document)

Before publication of Version 1.0 of the GPI for the International EPD System, the rules for the administration and operation of the preceding programme were MSR 1998:1 and MSR 1999:2.

11.2 CONTRIBUTING PARTNERS

Many contributing partners were involved in the preparation of the GPI. The following agreed to be listed as contributors:

- Version 1.0: AssoSCAI, CE.SI. S.P., European Commission (Joint Research Center), Five winds International, IVL Swedish Environmental Research Institute, Swedish Environmental Management Council, Vattenfall.
- Version 3.0: 3M USA, Aequilibria di Pernigotti Daniele, Ambiente Italia S.r.l., Bombardier Transportation, Bureau Veritas CODDE, CTME, DNV GL, Life Cycle Engineering, Serenity SpA, start2see, thinkstep Italy.
- Version 4.0: CTME, Energiföretagen Sverige, Fortum Oslo Varme, Göteborg Energi AB, NCC, NORSUS, Stockholm Exergi, Studio Fieschi & soci S.r.l., Studio LCE, Söderenergi AB.
- Version 5.0.0: Alstom SA, Bureau Veritas Certification Sverige, Bureau Veritas Italia S.p.A., CCPB SRL, CHM Analytics, CRPG, Dalemarken AB, EDANA, Ecoinvent, Edge Impact, EPD Australasia, ESU-services Ltd., EuGeos SRL, European Lift Association (ELA), FSLCI, Fundación Centro Tecnológico de Miranda de Ebro (CTME), Greendesk AB, ITENE, IVL Swedish Environmental Research Institute, KONE, Knauf Insulation, Life Cycle Engineering S.p.A., Radici InNova S.c.a r.l., Saint-Gobain, Shanghai E-Carbon Digital Technoogy Co. Ltd., Take Care International, TIMAC AGRO International, TIMAC AGRO Italia S.p.A., Tyréns AB, UFSCar, WAP Sustainability. Special thanks to Elia Rillo from Studio Fieschi & soci S.r.l. for his valuable contribution to the development of the framework on tools for EPD development.

12 ABBREVIATIONS AND TERMINOLOGY

12.1 ABBREVIATIONS

ANZSIC	Australian and New Zealand standard industrial classification
CEN	European Committee for Standardization
CLC	Co-location centre
CPC	Central product classification
CPR	Construction product regulation
CPV	Common procurement vocabulary
c-PCR	Complementary product category rules
EPD	Environmental product declaration
EU	European Union
FAQ	Frequently asked questions
GHG	Greenhouse gas
GHS	Globally harmonized system of classification and labelling of chemicals
GPI	General programme instructions
GTIN	Global trade item number
GWP	Global warming potential
IAB	International advisory board
IEC	International Electrotechnical Commission
ISO	International Organization for Standardization
LCA	Life cycle assessment
LCI	Life cycle inventory
MRA	Mutual recognition agreement
NACE/CPA	Classification of products by activity
ND	Not declared
PCR	Product category rules
PEF	Product environmental footprint
PDCA	Plan do check act)
REACH	Restriction of chemicals
RSL	Reference service life
SCIP	Substances of concern in articles
SI	The international system of units
SIDS	Small island developing states
SVHC	Substance of very high concern
TC	Technical committee
TS	Technical specification

UN United Nations

UNSPSC United Nations standard products and services code

12.2 TERMINOLOGY RELATED TO VERIFICATION

For definitions of terms relates to verification, see Table 9.

Table 9. Definition of terminology related to verification.

Term	Section	Description
EPD process	8.5	Chain of activities within an organisation that links together in a certain systemised pattern, from an initial start-up to a result as the launch of the EPD.
EPD process assessment	8.5.2	An internal activity within the organisation that regularly with certain frequency assesses the EPD process to certify it appropriateness.
EPD process assurance	8.5.2, 8.5.3	An internal activity within an organisation that assures the reliability, the relevance and independence in the handling of the EPD process. The assurance of the EPDs shall have same value as if EPD has been verified by a third-party verifier.
EPD process certification	4.1.5, 4.2.2, 5.10, 7, 7.4.2	Certification issued by an accreditation body stating that the EPD process and EPD process assurance activity follows the GPI. The certificate shall specify the PCR(s) used in the EPD Process Certification.
EPD process owner	8.5.2	Personnel having authority and responsibility in managing the EPD process from start to final EPD.
EPD responsible publisher	8.5.1	Personnel having authority and responsibility regards when publish EPD to external party
Pre-verified EPD tool	7.4.2, 8.6	A verified tool which generates an EPD including indicator results and all EPD-related information that are mandatory according to GPI, applicable PCR(s), and relevant standards.
EPD verification report	8.4.5, 8.6.4, 8.6.8	A document with a checklist for the verifier to check the conformity of the first, second, and following EPDs to relevant rules and standards.
LCA report	4.2.2, 4.2.3, 8.2.2, 8.2.1, 8.3.1, 8.6.7.	A report describing the underlying LCA of the EPD. Is, along with the EPD, subject to verification. Is normally non-public but may be public. Termed “project report” in EN 15804.
Pre-verified LCA tool	7.4.2, 8.6	A verified tool which generates a list of indicator results required for an EPD
Pilot EPD verification	8.6.7.	Individual EPD verification on a fictive or real product that shall be a part of the tool verification and follow the EPD verification procedure in section 8.4. The procedure shall also check the tool’s intrinsic safeguard to ensure data integrity with respect to the parts that are pre-verified and fixed.
Scope of pre-verification	8.6.4, 8.6.7	Collection of pre-verified elements in a tool such as background LCA data.
Tool owner	8.1, 8.6.3, 8.6.5, 8.6.6, 8.6.7, 8.6.8.	An individual or organisation who is the owner and accountable of the tool
Tool project report	8.6.4, 8.6.7	A document which describes the tool’s functionality (e.g., algorithms), the LCA and the scope of the pre-verification.
Tool verification report	8.6.4, 8.6.7.	A document with a checklist for the verifier to check the conformity of the tool to relevant rules and standards.
Tool verifier	8.6.5, 8.6.7, 8.6.8.	An approved verifier who has been permitted by the Technical Committee to perform tool verification. The person is also the team leader who manage a team of verifiers.
Top management	8.5.1, 8.5.2	Personnel who direct and control the organisation, or the part of the organisation that is covered in the EPD process certification, at the highest level.

13 REFERENCES

The following documents, in whole or in part, are normatively referenced in this document and are indispensable for its application. For dated references, only the version cited applies. For undated references, the latest version of the referenced document (including any amendments) applies.

AIB, 2024. European residual mix. Available on https://www.aib-net.org/facts/european-residual-mix, accessed May 2024.

European Commission, 2018. European Waste Directive 2008/98/EC, version from 2018-07-05.

European Commission, 2021. EN Annexes 1 to 2. Annex I. Product Environmental Footprint Method.

EN 15804:2012+A2:2019+AC:2021, Sustainability of construction works - Environmental product declarations - Core rules for the product category of construction products.

EN 15941:2024, Sustainability of construction works – Data quality for environmental assessment of products and construction work – Selection and use of data.

EN 15942:2021, Sustainability of construction works – Environmental product declarations - Communication format business-to-business.

EPD International, 2024. Brand book. Available upon request (contact the Secretariat).

ISO 8601, Data elements and interchange formats – Information interchange – Representation of dates and times.

ISO 14025:2006, Environmental labels and declarations – Type III Environmental declarations – Principles and procedures.

ISO 14026:2017, Environmental labels and declarations – Principles, requirements and guidelines for communication of footprint information.

ISO/TS 14029 Environmental statements and programmes for products – Mutual recognition of environmental product declarations (EPDs) and footprint communication programmes.

ISO 14040:2006, Environmental management – Life cycle assessment – Principles and framework.

ISO 14044:2006, Environmental management – Life cycle assessment – Requirements and guidelines.

ISO 14046:2014, Environmental management – Water footprint – Principles, requirements and guidelines.

ISO 14050:2020, Environmental management – Vocabulary.

ISO 14065:2020, General principles and requirements for bodies validating and verifying environmental information.

ISO 14067:2018, Greenhouse gases – Carbon footprint – Requirements and guidelines for quantification.

ISO 19011:2018, Guidelines for auditing management systems.

ISO 21930:2017, Sustainability in building construction – Environmental declaration of building products.

ISO/TS 14027:2017, Environmental labels and declarations – Development of product category rules.

ISO/IEC 17011, Conformity assessment – General requirements for accreditation bodies accrediting conformity assessment bodies.

ISO/IEC 17029: 2019, Conformity assessment – General principles and requirements for validation and verification bodies.

ISO/IEC 17065:2012, Conformity assessment – Requirements for bodies certifying products, processes, and services.

ISO/TS 14067:2018, Greenhouse gases – Carbon footprint of products – Requirements and guidelines for quantification and communication.

ISO/TS 14071:2014, LCA Critical review process and reviewer competencies.

Tokede O, Rouwette R, 2023. Problematic consequences of the inclusion of capital goods inventory data in Environmental Product Declarations. International Journal of Life Cycle Assessment 29, 1–24.

ANNEX A – GENERAL LCA METHOD

This annex describes the typical application of the LCA method in the International EPD System.

An LCA study according to ISO 14040/14044 consists of four phases: goal and scope definition, inventory analysis, impact assessment, and interpretation. In general-purpose LCA studies, all background conditions regarding the LCA calculations are defined from the onset of the study and revised in an iterative way. For the application of LCA in an EPD, some of the conditions are already set by this Annex and the PCR to increase comparability between products in the same product category.

The general LCA method described in this annex is largely adopted from the construction product standards EN 15804 and ISO 21930. This is done as construction products represents a majority of EPDs published in the International EPD System, and alignment with the rules of construction products facilitates the cross-sectorial use of EPDs and the underlying LCA models. However, PCRs for product categories for which alignment with construction products is less important (e.g., food and beverage products) may deviate from the general LCA method when suitable. Such deviations shall be described in the PCR, or in standards referred to in the PCR, and be subject to review and approval in the PCR development process. If requirements on LCA method in the GPI and the PCR differ, the requirements in the PCR prevail.

A.1 MODELLING APPROACH

The LCA modelling approach of the International EPD System is attributional LCA (in contrast to consequential LCA), meaning that:

- specific or average data shall be used (i.e., not marginal data), and
- allocation problems that cannot be avoided by sub-dividing the unit process into two or more sub-processes, shall be solved via allocation (i.e., not via system expansion beyond the system boundaries set by the PCR; so-called “substitution” or “credits” for avoided environmental impact shall not be used to solve allocation problems).

The purpose of using this approach is to make information traceable, documented, and possible to verify, and to support the modular use of EPDs.

If the PCR permits the declaration of consequences of recovered material or energy beyond the product system boundary in module D (see Section A.7.5), this represents consequential LCA modelling and shall therefore be separately declared. Except module D, the LCA model shall not include any other processes or mechanisms beyond the product system boundary, including carbon offsetting or similar.

A.2 DECLARED/FUNCTIONAL UNIT

The declared or functional unit is the reference unit to which the environmental performance of the product is related. Functional unit is defined as a quantified performance of a product system and a declared unit is defined as a quantity of a product. The declared/functional unit to use for a specific product category shall be specified in the PCR. The PCR may allow several declared/functional units, for different subcategories of products. In each EPD, however, the declaration of results shall only be done for one declared/functional unit.

The declared/functional unit shall be clearly defined and measurable. In practice, the declared/functional unit consists of a qualitatively defined function or property (e.g., for paint, a surface covered with a certain level of brightness, or other quality) and its quantification via one or several units (e.g., 1 m^2 covered for 10 years). The declared/functional unit should be expressed in SI units (kg, J, meters, etc.), however, other units may be used if they are considered more relevant (e.g., kW for power and kWh for energy). Conversion factors shall be provided to convert from declared/functional unit to one unit of product, if relevant.

