DATE 2021-03-29

GENERAL PROGRAMME INSTRUCTIONS FOR THE INTERNATIONAL EPD® SYSTEM

VERSION 4.0

2021-03-29

TABLE OF CONTENTS

1 INTRODUCTION

This document, including its annexes, constitutes the General Programme Instructions (GPI) of the International EPD® System. 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 developed in the programme is referred to as an Environmental Product Declaration (EPD).

References to this document should be:

> *EPD International (2021) General Programme Instructions for the International EPD® System. Version 4.0. www.environdec.com.*

Within the present document, the following terminology is adopted:

- The term “shall” is used to indicate what is obligatory.
- The term “should” is used to indicate a recommendation, rather than a requirement.
- 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 International EPD® System has, as a main objective, the ambition to enable and support organisations in any country to 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 guides, including but not limited to:
  - EN 15804 and/or ISO 21930 for construction products (including both goods and services),
  - ISO/TS 14027 for the development of Product Category Rules (PCR), and
  - ISO 14067 and ISO 14046 for the calculation of carbon footprint- and water 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
- seeking cooperation and harmonisation with other environmental declarations programmes and initiatives (national, regional, sectorial, etc.) to help organisations broaden the use of EPD on an international market. This activity includes:
  - establishing regional programmes based on and fully aligned with the International EPD® System, including the GPI, but allowing additional regional requirements,
  - bilateral mutual recognitions with established programme operators as encouraged by ISO 14025, and
  - participation in the European Commission Product Environmental Footprint (PEF) pilot and transition phases, international collaboration platforms (e.g. the ECO Platform), international PCR harmonisation activities, and standardisation.

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 EPD registrations for certain product categories or countries, e.g. in case of current or future sanctions regimes prompted by the United Nations, the European Union or others.

The resulting EPDs are open to a number of applications and target audiences, including but not limited to business-to-business and business-to-consumer communication. It is the responsibility of the company making any claims to ensure that they are compliant with national laws or regulations in the relevant geographical area.

The scope of an EPD in the programme may be both for the product of a single company or as the average product of companies in a specific sector and geographical area: a “sector EPD”. Similar products from the same company may be included in the same EPD if certain requirements are met. “Single-issue EPDs”, such as climate declarations, may be published in parallel to an EPD as a complementary communication format.

EPDs are based on PCR providing rules, requirements, and guidelines for a defined product category. As an option, a “pre-certified EPD” may be published during PCR development.

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

3 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 3.1) led by the Secretariat assisted by a Technical Committee and an International Advisory Board.
2. PCR development (see Section 3.2) led by a PCR Moderator who coordinates the work of a PCR Committee and with an invitation sent to a broader PCR stakeholder consultation group.
3. EPD development (see Section 3.3) by organisations, such as manufacturing companies, or trade associations.
4. Verification (see Section 3.3) involving organisations developing EPDs, and independent verifiers (accredited certification bodies or approved individual verifiers).

3.1 ROLES IN PROGRAMME ADMINISTRATION

3.1.1 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.

The programme operator has a number of mandatory obligations according to ISO 14025. These duties are mainly divided between the Secretariat, the Technical Committee (TC), and the International Advisory Board (IAB).

3.1.2 SECRETARIAT

The programme operator shall have a Secretariat in order:

- to prepare, maintain, and communicate the GPI,
- to ensure that the GPI are followed,
- to monitor changes in procedures and documents and modify the programme and the GPI, where necessary,
- to ensure appropriate consultations for maintaining the credibility of the programme,
- to facilitate the participation and involvement of interested parties and to publish the names of the organisations involved as interested parties in programme development,
- to establish a procedure to safeguard the consistency of data within the programme,
- to guide and oversee the development of the PCR and to act as the contact between the PCR Moderator/PCR Committee and the Technical Committee,
- to establish a transparent procedure for the definition of product categories,
- to establish an accepted open consultation procedure for the programme structure and the PCRs,
- to facilitate harmonisation when developing PCRs,
- to prepare guidelines, checklists, and other tools for PCR development,
- to publish the report from the open consultation and PCR review of PCR development,
- to ensure the consistency of transparent verification procedures for PCR review, verification of Life Cycle Assessment (LCA), and verification of EPD,

[2] Terms and conditions may apply.

- to define additional tasks for the PCR review procedure and for the external individual verifiers (if found necessary),
- to inform the PCR moderator at least six months before the end of the current validity of a PCR,
- to maintain a list of independent verifiers and guide an organisation in the selection procedure,
- to decide upon the necessity of using third-party verifications via rules in the GPI,
- to receive EPD registration applications and decide whether to accept an EPD for publication based on the verification report and other documentation,
- to manage and maintain the website of the programme,
- to make publicly available and maintain lists and records of PCRs and EPDs within the programme,
- to issue registration numbers and publish PCRs and EPDs registered in the programme,
- to manage and maintain the database of EPDs in machine-readable format, if existent,
- to issue a newsletter on a regular basis and to maintain a list of subscribers to the newsletter,
- to make publicly available explanatory materials,
- to manage membership in the Technical Committee to ensure competent independent PCR review panel members and to facilitate its work and meetings,
- to manage membership in the International Advisory Board, and facilitate its work and meetings,
- to establish and maintain mutual recognition agreements between the International EPD® System and other established programme operators,
- to follow-up that approved individual verifiers remain active in the field of environmental declarations and report the results to the Technical Committee,
- to handle complaints or feedback on published EPDs or other documents, and
- to establish procedures to avoid the misuse of references to the programme, its logotype, ISO 14025, and EPDs registered in the programme.

The Secretariat is staffed by the programme operator. The programme operator may delegate parts of the tasks of the Secretariat in specified regional markets to local organisations, e.g. the registration of EPDs.

3.1.3 TECHNICAL COMMITTEE

The Technical Committee (TC) shall assist the Secretariat in order:

- to act as the PCR review panel for the review and approval of draft PCRs updated after open consultations,
- to propose a general LCA methodology for declarations and suggest measures for the further development of technical and LCA-oriented issues within the framework of the programme,
- to support the Secretariat in technical issues,
- to consider applications and approve LCA/EPD/PCR experts to act as individual verifiers and suggest measures for the surveillance of their competences, and
- to perform sample checks to ensure that verifications done by individual verifiers are carried out according to the GPI.

The TC has a chair, which shall also be a member of the International Advisory Board. The TC shall operate according to routines specified in more detail in a separate procedure.

3.1.4 INTERNATIONAL ADVISORY BOARD

The International Advisory Board (IAB) shall advise the Secretariat in order:

- to follow the market acceptance and uptake of the International EPD® System and suggest activities and events aimed at promoting its establishment and applicability,

- to consider and propose new potential audiences and applications for EPDs, and
- to provide input to the work of preparing the GPI and other activities to revise and update the programme.

3.1.5 ACCREDITATION BODIES

Accreditation bodies shall have the role of accrediting certification bodies for carrying out EPD verification and/or EPD process certification.

3.2 ROLES IN PCR DEVELOPMENT

3.2.1 SECRETARIAT AND TECHNICAL COMMITTEE

PCR development is guided and overseen by the Secretariat to ensure that the process follows the requirements in ISO 14025, the GPI, and other relevant standards or PCR harmonisation initiatives. The Technical Committee acts as the PCR review panel. For more information about these roles, see Section 3.1.

3.2.2 PCR MODERATOR

The PCR Moderator[3] has a number of tasks related to the development of the PCR primarily:

- to lead and be responsible for the overall preparation of the draft PCR by the PCR Committee,
- to 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,
- to promote collaboration between PCR Committee members and seek contributions from them,
- to act as the contact person for the PCR Committee,
- to submit a time plan for PCR development to the Secretariat and inform the Secretariat of any changes to the time plan during the development,
- to inform the Secretariat about relevant industry and trade publications or forums where PCR development should be announced,
- to propose the scope of product category and identify relevant codes in the UN CPC scheme,
- to propose stakeholders to be invited to the open consultation as part of the PCR stakeholder consultation group,
- to act as contact person for stakeholders in the open consultation process,
- to collect and respond to stakeholder comments,
- to 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,
- to 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,
- to alert stakeholders involved in the process about the outcome of the work and the publication of the PCR,
- to remain as the contact person during the time when the PCR is being used on the market for, e.g. 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.
- to start the updating phase of the PCR at least six months before the end of its current validity.

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

3.2.3 PCR COMMITTEE

The PCR Committee is a group of interested parties tasked by the Secretariat with drafting and finalizing the PCR. The task of the PCR committee is to define the product category and develop the respective PCR. 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.

3.3 ROLES IN EPD DEVELOPMENT AND VERIFICATION

3.3.1 SECRETARIAT AND TECHNICAL COMMITTEE

The roles of the Secretariat and Technical Committee in relation to EPD development and verification are described in Section 3.1.

3.3.2 EPD OWNERS

EPDs are developed by manufacturing companies, retailers, or trade associations for their products, either by themselves or assisted by a consultant to carry out the LCA and/or other tasks.

The EPD owner shall have the responsibility:

- to be the sole owner and to have the liability and responsibility of the EPD[4].
- to collect and calculate LCA-based information/indicators and other information to be included in the EPD as prescribed in the GPI and the PCR,
- to prepare an LCA report (termed “project report” in EN 15804),
- to have the LCA-based data, additional environmental, social and economic information and EPD independently verified (see Section 7.3) either via:
  - EPD verification by an accredited certification body or approved individual verifier, or
  - EPD process certification by an accredited certification body
- to establish and maintain follow-up procedures during the validity period of the EPD as defined during the initial verification,
- to apply for EPD registration and publication with the Secretariat by providing the prescribed documentation,
- to provide the Secretariat with correct invoicing information and to timely pay fees,
- to inform the Secretariat in case of updated contact or invoicing information,
- to use the International EPD® System logotype based on the guidelines in Annex D and in accordance with applicable laws, rules, and standards, and
- to inform the Secretariat when the EPD is to be de-registered and no longer published.

3.3.3 INDEPENDENT VERIFIERS – ACCREDITED CERTIFICATION BODIES AND APPROVED INDIVIDUAL VERIFIERS

Only approved individual verifiers or accredited certification bodies may carry out verification. The current list of approved individual verifiers is available on www.environdec.com.

[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.

Independent verifiers shall have the role:

- 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-based calculations have been carried out and their compliance with the calculation rules,
    - the presentation of environmental performance in the declaration,
    - 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 registration and publication of an EPD is a mandatory part of developing an EPD, and
  - to carry out any obligations during the validity period of the EPD as set during the original verification.
- to provide the Secretariat with up-to-date contact information,
- 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, and
- to inform the Secretariat if they are no longer active in the field of environmental declarations or no longer actively seeking verification assignments. They will then be removed from the listing at www.environdec.com.

4 PROCESS FOR PROGRAMME ADMINISTRATION

4.1 GENERAL PROGRAMME INSTRUCTIONS

The programme instructions should be updated about every three years, to ensure market stability, and to follow the latest developments in standardisation, LCA methodology, etc. The GPI shall be available at the website (www.environdec.com). Minor changes or corrections of errors to the programme instructions should be done when appropriate. Appropriate consultations shall be held when updating the GPI to maintain the credibility of the programme. Names of organisations involved in programme development should be published. Older versions of the programme instructions shall be valid in parallel to a new version during a transition period. The transition period shall last at least 90 days. Information about such transition periods shall be published at www.environdec.com.