If the function of the product in the use stage is known and can be clearly defined, a functional unit shall be defined in the PCR. Examples of functional units are:

- For transportation modes or services: transportation of a given number of passengers over a given distance, e.g., transport of 1 passenger for 1 km.
- For cleaning items or services: cleaning of a given item or area for a given time, e.g., 1 m^2 building area kept cleaned for a period of 1 year.

- For products applied on surfaces: coverage of a given surface area over a given time, e.g., 1 m^2 wall surface covered for 10 years.
- For energy products: provision of a certain type and quantity of energy, e.g., 1 kWh of electricity delivered to the customer.

If the function of the product in the use stage is unknown, if the product can be used for several diverging functions, or if the function cannot be clearly defined, a declared unit may be used instead of a functional unit. A declared unit may, for example, be suitable for intermediate products which can be further processed, or combined with other products, into different end products. Although a declared unit is defined as a quantity of the product rather than its quantified performance, the definition of the declared unit shall be relevant in relation to the typical applications the product. Examples of declared units are:

- An item or an assemblage of items, e.g., 1 brick or 1 mobile phone.
- Mass of a product, e.g., 1 kg of cement.
- Volume of a product, e.g., 1 litre of water or 1 m^3 of ready-mixed concrete.

Note that the use of a declared unit may reduce comparability between EPDs. To increase comparability between EPDs based on a declared unit, it is therefore important to specify technical properties of relevance for the application/use of the product. The PCR may include rules on the technical properties to declare (see Section A.2.1).

The reference flow is the amount of product assigned to the declared/functional unit. It can be one product, several products or a fraction of a product. In case of a declared unit, the reference flow corresponds to the declared unit. In case of a functional unit, the following example provides an example of how to define the reference flow. If the functional unit for an elevator is 1 tonne of load transported over 1 km, i.e., 1 tkm transported load. Assuming that the service life of one elevator corresponds to 500 tkm transported load, then the reference flow is 1/500 = 0.002 elevators.

A.2.1 TECHNICAL SPECIFICATION, LIFESPAN, AND REFERENCE SERVICE LIFE (RSL)

A PCR may establish rules of declaring technical specifications of the product, for example as part of describing its function. The technical specification shall include sufficient information for a user of the EPD to assess the technical performance and usefulness of a product in each relevant context.

The technical specification shall include a product lifespan, if relevant. This may be a technical lifespan of the product, i.e., the average time for which the product has been designed or proven to last, and/or an actual lifespan, i.e., the average time for which the product has been shown to be in use. Product lifespans shall be expressed in relevant units such as years, operating hours, or kilometres travelled. Note that the technical lifespan is not identical or related to guarantee time whether legally binding or offered voluntary. The PCR may include specifications of whether the product lifespan is relevant to include for the specific product category, and requirements or guidance on how to estimate the product lifespan.

Note that the product lifespan of a product is not necessarily the same as the reference service life (RSL) of the product category to which the product belongs. The RSL of a product category is the reference time to which the performance of all products of a product category shall be related as part of the definition of the functional unit. If relevant, an RSL may be defined in the PCR. For example, a PCR may specify the RSL of product category to be 10 years (e.g., because that is a typical technical lifespan for that product category) and the functional unit to be to fulfil a certain function over that RSL. If a product then has a (proven) technical lifespan of 5 years, two such products (or a replacement product or refurbishment of the product, depending on product) are needed to fulfil the functional unit. Likewise, if a product has a (proven) technical lifespan of 20 years, only half such a product is needed to fulfil the functional unit.

The RSL shall refer to the declared technical and functional performance of the product, be specified under defined reference in-use conditions, and be justified and verifiable. For further guidance on RSL of construction products, see EN 15804.

A.3 SYSTEM BOUNDARY

The system boundary of the product life cycle determines the processes to be included or excluded in the LCA. Which system boundary to apply for a specific product category shall be set in the PCR.

All environmentally relevant processes from "cradle to grave" should be included, so that at minimum 95% of the total energy use, mass of product content, and environmental impact is accounted for (see Section A.3.3).

For raw materials, intermediate products, or other products for which further processing and/or the end use is unknown, the system boundary may be limited to "cradle to gate" if all of the following criteria for excluding the end-of-life stage are fulfilled:[47]

- the product is physically integrated with other products in subsequent life-cycle process (e.g., during installation in a building) so they cannot be physically separated from them at end of life,
- the product or material is no longer identifiable at end-of-life because of a physical or chemical transformation process,
- the product or material does not contain biogenic carbon, and
- the EPD shall not be used for business-to-consumer communication.

If deviations from a "cradle to grave" system boundary are allowed for a product category, and if deviations from the above criteria for excluding end-of-lite treatment are made in a PCR, these shall be described in the PCR and justified in the PCR development process.

In case end-of-life is included and a "cradle to grave" system boundary shall be used, the use stage may still be excluded, if allowed by the PCR. Such exclusion may be relevant for raw materials, intermediate products, or other products for which the end use is unknown, and shall be justified in the PCR development process. For products used by end users, the use stage shall always be included.

A.3.1 LIFE-CYCLE STAGES AND INFORMATION MODULES

Because of different data quality rules and for the presentation of results, the product life cycle shall be divided into the following life-cycle stages and information modules (adopted from EN 15804), henceforth "modules", unless the PCR says otherwise:

- Product stage, modules A1-A3:
  - A1: Raw material extraction and processing (e.g., mining, agricultural and forestry operations), production of intermediate materials and components (e.g., including transformation processes such as rolling, drawing and extrusion), processing of secondary material input (e.g., recycling processes), production of distribution and consumer packaging, etc.
  - A2: Transports to the manufacturer of the product
  - A3: Manufacturing of the product[48]
- Distribution and installation stage, modules A4-A5:
  - A4: Transport of the product to the building/installation site/user, including storage of product (e.g., warehouse and retail operations)
  - A5: Installation of the product, e.g., in a building as part of the construction of the building (e.g., including transports and waste processing of material and product losses arising in A5)
- Use stage, modules B1-B7:
  - B1: Use/application/operation of the product (e.g., including direct emissions associated with its use)
  - B2: Maintenance of the product

[47] The first three criteria are adapted from EN 15804, and the fourth criterion is adapted from ISO 14025.

[48] These are often, but not always, the processes under operational control of the EPD owner.

- B3: Repair of the product
- B4: Replacement
- B5. Refurbishment
- B6: Energy use in use/application/operation
- B7: Water use in use/application/operation

- End-of-life stage, modules C1-C4:
  - C1: De-construction/demolition/deinstallation
  - C2: Transport to waste processing and/or disposal
  - C3: Waste processing for reuse, recovery and/or recycling
  - C4: Disposal

Above description of processes included in each module is not complete and there are exceptions, as is described below (e.g., raw material extraction and processing may appear in other modules than A1). In addition to above life-cycle stages and modules, a PCR may permit the declaration of environmental consequences of reuse, recycling and/or recovery of materials and energy beyond the product system (module D). If permitted, these results shall be separately declared. Note that module D is not part of the product system and thus not considered to be a life-cycle stage.

Not only activities directly associated with the production at a site shall be included (e.g., the use of the production equipment), but also supporting activities such as heating of, and water use at, premises (including buildings for manufacturing, personnel, storage, etc.).

An EPD shall include all unit processes that are environmentally relevant to include for each module. A PCR may include further specifications and guidance on which life-cycle stages, modules, and processes to include or exclude.

Each module shall include the generation of electricity and production of fuels, steam and other energy carriers used in the module. Also, each module shall include the waste processing of waste generated in the module up to the end-of-waste state or final disposal; except waste processing of the product itself, which is included in module C. Also, each module shall include the upstream production and transport of such waste, i.e., any environmental burden related to a loss shall be included in the module in which the loss occurs. This means that if there is a loss of material or product in, for example, module A3 or module A5, the production, transport, and waste processing (until the end-of-waste state) or final disposal of that loss shall be included in module A3 or module A5, respectively. Because of this, there may be upstream processes that occur in several modules – such processes shall be consistently modelled (e.g., in terms of use of primary/secondary data, allocation method applied, electricity modelling) irrespective of the module in which they occur. This principle of assigning losses and their production is illustrated in Figure 3. The principle has been adopted from EN 15804 and supports the modular use of data in an EPD, for example because it facilitates the use of data from A1-A3 as it is not influenced by downstream loss rates in A5.

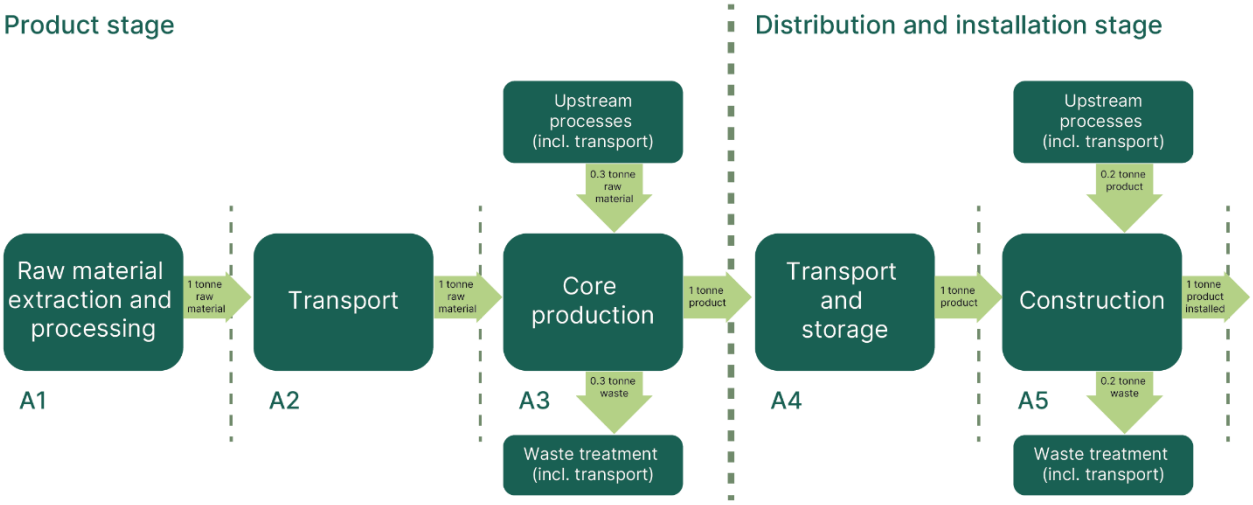

Figure 3. Illustration of principle for assigning losses and their production.

Each B module includes the production and transport of all material, components, and product inputs to the module, except the input of the studied product and its packaging from module A. For example, this includes production and transport of consumables used in maintenance (B2), or new product components/spare parts used in replacement (B4). Also, each B module shall include the waste processing of waste generated (including, e.g., replaced components/parts) in the module up to the end-of-waste state or final disposal. There may be processes in module B that also occur in module A (e.g., production of replacement components/parts); such processes shall be modelled as in module A (e.g., in terms of use of primary/secondary data, allocation method applied, electricity modelling).

Based on market needs, a PCR may require division into other life-cycle stages and/or modules. For example, the division into the life-cycle stages upstream, core and downstream.[49] A PCR may also assign processes to life-cycle stages/modules differently than indicated above. For example, the above-described assignment of processes to life-cycle stages/modules may not be applicable for EPDs of services and the PCR may therefore include additional and deviating guidance.

The PCR shall specify which life cycle stage/module division to use and specify the typical processes of each stage/module.

[49] In most cases, the upstream stage will correspond to module A1, the core stage to modules A2 and A3, and the downstream stage to modules A4 to C4.

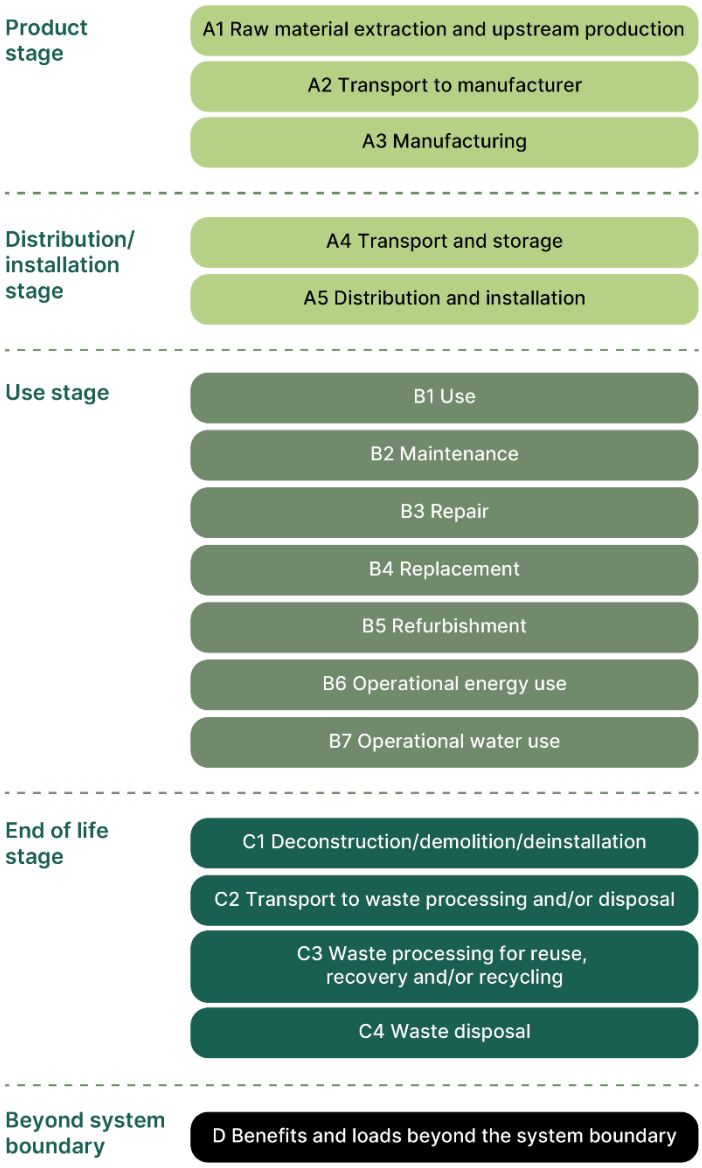

Figure 4. Illustration of the general processes of modules A-D.

A.3.1.1 Excluded processes

Business travel of personnel, travel to and from work by personnel, and research and development activities shall be excluded, unless the PCR says otherwise.

Processes excluded based on the rules in this section shall not be considered when calculating the percentages for applying the cut-off rules of Section A.3.3.

A.3.1.2 Infrastructure and capital goods

This section provides rules on how to model infrastructure and capital goods, which here is defined as products used in the studied product system that are not consumed (e.g., in the production or the product use) and retains their function for more than three years. Examples are the building in which the studied product or upstream

materials or components are produced, machinery used in the manufacturing of the product or its materials or components, or vehicles used in transports in the product system.[50]

In general, the production and end-of-life processes of infrastructure and capital goods used in the product system shall not be included within the system boundaries. There are a few exceptions to this rule, as follows:

- For datasets on electricity used in manufacturing processes in module A3 and processes under direct control of the EPD owner, as well as other processes using electricity that are assessed to use more than 20% of the total electricity use in the product system, at least the construction of the powerplant shall be included. This assessment can be based on plausibility considerations and expert judgement. Construction of the powerplant should be included also for other electricity datasets. Other infrastructure involved in the generation and distribution of electricity may also be included.
- If infrastructure/capital goods are produced with the intention to be used one or a few times only, for example a manufacturing plant or machinery constructed to produce only one product unit. Note, however, that such plants/machinery will in general not be defined as infrastructure/capital goods according to above definition. If such infrastructure/capital goods are common in a specific product category, the PCR should provide rules for how to model such infrastructure/capital goods.
- Infrastructure/capital goods may be included if a generic LCI dataset includes infrastructure/capital goods, and it is not possible, within reasonable effort, to subtract the data on infrastructure/capital goods from this dataset.
- A PCR may require, recommend or permit certain infrastructure/capital goods to be included. If this is done, the PCR should provide rules and guidance for how to model such infrastructure/capital goods.

If infrastructure/capital goods are included within the system boundaries, this shall be described in the EPD, unless they contribute less than 10% to the cradle-to-gate results to all of the environmental impact indicators declared in the EPD (in such cases, it is still permitted to describe the inclusion of infrastructure/capital goods). The description shall include which life-cycle stages or processes that infrastructure/capital goods are included for. Furthermore, the description should[51] include the type of infrastructure/capital goods included (e.g., factory building, manufacturing machinery, transport vehicles, transport infrastructure, energy infrastructure). If infrastructure/capital goods are included in a generic LCI dataset used, the name of the dataset (including the database it has been derived from) shall be declared in the EPD if the full dataset (i.e., not just the infrastructure/capital goods) contributes more than 5% to the cradle-to-gate results of any of the environmental impact indicators.

The above rule to, in general, exclude infrastructure/capital goods is primarily because LCI data on infrastructure/capital goods included in generic datasets often are of inadequate and inconsistent quality, for example in terms of technical, geographical, and temporal representativeness, which may significantly increase the uncertainty of the results declared in the EPD.[52] The rule may change in the future if the quality of LCI data on infrastructure/capital goods improves.

Processes excluded based on the rules in this section shall not be considered when calculating the percentages for applying the cut-off rules of Section A.3.3.

A.3.2 OTHER BOUNDARY-SETTING RULES

The following are the default system boundary for the LCI. These rules may be further described or revised in a PCR.

Boundary in time. The period for which inputs to and outputs from the product system is accounted for shall be 100 years from the year that the LCA model best represents, considering the representativeness of the inventory

[50] For example, if the EPD is on wind power, the power plant itself is considered the studied product and not infrastructure/capital goods. However, the buildings and machinery that make the wind turbine components are considered infrastructure/capital goods. Similarly, if the EPD is on a means of transport, the vehicle is considered the studied product and not infrastructure/capital goods.

[51] A reason not to declare this information can, for example, be that this information is not available in the LCI dataset documentation.

[52] See, for example, Tokede & Rouwette (2023).

data. This year shall, as far as possible, represent the year of the publication of the EPD. For example, this means that leachates from landfills occurring more than 100 years into the future shall not be accounted for.

Boundary to nature and other product systems. Flows shall in general be traced so that the main inputs to the LCI are resources from nature and outputs are emissions to nature. Co-products, and waste that is processed until the end-of-waste state is reached, may enter/leave the product system from/to other product systems; see Section A.4 for rules on how to set the boundary between product systems. Agriculture, forestry, aquaculture, and similar production systems are part of the technical system, i.e., elementary flows that originate from applied substances (e.g., fertilisers) and eventually leave to water, soil or air shall be accounted for.

Geographical boundary. The geographical boundary shall reflect the physical reality of the product under study, accounting for the representativeness of technology, input materials and input energy.

A.3.3 CRITERIA FOR THE EXCLUSION OF INPUTS AND OUTPUTS (CUT-OFF RULES)

Criteria for excluding LCI data (cut-off rules) are intended to facilitate data collection and support efficient LCA modelling. All available data shall be used, and cut-offs should be avoided and shall not be done to "hide" data. Any application of the cut-off rules, including LCI data excluded based on cut-offs, shall be described in the EPD.

The default cut-off rule is 5% at the level of modules (A1, A2, A3, etc.) or, if the system of modules is not used, per life-cycle stage (e.g., upstream, core, downstream). In other words, the included LCI data shall together cover at least 95% of the inputs and outputs of both mass and energy per module/life-cycle stage. Even if below the 5% cut-off rule, inputs/outputs that are known or expected to contribute more than 5% to the results of any of the environmental performance indicators shall be included. The 5% cut-off does not include LCI data that are explicitly outside the system boundary according to the GPI, the PCR, or any normative reference standard referenced to in the PCR (e.g., EN 15804 for construction products).

If less than 100% of the actual inputs or outputs are accounted for, proxy data (e.g., extrapolation of included data) should be used to achieve 100% completeness.

Exclusion of LCI data based on the cut-off rule shall be based on a sensitivity analysis and/or conservative assumptions in combination with plausibility considerations and expert judgement. This shall be documented in the LCA report in a way that makes it verifiable (it is the verifier that decides what information is necessary). As an example, plausibility of the completeness of included LCI data can be checked by comparing with LCI data on similar processes or national emissions databases.

Deviations from the above cut-off rule may be set in a PCR. If so, this shall be justified in the PCR development process.

A.4 ALLOCATION RULES

Sections A.4.1 and A.4.2 provide rules for the allocation of co-products and waste, respectively. A co-product is "any of two or more marketable materials, products or fuels from the same unit process, but which is not the object of assessment"[53] and waste is a "substance or object which the holder discards or intends or is required to discard" (definitions from EN 15804[54]). A further clarification is that waste, if eventually used for a specific purpose, requires processing to cease being waste and thus leave the product system. A material or energy flow ceases being waste when all the criteria for the end-of-waste state are fulfilled, see Section A.4.2. In other words, if any of the criteria is not fulfilled at some point, it is a waste and the waste allocation procedures of A.4.2 shall be applied, and if all criteria are always fulfilled, it is a co-product and the co-product allocation procedures of A.4.1 shall be applied. This is the general rule for how to distinguish between co-products and waste, and decide which allocation procedure to use. There is an exception to this general rule adapted from EN 15804:

- All outputs from maintenance, repair, replacement, or refurbishing processes (or similar processes in module B/use-stage), and from dismantling, deconstructing, or demolition of the product in module C/end-

53 In industry vocabulary, the terms by-product, non-core products or sub-products are sometimes used to refer to co-products.

54 The definition of waste is originally from European Waste Directive 2008/98/EC (European Commission 2018).

of-life stage, shall at first be considered being waste. In other words, such (post-consumer) outputs from modules B (use stage) and C (end-of-life stage) shall be modelled as waste and be assumed to leave the product system when the end-of-waste criteria have been fulfilled, without an environmental burden (following the rules for waste allocation in Section A.4.2).

Irrespective of the allocation between product systems, the inherent properties of the product and the packaging, such as calorific content or biogenic or fossil carbon content, shall not be allocated away and shall always follow the physical downstream flow and the product system that finally uses it.

The applicable allocation rules (as outlined in the GPI and/or applicable PCRs and standards), should be followed for the entire product system, i.e., also for processes modelled with generic datasets from databases. Therefore, generic datasets may have to be modified before being used in the LCA model. Such modifications can include conservative assumptions; guidance on this is included in Section A.4.1. Generic datasets that do not follow the applicable allocation rules, and cannot be modified or proved to be conservative, may only be used if this deviation is of minor importance for the LCA results. The deviation shall be clearly stated and justified in the LCA report, and the applied allocation method shall be in line with the allocation rules in ISO 14044.

The PCR should specify the allocation method to use in each key process of the product category where an allocation problem may be expected. This should follow the rules in this section; deviations shall be justified in the PCR development process. If economic allocation is prescribed by the PCR, it shall explain the reference values (e.g., revenue) to be used.

Figure 5 illustrates when to apply co-product and waste allocation, respectively.