4.2 PUBLICATION OF PCRS AND EPDS

PCRs and EPDs registered in the programme shall be published by the Secretariat at www.environdec.com together with relevant complementary information and supporting materials. The Secretariat shall also manage any other databases of EPD information registered in the programme, e.g. for publication in machine-readable formats. EPDs shall solely be published within the International EPD® System. Links to the published content may be made.

4.3 MEMBERSHIP IN THE TECHNICAL COMMITTEE

The Technical Committee (TC) shall consist of a group of at least five LCA/EPD/PCR experts to be constituted in such a manner that their expertise covers as many product categories as possible to ensure the independence and quality of PCR reviews. Diversity in geographical location and other competences of the TC members should also be strived for. If there is need for additional expertise, e.g. during a PCR review, external experts may be consulted.

Membership in the TC shall be based on unsolicited applications, needs expressed by the TC in terms of skills or capability to fulfil its roles, and nominations by EPD stakeholders. The members of the TC shall be listed at www.environdec.com and may be contacted via the Secretariat.

4.4 MEMBERSHIP IN THE INTERNATIONAL ADVISORY BOARD

The International Advisory Board (IAB) should consist of a group of EPD stakeholders from different industry sectors and countries. Membership in the IAB shall be based on the assessed need to fulfil its roles and nominations by EPD stakeholders. The members of the IAB shall be listed at www.environdec.com and may be contacted via the Secretariat.

4.5 FEEDBACK OR COMPLAINTS

It is possible to contact the Secretariat with feedback or complaints about registered and published EPDs, other documents published by the programme, or the appointment of individual verifiers. 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, or other standard or reference that is the topic of the complaint.

The Secretariat should respond to any complaints as soon as possible and contact the organisations that are affected. The Secretariat may temporarily withdraw the document in question from www.environdec.com pending investigation or corrective action by the document owner. If no corrective action is taken within a reasonable time period, the EPD may be de-registered by the Secretariat (see Section 6.6).

4.6 AVOIDING MISUSE

The Secretariat should strive to avoid misuse of the programme and its logotype, ISO 14025, and information provided in the EPDs registered in the programme, e.g.:

- 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.
- The International EPD® System logotype is a registered trademark in selected markets, and its use is limited to EPDs registered 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. Using the logotype separately with no other information is, therefore, only allowed on official documents prepared within the framework of the International EPD® system, such as on PCRs. Other ways of using the logotype separately may be accepted after approval by the Secretariat.

  An organisation is allowed to make use of the EPD logotype in other different ways, e.g. on official documents, such as letter heads and envelopes. In some cases, an organisation may want to include a more explanatory and informative text describing what an EPD is and its main intent. The Secretariat shall be consulted to accept such a text. For more information about use of the logo, see Annex D.

4.7 ESTABLISHMENT OF REGIONAL HUBS

If parts of the tasks of the Secretariat in specified regional or national markets have been delegated to local organisations, the programme operator shall establish routines to ensure that any registered EPDs via such regional hubs fulfil the rules in the GPI. EPDs registered via such regional hubs shall fulfil the rules in these programme instructions, be published at www.environdec.com and be considered equivalent in all other aspects. The list of current regional hubs shall be available at www.environdec.com.

4.8 MUTUAL RECOGNITION WITH OTHER PROGRAMMES

Mutual recognition agreements with other established programmes shall, when relevant, include:

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

A mutual recognition agreement does not necessarily mean that the information contained within the EPDs is comparable as EPDs from different programmes may not be comparable.

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

The list of current mutual recognition agreements shall be available at www.environdec.com.

4.9 GENERAL LCA METHODOLOGY

The general LCA methodology of the International EPD® System is described in Annex A. Methodological aspects needing more frequent update than the programme instructions may be presented on the website as supplementary requirements, recommendations, or clarifications. One such example is the list of prescribed characterisation factors for the default impact categories.

In case there is a need to meet market demand for life cycle-based environmental information for certain markets, product categories, or applications, the programme operator may adopt other methodological guides to complement or overrule the general LCA methodology in Annex A.

4.10 CHECKING COMPETENCE AND QUALIFICATIONS OF VERIFIERS

Only approved individual verifiers or accredited certification bodies may carry out verification. Their competence and qualifications shall be checked, approved, and supervised by either the programme operator (via the Technical Committee supported by the Secretariat) or by accreditation bodies in accordance with Table 1.

TYPE OF VERIFICATION	POSSIBLE VERIFIERS FOR TYPE OF VERIFICATION	BODY EXAMINING COMPLIANCE WITH PRESCRIBED COMPETENCE REQUIREMENTS
EPD verification	Approved individual verifiers	Technical Committee supported by the Secretariat
	Accredited Certification bodies	Accreditation bodies
EPD process certification	Accredited Certification bodies	Accreditation bodies

Table 1. Body examining the competence and qualification of different types of verifiers.

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.

4.10.1 COMPETENCE REQUIREMENTS OF VERIFIERS

The verifier (individual or team of individuals within a certification body) shall be independent (see Section 7.1) and have the following competences:

- General product certification competences; the general requirements regarding competence for certification bodies are specified in ISO/IEC 17065:2012 "Conformity assessment – Requirements for bodies certifying products, processes and services", Sections 6.1 and 6.2.
- Specific competences related to EPD and verification, including:
  - 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 methodology, including ISO 14040/14044,
  - 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 hubs in which the verifier intends to perform verifications,
  - knowledge of ISO/TS 14071 LCA Critical Review Process and Reviewer Competencies, and ISO 19011 Guidelines for Auditing Management Systems,
  - knowledge of the overall regulatory framework in which the concept of EPDs has been introduced, including relevant laws and regulations for the applicable markets, and
  - experience in reviewing LCAs, verification of EPDs, or the equivalent.

- Sufficient proficiency in English to read and understand the GPI, PCR, and EPD and to document the verification in a verification report in English.

4.10.1.1 Specific competence requirements for certification bodies

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

- 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 verifier is a body that lacks the necessary competence among its own employees, they shall have such competence at the management level that makes it possible:

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

4.10.1.2 Specific competence requirements for individual verifiers

The requirements for the qualification of an individual verifier are:

- at least five years of documented experience as a practitioner and/or reviewer in the field of LCA, carbon footprint, or environmental footprint (according to ISO 14040/14044/14067, or similar), and
- at least five documented critical reviews of LCA studies conducted maximum 5 years prior to the application in line with the critical review requirements of ISO 14044:2006, verification of Type III environmental declarations in other programmes, or the equivalent. This should include at least one LCA study involving assessment of multiple environmental impacts.

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

If the independent verifier participates in a training course organized by the International EPD® System (physical or online), requirements on performed reviews will be reduced to three. 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 4.10.3.2, which may be taken into account for the overall assessment. This process does not replace the specific competence requirements as described above.

In addition to the competence requirements to become an approved individual verifier, the verifier shall in each assignment 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.

4.10.2 ACCREDITATION OF CERTIFICATION BODIES

Certification bodies may be accredited for EPD verification and/or EPD process certification. Checking the competence requirements of certification bodies should follow a procedure set forth in ISO/IEC 17065:2012, which contains the general requirements for the certification bodies and their work, should focus on these programme instructions and may refer to a specific product category or sector.

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)[5], International Accreditation Forum Multilateral Recognition Arrangement (IAF MLA)[6], or the corresponding multinational cooperation agreements.[7] Such accreditation

[5] www.european-accreditation.org

[6] www.iaf.nu

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

bodies commit to conformity with the current version of ISO/IEC 17011 Conformity assessment – General requirements for bodies providing assessment and accreditation of conformity assessment bodies.

An updated list of accreditation bodies offering such accreditation services shall be available at www.environdec.com. 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.

4.10.3 APPROVAL OF INDIVIDUAL VERIFIERS

Experts in LCA and EPD may be approved to carry out EPD verification (i.e. not EPD process certification) as individual verifiers. The approval as individual verifiers is not limited to specific product categories, but competence in a specific product category is covered by a self-declaration of competence for each verification task. Approved individual verifiers are free to offer their services in any country, except in regional hubs where further approval may be required. The approval as individual verifier is general for EPD, pre-certified EPD, and sector EPD.

As ISO/IEC 17065:2012 is not applicable for individuals, a special procedure described below is used for examining/checking single LCA/EPD experts, following the rationale of the standard, 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 at www.environdec.com),
- a CV demonstrating
  - compliance with the general and specific competence requirements in Section 4.10.1, 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, including:
  - 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, and
  - a process for maintaining the independence of the verification and the role as individual verifier, including identifying and disclosing conflicts of interest.
- relevant references.

If the documentation is in any other language than English, an authorized translation of the documents into English shall be submitted. The evaluation of the credentials and approval of the applicant are carried out by the Technical Committee (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 hub, if relevant. Information on regional hubs performing these tasks shall be published on www.environdec.com. Any feedback or complaints on the approval of individual verifiers shall use the procedure described in Section 4.5. The approval of individual verifiers may be withdrawn due to 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 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. The Secretariat and TC may also make additional checks of future verifications done by individual verifiers for quality assurance.

4.10.3.1 Verifier competences

Verifiers should develop, maintain, and improve their competence through continual professional development and regular participation in audits. 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, or
- carry out one LCA study leading to an EPD, or
- prepare one PCR in the role of PCR Moderator.

The Secretariat shall initiate the annual check and carry out the task of checking the documentation the verifier has sent and report the results to the Technical Committee. The verifier is responsible for submitting annually proof that validates their status as a verifier. Inactive verifiers shall no longer perform verifications and shall be removed from the listing at www.environdec.com.

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

4.10.3.2 Process to build up verification experience

Experts in LCA and EPD may build up verification experience through observing an EPD verification and/or a guided verification with an approved individual verifier. The approved individual verifier shall have conducted at least five verifications within the last five years within the International EPD® System. The approved individual verifier shall be responsible that verification shall be carried out in accordance with the principles and procedures in Section 7.

For observing verifications 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 verification process from the approved individual verifiers view with access to documentation and dialogue between the LCA practitioner and the verifier shall be observed. The approved individual verifier shall provide the Secretariat with documentation of the observed verification.

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 shall provide the Secretariat with a report, including any major and minor shortcomings and aspects that require further improvement.

5 PROCESS FOR PCR DEVELOPMENT

Product Category Rules (PCR) provide requirements and guidelines for developing EPDs for specific product categories. They are used as complements to the GPI. 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 requirements enabling comparability within the product category, including requirements related to data and modelling. The requirements shall be developed in accordance with the requirements in this GPI.

The GPI shall be the main reference for PCR development. Any nonconformity with the GPI shall be documented and is subject to approval during the PCR review. The procedure 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.

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 development should be done by a PCR Committee, led by a PCR Moderator, while the programme operator shall guide and oversee the process (see Section 3.2 for a description of roles). The TC gives the approval of the final PCR before publication. The programme operator may terminate the development of a PCR, e.g. in the event of repeated delays or the non-fulfilment of review comments.

The development of a PCR shall be done in an internationally accepted manner based on an open, transparent, and participatory process by:

- companies and organisations in co-operation with other parties, such as trade associations and interest organisations,
- institutions involving LCA/EPD experts in close cooperation with companies or trade associations and interest organisations, or by
- single companies or organisations in the event they have the necessary in-house competence or choose to engage external LCA/EPD experts.

Reasonable efforts should be made to achieve consensus throughout the process.

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.

Developing a PCR is a procedure consisting of the following phases:

1. Initiation (see Section 5.1),
2. Preparation (see Section 5.2),
3. Open consultation (see Section 5.3), and
4. Review, approval and publication (see Section 5.4)

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

After publication, a PCR may be updated (see Section 5.5) and later de-registered if expired and no longer relevant (see Section 5.6).

PCRs covering broad product categories, such as the PCR for construction products, may be complemented by complementary PCRs (c-PCRs) providing further specifications and requirements for a subset of the product category covered by the main PCR. In such cases, the main PCR 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 guidance on other methodological aspects of specific relevance for its scope, such as recommendations on allocation or modelling of end-of-life scenarios. A c-PCRs shall only provide guidance that differ or is additional to the main PCR and shall not include any guidance that is identical to the main PCR; for such guidance the c-PCR should simply reference the main PCR. A c-PCR should follow the same GPI as the main PCR. If requirements in the main PCR and a c-PCRs deviate, the requirements in the c-PCR shall prevail, unless otherwise approved by the Secretariat.

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 standard that in turn has undergone sufficient consultation and review processes. In such cases, the content of the 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 sub-set of construction products shall be adopted when available[8]. 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),
- there is an interest to as far as possible harmonise methodological aspects between product categories, and
- there is an interest to gather the common methodological guidance in a single document (the main PCR), instead of in many separate PCRs.

5.1 INITIATION

5.1.1 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 scope of a product category, the following aspects should be considered:

- primary functions of the product,
- secondary functions of the product,
- price elasticities, i.e. the exchangeability of two products in the way that an increase in price for one leads to an increase in the price of the other,
- results from screening study/existing LCA literature for the product group,
- UN CPC code(s), and
- product category definition and scoping used in other similar or related contexts, e.g. in national or international standards, or in the 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.

[8] Available and upcoming EN standards are listed at https://www.cen.eu/work/endev/.

To facilitate discovery of PCRs, they should be classified at a three-, four-, or five-digit level in the latest version of the UN Central Product Classification (UN CPC)[9]. The PCR should also include a classification according to other commonly used schemes that are relevant depending on the geographical scope, applications, and product category, such as the Common Procurement Vocabulary (CPV), United Nations 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.

5.1.2 CONSIDER AVAILABLE PCRS

The adoption of an existing PCR shall be preferred compared to developing a new PCR. If existing PCRs are identified but not used, this shall be justified. Existing PCRs available at 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, e.g. 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 they fulfil the requirements of the GPI with particular regards to:

- compliance with relevant standards,
- definition of product category,
- definition of declared/functional unit,
- general LCA methodology of the International EPD® System as described in Annex A,
- rules for inclusion of similar products in the same EPD,
- time of EPD validity, and
- process used to develop the document, e.g. inclusion and involvement of interested parties, open consultation, and review.

The programme operator may establish agreements for mutual recognition of PCRs with other programme operators. Information about such agreements should be available on the website.

If a PCR with a relevant scope is identified in another programme, the Secretariat shall be contacted to plan the next step. 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 PCR shall be published at the website (www.environdec.com). The information at the website may include further requirements and restrictions to the use of the PCR (which, e.g., may be an output of the PCR review). 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 the programme operator issuing the PCR for future updates of the PCR, upon which the PCR may be again considered for adoption.

If other internationally standardized methodologies exist that act as PCRs or give guidance on PCR development for certain product categories, and the guidelines are widely accepted and used by the market, it should be possible to develop and certify EPDs according to such a standard or guideline even though it is not fully compliant with the International EPD® System. The decision to adopt such documents shall be made by the Secretariat and may be supported by the TC, when relevant.

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

5.1.3 APPOINT A PCR MODERATOR

PCR development is coordinated by a PCR Moderator (see Section 3.2.2 for a list of the roles). The PCR Moderator is appointed by the programme operator based on applications or nominations from stakeholders.

[9] http://unstats.un.org & https://unstats.un.org/unsd/classifications/Econ/CPC.cshtml

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

5.1.4 SEEK COOPERATION WITH OTHER PARTIES TO TAKE PART IN 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, e.g. representatives from different companies and trade associations, to ensure broad acceptance and high quality of the final PCR. It shall be documented that a balance of 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 in the event single companies initiate the work to develop a PCR. Special efforts should be made to involve stakeholders from developing countries. 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 financial 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, as a whole, 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 should be announced within the PCR Committee.

5.1.5 PLAN THE PCR DEVELOPMENT

The PCR Moderator shall develop a time plan for the PCR development, including any physical or web-based meetings. The time plan shall provide estimated dates for important milestones, e.g. when the draft PCR is expected to be available for open consultation. If the time plan is revised, the PCR Moderator shall inform the Secretariat.

5.1.6 ANNOUNCE PCR DEVELOPMENT

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

- preliminary name and scope of the PCR,
- name, organisation, and contact details 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 the newsletter, 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 5.1.4, so that interested parties may join the PCR development process.

5.2 PREPARATION

5.2.1 USE OF PCR TEMPLATE

The Secretariat and the TC have developed a PCR Template to be used when developing PCRs. Any nonconformity with the PCR Template shall be documented and is subject to approval during the PCR review (see Section 5.4.2).

The content of a PCR is described in Section 8.

5.2.2 SPECIFY LCA-BASED CONTENT OF THE EPD

PCRs shall be based on the general LCA methodology of the International EPD® System as described in Annex A, but provide further clarifications and specifications of relevance for the product category. The further clarifications and specifications shall be based on supporting studies, a literature review, the expertise of the PCR Committee, the comments received during the open consultation and the review, and may, for example, relate to:

- definition of declared/functional unit,
- definition of reference service life, when applicable,
- description of system boundary, including a system diagram,
- cut-off criteria,
- allocation rules,
- data quality requirements and underlying specific or generic data,
- selection of a specific database if some data are very significant for the final result,
- indicators for the declaration of environmental performance (see Section 5.2.3),
- calculation rules, and
- product lifetime.

To ensure coordination across related PCRs, a PCR sector coordinator may be appointed for certain product sectors, such as the food and agricultural sector. The coordinator should assist the programme operator and the PCR Committee by suggesting ways to harmonize new and existing PCRs.

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 the requirements.

5.2.3 SELECT LCA-BASED 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. If the aspects considered as relevant do not cover all of the life cycle, this shall be stated and justified. For aspects that are relevant but not covered by the LCA-based indicators, see Section 5.2.4.

A default set of LCA-based 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. Requirements or recommendations in the PCR may deviate from the default list of LCA-based 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 (LCA and non-LCA) of relevant impacts for the product category,
- 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 take into consideration the scope of the PCR, regional aspects or requirements, and the maturity of the methods to ensure that they are not misleading. In addition, they shall only apply to those life-cycle stages in which the information is appropriate. To harmonize across product categories, recommendations and requirements 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 be claimed 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.

5.2.4 SELECT ADDITIONAL ENVIRONMENTAL INFORMATION

Environmentally relevant information not covered by the LCA-based indicators may be declared in the EPD as additional environmental information. See Section 9.5.6 for examples and requirements on such information.

The PCR shall specify which 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).

The PCR may provide suggestions on additional environmental information to declare for the specific product category, and further requirements for the provision and reporting of the additional environmental information.

5.2.5 SELECT ADDITIONAL SOCIAL AND ECONOMIC INFORMATION

Social or economic information not covered by the LCA-based indicators may be declared in the EPD as additional social and economic information. See Section 9.5.7 for examples and requirements on such information.

5.2.6 DEFINE RULES FOR COMPARABILTY

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

5.2.7 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 contradictions to the GPI exists, to make editorial changes and to suggest other improvements for clarity.

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

5.3 OPEN CONSULTATION

The open consultation process of the International EPD® System shall be generally accepted and enable all interested parties to interact. The process shall guarantee credibility and shall be easy to take part in for any interested party,

Hence, it shall be carried out in a transparent way that gives anyone concerned easy access to information and documents. Below, the process is described in detail.

5.3.1 IDENTIY 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. The stakeholder identification worksheet in Section 5.1.4 may be used to ensure and document that this has been done.

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

5.3.2 PREPARE THE OPEN CONSULTATION

Open consultation should be carried out as an open internet-based participatory process. The open consultation may also include a public meeting or a webinar to collect stakeholder feedback. The PCR Moderator shall inform the Secretariat of any planned meetings or webinars to publish information at www.environdec.com. Aspects to consider are the following:

- Invitations shall be sent
- It shall be possible to provide written comments.
- A presentation of the International EPD® System shall be available for the audience.
- Comments received at the meeting shall be documented and considered in the final draft version of the PCR.

5.3.3 INITIATE THE OPEN CONSULTATION

Open consultation should be carried out as an open internet-based participatory process. The process shall be carried out in cooperation between the PCR Moderator and the Secretariat, including:

- the preparation and publication of the draft PCR,
- the publication of a template for comments,
- an announcement of the open consultation at 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 should include a deadline for the consultation period and information on how to provide comments. 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 eight weeks for new PCRs but may be shorter for updates (see Section 5.5).

5.3.4 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.

5.4 REVIEW, APPROVAL AND PUBLICATION

5.4.1 PREPARE UPDATED DRAFT PCR

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

The PCR Moderator and PCR Committee shall prepare an open consultation report that includes a description of the open consultation process, the parties invited to and participating in the consultation, the comments received and how they have been handled. In case certain comments are not considered, this 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 open consultation report to the Secretariat.

The Secretariat shall make and publish summary of the open consultation, including decisions related to any submitted comments. Names or contact information of stakeholders that have provided comments shall only be published in the summary for those stakeholders that have agreed to this.

5.4.2 PCR REVIEW AND APPROVAL

The PCR review shall ensure that the PCR and the process to develop the PCR is done in accordance with the reference standards, and that its methods are scientifically and technically valid. The review may also guide the further improvement of the PCR, for example in terms of requests or recommendations of clarifications or amendments. The PCR review shall be done in accordance with ISO 14025.

The updated draft PCR provided by the PCR Moderator after the open consultation (see Section 5.4.1) shall be reviewed by the Technical Committee (see Section 3.1.3) functioning as the PCR review panel, supported by the Secretariat. Members of the Technical Committee shall recuse themselves from the PCR review panel in the event 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 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 ISO/TS 14027;
- the PCR fulfils the requirements in the GPI;
- the LCA-based indicators, together with the additional environmental 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;
- 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, or
    - further review needed, after comments and suggested changes have been addressed.

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

If further changes 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 draft PCR is 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.

If further review is requested, the draft PCR shall be resubmitted to the PCR review panel after it has been updated. 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 acceptance.

5.4.3 PUBLISH PCR

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. This information includes PCR name, scope, UN CPC code(s), registration number, version number, contact information for the PCR Moderator, and a list of PCR Committee members.

The Secretariat shall set a period of validity for the PCR in the range of three to five years from the date of publication. The period of validity of the PCR should be set at a reasonable and sufficient length of time not only to safeguard market stability but to ensure that the rules and guidance are current. Four years should be the default time period, deviations from this shall be justified in the PCR.

Identification of the PCR shall be possible in a publicly available online repository, in an electronic form that is machine-readable and that can be found using commonly used search engines.