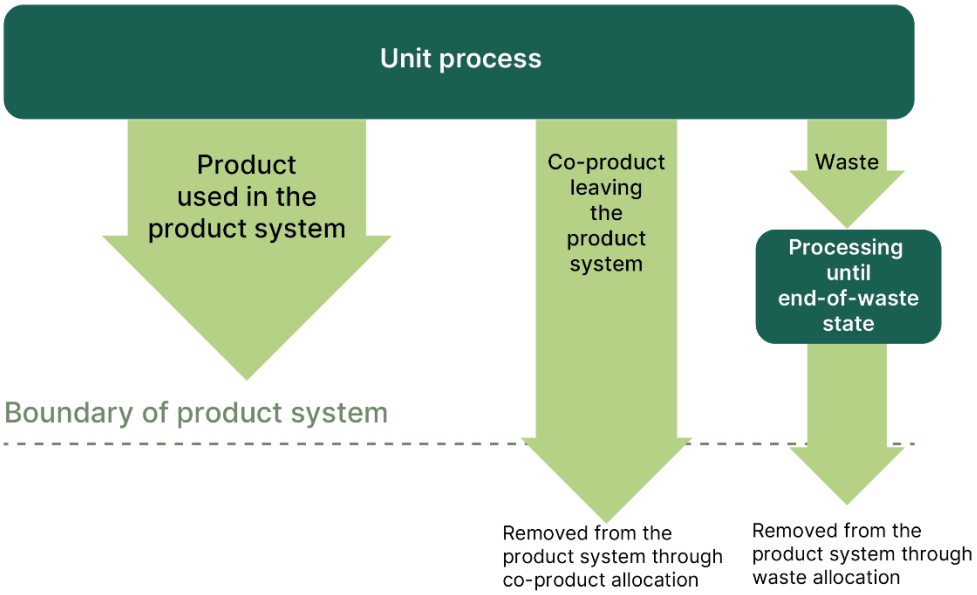

Figure 5. Illustration of when to use co-product or waste allocation.

A.4.1 ALLOCATION OF CO-PRODUCTS

In co-product allocation, the sum of inputs and outputs allocated to the product and co-products shall be equal to the total inputs and outputs of the allocated unit process, and consistent allocation procedures shall be uniformly applied to similar inputs and outputs of the product system under consideration. This means that no double counting or omission of inputs or outputs through allocation is permitted (unless a conservative assumption is made, see below).

The following stepwise procedure shall be applied for allocation of co-products:

1. Allocation shall be avoided, if possible, by dividing the unit process into two or more sub-processes and collecting LCI data for each sub-process. This option shall not be used for *joint* co-production processes, which ISO 21930 describes as follows: "...if each of the co-products can be produced without the other(s)

or the ratio of the co-products typically varies in normal production, then it is not a joint co-production process. By-products cannot be avoided and processes producing by-products are therefore joint co-production processes."

2. Allocation shall be based on physical properties (e.g., mass, volume) when (i) there is a relevant underlying physical relationship between the products and co-products, and (ii) the difference in revenue per mass (or per energy unit in case of electricity, heat or similar) from the product and co-products is low. A relevant underlying physical relationship exists when the amounts of inputs and outputs are changed by quantitative changes in the amounts of products or functions delivered by the system.
3. In all other cases, allocation shall be based on economic values of the product and co-products when they leave the unit process. Economic values may, for example, be the revenue generated by the product and each co-product. The revenue is the price multiplied by the output. For both price and output, representative values should be identified (e.g., rolling annual averages). If economic allocation is used, a sensitivity analysis exploring the influence of the choice of economic value shall be included in the LCA report.

In co-product allocation, conservative assumptions may be made when the effort of allocation is disproportionate to any improvement in accuracy. For example, flows leaving the studied product system can be assumed to have no economic value and thereby allocated no environmental burden (which yields the same results as if cut-off were used, but note that the EPD shall still describe the applied allocation method as co-product allocation). Furthermore, if a co-product of a previous product system is an input to the product system under study, the conservative assumption is that it comes with an environmental burden. In the end, a conservative assumption shall always allocate more environmental burdens to the product that is the object of the EPD than would have been allocated with a strict application of the allocation procedure.

An example of when a conservative assumption is reasonable is when it is unknown whether an input from a previous product system left that system as a co-product or as waste (that ceased to be waste at the system boundary). Then the conservative assumption is to assume the input is a co-product that is assigned an environmental burden. This may, for example, be the case when the input is an unknown mix of pre- and post-consumer scrap, where pre-consumer scrap shall most often be allocated as a co-product (e.g., if it has a positive economic value) while post-consumer scrap shall be allocated as waste.

If the PCR allows the declaration of module D, allocated co-products shall not be considered in the modelling of module D.

Note that heat generated in industrial installations or in the tertiary sector (often referred to as excess heat or waste heat), that is subsequently utilised (e.g., in a district heating/cooling system) shall be allocated as a co-product, normally using economic allocation at the point of sale. This means that for users of such heat, the heat comes with an environmental burden.

A.4.2 ALLOCATION OF WASTE

The allocation of waste shall follow the polluter-pays principle that is made operational according to the below described method. This method is sometimes called the cut-off method. A main justification for using it in EPDs is that it supports the modularity principle, i.e., it enables the modular use of EPDs in a product supply chain.

The system boundary to the subsequent product system is set where the waste (e.g., the discarded product) reaches the end-of-waste state, i.e., when is has become a usable flow (e.g., for reuse, recycling and/or energy recovery). The end-of-waste state is reached when all the following criteria are fulfilled (adopted from EN 15804):

- the recovered material, component or product is commonly used for specific purposes;
- a market or demand, identified, e.g., by a positive economic value, exists for such a recovered material, component, or product;
- the recovered material, component or product fulfils the technical requirements for the specific purposes and meets the existing legislation and standards applicable to products; and
- the use of the recovered material, product or construction element will not lead to overall adverse environmental or human health impacts.

"Specific purpose" in this context is not restricted to the function of a certain product but can also be applied to material or energyware serving as input to the production process of another product.

If an actor collects the recovered material/component/product for free, but pays for the transport, the material/component/product shall be considered to have a positive economic value when being collected. In other words, the end-of-waste state is reached before the transport.

"Overall adverse environmental or human health impacts" above refers to the limit values for pollutants set in regulations. If hazardous substances in the waste exceeds these limits, or have one or more properties as listed in applicable legislation (e.g. EU's waste framework directive; European Commission 2018), this prevents the waste from reaching the end-of-waste state.

At the system boundary, cut-off allocation shall be applied, i.e., all unit processes before the point of end-of-waste shall be assigned to the product system generating the waste and all unit processes after the point of end-of-waste shall be assigned to the subsequent product system.

If a waste flow does not fulfil all the end-of-waste criteria, and thus does not cross the system boundary, all waste treatment processes including those of disposal shall be assigned to the product system generating the waste.

Treatment of waste classified as hazardous, if not treated/upgraded and by legalisation reclassified as a product, will based on the above criteria always be allocated to the system generating this waste.

If it is unknown whether the end-of-waste criteria are fulfilled, a conservative assumption shall be made. This means that in case the product under study has generated the waste, the end-of-waste criteria shall be assumed not to be fulfilled and the further waste processing and waste incineration/disposal shall be assigned to the product.

As described in the introduction to Section A.4, certain outputs from module B/use stage and module C/end-of-life stage leaving the product system shall at first be considered being waste and leave the product system when reaching the end-of-waste state. If such an output never ceases to fulfil the end-of-waste criteria, the system boundary to the subsequent product system shall be set after the last joint unit process. For example, if a material/component after dismantling of the product in module C1/end-of-life stage has a positive economic value (i.e., there is a market demand for the material/component without any further sorting, transports or processing), the material/component leaves the product system directly after the dismantling. It leaves the product system without any environmental burden, and any environmental burden from subsequent sorting/transport/processing is allocated to the product system using the recycled/reused material/component.

Waste may have a negative economic market value, and then the end-of-waste stage is typically reached after (part of) the waste processing and further refinement, at the point at which the waste has a positive market value. This allocation method is in most cases in line with a waste generator's juridical and financial responsibilities. The method is illustrated in Figure 6 for a case where the market value of the waste always is positive, in which the end-of-waste stage is reached when the waste has its lowest market value. Common cases of allocation of waste treatment processes are described below.

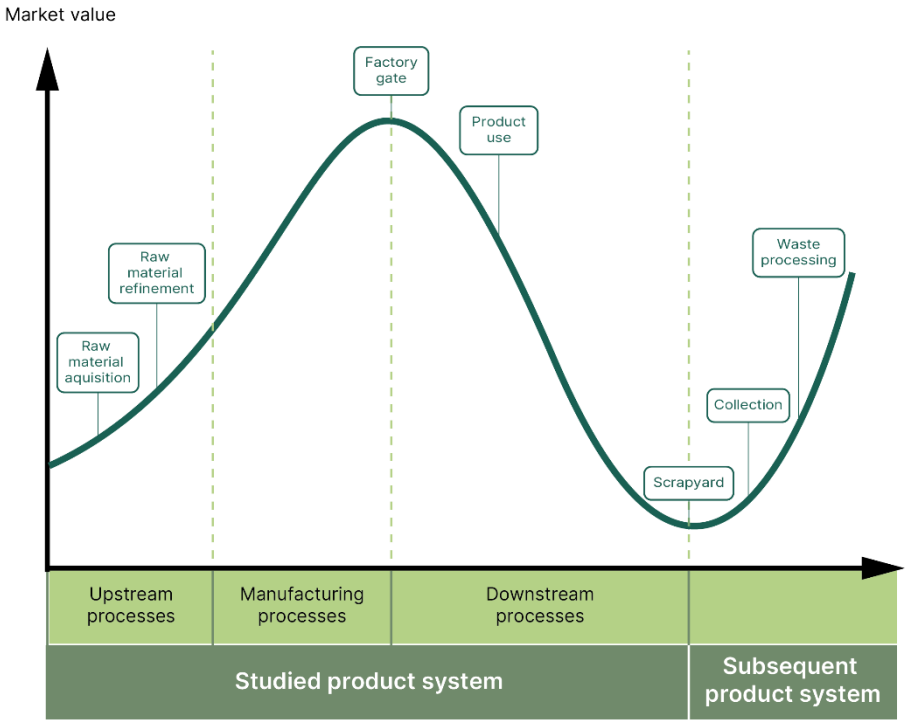

Figure 6. An example of where the system boundary between subsequent product systems involving reuse, recycling and recovery processes is set based on the allocation procedure described in the text.

For waste being recycled or reused, the environmental burden of processes until the end-of-waste state shall be assigned to the product system generating the waste, and processes after the end-of-waste state, if any, shall be assigned to the product system using the recycled/reused material flow (recycled materials are thereafter considered secondary materials). Internal scraps recycled in a manufacturing process shall not be considered an input of secondary material.

For waste incinerators that are paid for incinerating the material (i.e., the wasted material has a negative economic value), the end-of-waste state is reached after the incineration (regardless of energy efficiency). This means that all the environmental burden of collection, pre-processing and incineration of the waste shall be assigned to the product system generating the waste, and that all the environmental burden of processes after the end-of-waste has been reached, for example related to making use of the energy, shall be assigned to the product system using the energy. In contrast, if the end-of-waste state is reached before the incineration/combustion, the environmental burden of incineration/combustion (as well as processes occurring before incineration but after the end-of-waste has been reached, if any) shall be assigned to the product system using the energy. For example, this is the case if the waste incinerator pays for the material (i.e., the economic value of the material is positive) or receives it or picks it up for free, and all other criteria for the end-of-waste state are also fulfilled. For waste incineration without energy recovery, the environmental burden of collection, pre-processing and incineration of the waste shall be assigned to the product system generating the waste.

For landfilling of waste, the environmental burden of landfilling and capturing and combustion of landfill gas, if any, shall be assigned to the product system generating the waste. Burdens related to making use of the energy, if any, shall be attributed to the product system using the energy.

For waste that has not reached the end-of-waste state prior to being incinerated in module C, the energy efficiency of the incineration process determines whether it shall be assigned to modules C3 or C4.[55] If the

[55] This rule has been adopted from EN 15804, where “energy efficiency” is erroneously referred to as “thermal energy efficiency” (although the calculation of energy efficiency shall consider both heat and electricity exported from the

energy efficiency is equal to or higher than 60% for incineration installations in operation and permitted before 2009 and 65% for installations permitted after 2009, the incineration process is an energy recovery process and shall be assigned to C3. If the energy efficiency is below 60/65%, the incineration process is a disposal process and shall be assigned to C4. An exception is incineration of hazardous waste, which always shall be assigned to C4.[56]

A.5 DATA AND DATA QUALITY RULES

For data quality rules per life-cycle stage, see Section A.7.