For better understanding of which PCR to use for specific applications, the following information should be available in connection with the registration code of the PCR:

- scope of the PCR, including:
  - the name and definition of the product category as well as synonyms for the name of, or other keywords relating to,[10].
  - the products covered by the PCR through reference to a product code in a commonly used and publicly available product classification system. The International EPD® System uses the UN CPC codes as the default product classification system.
  - practical information about the use, application or function of the product, which helps the user of the PCR to understand whether the PCR scope is relevant to a specific product;
  - the life-cycle stages considered.
- geographical coverage of the PCR, e.g. global, EU, USA;
- date of publication and expiration (validity) of the PCR;
- standards conformance of the PCR;
- version history of the PCR;
- name and contact details of the programme operator;
- name and contact details of PCR Moderator and names of organisations represented in PCR Committee:
- names and contact details of the PCR review panel and how the PCR review report can be obtained;
- names of the members of the PCR review panel and) how the PCR review report can be obtained

5.4.4 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 at www.environdec.com, newsletter and/or via other communication channels.

[10] 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.

5.5 UPDATE PCR

A PCR is valid for a pre-determined period of time to ensure that it is updated at regular intervals. Any interested party may comment on a published PCR by sending comments via e-mail to the PCR Moderator and the Secretariat. Such comments may lead to an update during the period of validity (Section 5.5.1); otherwise they should be used as input when the PCR is updated when it is about to expire (Section 5.5.2).

An expired PCR shall not be used to develop and register a new EPD and shall not be used to update a published EPD to give the EPD a prolonged period of validity. To be possible to use for these purposes, the expired PCR shall first be updated or have its period of validity prolonged according to Section 5.5.2.

An updated PCR shall be assigned an updated version number or, if its scope has changed significantly, a new registration number.

5.5.1 UPDATE DURING VALIDITY

A PCR may be revised during its period of validity provided significant and well-justified proposals for changes or amendments are presented. This includes editorial changes, clarifications, correction of errors, or alignment of the PCR to a new version of the GPI. Errors shall be corrected immediately after they are discovered. The PCR may also be updated during its period of validity based on new LCA-based information generated in the relevant industry sector, or special market demands not covered by the existing PCR, or other comments that are of sufficient technical relevance. Older versions of a PCR shall be valid in parallel to a new version during a transition period. The transition period shall last at least 90 days but shall not exceed the validity of the older PCR as defined in Section 5.4.3. Information about such transition periods shall be published at www.environdec.com.

Minor changes shall be handled by the Secretariat. For questions of more methodological relevance, the PCR review panel should be involved. An open consultation shall be held in the event of changes requiring stakeholder input, such as geographical adaptions. Such an open consultation may be shorter than the minimum eight weeks prescribed in the regular PCR development process (see Section 5.3). Shorter consultation periods shall be approved by the Secretariat.

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

5.5.2 UPDATE TO PROLONG VALIDITY OF PCR

When a 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 and renew its validity period. The Secretariat should remind the PCR Moderator of the need to update the PCR up to a year before its expiration. There should be a market demand to register EPDs to initiate an update.

If no PCR Moderator exists for the PCR, the Secretariat shall try to find a new PCR Moderator.

Once it has been decide to update the PCR to prolong its validity period, the updating follows the PCR development process as described in Sections 5.1 to 5.4.

In case of a market need for an expired PCR, the Secretariat may prolong the period of validity of the expired PCR with the time expected for the PCR update to be finalised, not to exceed one year from the previous expiration date. Such an extension of the period of validity should be communicated to the PCR Committee and at www.environdec.com, and not be done more than once for the same PCR version. The period of validity of an expired PCR shall not be extended if the PCR is based on a version of the GPI no longer accepted by the programme operator, as specified on the website.

5.6 DE-REGISTRATION OF PCR

Expired PCRs should be de-registered by the Secretariat if they have been replaced by PCRs with an overlapping scope or for other reasons to ensure an up-to-date, consistent, and useful library of PCRs. De-registered PCRs shall be made available upon request.

The Secretariat should inform the PCR Moderator about de-registration. If an updating process is initiated within 1 year from de-registration, the PCR may once again become registered, either by prolonging the validity period of the existing version during the updating process (see Section 5.5.2) or when the updated version of the PCR is published.

6 PROCESS FOR EPD DEVELOPMENT

Developing an Environmental Product Declaration in the International EPD® System includes the following main steps:

1. Perform LCA study based on PCR (see Section 6.1),
2. Compile information in the EPD reporting format (see Section 6.2),
3. Verification (see Section 6.3), and
4. Registration and publication (see Section 6.4).

A published EPD may be corrected and amended (see Section 6.5). An EPD will normally remain published until the EPD owner requests it to be de-registered (see Section 6.6).

6.1 PERFORM LCA STUDY BASED ON PCR

When developing an EPD, the environmental performance of the product shall be described from a life cycle perspective why one of the main steps is to carry out an LCA of the product. The LCA study may be performed by the organisation itself (in-house) or with the help of a consultant with expertise in LCA and environmental declarations. To avoid conflicts of interest between a consultant and the verification, the cost of verification shall be set up and paid between the company and the verifier, and not be included in the offer from the consultant.

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 applicable for the product category.

The PCR used shall be listed at www.environdec.com and valid at the time of the verification.[11] 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 Technical Committee. If a PCR does not exist for the product category of interest, it shall be developed based on the process in Section 5. For new product categories, a pre-certified EPD may be published in parallel to PCR development (Section 6.1.1). For products not yet on the market a special procedure for developing EPDs shall be followed (Section 6.1.2).

6.1.1 PRE-CERTIFICATION AS AN ELEMENT TO DEVELOP PCRS

The International EPD® System includes the possibility for pre-certification of EPDs as an initial step to publishing environmental information of a product during the development of a PCR for a new product category. Pre-certification is not applicable for a product category in the event of an existing PCR (valid or expired) at www.environdec.com.

For pre-certified EPDs, the following additional requirements shall apply:

- The LCA study shall comply with the international accepted principles, framework, methodology and practices for LCA established by ISO 14040 and ISO 14044, and fulfil the requirements in Annex A.
- The format and contents of the pre-certified EPD shall comply with Section 9 with an additional focus on transparency of LCA methodology and data used. It shall also include information related to pre-certified EPDs (see Section 9.5.8).
- The period of validity shall be set to a maximum of one year, which cannot be renewed.

The Secretariat shall inform the PCR Moderator about the publication of the pre-certification and encourage the PCR Moderator to inform other relevant parties.

[11] The “time of verification” is normally considered to be the date of the verification report, which is also the date on which the EPD validity is based.

6.1.2 PROCEDURE FOR DEVELOPING EPDS OF PRODUCTS NOT YET ON THE MARKET

Products designed and planned but not yet launched on the market (forthcoming products) may be included in an EPD provided that the EPD owner has a registered, valid EPD for a similar product (as defined in Section 9.3.1).

Moreover, a similar product is defined as a sibling product when its LCA model is equal to the one of the forthcoming products in terms of data composition. The only differences regard the activity data (e.g. a different material or packaging composition share, a different energy consumption in the manufacturing process, a different distribution distance).

If the environmental profile of the forthcoming product is built based on a sibling product, the data quality requirements in Annex 5.2 are assumed to be fulfilled.

When differences between products are not limited to activity data but involve changes in the LCA model, e.g. use of different materials in product assembly or the use of a different manufacturing technology, a similar product is defined a non-sibling product.

In this case, the LCA model of the forthcoming product may be equally built based on the similar product, but the EPD owner shall prove that data quality requirements in A5.2 are met. In such case, the EPD owner is allowed to use available inventory data for comparable technologies existing on the market (e.g. data from competitors or other manufacturers) and qualify them as specific data.

Forthcoming products may be then presented in an EPD using the impact of a similar product (either sibling or non-sibling) or through separate results depending on the provision in Section 9.3.1.

EPDs for forthcoming products shall contain in the product description section the following disclaimer:

- Product not yet on the market

Verification of forthcoming products shall be carried out in accordance with the principles and procedures in Section 7.

The environmental profiles of forthcoming products shall be updated and re-verified at the latest after 1 year of actual production.

In both cases, regardless of the association to a sibling or non-sibling product, the presentation of the environmental profiles in EPD follows the provision in Section 9.3.1.

6.2 COMPILE INFORMATION IN THE EPD REPORTING FORMAT

The results of the LCA study and other information mandated by the PCR and GPI shall be compiled in the EPD reporting format (see Section 9). This may be performed by the organisation itself (in-house) or with the help of a consultant.

6.3 VERIFICATION

Verification shall be carried out in accordance with the principles and procedures in Section 7.

6.4 REGISTRATION AND PUBLICATION

After completed verification, the organisation developing the EPD shall submit the EPD to the Secretariat together with other mandatory documentation. Terms and conditions may apply. The latest templates and instructions on what information to provide are available at www.environdec.com. The publication date[12] (issue date) in the EPD shall be equal to the day when the verified EPD is submitted for registration. In case of dual registration from another EPD programme operator, the publication date shall remain unchanged.

Upon receiving complete and correct documentation, the Secretariat shall publish the EPD at www.environdec.com, supplemented with information about the organisation, contact details, etc. The programme operator may also publish

[12] Please note that the publication (issue) date is different from the “approval date” (the date of the verification report). The latest possible period of validity of the EPD is based on the approval date, not the publication date. The publication date shall remain the same in an EPD, even if the EPD is updated at a later point.

the EPD in alternative formats or managed databases to enable further use of 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 is de-registered (see Section 6.6). During this time, the organisation may also use the International EPD® System logotype as described in Annex B.

6.4.1 COST AND FEES

There is a fee structure associated with the registration and 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 or recurring fees (e.g. annual) to maintain registration, publication, and continued use of their EPDs. Up-to-date information about fees shall be available at www.environdec.com. The fee structure and fees should be revised annually.

Fees should be invoiced to the EPD owner based on the invoice address provided in the registration process.

6.4.2 SINGLE-ISSUE EPD

After publication of an EPD, the International EPD® System includes the possibility to adapt the information given to specific user needs and market applications with the concept of “single-issue EPDs”. A single-issue EPD may, for instance, have the form of a climate declaration, extracting the information related to climate change based on the indicators in the EPD. A single-issue EPD may only be published if an EPD is published for the same product.

The single-issue EPD shall contain the following information as a minimum:

- information about the product,
- information about the company,
- declaration of the environmental impact for the chosen issue based on relevant indicator and impact category as displayed in the EPD,
- mandatory statements according to Section 9,
- information on how to obtain information about other environmental impacts of the declared product through the published EPD, and
- a statement that: “This single-issue EPD only addresses one environmental impact category and does not assess other potential impacts arising from the provision of this product. These aspects may be of equal or greater importance than the single impact category displayed”.

6.5 CHANGES, CORRECTIONS, OR AMENDMENTS TO PUBLISHED EPDS

An EPD shall be updated and re-verified during its validity if changes in technology or other circumstances have led to:

- an increase of 10% or more of any of the indicators listed in Section 9.5.5 as declared in the EPD,
- errors in the declared information (see Section 4.5 for the procedure to handle complaints), or
- significant changes to the declared product information, content declaration, or additional environmental, social or economic information.

If such changes have occurred, but the EPD is not updated, the organisation shall contact the Secretariat to de-register the EPD (see Section 6.6).

An EPD owner may also choose to make amendments or other changes to an EPD during its period of validity. For changes concerning any of the verified data in the EPD, e.g. the indicators for environmental performance, verification (EPD verification or EPD process certification) shall be performed. This verification may be based on one of the following options:

1. The same versions of the GPI and the PCR as were used in the original verification, even if they are not the current version or if the PCR has expired. The revised EPD shall then maintain its original period of validity.
2. The current version of the GPI and a current, valid PCR. Such verification shall be treated as in Section 7, and a new period of validity for the EPD may then be set based on the new approval date.

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.