A.5.1 DATA CATEGORIES

Life cycle inventory (LCI) data are classified as primary data, representative secondary data, or proxy data, as defined below.[57]

- **Primary data**[58] which include:
  - LCI data collected from the manufacturing plant where product-specific processes are carried out.
  - LCI data collected from other parts of the life cycle traced to the product under study, for example site-specific data on the production of materials provided by contracted suppliers.
  - LCI data from secondary data sources (e.g., databases, literature) on transportation or energyware (e.g., electricity[59], fuels, and heat) that are combined with collected activity data on energy (quantity and type of electricity mix, fuels, heat, etc.) and transportation (means of transportations, fuels, distances, load factors, etc., of contracted transportation providers).[60]
- **Secondary data** from, e.g., databases or literature, divided into:
  - **Representative secondary data**: LCI data that fulfil the data quality requirements in Section A.5.3.
  - **Proxy data**: LCI data that do not fulfil all the data quality requirements of representative secondary data in Section A.5.3.

Primary data shall be used for (at least) the processes over which the product manufacturer (in EPDs of services: service provider) has operational control. Primary data shall be used also for other processes, when available, otherwise secondary data may be used. The PCR may set stricter rules for using primary data in selected processes outside the manufacturer's operational control. For EPDs owned by traders (e.g. retailers, wholesalers), there are stricter rule for using primary data, see Section A.9.3.

incineration installation). The rule in EN 15804 in turn refers to EU's waste framework directive (European Commission 2018), where incineration installations with energy efficiencies equal or higher than 60/65% are given the so-called "R1" status.

[56] This paragraph is not relevant if the PCR requires a division of the product life cycle that does not divide the end-of-life stage into modules C1 to C4.

[57] Other terms and definitions of data categories were used in version 4.0 of the GPI.

[58] The definition of primary data is the same as the definition of "specific data" in version 4.0 of the GPI, which however is different from "specific data" as defined in EN 15804 and EN 15941. As primary data here include some types of generic data, it is a broader data category than "specific data" as defined in said standards. The terms "primary data" and "secondary data" are used also in EU's product environmental footprint (PEF) method, and in ISO 14050, but with other definitions.

[59] Data on electricity modelled by contractual instruments or a residual grid mix shall be considered primary data. If there is no contractual instrument for demonstrating the origin of the electricity on the market, that fulfils the requirements in Section A.6.2, data on the consumption mix of the market shall be considered primary data.

[60] The reason to consider generic LCI data on transports and energyware as primary data, when combined with primary activity data, is that the representativeness of the LCI data is to a large extent defined by the activity data. Other generic LCI data (e.g., on material production) is not qualified as primary data, even if combined with primary activity data, as representativeness to a lesser extent depends on the activity data.

Representative secondary data should be used in cases in which they are representative for the purpose of the EPD, for example for bulk and raw materials purchased on a spot market.

Data quality requirements of primary and secondary data are outlined in below Sections A.5.2 and A.5.3. In addition to these requirements, any data used (including proxy data) shall be based on attributional LCA modelling (e.g., not be based on marginal data and not include credits from system expansion).

If data that meets the requirements on primary or representative secondary data are not available, proxy data may be used. Proxy data shall not contribute to more than 10% of the results of any of the impact indicators.

A.5.2 DATA QUALITY REQUIREMENTS FOR PRIMARY DATA

For primary data, the following rules apply:

- Data should be averaged over at least one year of operations (this year does not need to be a calendar year); deviations shall be justified. A deviation may for example be justified if production under normal conditions only occurs during part of a year (e.g., only once, during a certain season each year, or as batch production a few days a year), or if the product is not yet, or recently, on the market, see Sections A.9.4 and A.9.5. Data for more than one year of production shall be used when year-to-year variations are large, so that, for example, five-year averaged data is more representative for the coming year.
- When data is averaged over several machines or manufacturing sites, the production volume per machine/site shall be accounted for (for other rules/guidance on modelling based on several manufacturing sites, see the last two paragraphs of Section A.9.1).
- The period for data collection should be as recent as possible; deviations shall be justified. A possible justification for a deviation is when disruption in the recent year effects representativeness of the data.
- The data shall not be more than five years old and shall be representative for the validity period of the EPD (if not, the EPD shall be updated, see Section 6.8).
- Inputs to and outputs from the product system shall be accounted for over a period of 100 years.
- Data shall comply with the rules on system boundaries and the cut-off rule of this GPI and applicable PCR.

A.5.3 DATA QUALITY REQUIREMENTS FOR REPRESENTATIVE SECONDARY DATA

For representative secondary data used, the following rules apply (which may be further specified in the PCR):

- The reference year (which does not need to be a calendar year) shall be as current as possible and not represent a reference year older than 10 years, and should be representative for the validity period of the EPD.
- The 5% cut-off rule (as described in Section A.3.3) shall be met on the level of modules/life-cycle stages.
- The technological, geographical, and temporal coverage of the data shall as much as possible reflect the physical reality of the declared product/product group.
- The data shall be checked for plausibility (e.g., by mass or energy balance, or by comparisons with other relevant sources of information).
- Datasets from databases should be from the latest version of the database. If not, the database version shall not be older than two years counting from when the EPD was published with a new validity period.

Note that “reference year” is not necessarily the year of data collection, but may, for example, be the latest year for which the dataset provider deems the dataset to be fully representative.

Examples of data that do not fulfil the above requirements, and therefore are classified as proxy data, are extrapolated data (to reach 100% completeness, see Section A.3.3), data whose reference year is more than 10 years old, data based on a different geographical scope, or data based on a different (but similar) chemical/material/fuel than what is actually used in the manufacturing.

A PCR may provide examples of datasets to be used, of specific relevance for the product category, if these are considered to fulfil the above requirements. Listing such databases in the PCR does not replace the need for data quality assessment during the LCA study.

A.5.4 DATA QUALITY ASSESSMENT AND DECLARATION

A data quality assessment shall be done and reported in the LCA report. This assessment shall cover data that together contribute to at least 80% of the results of each of the declared environmental impact indicators.[61] The assessment shall cover at least the geographical, technical and temporal representativeness of the data, and account for the precision, completeness, consistency and sources of the data. The assessment may be done using the data quality level and criteria schemes of UN Environment Global Guidance on LCA database development or the PEF method (European Commission 2021).[62] A summary of the assessment shall be included in the LCA section of the EPD.[63] The PCR may set further requirements on the data quality assessment.

In addition, for all processes contributing with more than 10% to the GWP-GHG results of modules A1-A3 (or cradle-to-gate), the following shall be declared in the LCA information section of the EPD:

- Type of source: “database”, “collected data”, “EPD”, etc.
- Source: database and its version number, provider of collected data (e.g. “EPD owner”, “supplier”), EPD registration number (unless confidential[64]), etc.
- Reference year.
- Data category: “primary data” or “secondary data” (optionally divided into “representative secondary data” and “proxy data”).
- Share of GWP-GHG results of modules A1-A3 (cradle-to-gate, i.e., upstream and core) coming from primary data.[65]

Above information shall be reported also for other A1-A3 (cradle-to-gate) processes, but this does not have to be done per process. Furthermore, reference year(s) of the data of the A3/core manufacturing processes shall be declared even if they contribute with less than 10% to the GWP-GHG results of modules A1-A3. Databases (including version number) shall be reported also for processes in modules A4-C (construction/installation, use and end-of-life stages) that contribute with more than 10% to the GWP-GHG results over all included life-cycle stages.

Also the total share of primary data contributing to the GWP-GHG results in modules A1-A3 (cradle-to-gate) shall be declared. If this share is more than 90%, “>90%” may be reported.

In connection to the reported shares of primary data, the EPD shall include the following statement: “The share of primary data is calculated based on GWP-GHG results. It is a simplified indicator for data quality that do not capture all relevant aspects of data quality. The indicator is not comparable across product categories.”

The share of representative secondary and proxy data may also be reported in the EPD.

The calculations of the shares of primary data shall be clearly shown in the LCA report.

When the EPD uses another EPD as a data source, it may not be possible to calculate the share of primary data (for example if the other EPD has not reported this, or the underlying LCA data cannot be accessed). If this is the case, an assessment on the share of primary data may be made based on the information available in the EPD used as data source. If such a simplified approach is used, and the reported share of primary data is above 30%, the following statement shall be included in the EPD: “The reported share of primary data is associated with uncertainty, as one or several EPDs that are used as data source lack information on the share of primary data used.” Alternatively, the EPD used as a data source can conservatively be assumed to be based on 0% primary data.

See Table 10 for an example of how above information can be reported.

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[61] This is adapted from EN 15941, in which such data is termed “relevant data”.

[62] Both these schemes are outlined in Annex E of EN 15804.

[63] Annex C in EN 15941 provices examples of good practice of the data quality reporting in EPDs.

[64] A reason for confidentiality can, for example, be that the EPD owner does not want to disclose its suppliers.

[65] The rationale behind this indicator is to incentivise the collection and use of primary data along product supply chains, and thus support a long-term development where EPDs increasingly are based on primary data.

Table 10. Example for the declaration of sources and share of primary data.

Process	Source type	Source	Reference year	Data category	Share of primary data, of GWP-GHG results for A1-A3
Manufacturing of product	Collected data	EPD owner	2023	Primary data	10%
Generation of electricity used in manufacturing of product	Database	Ecoinvent v3.10	2024	Primary data	15%
Transport of steel to manufacturing site	Database	Ecoinvent v3.10	2024	Primary data	10%
Production of steel	EPD	S-P-XXXXX	2021	75% primary data, 25% generic data	20%
Production of aluminium	Database	Ecoinvent v3.10	2024	Representative generic data	0%
Production of packaging	EPD	*Confidential*	2022	30% primary data, 70% generic data	3%
Other processes	Databases	Ecoinvent v3.10, Gabi v2022.2	2019-2024	Representative generic data, proxy data	0%
Total share of primary data, of GWP-GHG results for A1-A3					**58%**

A.6 OTHER LCA RULES

For specific LCA rules per life-cycle stage, see Section A.7.

A.6.1 MASS BALANCE

Mass balance approaches (MBAs) are sometimes used in LCA contexts to claim biobased, renewable, recycled, or other types of product content. MBAs are based on organisations (e.g., integrated chemical production systems) and not on single product systems, and they apply calculations and mass balance criteria that are not based on the physical relationship between input resources and product content. With MBA, the content of the product may be claimed to be, for example, biobased, renewable, or recycled, even if biobased, renewable, or recycled raw materials are not physically present in the product. Because of this, the current position of the International EPD System is that MBAs do not follow EN 15804 and related standards and shall not be used in EPDs. If MBAs are further developed, exemptions may be done in specific PCRs unless it violates applicable standards (e.g., for construction products: EN 15804 or ECO Platform standards). Such exemptions shall be justified and approved in the PCR development process.

Note: The above rules on MBA concerns not only the content of the main product studied, but also the content of materials and products used in the product system. Biogas supplied through grids and used for energy purposes in the product system are exempted from these rules (see Section A.6.3).

A.6.2 ELECTRICITY MODELLING

Electricity used in the product system can be internally generated, from a directly connected supplier, or from a grid (this division of used electricity is adopted from ISO 14067).

For the modelling of internally generated electricity, data for that electricity shall be used in case no contractual instrument demonstrating the origin of that electricity has been sold to a third party. If such contractual instruments have been sold to a third party, the electricity shall be modelled as it was from the grid.

For the modelling of electricity from a directly connected supplier, data for that electricity, obtained from the supplier, should be used, if there is a dedicated transmission line between the supplier and the facility using the electricity and no contractual instruments have been sold to a third party. If there is no dedicated transmission line or if contractual instruments have been sold to a third party, the electricity shall be modelled as it was from the grid (see below). If data cannot be obtained from the supplier, proxy data representing the same power source may be used.