In addition to these situations, the EPD owner may make editorial changes to a published EPD, such as the change of a logotype or correction of spelling errors, by providing the revised EPD directly to the Secretariat without verification.

A revised EPD shall contain a description of the differences versus the previous version (see Section 9.5.10) and include a “revision date” normally set as the date for submitting the updated EPD document to the Secretariat. Substantial changes and deviations of the product information covered by an EPD (see Section 9.5.3) shall be treated as a separate EPD registration and not an update of an existing EPD.

6.6 DE-REGISTRATION OF EPD

An EPD shall remain published as long as the applicable fees are paid in due time and under the condition that the EPD owner applied the terms and conditions, the applicable GPI and PCR. The EPD owner may contact the Secretariat in writing for de-registration of the EPD. The Secretariat may de-register EPDs if fees are not paid in due time, or if case of non-conformance with the terms and conditions as well as if the EPD contains errors that are not corrected by the EPD owner in due time. A de-registered EPD shall no longer be used and the assigned registration number shall not be re-used.

The EPD owner may choose to let an EPD that has passed the period of validity to continue to be published at www.environdec.com. In such cases, the organisation is not allowed to use the expired EPD in market applications unless an exception in writing is made by the programme operator.

The Secretariat shall maintain a list of de-registered EPDs in the programme. De-registered EPDs can be made available upon request, provided the EPD owner accepts this.

7 PROCESS FOR VERIFICATION

There are two types of verification procedures in the International EPD® System as one of the steps in developing an EPD (see Section 6):

- **EPD verification** (Section 7.4): verification of LCA-based data, additional environmental, social and economic information, and other information presented in an EPD based on the GPI and a valid PCR. EPD verification shall be conducted by an approved individual verifier or an accredited certification body.
- **EPD process certification** (Section 7.5 and Annex B): verification of an internal organisational process aimed to develop EPDs based on the GPI and valid PCRs covered under the scope of certification. EPD process certification shall be conducted by an accredited certification body.

It is possible to have a calculation tool “pre-verified” (see Section 7.6). This shall not replace the need for EPD verification according to one of the options above.

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 at www.environdec.com.

See Section 4.10 for information on the process of checking the competence and qualifications of verifiers.

7.1 INDEPENDENCE OF VERIFICATION

All types of information and data shall be impartially and independently verified. The verifier shall not be employed in a part- or full-time role by the practitioner or commissioner of the LCA study, nor any subsidiaries of that organization. The independent verifiers shall not have been involved in the execution of the LCA or the development of the declaration, and they shall not have conflicts of interest. For the credibility of verification, verifiers shall not take on verification tasks in which their impartiality and independence may potentially be questioned even if this requirement has been fulfilled.

To avoid potential problems with independence between the execution of the LCA and the EPD verification, LCA practitioners shall neither include the cost of verification in their offer of LCA services to the EPD owner, nor handle or be involved in contracting the verifier.

Verifiers shall independently seek out assignments from companies developing EPDs without the involvement of the programme operator. To ensure independence, the contract between the verifier and the company shall be written in such a way that there is no economic pressure on the verifier to approve the EPD and no condition included in the contract predetermining the result of the verification. It is recommended that the minimum amount of time for a verification should be 16 hours. For the 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. The payment should be done in advance to further secure independence between the verifier and EPD owner. The verifier shall report any perceived pressure by the EPD owner or LCA practitioner to influence the outcome of the verification to the programme operator, who may assist with arbitration, if necessary.

7.2 PRINCIPLES FOR VERIFICATION

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

- the underlying data collected and used for the LCA calculations,
- the way the LCA-based calculations have been carried out,
- the presentation of environmental performance in the EPD, and
- the presentation of additional environmental, social and economic information and any other information included in the EPD.

In case of the existence of already verified background information in the LCA results (carried out in accordance with the ISO standards for LCA and critical review of LCA) or verified EPD, this information shall not be subject to further verification provided that the information is updated and valid through the EPD validity.

When a large variety of products are subject to verification, it is likely unrealistic to have background data (and assessments) available about all the products. In such a case, the development and application of sampling methods for the LCA study may be a practical solution. If a specific sampling method has been developed by an organisation, this method shall be verified by the verifier and declared in the EPD.

Verifications of EPD updates shall focus on changes in the background conditions for the EPD that might have occurred or other types of changes with regard to the organisation's internal procedures with relevance to the declaration. When there is a variation higher than ±10% in one or more indicators reported in the EPD, the verification should focus on parameters and data generating the variation.

The verification procedure may be seen as being divided into two separate parts:

- Documental review (Section 7.2.1), and
- Validation (Section 7.2.2).

The verifier may choose to organise the documental review either as an "on-desk" or "on-site" exercise. The validation phase should be conducted as an on-site audit if the manufacturing processes are dominant regarding the overall environmental impact. The verification should be performed in a reasonable time frame.

7.2.1 DOCUMENTAL REVIEW

The documental review shall focus on the analysis of all documents that justify input data and information included in the EPD, both the underlying LCA study and documents describing additional environmental, social and economic information.

The objectives of the documental review are:

- to assess the compliance of the LCA and the EPD with the GPI and the PCR,
- to verify procedures established for updating the information in the LCA and EPD, and
- to verify procedures established for an assessment of the conformity to all relevant process and product-related environmental laws (where appropriate).

7.2.2 VALIDATION

The validation shall focus on an assessment of the validity of data and information included in the LCA study and the EPD. This phase is conducted by sampling activities focused on those processes and activities that may have significant influence on the overall environmental impact.

The objectives of the validation are:

- to assess the accuracy of the information contained in the LCA and the EPD,
- to assess the application of documented procedures established for updating the information in the LCA and EPD, and
- to assess compliance with relevant process and product-related environmental laws (where relevant).

The verifier shall justify in the verification report the way the organisation conducted the validation phase especially considering the following factors:

- type and complexity of product and associated processes,
- presence of a certified environmental management system (e.g. in the form of a monitoring data management system),
- data sources and format of presentation,
- legal complexity and risk, and
- specific requirements by the PCR.

7.2.3 DATA CONFIDENTIALITY

Business data may be of confidential nature because of competitive business or aspects, intellectual property rights, or similar legal restrictions. Such confidential data are not made public as the EPD typically only provides data aggregated over full or relevant portions of the life cycle. Therefore, business data identified as confidential and provided during the verification process shall be kept confidential. Verifiers shall not disseminate or otherwise retain for use, without the permission of the organisation, any information disclosed to them during the course of the review work**.**

7.3 ORGANISATIONS' OBLIGATIONS FOR VERIFICATION

Organisations developing an EPD shall

- ensure that the LCA-based data, additional environmental, social and economic information, and the EPD, are independently verified,
- present data for verification (Section 7.3.1), and
- establish internal follow-up procedures (Section 7.3.2).

7.3.1 PRESENTATION OF DATA 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 a language that is understood by the verifier.

In the presentation of data for verification, references shall be made to the PCR, the GPI, as well as other documents used. Any deviations from making use of these documents shall be described and justified. In the event the verifier finds the LCA study 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 results from the LCA-based calculations 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-based calculations.

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

7.3.1.1 Layout of the presentation

The presentation of data from the LCA-based calculations 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/information modules shall be described in a transparent way. The same rules apply regardless of the type of data, i.e. whether the data are specific or generic, from literature sources, from questionnaires, or from personal information.

Results from the inventory analysis should be presented separately in the form of a table. A summation of the various parameters may be included for different life cycle stages. Inventory results may be presented together with the characterisation factors used for converting the inventory data into indicators for potential environmental impacts.

Results from the impact assessment should be presented in a way that illustrates the calculation procedure from raw data collected in the inventory analysis phase to the final conversion of the data into the impact categories.

7.3.1.2 Description of the LCA-based calculations

Presentation of data, data quality assurance and data handling are central parts of the LCA report. Specific or equivalent data from manufacturing processes shall be documented on the site level. Unit processes/information modules and generic 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.

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

- definition of declared or functional unit, including technical specifications,
- 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 including omissions of life-cycle stages).

The following information about the inventory analysis shall be included in the LCA report, where relevant:

- the technical system (qualitative/quantitative description of unit processes, accounting for data confidentiality),
- data collection (specific/generic data, collection procedures, time period for data collection, identification and handling of missing data and assessment of their, checks of data collection being performed, references, and other administrative information),
- validation of data (internal quality assurance procedures; routines for identification, follow-up, and treatment of missing data; references to external critical reviews of data already validated),
- inventory analysis results (presentation of all input and output inventory data and how they relate to reference functions and reference flows separated into the data categories chosen for the LCA-based calculation, results for different life cycle stages/information modules, and the final aggregated results), and
- other key assumptions made.

The following information about the impact assessment shall be included in the LCA report, where relevant:

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

The following information about the interpretation shall be included in the LCA report, where relevant:

- sensitivity analysis,
- uncertainty analysis,
- data quality assessment, and
- other tools used during the interpretation.

7.3.2 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 6.5). The main parameters that may mandate an update shall be identified through a sensitivity analysis. The established procedure may or may not involve a contracted verifier (see Section 7.4.9). The follow-up shall be at least annually 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 made part of an existing quality or environmental management system.

7.4 EPD VERIFICATION PROCEDURE

EPD verification (in contrast with EPD process certification in Section 7.5) is the verification of LCA-based data, additional environmental, social and economic information, and the information presented in an EPD based on the GPI

and a valid PCR. The verifier shall also, to the extent possible depending on practical circumstances, ensure that the product, including its production process, does not violate relevant legislation.

EPD verification shall be conducted by an approved individual verifier or an accredited certification body.

7.4.1 LCA AND PCR COMPLIANCE

The verifier shall check that the LCA-based calculations have been performed in accordance with the GPI, the PCR, and relevant standards, and they shall specifically focus on:

- the collection of LCA-based data and that the choice of methods used are carried out in accordance with ISO 14040 and 14044 and the PCR, and that
- the results from the inventory analysis and the impact assessment calculations have been made using prescribed methods.

In verifying the underlying data from the inventory analysis, the verifier shall examine that:

- each unit process is defined in the way specified in the PCR,
- all relevant information is documented for each unit process/information 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 that
- data validity is reliable.

In verifying the results from the impact assessment, the verifier shall check that the calculations are made in a correct way based on the inventory analysis results and prescribed characterisation factors.

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 conformance 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.

Sample checks may preferably be carried out for:

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

With regard to verifying information about the impact assessment, the verifier may make use of sample checks to check that the calculations of one or more impact category indicators have been made in a correct way. A selected number of impact categories should to be chosen that focus on the most dominant parameters within each category. Such parameters shall be identified by evaluating their relative contribution to the total environmental impact of the product.

7.4.2 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, information about the product, the results of the environmental performance indicators, 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 focus on that:

- the background information is presented in a transparent and understandable way,
- the presentation is credible and neutral,
- the declaration format follows the recommended overall layout,
- information in other presentation formats, e.g. machine-readable EPDs, correspond with the verified information, and that
- information and guidance are given on where to find supplementary explanatory materials.

7.4.3 COMPLIANCE WITH RELEVANT ENVIRONMENTAL LEGISLATION

The verifier and the programme operator do not make any claim on nor have any responsibility for the legality of the product, its production process, or its supply chain. A basic evaluation of compliance with relevant environmental legislation is, however, part of the EPD verification.

The verifier shall evaluate the documentation of compliance with process- and product- environmental laws applicable to the organisation requesting the EPD verification, with a main focus on the list of materials and chemical substances and information related to pollution permits included in the EPD. The verifier shall check that the organisation has procedures in place for keeping itself updated with relevant process- and product-related legislation and has access to all specific information of relevance concerning processes and products for the actual product category issued by central legislative authorities.

7.4.4 VERIFICATION OF PRE-CERTIFIED EPD

The verification procedure for a pre-certified EPD shall in addition ensure that the requirements in Section 6.1.1 are met.

7.4.5 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 large 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 based on sample tests whereby a verifier can assure the full inclusion of all operations and manufacturing sites over a certain number of review cycles, 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, e.g.:

- 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 either the upstream processes or the manufacturing processes – and if so, make a representative sample out of each such category,
- to randomly look at 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 reasonable good and accurate information about the average situation prevailing among the sites, or
- to decide about a suitable selection of sample size, e.g. 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.

7.4.6 EPD VERIFICATION REPORT

The verification procedure shall be transparent and result in a verification report in English. A single verification report may be used for multiple EPDs that are verified together based on the same PCR. The report shall be dated and signed by the verifier, and it shall document the verification process while adhering to the rules of data confidentiality. The verification report shall be submitted during the EPD registration and be available to any person upon request. The date of the verification report (the “approval date”) is the basis for the period of validity of the EPD (see Section 7.4.8).

For individual verifiers, the verification report shall state if the verification is the verifier’s first such task in the scope of the International EPD® System as this verification may be subject to an additional check by the Technical Committee (see Section 4.10).

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

Organisations certified under the EPD Process Certification shall submit a verification report based on the EPD document assessment (see Section 7.5.1.2) during the EPD registration. The verification report shall allow identification of the pre-verified tool (see Section 7.6) and provide the version of the tool if used for EPD development.

7.4.7 PROVIDING INFORMATION ABOUT EPD REGISTRATION AND PUBLICATION

During EPD verification, the verifier shall inform the organisation developing the EPD that registration and publication of the EPD at www.environdec.com is a mandatory step in the process.

7.4.8 SETTING EPD VALIDITY

An EPD is valid from its publication date (see Section 6.4) and for a five-year period starting from the date of the verification report ("approval date"). The publication date and the period of validity shall be stated in the EPD (see Section 9.5).

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

7.4.9 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 period of validity shall be made (see Section 6.5 and Section 7.3.2). It is not necessary to perform a full LCA, only a screening that focusses on the parameters that were identified in the initial preparation of the EPD, the LCA study and the sensitivity analysis to have an impact on the indicators in Section 9.5.5 is required. The surveillance verification 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 contracted surveillance verification in which the original verifier is contracted to take part in the follow-up throughout the period of validity of the EPD.

7.5 EPD PROCESS CERTIFICATION

To simplify the process for organisations in collecting data, conducting LCAs, and developing EPDs on a large scale, the International EPD® System includes the possibility of "EPD process certification". With EPD process certification, the organisation may handle the management of EPD data involved in the verification procedure by themselves and issue EPDs without a third-party verifier being involved in each case. EPD Process Certification shall be applied for organisations that classify as EPD owner. An EPD Process Certification may be implemented under a multi-site approach, i.e. covering several entities or subsidiaries of an organization, if the EPD process covers all sites included under 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 registration and publication at www.environdec.com, and
- update published EPDs.

Organisations shall apply a systemised manner and, specifically, the demands that must be verified by a third-party verifier. The EPD Process Certification contains of:

- Generic information (Section 7.5.1-7.5.3)
- Normative claims (Section 7.5.4-7.5.6)

Upon a third-party verification, the normative claims (Sections 7.5.4-7.5.6) will be verified primarily.

7.5.1 DESCRIPTION OF THE EPD PROCESS

The activity to develop EPD shall follow a certain process pattern as displayed in Figure 1.

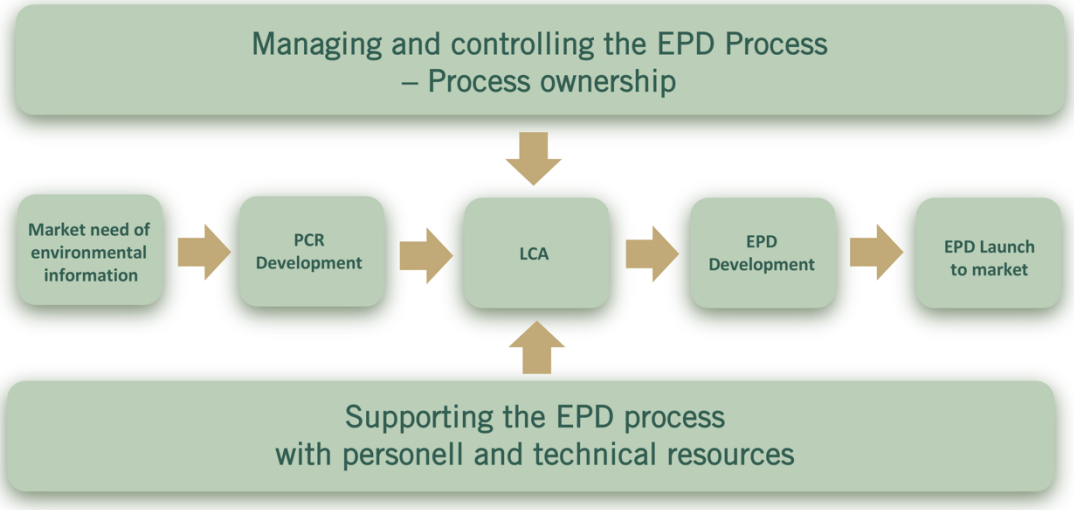

Figure 1. The EPD Process.

Such a process shall be established and controlled by necessary procedures and activities.

7.5.1.1 Description of the EPD process certification activity

The internal EPD process certification process shall be outlined according to the “PDCA 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 verify that the EPD process certification activity is outlined well and works effectively and according to the norms.
- **Acting:** Finally, management shall certify in a written statement that the above process works properly and effective and according to the norms. The statement shall be updated annually.

7.5.1.2 Description of the EPD DOCUMENT ASSESSMENT

An internal verifier shall verify the EPD documents developed inside the EPD Process before publication. Internal verifier competences evaluation shall be defined and recorded inside EPD process documents.

7.5.1.3 Description of the EPD process third-party verification activity

The EPD process shall be verified by an approved independent third-party verifier that is accredited for the audit of management systems, and the verifications shall be done as an accredited service under the supervision of a certified accreditation body.

7.5.2 NORMATIVE REFERENCE

See ISO 14001:2015, ISO 9001:2015, ISO 14040 series and the GPI. For construction product EPDs that claim compliance with EN 15804, this standard is also a reference.

7.5.3 TERMS AND DEFINITIONS

TERM	DEFINITION
EPD	Environmental product declarations
PCR	Product category rules
CPC	UN Central Product Classification, classification system used for PCR
LCA	Life cycle assessment
EPD process	Chain of activities within an organisation that links together in a certain systemised pattern, from an initial start-up to a final result as the launch of the EPD.
EPD process owner	Personnel having authority and responsibility in managing the EPD process from start to final EPD.
EPD responsible publisher	Personnel having authority and responsibility regards when publish EPD to external party
EPD process assurance	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 certified by a third-party verifier.
EPD process assessment	An internal activity within the organisation that regularly with certain frequency assesses the EPD process to certify it appropriateness.
EPD document assessment	An internal activity within the organisation that assesses the EPD document to certify its appropriateness before publication.
EPD process certification verification	An external third-party verification made by an accredited body, to verify the internal EPD process assurance.

Table 2. Terms and definitions.

7.5.4 THE EPD PROCESS

7.5.4.1 General requirements

The organisation 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 company,
- 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.

7.5.4.2 Document requirements

The documentation of the EPD process shall include:

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

7.5.4.3 Management responsibility

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

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 external verifications – 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.

7.5.4.4 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 as regards 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
- LCA competence as listed in Section 4.10.1.2

7.5.4.5 Planning the EPD process

The organisation shall plan and develop the EPD process for the EPD realisation. Planning EPD realisation shall be consistent with the requirements of the GPI. In planning the EPD realisation, the organisation shall determine the following, where appropriate:

- sources and version of PCR / UN CPC requirements,
- sources and version of the GPI,
- the need to specify activities within the EPD process and to provide specific resources for these (i.e. data collection, LCA calculation, LCA result review, EPD preparation, EPD review, maintenance of the period of validity of EPDs, and representativeness),
- required verifications of the content of the EPDs delivered from the EPD process, and
- records needed to provide evidence that the EPD realisation process meets the EPD process certification requirements.

7.5.4.5.1. PCR/UN CPC development or status check

The organisation shall determine the requirements related to the PCR/UN CPC and review the EPD to be launched, prior to the realisation of EPDs, and this shall ensure that:

- PCR/UN CPC requirements exist, and
- the organisation has the ability to meet the defined requirements.

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

In the event of no existing PCR for the actual product category, the organisation shall initiate the development of such rules according to the GPI.

7.5.4.5.2. Planning the LCA activity and development of EPDs

The organisation shall plan the LCA activity according to the ISO14040 series, requirements in the relevant PCR and other norms in the GPI.

The organisation shall plan the EPD development activity according to the requirements in PCR/UN CPC and other norms in the GPI.

In the event of pre-certified EPDs, these shall be included in the EPD process as well.

If an EPD process owner intends to develop “single-issue EPDs”, i.e. climate declarations, these shall also be covered by the EPD process.

If an EPD process owner intends to develop "machine-readable EPDs", these shall also be covered by the EPD process and it shall be assured that the information in this presentation format correspond with the information developed in the EPD process.

7.5.4.6 Operation of the EPD process

7.5.4.6.1. Collecting information

The organisation shall ensure that collected data conforms to specified data need requirements. 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.

7.5.4.7 Operation of the LCA activity and development of EPDs

7.5.4.7.1. Operation of the LCA activity

The organisation shall plan and carry out LCA activities 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
- the availability and use of critical reviews of LCA results.

7.5.4.7.2. Operation of the EPD development activity

The organisation shall plan and carry out EPD activities 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.

According to the GPI, EPDs shall include mandatory statements. The part concerning a third-party verifier, in this context, means the third-party verifier certifying the EPD process.

7.5.4.7.3. Maintenance of the EPD during its validity

The organisation shall preserve the developed EPDs representativeness during its scheduled period of validity by keeping an EPD register for valid EPDs.

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.

7.5.5 EPD PROCESS ASSURANCE

7.5.5.1 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 of this annex to the GPI, 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 impartiality 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 nonconformities and their causes. Follow up activities shall include verification of the actions taken and the reporting of these results.

7.5.5.2 EPD management review

Top management (or a representative with the role of EPD process owner) shall review the organisation’s EPD process at planned intervals 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.

7.5.5.2.1. Review input

The input to management review shall include information on

- results from internal assessments,
- reaction from EPD audience and other stakeholders,
- EPD process performance and EPD conformity verifications done by third-party verifier,
- 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.

7.5.5.2.2. 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 and this annex.

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.

7.5.6 EPD PROCESS CERTIFICATION

During the period of validity of the EPDs following the EPD process, as a complement to the internal assurance activity, there shall be a verification done by an independent third-party verifier. The verification is an accredited service and is done under supervision of an accredited body.

The verification shall be done annually and cover the EPD process and the internal EPD process assurance activity. The verification shall follow the praxis from audit management systems, i.e. ISO 14001, ISO 9001 or ISO 50001. The verification shall also include sample checks of EPDs launched by the organisation and their compliance to the GPI and the PCR. At least one sample check shall be performed per year and product category. If the EPD process includes several manufacturing plants, the sample should alternate between those.