For the modelling of electricity from the grid, market-based modelling shall be used (except for specific processes, see Section A.7). In market-based modelling, contractual instruments (e.g., Guarantees of Origin) may be used to demonstrate that a specific electricity mix has been used. The contractual instrument shall ensure reliability, traceability, and the avoidance of double counting. To ensure this, the contractual instrument shall:

- convey the information associated with the electricity delivered: generator/provider of the electricity, type(s) and quantity of electricity, purchaser of the contractual instruments, period for issue and validity of the contractual instruments,
- be assured with a unique claim,
- be tracked and redeemed, retired, or cancelled by or on behalf of the reporting entity,
- be produced in the country, or within the market boundaries where electricity use occurs if the grid is interconnected[66], and
- be valid for at least the upcoming six months from the publication of the EPD and the manufacturer shall make a commitment to buy contractual instruments for the full validity period of the EPD (that contractual instruments are continued to be purchased shall be checked in the follow-up procedure, see Section 8.3.2).

Furthermore, the contractual instrument should specify the addresses of the power plants, tracking numbers, and information on the existence of a certificate on direct coupling (yes/no)[67]. If not specified, this shall be justified in the LCA report.

The amount of electricity represented by the purchased contractual instrument in one year, shall correspond to the amount of electricity (for which contractual instruments are claimed) used to produce the corresponding annual sales volume of the product.

Above criteria on contractual instruments merge the criteria of ISO 14067, EN 15941 and ECO Platform standards (Verification guidelines for ECO EPD programmes version 07 and LCA calculation rules and specifications for EPDs version 01).

The EPD shall contain information on how electricity has been modelled for electricity used in A3/core processes and other processes under the control of the EPD owner, for example including whether a contractual instrument and/or the residual electricity mix has been used. For these processes the EPD shall also declare the energy source behind the electricity used and its climate impact as kg CO_2 eq./kWh (using the GWP-GHG indicator). The EPD should also contain information on how electricity has been modelled for other upstream and downstream processes, if relevant and the information is available.

After specific electricity backed up by a contractual instrument, the residual mix or the consumption mix on the market are the next options in the hierarchy for electricity modelling (see specific rules per life cycle stage in Section A.7). The residual electricity mix is the mix when all contract-specific electricity that has been sold to other customers has been subtracted from the total consumption mix. If the residual grid mix of the market is not publicly available, it can conservatively be assumed to be the consumption mix of the market minus the

[66] In Europe, the European Continental (UCTE), Nordic, United Kingdom, Ireland, and Baltic electricity grids shall be considered to be interconnected. Furthermore, if processes within the system under study are located in small island developing states (SIDS), the contractual instruments may be used for such processes, irrespective of grid interconnectivity. SIDS are defined by the United Nations (UN 2018).

[67] A certificate on direct coupling says that the contractual instrument is linked to the underlying electricity and that the electricity generator (the power plant) delivers it together with the electricity to the electricity provider.

renewables of that mix. The market shall be defined as being the (residual or consumption) grid mix of the country where the electricity is used, with exceptions for specific countries for which a sub-national (residual or consumption) grid mix shall be used: Australia, Brazil, Canada, China, India, and USA.

If the electricity mix changes during the EPD validity (e.g., if the contractual instruments are no longer valid or if the electricity mixes they represent change) in a way that has an impact on the results or other contents of the EPD, the rules in Section 6.8 shall be followed. Such updated may be done even if the change has not been in place for one year.

For an entity (e.g., a manufacturing site) producing more than one product, contractual instruments for electricity shall not be assigned to specific products unless a separate electricity supply[68] and electricity contract is in place. Accordingly, if the contract for purchased electricity is done at a site level, any contractual instruments purchased shall be evenly assigned to all product produced at that site. If a site produces several products, the purchased contractual instruments in one year shall thus correspond to the electricity used to produce the corresponding annual sales volume of all the products.

Internally generated electricity that exits the product system shall not be deducted from inputs of electricity. In other words, it is not the net purchased electricity that shall be considered. Benefits from exported electricity shall instead be considered in module D (if the PCR allows the reporting of module D).

Further electricity modelling guidance for specific markets may be added to future updates of the GPI or on www.environdec.com/methodology.

The above outlined market-based electricity modelling approach shall be used for the main environmental performance results. Additionally, results based on location-based electricity modelling (i.e., using the consumption mix on the market to model all electricity used in the product system and module D) may be declared in a subsection of the environmental performance section, see Section 7.4.7.

Note: The contractual instrument of the EU, Guarantees of Origin, fulfil the above criteria if the required documentation is made available to the verifier.

Note: The composition of the residual grid mixes on the market are available for all EU countries and a few additional European countries through the Association for Issuing Bodies (AIB 2024).

Note: For electricity markets without contractual instruments fulfilling the above criteria, the residual mix will be identical to the consumption mix.

A.6.3 BIOGAS MODELLING

Biogas used in the product system can be internally generated, from a directly connected supplier, or from a grid.

The LCA model shall assume the use of biogas in case it is internally generated or is delivered by a dedicated supply (a pipeline or another form of transport) between the biogas plant and the process using the biogas, in case no contractual instruments (biogas certificates) have been sold to a third party. In case biogas certificates have been sold to a third-party, the residual gas mix shall be assumed.

For biogas supplied through a grid and used for energy purposes in the studied product system, market-based modelling shall be used (except for specific processes, see Section A.7), following the below rules adopted from EN 15941:

- Biogas certificates can only be used if the gas is supplied from a grid and if the supplier can guarantee that the biogas meets the requirements for tracking and traceability (which are the same as for contractual instruments for electricity, see Section A.6.2).
- Gas from a grid purchased without certificates shall be modelled using the residual mix (which most often will be 100% natural gas).

[68] "Separate electricity supply" here refers to spatially separate supply. I.e., it is not sufficient that the electricity supply is separated in time. This means that the manufacturer cannot claim that electricity associated with contractual instruments is used during a certain time period of the year, and that the residual grid mix is used during the rest of the year.

- For gas grids without contractual instruments fulfilling the above criteria, the residual mix will be identical to the consumption mix (the average annual mix of biogas and natural gas supplied in the grid).

- As long as AIB (see Section A.6.2) does not provide datasets for residual gas mixes and this is not provided in generic LCI databases, the residual mix shall be calculated following the AIB guidance for green electricity as closely as possible or be conservatively assumed to consist of 100% natural gas.
- The EPD shall contain information on how biogas has been modelled for biogas used in A3/core processes and other processes under the control of the EPD owner, for example including whether biogas certificates and/or the residual gas mix has been used. For these processes, the EPD shall declare the climate impact of the gas used as kg CO_2 eq./MJ (using the GWP-GHG indicator).
- For an entity (e.g., a manufacturing site) producing more than one product, biogas certificates shall not be assigned to specific products unless a separate biogas supply[69] and biogas contract is in place. Accordingly, if the contract for purchased biogas is done at a site level, any biogas certificates purchased shall be evenly assigned to all product produced at that site. If a site produces several products, the biogas certificates purchased in one year shall, thus, correspond to the biogas used to produce the corresponding annual sales volumes of all the products.

For gas supplied in a grid and used as feedstock, location-based modelling shall be used; in other words, the consumption mix shall be assumed (i.e., the annual average mix of biogas and natural gas supplied in the grid).

The above outlined market-based modelling for biogas supplied in a grid and used for energy purposes, shall be used for the main environmental performance results. Results based on location-based biogas modelling (i.e., using the consumption mix) may be additionally declared in a subsection of the environmental performance section.

A.7 SPECIFIC RULES PER LIFE-CYCLE STAGE AND MODULE D

Below are the default data quality requirements and other LCA rules per life-cycle stage and for module D. Further specifications, additions or deviations to these rules may be included in the PCR. For example, if the PCR requires an alternative division into life-cycle stages and/or modules, it shall describe how the below rules are to be applied in relation to that division.

Any of the below rules on electricity modelling apply also for modelling of biogas supplied in a grid and used for energy purposes, if applicable. For more rules on electricity and biogas modelling, see Sections A.6.2 and A.6.3, respectively.

A.7.1 PRODUCT STAGE, A1-A3

The product stage extends from the extraction of any energy or material resources from nature (see Section A.3.2) upstream in the supply chain until the product leaves the final factory gate of the product stage.

For modelling of the product stage, the following rules apply:

- Primary data shall be used for:
  - processes under operational control of the EPD owner, and
  - manufacturing and assembly of the product.

  PCRs of services may make exceptions to the second bullet point above, and instead require primary data for the the quantities of materials, chemicals, steam, heat, electricity, etc., used in the execution of the service (which may occur in another life-cycle stage than the product stage).
- Primary data should be used for:
  - production of main parts, packaging, or main auxiliaries by suppliers, where relevant (e.g., if its contribution is more than 5% to the environmental performance results), activity data for transports

[69] "Separate biogas supply" here refers to spatially separate supply. I.e., it is not sufficient that the biogas supply is separated in time.

(means of transportations, fuels, distances, load factors, etc.) of main parts and components along the supply chain, and of raw materials and chemicals to the manufacturing plant/place of service provision, and

- waste treatment processes of manufacturing waste.

If primary data is not used for these processes, this shall be justified in the LCA report.

- In case primary data is not available and not required according to above bullet points or applicable PCR, secondary data may be used (see Section A.5.1).
- When consumer packaging shows the logo of the EPD owner, the LCA report should report to what extent the EPD owner has direct control of the production of this packaging.
- Electricity used in A1-A3 processes shall be modelled according to this priority:
  1. Specific electricity mix as generated, or purchased from an electricity supplier, demonstrated by a contractual instrument (e.g., Guarantees of Origin) as provided by the electricity supplier.
  2. Residual electricity mix on the market.[70]
  3. Electricity consumption mix on the market. This option shall not be used for electricity used in A1-A3 (upstream and core) processes over which the manufacturer (often the EPD owner) has direct control.

A.7.2 DISTRIBUTION/INSTALLATION STAGE, MODULES A4-A5

The distribution/installation stage extends from the moment the product leaves the final factory gate of the product stage (A1-A3) until the end user starts using the product.

Note that this stage includes the production, transport, and end-of-life processes of any waste that is generated in this stage, as was explained in Section A.3.1. This means that some processes in this stage may be the same as in the product stage A1-A3, and thus are subject to the same data quality requirements and LCA rules as A1-A3 processes, as consistent modelling shall be done for a process regardless of the module/life-cycle stage to which it is assigned.

For modelling of the distribution/installation stage, the following rules apply:

- Primary data shall be used for processes under operational control of the EPD owner.
- Data for the distribution/installation stage are usually based on scenarios, but actual data should be used when available and relevant. For example, actual data may be relevant for EPDs of buildings, civil infrastructure, or certain services, as should be specified in the PCR. Any scenarios used shall be clearly described in the EPD (e.g., including distances and means of transport in module A4).
- Transport of the product to the construction/installation/customer shall be described in the EPD, if relevant, and be modelled according to this priority:
  1. Actual transportation modes and distances to a specific customer or market, representing the geographical scope of the EPD.
  2. A weighted average of transportation modes and distances, based on transportation to several customers or markets, representing the geographical scope of the EPD.
  3. A default transportation scenario of relevance to the product category and (for the product category) common markets, as specified in the PCR.
- Electricity used in transports or construction/installation shall be modelled using the electricity consumption mix on the market, except for processes under direct or indirect[71] operational control of the EPD owner, for

[70] If the composition of the residual grid mix has not been publicly disclosed, it can conservatively be assumed to be the consumption mix on the market minus the renewable electricity of that mix.

[71] Indirect operational control refers to when the EPD owner enters into an agreement with the company in direct control of the downstream process, that guarantees the use of a specific electricity mix backed up by a contractual instrument. In such a situation, requirements on the documentation on the purchase of contractual instrument is the same as if the process was under direct operational control of the EPD owner.

which the electricity modelling hierarchy of Section A.7.1 shall be followed. The electricity mix used in these processes shall be documented in the EPD, if relevant.

- For processes that also occur in modules A1-A3 (e.g., production of losses that occur in construction/installation), the modelling shall follow the data quality requirements and LCA rules for A1-A3 processes, as the same process shall be consistently modelled.
- End-of-life processes of the packaging of the product shall typically be included in module A5. The modelling of these and other end-of-life processes in modules A4-A5 shall follow the rules for defining end-of-life scenarios outlined in Section A.7.4.