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 registered EPDs.

In the case that the EPD process covers several manufacturing sites, the verification shall at least assess one manufacturing site per year and product category and should be done as an “on-site” exercise. The result is an EPD process certificate, stating that the EPD process and EPD process assurance activity follows the GPI. A valid certificate shall be submitted to the Secretariat during EPD registration and upon renewal of the certificate after the annual verification. The certificate shall specify the PCR(s) used in the EPD Process Certification. Without changes to the EPD process, the EPD Process Certification shall be valid for a maximum of 5 years, and not exceed the validity of the PCR.

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

7.6 PRE-VERIFIED TOOLS FOR EPD DEVELOPMENT

The International EPD® System allows the use of pre-verification of LCA and EPD tools to facilitate the development of EPDs. The application of these tools leads to a simplified verification process since certain elements of the LCA cannot be further influenced by those developing the EPD and verification of these elements is needed only once. Please note that while using a pre-verified tool simplifies the procedure for developing an EPD, it does not replace the need for fulfilling verification requirements according to Section 7. Pre-verified tools shall be listed at www.environdec.com.

The tool is valid for one or more defined PCRs. To extend the scope of the tool to other PCRs, it must first be verified against these PCRs. In cases where the PCR can be applied for different functional or declared units, the scope of the tool shall be further specified, using for example relevant c-PCRs, CPC codes, and/or other relevant product

categorisation systems. The Secretariat shall inform the owner of the tool about relevant changes, e.g. changes in the PCR, which may require an update of the tool.

The LCA model used in the tool is parameterised for the bill of potential materials and/or product components in a way which allows the user of the tool, to modify a pre-defined selection of input data or choose from a pre-defined menu of product components connected to a specific product in order to produce a specific EPD. The LCA model nor the menu can be changed by the user. The output of an LCA tool is a list of indicator results required for an EPD. The EPD itself is then created by the user of the tool. The output of an EPD tool is an automatically produced EPD through selection in the menu of options and calculation of the indicator results.

7.6.1 PRINCIPLES FOR VERIFICATION

The aim of the pre-verification of the tool is to check the compliance with the PCR and the GPI. A tool is verified based on the tool project report as well as the first LCA report and the first EPD verification report based on the tool. The tool project report shall be provided by the developer of the tool. The LCA report is usually generated by the tool. The EPD verification report shall be provided by the verifier of the tool.

The tool owner shall arrange verification of the tool. A case-by-case approval is granted for the pre-verification of a tool by the Technical Committee before the tool verification should be started. Only approved individual verifiers or accredited certification bodies shall be considered. An application to act as the verifier of a tool should be submitted to the Secretariat.

For verification the tool shall be provided to the verifier together with the tool project report which shall document the following:

- ownership of the tool (legal entity)
- identification of the tool including the version number
- applicable PCR or range of PCR 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 and calculation rules
- identification of the variable parameters with significant impact on the indicator results
- description of the data quality, sources and references
- conditions under which the tool is to be used, including data and software security and usability, and
- information for the background report of the EPD, where applicable.

The tool verification shall be documented by the verifier in a tool verification report and shall be shared with the Secretariat. The data and LCA model which cannot be changed shall be identified in the tool verification report. The tool verification report shall present how the tool meets the relevant requirements in the GPI and PCR.

Verification of the first EPD developed by a tool shall be part of the pre-verified tool verification. A real product or a fictive product may be used for the first verification. The tool may be approved as pre-verified after verification of the first EPD generated by the tool (see Section 7.6.3).

After verification, changes to the pre-verified tool shall be limited to varying the user-defined input parameters. The most straightforward way to assure that the tool is not manipulated after verification is to lock it. However other procedures of prohibiting such manipulation can be applied. Any changes of pre-verified tools shall be documented by the tool owner and may require re-verification (see Section 7.6.4).

The pre-verified tool shall be archived for the validity period of the last EPD created with the tool. The owner of the tool shall be responsible for archiving the tool versions. Only verified versions of the tool can be applied.

7.6.2 VALIDITY

Without changes to the pre-verified tool, the verification of the tool shall be valid for a maximum of 5 years, and not exceed the validity of the PCR. Transition periods according to Section 4.1 and 5.4.3 shall apply for the validity of the tool in case of updates of the PCR. The tool shall be verified again at the end of the validity period or end of the transition period of the PCR to maintain its validity.

7.6.3 VERFICATION OF EPDS

EPDs developed using a pre-verified tool shall undergo individual verification according to the regulations in the GPI. The verification of this first EPD shall be done according to Section 7.4.6, and the resulting EPD must satisfy the applicable requirements. The LCA report shall include all relevant information for the verification, as described in Section 7.3.1, including, but not limited to:

- 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.

The tool project report should support the writing of the LCA report for this first EPD.

All items dealing with the modelling of the processes and the fixed content of the EPD can be accepted based on the verification of the tool and the first EPD verification by the tool. This means as a rule only the variable input data and/or the input data governed by the menu and the respective results of the EPD should be checked for plausibility.

The verification may be restricted to the following aspects:

- plausibility of input and output data,
- additional information, and
- formal aspects if applicable.

The EPD verification report shall report the following at minimum:

- the results of applying in a simplified way the requirements for verification according to Section 7.4.6,
- the variable input data used in the EPD and identification of the inputs driving the indicator results in relation to the project report of the tool verification,
- verification action for any additional information e.g. non LCA indicator results, and
- reference to the tool version and the tool verification report.

7.6.4 UPDATES

Any change to the tool beyond the variation of user-defined input parameters shall result in a new version of the EPD tool shall be communicated to the Secretariat. All changes that may affect numeric results of the LCA or may potentially jeopardize fulfilment of formal requirements to the final document require a reverification of the tool. The re-verification may be limited to the parts of the tool that were modified. Only verified versions of the tool can be applied. Older versions of the tool shall be stored and be accessible, independent of the format of the tool, for a minimum of 5 years after their modification.

8 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 GPI
  - PCR language(s)
- Scope of PCR
  - Product category definition and description (e.g. synonyms, function, technical performance, reference service life, and use)
  - Classification of product category using UN CPC code(s), and other relevant classification schemes
  - 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
- Goal and scope, life cycle inventory, and life cycle impact assessment
  - Declared/functional unit
  - Technical specification, lifespan or reference service life, where applicable
  - System boundary, including information on lifecycle stages not considered and omitted in the EPD, if relevant
  - System diagram
  - Cut-off rules
  - Allocation rules
  - Data quality requirements and selection of data
  - Environmental performance indicators, with reference to website for default list of indicators and information on inventory and impact assessment methods, and adjustments or amendments of default list, if relevant

  - Other rules on calculations and scenario development, if relevant
- Instructions for the content and format of EPDs based on the PCR
- Requirements for comparability between EPDs
- Additional information
  - Materials and substances to be declared in a product content declaration
  - Rules for provision of additional environmental as well as social and economic information
  - Mandatory statements, e.g. regarding verification
- 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.

9 CONTENT AND FORMAT OF EPD

Requirements on content and format of EPDs registered in the International EPD® System are listed below. Additional requirements may be put on the content format in the PCR, or in order for the EPD to be used in certain applications. A generic template for EPDs is available at www.environdec.com, but other layouts and formats are allowed.

As a general rule, the EPD content shall:

- be in line with the requirements and guidelines in ISO 14020 (Environmental labels and declarations - General principles),
- be verifiable, accurate, relevant, and not misleading, and
- not include rating, judgements, or direct comparisons with other products[13].

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

For EPDs for construction products compliant with EN 15804, the communication format of the EPD shall be in accordance with EN 15942, *Sustainability of construction works — Environmental product declarations — Communication formats: business to business*.

The content of EPDs published in machine-readable format shall correspond with the content of the underlying EPD.

9.1 EPD LANGUAGES

EPDs should be published in English, but may also be published in additional languages. If the EPD is not available in English, it shall contain an executive summary in English that includes the main content of the EPD (see Section 9.5.12. This summary is part of the EPD and, thus, also subject to the verification process.

9.2 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.
  - 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.
- Three significant figures[14] should be adopted for all results. The number of significant digits shall be appropriate and consistent.
- 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 figures shown for illustration):

[13] Therefore, results of normalization are not allowed to be reported in the EPD.

[14] Significant figures are those digits 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.

- 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.

- Dates and times presented in the EPD should follow the format in ISO 8601. For years, 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 indicators. ND shall only be used for voluntary parameters that are not quantified because no data is available.[15]
  - 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.

9.3 INCLUDING MULTIPLE PRODUCTS IN THE SAME EPD

9.3.1 PRODUCTS FROM THE SAME COMPANY

Similar products from a single or several manufacturing sites covered by the same PCR and manufactured by the same company with the same major steps in the core processes may be included in the same EPD if none of the declared environmental performance indicators differ by more than 10% between any of the included products. The results for the environmental performance indicators of one representative product shall be declared according to Section 9.5.5. The choice of the representative product shall be justified in the EPD, using, where applicable, statistical parameters. Further guidance may be given in the PCR.

9.3.2 SECTOR EPD

The International EPD® System allows for an industry association to develop an EPD in the form of a sector EPD.[16] A sector EPD declares the average product of multiple companies in a clearly defined sector in a clearly defined geographical area. Products covered in a sector EPD shall follow the same PCR and the same declared/functional unit shall be applied.

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.

9.4 USE OF IMAGES IN EPD

Images used in the EPD, especially pictures featured on the cover page, may in themselves be interpreted as an environmental claim. Images such as trees, mountains, and wildlife that are not related to the declared product shall, therefore, be used with caution and in compliance with national legislation and best available practices in the markets in which the EPD is intended to be used.

9.5 EPD REPORTING FORMAT

The reporting format of the EPD shall include the following sections:

[15] This requirement does not intend to give guidance on which indicators are mandated (“shall”) or voluntary.

[16] In the context of EN 15804 and elsewhere, a sector EPD is sometimes referred to as an “average EPD”, an “industry-wide EPD”, or a “generic EPD”.

- Cover page (see Section 9.5.1),
- Programme information (see Section 9.5.2),
- Product information (see Section 9.5.3),
- Content declaration (see Section 9.5.4),
- Environmental performance (see Section 9.5.5),
- Additional environmental information (see Section 9.5.6),
- Additional social and economic information (see Section 9.5.7), and
- References (see Section 9.5.11).

The following information shall be included, where applicable:

- Information related to pre-certified EPDs (see Section 9.5.8),
- Information related to sector EPDs (see Section 9.5.9),
- Differences versus previous versions (see Section 9.5.10), and
- An executive summary in English (see Section 9.5.12).

9.5.1 COVER PAGE

The cover page shall include:

- Product name and image
- Name and 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
- EPD registration number as issued by the programme operator[17]
- Date of publication (issue): 20XX-YY-ZZ
- Date of revision: 20XX-YY-ZZ, where applicable,
- Date of validity; 20XX-YY-ZZ. For clarification, a note may be added that “An EPD should provide current information and may be updated if conditions change. The stated validity is, therefore, subject to the continued registration and publication at www.environdec.com”.
- A statement of conformity with ISO 14025
- For construction products: a statement of conformity or non-conformity with EN 15804:2012+A1:2013, EN 15804:2012+A2:2019, or later versions of EN 15804 (if published), and ISO 21930

In the case of EPDs registered through a regional hub (a regional or national programme based on and fully aligned with the International EPD® System through an agreement with the programme operator), “Programme”, “Programme operator”, and “Logotype” shall be expanded to include a reference to the regional programme and the organisation responsible for it.