A.7.3 USE STAGE, MODULES B1-B7

The use stage extends from the moment the end user starts using the product (after, e.g., installation) until it leaves its place of use and enters the next process (e.g., an end-of-life process or a transport to end-of-life). Note that this stage includes the production of consumables, replacement parts, etc., used in the use stage, as well as end-of-life processes of any waste that is generated in this stage.

To ensure consistency between EPDs for the same product category, the PCR shall:

- clearly indicate if the use stage shall, should or may be included,
- define which use-stage processes that shall be included or excluded (any exclusion shall be justified),
- clearly indicate if the use stage shall be modelled with scenarios or not, and if scenarios are to be used:
- provide default data/scenarios (e.g., PCRs for food products that require cooking shall report a default scenario for energy used for cooking).

For modelling the use stage, the following rules apply:

- Primary data shall be used for processes under operational control of the EPD owner.
- Data for the use stage are usually based on scenarios, but actual data should be used when available and relevant; for example, it may be relevant for EPDs of certain services. Any scenarios used shall be clearly described in the EPD.
- Data on the emissions from the use stage should be based on documented tests, verified studies in conjunction with average or typical product use, or recommendations concerning suitable product use. Whenever applicable, test methods shall be internationally recognised.
- The electricity use for the use/operation of the product shall be modelled using the electricity consumption mix on the market, except for processes under direct or indirect[72] operational control of the EPD owner, for which the electricity modelling hierarchy of Section A.7.1 shall be followed.[73] The electricity mix of the use/operation shall be declared in the EPD, if relevant.
- For processes that also occur in modules A1-A3 (e.g., production of replacement components/spare parts), the modelling shall follow the data quality requirements and LCA rules for A1-A3 processes, as the same process shall be consistently modelled.
- The modelling of any end-of-life processes in modules B1-B7 shall follow the rules for defining end-of-life scenarios outlined in Section A.7.4.

A.7.4 END-OF-LIFE STAGE, MODULES C1-C4

End-of-life treatment processes of the product may depend on the destination of the product and on the end-of-life treatment alternatives available where the product is expected to be disposed. For these reasons, the end-of-life may be evaluated using one or several scenarios. If several scenarios are used, the results of the

[72] Indirect operational control refers to when the EPD owner enters into an agreement with the company in direct control of the use/operation of the product, that guarantees the use of a specific electricity mix backed up by a contractual instrument. In such a situation, requirements on the documentation on the purchase of contractual instrument is the same as if the process was under direct operational control of the EPD owner.

[73] For example, this may be the case for EPDs of certain services.

most probable scenario shall be declared in the main results of the environmental performance section and the other scenarios shall be declared in a separate subsection (see Section 7.4.7). The following general rules (adapted from EN 15804) shall be considered when defining end-of-life scenarios:

- Scenarios shall be realistic and representative for the most probable end-of-life treatment alternatives considering the geographical scope of the EPD.
- Scenarios shall not include processes or procedures that are not in current use, or which have not been demonstrated to be practical.
- The assumed scenarios shall be described in the EPD, in a way that makes it clear that they reflect possible and realistic end-of-life treatment alternatives in specific markets. The description shall include distances and means of transports in module C2.

Furthermore, the following rules apply when modelling the use stage:

- Primary data shall be used for processes under operational control of the EPD owner.
- Electricity use shall be modelled using the electricity consumption mix on the market, except for processes under direct operational control of the EPD owner, for which the electricity modelling hierarchy of Section A.7.1 shall be followed. The electricity mix of the end-of-life stage shall be documented in the EPD, if relevant.

Rules in PCR may deviate from above. Such deviations shall be justified in the PCR development process.

A.7.5 CONSEQUENCES OF RECOVERED MATERIAL/ENERGY BEYOND THE PRODUCT LIFE CYCLE (MODULE D)

Module D declares the environmental consequences of the net flows of recovered materials (for reuse, recycling, or energy recovery) or exported energy (recovered energy from, e.g., waste incineration with energy recovery) that have fulfilled the end-of-waste criteria and leave modules A-C. The modelling of these potential consequences outside the product life cycle is conceptually different from the approach used to model modules A-C. The results of module D shall therefore be declared and considered separately from the results of modules A-C, and not be included in any declaration of aggregated results.

The PCR shall define if module D is required, recommended, permitted, or not permitted for the product category.

The following modelling rules apply for module D:

- Assumptions in the modelling of module D, including information on the net flow entering module D, shall be transparently declared in the LCA report and in the EPD.
- Net output flows of recovered material/energy from modules A-C shall be considered in module D, i.e., the outputs minus the inputs of the same flow in the LCI. This flow can be positive or negative. Outputs from modules A-C that have been allocated as co-products shall not be considered in module D (see Section A.4.1).
- Module D shall include the benefits from avoiding the production (including the upstream environmental burdens) of materials/energy substituted by the recovered materials/energy. The substituted material/energy, and its production, shall be assumed to be the average on the market as defined by the geographical scope of the EPD. The substituted material/energy, and its production, shall not be modelled using marginal LCI data (as often done in consequential LCA modelling).
- Module D shall include the environmental burdens of further processing of the recovered energy/material until it is functionally equivalent to the assumed substituted material/energy. The yield of these processing steps shall be accounted for.
- If the recovered energy/material is of lower quality than the substituted energy/material and thus not functionally equivalent, a quality adjustment factor (0-100%) shall be applied, e.g., based on the price ratio. For example, if the quality adjustment factor is 50%, 1 tonne of the recovered material shall be assumed to replace 0.5 tonne of the substituted material.
- The terms used in the previous three bullet points (“benefits from avoiding the production”, “substituted material/energy”, etc.) reflect the case when the net flow of recovered materials/energy is positive. When the net flow is negative, module D will instead reflect the drawbacks of compensating a net loss of recoverable materials/energy. The rules in the previous three bullet points apply also for such cases.

- Module D is based on a scenario and the results are highly dependent on the assumptions made. The net results for module D can be negative (an environmental benefit) or positive (an environmental burden).

A.8 ENVIRONMENTAL PERFORMANCE INDICATORS

The results of the environmental performance indicators (the LCA-based impact, resource use and waste/output flows indicators) shall be declared per declared or functional unit and per life-cycles stage (A1-A3, A4-A5, B1-B7, C1-C4 or upstream, core, downstream) and, if applicable, separately for module D.

The total results over all included life-cycle stages[74] may, shall or shall not be declared, depending on the PCR. Rules on this shall be specified in the PCR.

A PCR may require or recommend certain processes or modules to be declared separately from other processes/modules in a life-cycle stage, if relevant for the product category.

The website (www.environdec.com/indicators) specifies which indicators and accompanying inventory and impact assessment methods that shall be used as default. Deviations from the default list, as well as additional indicators to be declared, may be specified in the PCR. The website also specifies specifications and clarifications of inventory and impact assessment methodology of relevance for specific indicators. Furthermore, the website specifies additional requirements for complying with ISO 14067.

Older versions of the default indicators and methods shall be valid in parallel to the latest version during a transition period. The transition period shall be at least 90 days (about 3 months). Information about such transition periods shall be published on www.environdec.com/indicators.

Apart from the mandatory indicators as specified by the PCR, additional LCA-based environmental performance indicators may be declared in the EPD, if they are relevant for the product category, their inclusion is justified in the EPD, appropriate methods are used, and the results are verifiable. The additional indicators shall be separately declared from the mandatory indicators. If the additional indicators appear to the reader to display duplicate information, the EPD shall contain an explanation of the differences between the declared indicators.

Apart from the inventory indicators listed at the website or otherwise required by the PCR, other inventory data may also be declared in the EPD, if relevant and useful for EPD users. Such data shall, however, not be declared in the main body of the EPD, but in an annex.

Conversion factors may be included in an EPD for the purposes of:

- converting the declared results of a product group to results for specific products within the group, or
- converting the declared results to results for another declared/functional unit.

For the first of the above two purposes, the declared conversion factors can be applicable for the results of all declared modules or for a subset of modules (e.g., A1-A3), and for all declared indicators or for a subset of indicators (e.g., the GWP-total indicator). Such limitations in the applicability of the conversion factors shall be clearly stated in the EPD. For the modules and indicators to which the conversion factors are applicable, the results shall scale linearly with the conversion factor.

The conversion factors shall be expressed as multiplying factors. In other words, the declared results can be multiplied with the conversion to calculate the results per specific product or another declared/functional unit.

The conversion factors shall be verifiable, i.e., the underlying data for the conversion factors shall be provided in the LCA report.

The conversion factors shall be included in the section with additional environmental information (see Section 7.4.8), although they may be referred to in the environmental performance section.

Conversion factors can, however, not be included for the purpose of converting the declared results into results for products not covered by the EPD. The EPD is for a specific product or product group, and only the EPD content of that product/product group has been verified and may be considered EPD information.

[74] The life-cycle stages do not include module D. The results of module D shall never be aggregated with the results of the product life cycle.

A.9 SPECIFIC RULES PER EPD TYPE

A.9.1 EPD OF MULTIPLE PRODUCTS FROM THE SAME COMPANY

Several sets of results, reflecting different products, shall not be declared in the same EPD. However, similar products may be grouped and thereby included in the same EPD under one set of results. Similar products are defined as products covered by the same PCR, with identical or similar functions, manufactured by a single company at one or several manufacturing sites, with the same major steps in the A3/core processes. For such an EPD, there are three options:

- For each indicator, declare the average results of the included products. This average shall be weighted according to the production volumes of the included products, if relevant. In this option, the average content shall be declared in the content declaration.
- Declare the results of one of the included products or the average of a subset of the included products, i.e., one or several representative products. The choice of the representative product(s) shall be justified in the EPD, for example based on production volumes. In this option, the content of the representative product, or the average of the representative products, shall be declared in the content declaration.
- For each indicator and module A-C, declare the highest result of the included products, and for module D, declare the lowest benefit of avoided processes (or highest drawback of compensating processes, see Section A.7.5) and the highest load of included processes. This option thus corresponds to the results of a “worst-case product", which may consist of results from one or several of the included products. In this option, the content declaration shall include the lowest amounts of recycled and biogenic content of the included products and their packaging, respectively, and the information on environmental and hazardous properties of substances shall reflect the highest share and most hazardous such substances contained in the any of the included products.

For all options, the range of the content of the included products should be included in the content declaration, in addition to the average/representative/worst-case content as specified above.

For EPDs claiming compliance with ISO 21930, the above options are only possible if none of the declared environmental impact indicator results, aggregated over all included modules (from A to C), differ by more than 10% between any of the included products.

If the EPD does not compliance with ISO 21930, variations above 10% are allowed. In such cases, the LCA report shall include an explanation of the variation and a justification of the grouping of products, and the EPD shall (in the LCA information section) declare the variation of each impact indicator results for which the variation is above 10% and include an explanation of the variation. EPDs based on worst-case results that do not claim compliance with ISO 21930, are exempted from the requirement to declare the variation if above 10%.

The option chosen shall be clearly described at the cover page of the EPD, as “EPD of multiple products, based on the average results of the product group”, “EPD of multiple products, based on a representative product”, “EPD of multiple products, based on several representative products”, or “EPD of multiple products, based on worst-case results”.

In an EPD of multiple products based on worst-case results, the lowest GWP-total results of the included products may be optionally reported in a subsection of the environmental performance section (see Section 7.4.7), and the content declaration of the “best-case product” may be optionally reported in a subsection of the content declaration section (see Section 7.4.5).

Note that above paragraphs concern grouping of similar products, but not grouping of identical products (e.g., produced at different manufacturing sites or at different production lines at one site). Identical products here refer to products which are not marketed as different products and/or are in no other way distinguishable by a downstream customer.[75] For identical products, variations due to, for example, manufacturing at several sites shall be treated as any other variation in production, by averaging over (normally) one year of production (and in such cases, variations above 10% are allowed also when claiming compliance with ISO 21930).

[75] This means that product variations that are different with regard to colour, content, size, configurations, or similar, normally shall be considered to be similar, and not identical, products.

Although a variation above 10% is allowed in EPDs of identical products manufactured at several sites, it is recommended to separate the EPDs per site so that a variation below 10% is met, as certain national regulation considers an EPD to be "product-specific" only when the variation between sites is below 10%.

A.9.2 SECTOR EPD

An industry association or any other group of companies may develop an EPD in the form of a sector EPD[76]. A sector EPD declares the average of similar products of multiple companies in a clearly defined sector and geographical area. Similar products are defined as products covered by the same PCR, with identical or similar functions (applying the same declared/functional unit), with the same major steps in the A3/core processes.

For each indicator, results deemed to reflect the average of the included products shall be declared. This average may be calculacted based on data collected from all or a sample of the manufacturing sites represented by the EPD. If a sample is used, see requirements in Section 8.4.3. The average shall be weighted according to the production volumes of the included products, if relevant. The average content shall be declared in the content declaration.

Sector EPDs shall describe the products and companies that are covered by the EPD, and how the declared results and content have been calculated. Sector EPDs shall include, on the cover page, a statement that the EPD is a sector EPD. If the GWP-GHG results of a sector EPD differ by more than 10% for modules A1-A3 (A1-A5 for services) between all represented products and sites, or between the products and sites of the sample (if applicable), these variations shall be reported in the EPD and the reason for the variations shall be qualitatively described. If the variation is below 10%, the actual variation or "<10%" shall be declared. If the declared variation is for a sample of products/sites, this shall be stated in the EPD. Any communication of the results from a sector EPD should contain the information that the results are based on averages obtained from the sector as defined in the EPD. The communication shall not claim that the sector EPD results are representative for a certain manufacturer or its product.

A.9.3 EPD OWNED BY A TRADER

Traders (e.g., retailers, wholesalers) whose products are produced by one or several other organisations (the manufacturer(s)) may publish an EPD under their own name. The EPD can be based on one or several valid EPD owned by the manufacturer(s) of the product or based on primary data obtained from the manufacturer(s). The EPD shall follow the same data quality requirements and other rules as EPDs published by a manufacturer under the same PCR.

In addition, the transportation from the manufacturer(s) to a central warehouse or to the border of the market of the EPD scope shall be included and be based on primary data. In case of retailer/wholesaler, also the transportation to the store of the retailer/wholesaler shall be included and based on primary data. Transportation from central warehouse/ the border of the market/retail store to an average customer may also be included. If the trader uses its own packaging, the production of the packaging shall be included and be based on primary data.

If the product is produced by several manufacturers, the variation in GWP-GHG shall be declared, if the variation is above 10%. If the variation is below 10%, the actual variation or "<10%" shall be declared.

If the EPD owned by a trader is based on EPD(s) of manufacturer(s), the verification shall be done based on the same PCR with the same version number in terms of the first digit (e.g., a manfacturer's EPD based on version 1.0.0 of a PCR can normally be used as a basis for a trader's EPD based on version 1.1.0 of the same PCR). The manufacturer's EPD(s) shall be referred to in the trader's EPD; the reference shall include registration number of the EPD and the EPD programme in which it is published. As all EPD content shall be verified, the verifier needs access to the manfacturer's EPD and most often also its LCA report (there may be cases when this is not necessary; it's up to the verifier to decide on a case-to-case basis).[77] Furthermore, the validity of the trader's EPD shall not be longer than the validity of the manufacturer's EPD. In case the manufacturer's EPD is updated

[76] Termed "collective EPD" in EN 15941.

[77] The verification process of a trader's EPD can be facilicated by using the same verifier as was used for manufacturer's EPD.

and re-verified (i.e., not just an editorial change), the trader's EPD shall also be updated and re-verified. This is to prevent liability issues that may occur.

A.9.4 EPD OF PRODUCT NOT YET ON THE MARKET

EPDs may be published for products designed and planned but not yet launched on the market (forthcoming products) provided that the EPD owner has a published and valid EPD for a similar product (as defined in Section A.9.1), using the same PCR (i.e., the same first-digit version number). The EPD on the similar product shall be published and valid the moment the EPD of the product not yet on the market becomes published and valid. This means that the two EPDs may become published and valid at the same time. The similar product and the product not yet on the market may be included in the same EPD, as an EPD of multiple products (see Section A.9.1). In this case, the below disclaimer shall be adjusted so it is clear which product (within the product group) that is not yet on the market.

The LCA model of the forthcoming product shall be based on the LCA model of the similar product. An EPD on a similar product is defined as a *sibling EPD* when its LCA model only differs from the LCA model of the forthcoming product in terms of the activity data (e.g., different shares of materials, energy use in the manufacturing process, or distribution distance). If the LCA model of a valid sibling EPD is used when modelling the forthcoming product, the data quality requirements in Annex A and applicable PCR can be assumed to be fulfilled.

When differences between products are not limited to activity data but involve larger changes in the LCA model, for example use of different materials in product assembly or the use of a different manufacturing technology (e.g., as change in an existing manufacturing process or as an additional manufacturing process), the EPD of the similar product is defined as a *non-sibling EPD*. If the LCA model of the forthcoming product is based on a non-sibling EPD, the EPD owner shall prove that the data quality requirements in Annex A and applicable PCR are met. In such case, the EPD owner may use available inventory data for comparable technologies existing on the market (e.g., data from other manufacturers) or forecast/design data of a manufacturing plant to complement the lack of primary data.

EPDs for forthcoming products shall include, at the cover page and in the product information section, one of the following disclaimers:

- Product not yet on the market – Results of this EPD shall be used with care as the LCI data is not yet based on 1 year of production which may result in increased uncertainty.
- *<Product name>* is not yet on the market – Results of this EPD shall be used with care as the LCI data for this product is not yet based on 1 year of production which may result in increased uncertainty.
- *<Product name 1>*, *<Product name 2>*, and *<Product name 3>* are not yet on the market – Results of this EPD shall be used with care as the LCI data for these product are not yet based on 1 year of production which may result in increased uncertainty.

The verification of forthcoming products shall be done according to the principles and procedures in Section 8.

An EPD of a product not yet on the market shall have the same validity periods as regular EPDs (see Section 8.4.7), but shall be updated and re-verified when there is data available from one year of production[78, 79]. Once such data is available, an update and re-verification shall be done within six months, otherwise the EPD shall be depublished. The contract with the verifier shall ensure the verifier takes part in the follow-up activities during the EPD validity period (see the second option in Section 8.4.8).

If it is known that the product will not be produced, the EPD owner shall depublish the EPD in the EPD Portal.

A.9.5 EPD OF PRODUCT RECENTLY ON THE MARKET

LCI data should be based on data from at least one year of production (see Section A.5.2). If such data is not available because the product has not yet been produced for one year, the LCI data may be based on data from

[78] This does not refer to the first full calendar year (1st January to 31st December), but can be any 1-year period (e.g., 16th February to 15th February).

[79] This time period is not related to the version date of the EPD, as production may start months, or even years, after the EPD was approved.

a shorter time period provided that the data can be proven to be conservative compared to one-year data, accounting for effects of seasonal variations and incidences influencing productivity (e.g., manufacturing downtime due to equipment failure or maintenance). If this is the case, the EPD shall include, at the cover page and in the product information section, one of the the following disclaimers:

- Product recently on the market – Results of this EPD shall be used with care as the LCI data is not yet based on 1 year of production which may result in increased uncertainty.
- *<Product name>* is recently on the market – Results of this EPD shall be used with care as the LCI data for this product is not yet based on 1 year of production which may result in increased uncertainty.
- *<Product name 1>*, *<Product name 2>*, and *<Product name 3>* are recently on the market – Results of this EPD shall be used with care as the LCI data for these products are not yet based on 1 year of production which may result in increased uncertainty.

If a product recently on the market products is included in an EPD of multiple products from the same company (see A.9.1), the above disclaimer shall be adjusted so it is clear which products (within the product group) that were recently introduced to the market.

An EPD of a product recently on the market shall have the same validity period as regular EPDs (see Section 8.4.7), but shall be updated and re-verified when there is production data for one year of production available.[80] Once such data is available, updating and re-verification shall be done within six months, otherwise the EPD shall be depublished. The contract with the verifier shall ensure that the verifier takes parts in the follow-up activities during the EPD validity period (see the second option in Section 8.4.8).

[80] This does not refer to the first full calendar year (1st January to 31st December), but can be any one-year period (e.g., 16th February to 15th February).

ANNEX B – GUIDANCE ON COMMUNICATING EPD INFORMATION

An EPD is an informative communication tool that organisations may use to disseminate information regarding the life cycle environmental performance of their products. The EPD owner and/or the body making the claim is always responsible to ensure that all applicable requirements for environmental claims are met. The information provided in this annex is only intended as general guidelines and may not be complete.

Any environmental claims based on the EPD and use of the EPD logotype should meet the requirements in ISO 14021 (*Environmental labels and declarations – Self-declared environmental claims*), national legislation, and best available practices in the markets in which the EPD is intended to be used.

B.1 LICENSEES

The licensees of EPD International are required to follow the communication guidelines in the brand book (EPD International 2024).

B.2 DIFFERENT TARGET AUDIENCES

It is important to consider the information needs and level of awareness of different stakeholder groups and target audiences, such as large businesses, small and medium-sized enterprises, and public procurement agencies. An EPD owner cannot precisely determine the audience for the document. For an EPD intended for business-to-consumer (B2C) communication, ISO 14025 sets up additional principles that shall apply. An EPD owner may choose to publish information from several EPDs in a single report or document, e.g., to facilitate communication or fulfil requirements from procurement processes for similar products. Requirements in Section B.3 shall be applied.

B2C communication of EPDs on construction products based on EN 15804 should comply with requirements on one of the types of B2C communication outlined in EN 17672.

B.3 THE INTERNATIONAL EPD SYSTEM LOGOTYPE

A logotype has been developed to ensure a well-known identity for the International EPD System (see Figure 7). 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. See the brand book (EPD International 2023b) for communication guidelines and examples on how to use the logotype.

Figure 7. Logotype of the International EPD System.

Primary Traceability logo:

Secondary Traceability logo:

EPD-IES-0012345:001

environdec.com

EPD-IES-0012345:001 www.environdec.com

Figure 8. Example of how to use the EPD logotype with reference to an EPD registration number and the website.

If an organisation chooses to use data/information from an EPD in communication material, this should be clearly shown. The organisation shall state that the data is taken from an Environmental Product Declaration (EPD), with the primary logotype and refer to the registraiton number and/or link to the EPD.

Example 1:

This product/service has a Environmental Product Declaration (EPD) giving information about its environmental performance, content, and recycling, which has been verified according to the requirements of the International EPD System.

Registration number: EPD-IES-XXXXXXX:XXX

More information is available on www.environdec.com.

Example 2:

This product/service has a Environmental Product Declaration (EPD) giving facts about the environmental performance without valuation. The declaration has been verified according to the requirements of the International EPD System.

Registration number: EPD-IES-XXXXXXX:XXX

More information is available at: www.environdec.com

Figure 9. Examples of information label.

B.4 COMPARABILITY OF EPDS

Section 6.7.2 in ISO 14025 sets the requirements for comparability between EPDs, such as belonging to the same product category and being based on the same method (e.g., set by the PCR(s) and GPI). EPDs from different EPD programmes may not be comparable. Likewise, EPDs based on different versions of PCRs, GPI, and the default list of indicators on www.environdec.com may not be comparable.

Comparison of EPDs on construction products based on EN 15804 should comply with requirements on benchmarking systems outlined in EN 17672.

B.5 LINKING TO THE EPD

The EPD should not be published elsewhere than on www.environdec.com. If EPDs are published elsewhere, this shall be accompanied by a statement that the latest version of the EPD is available on www.environdec.com. Sharing of EPDs should be done via links or references to the published EPD, not by sending the document itself. Data from the EPD shall only be published or used if there is a reference to the registration number and www.environdec.com.

For the latest information about how to link directly to the EPD, please contact the Secretariat.