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

- ECO EPD logotype as approved by the ECO Platform,
- information about dual registration of EPD in another programme, such as registration number and logotype, and

[17] 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.

- a statement of conformity with other standards and methodological guides.

9.5.2 PROGRAMME INFORMATION

The programme information section of the EPD shall include:

- the address of the programme operator: EPD International AB, Box 210 60, SE-100 31 Stockholm, Sweden, E-mail: info@environdec.com,
- the following mandatory statement from ISO 14025: “EPDs within the same product category but from different programmes may not be comparable”,
- for EPDs of construction products claiming compliance with EN 15804: “EPDs of construction products may not be comparable if they do not comply with EN 15804”,
- a statement that: “The EPD owner has the sole ownership, liability, and responsibility for the EPD”, and
- information about verification[18] and PCR according to Table 3.

For EPDs compliant with EN 15804: CEN standard EN 15804 serves as the Core Product Category Rules (PCR)
Product category rules (PCR): *<name, registration number, version and UN CPC code(s)>*
PCR review was conducted by: *<name and organisation of the review chair, and information on how to contact the chair through the programme operator>*
Independent third-party verification of the declaration and data, according to ISO 14025:2006: ☐ EPD process certification ☐ EPD verification ☐ Pre-verified tool
In case of certification bodies: *<Name of organisation incl. address.>* Accredited by: *<name of the accreditation body and accreditation number, where applicable>.* *In case of individual verifiers:* *<Name, and organisation of the individual verifier. The signature may also be included>* Approved by: The International EPD® System
The procedure for follow-up during EPD validity, as defined in the GPI, involves third-party verifier: ☐ Yes ☐ No

Table 3. Information about verification and PCR.

9.5.3 PRODUCT INFORMATION

The product information section of the EPD shall include:

- the address and contact information of the EPD owner,
- a description of the organisation. 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),
- the name and location of the production site,

[18] If the EPD has been verified by an approved individual verifier who has received contractual assistance from a certification body that is not accredited, this certification body shall not be included in this table.

- product identification by name, and an unambiguous identification of the product by standards, concessions, or other means,
- identification of the product according to the UN CPC scheme system. Other relevant codes for product classification may also be included, e.g.
  - Common Procurement Vocabulary (CPV),
  - United Nations 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).
- a description of the product,
- a description of the technical purpose of the product, including its application/intended use,
- a description of the background system, including the main technological aspects,
- the geographical scope of the EPD, i.e. for which geographical location(s) of use and end-of-life the product's performance has been calculated,
- the declared/functional unit,
- the reference service life (RSL) and/or technical/actual lifespan, where applicable,
- the declaration of the year(s) covered by the data used for the LCA calculation and other relevant reference years,
- a reference to the main database(s) for the generic data and LCA software used, where relevant,
- a system diagram of the processes included in the LCA, divided into the life cycle stages,
- a description of the EPD system boundary is "cradle-to-gate", "cradle-to-gate with options", or "cradle-to-grave",
- information on which life cycle stages are not considered (if any), with a justification for the omission, and
- references to any relevant websites for more information or explanatory materials.

This section may also include:

- the name and contact information of the organisation carrying out the underlying LCA study,
- any additional information about the underlying LCA-based information, such as cut-off rules, data quality, allocation methods, and other methodological choices and assumptions, and
- a description of the material properties of the product with a declaration of relevant physical or chemical product properties, such as density, etc.

9.5.4 CONTENT DECLARATION

The content declaration section shall declare the weight of one unit of the product, as purchased, and contain information about the content of the product in the form of a list of materials and chemical substances including information on their environmental and hazardous properties. The gross weight of each material/substance shall be declared, including a minimum of 99% of the materials/substances in one unit of the product. A content declaration may not be appropriate for EPDs for intangible products, such as services, which should be specified in the PCRs of such product categories.

The content declaration does not apply to proprietary materials and substances covered by exclusive legal rights including patent and trademarks. In general, an indication 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.

Information on the hazardous properties of materials and chemical substances should follow the requirements given in the latest revision of the Globally Harmonized System of Classification and Labelling of Chemicals (GHS),[19] issued by the United Nations or national or regional applications of the GHS. As an example, the following regulations should be used for EPDs intended to be used in the European Union:

- Regulation (EC) No 1907/2006 of the European parliament and of the council of 18 December 2006 concerning the Registration, Evaluation, Authorisation, and Restriction of Chemicals (REACH); and
- Regulation (EC) No 1272/2008 of the European Parliament and of the Council of 16 December 2008 on classification, labelling, and packaging of substances and mixtures.

Additional requirements for the content declaration may be set by the PCR, e.g. which materials and substances to declare. For construction products, requirements on content declaration are also outlined in EN 15804.

9.5.4.1 Information about recycled materials

When a product is made in whole or in part with recycled materials, the provenience of the materials (pre-consumer or post-consumer) shall be presented in the EPD as part of the content declaration.

To avoid any misunderstanding about which material that may be considered “recycled material”, the guidance given in ISO 14021 shall be taken into account. In brief, the standard states that:

- only pre-consumer or post-consumer materials (scraps) shall be considered in the accounting of the recycled materials, and
- materials coming from scrap reutilisation (such as rework, regrind, or scrap generated in a process and capable of being reclaimed within the same process that generated it) shall not be considered as recycled content.

9.5.4.2 Information about packaging

As packaging is strongly connected with the product, information about the packaging shall be declared in the EPD, where applicable. Packaging may be classified as:

- Distribution Packaging: packaging designed to contain one or more articles or packages, or bulk materials, for the purposes of transport, handling, and / or distribution (ISO 21067-1:2016, Par. 2.2.6), or
- Consumer Packaging: packaging constituting, with its content, a sales unit for the final user or consumer at the point of retail (ISO 21067-1:2016, Par. 2.2.7).

Consumer packaging is generally the outcome of eco-design processes, or other activities, under the direct control of the organisation. Many critical categories with strict legal requirements belong to the consumer packaging category like food contact packaging and pharmaceutical packaging.

The mass of the packaging per product, and the type and function of the packaging, shall be reported in the EPD.

A statement of the source of the materials (pre-consumer or post-consumer) shall be presented in the EPD when the packaging is made in whole or in part with recycled materials.

9.5.5 ENVIRONMENTAL PERFORMANCE

The results of the environmental performance indicators shall be declared per declared or functional unit and per included life-cycles stage (upstream, core, and downstream) or information module (A1 to A5, B1 to B7, etc.).Whether life-cycle stages or information modules should be used as the basis for declaration shall be specified in the PCR.

When indicator results are declared per life-cycle stage, also the total sum shall be declared. When indicator results are declared per information module, results shall not be added up into a total or sub-total of the life cycle stages (A, B, C, or D). As an exception, information modules A1, A2, and A3 may be aggregated to “A1-A3”.

[19] The GHS document is available at www.unece.org.

A PCR may require or recommend results for downstream processes to be declared separately for use/operation of the product and other downstream processes (e.g. end-of-life treatment), instead of being declared in aggregated form, if relevant for the product category.

The website (www.environdec.com) specifies which indicators and accompanying inventory and impact assessment methods that should be used as default. Deviations from the default list, as well as additional indicators to be declared, may be specified by the PCR. The website also specifies specifications and clarifications of inventory and impact assessment methodology of relevance for specific indicators.

Older versions of the default indicators and methods shall be valid in parallel to a new version during a transition period. The transition period shall be at least 90 days. Information about such transition periods shall be published at www.environdec.com.

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.

9.5.6 ADDITIONAL ENVIRONMENTAL INFORMATION

An EPD may declare additional environmentally relevant information not derived from the LCA-based calculations, such as:

- 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 under Section 9.5.3, 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.

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.

The PCR may specify requirements or recommendations on additional environmental information to be declared in the EPD (see Section 5.2.4).

It is recommended to add information enabling the possibility to make comparisons with sector benchmarks (outside of the EPD) or, if not available, with benchmarks of common products and services preferably based on the concept of declared/functional unit, which is useful for scaling the environmental impacts of different activities, products, and services. Such comparisons shall, however, never be done in the EPD.

9.5.7 ADDITIONAL ECONOMIC AND SOCIAL INFORMATION

The EPD may also include other relevant social and economic information as additional and voluntary information. This may be product information or a description of an organization's overall work on social or economic sustainability, such as activities related to supply chain management or social responsibility.[20]

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 requirements or recommendations 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.

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

9.5.8 INFORMATION RELATED TO PRE-CERTIFIED EPDS

For pre-certified EPDs (see Section 6.1.1), the following information shall also be included:

- additional information on the LCA methodology and data used, including:
  - declared/functional unit,
  - system boundary,
  - cut-off rules,
  - allocation rules, and
  - data sources.
- an explanatory statement about the pre-certification.

9.5.9 INFORMATION RELATED TO SECTOR EPDS

For sector EPDs (see Section 9.3.2), 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.

9.5.10 DIFFERENCES VERSUS PREVIOUS VERSIONS

For EPDs that have been updated, the following information shall be included:

- a description of the differences versus previously published versions,
- a revision date on the cover page (see Section 9.5.1).

9.5.11 REFERENCES

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

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

9.5.12 EXECUTIVE SUMMARY IN ENGLISH

The executive summary, if included (see Section 9.1), shall contain relevant summarised information related to the programme, product, environmental performance, information related to pre-certified EPDs, and information related to sector EPDs. Besides this, further information may be added such as additional information, references as well as differences versus previous EPD versions.

10 DEVELOPMENT OF GENERAL PROGRAMME INSTRUCTIONS

10.1 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 (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.

10.2 CONTRIBUTING PARTNERS

A number of 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

11 REFERENCES

EN 15804:2012+A1:2013, Sustainability of construction works - Environmental product declarations - Core rules for the product category of construction products

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

EN 15942 Sustainability of construction works - Environmental product declarations - Communication format business-to-business

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/TS 14027 Environmental labels and declarations -- Development of product category rules

ISO 14040 Environmental management – Life cycle assessment – Principles and framework

ISO 14044 Environmental management – Life cycle assessment – Requirements and guidelines

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

ISO 19011 Guidelines for Auditing Management Systems

ISO/IEC 17011 Conformity assessment – General requirements for accreditation bodies accrediting conformity assessment 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 LCA Critical Review Process and Reviewer Competencies

ISO 21067-1:2016 Packaging – Vocabulary – Part 1: General terms

ISO 21930:2007 Sustainability in building construction – Environmental declaration of building products

ANNEX A – GENERAL APPLICATION OF LCA METHODOLOGY

This annex describes the general application of LCA methodology in the International EPD® System. These rules follow the international standards ISO 14040/14044, with the intended use in an EPD.

An LCA study according to ISO 14040/14044 consists of different phases: goal and scope definition, inventory analysis, impact assessment, and interpretation. In general-purpose LCA studies, all background conditions with regard to 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 preconditions are already set by this Annex and the PCR to increase comparability between products in the same product category.

If there is a need to meet market demand for life cycle-based environmental information for certain markets, product categories or applications, methodology that deviates from the general application of LCA methodology described in this annex may be adopted. One such example is the methodology described in EN 15804, used for EPDs of construction products. Such deviations shall be described in the PCR or standards referred to in the PCR and be subject to review in the PCR development process and approval by the programme operator.

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 concept of modularity.

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 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. The PCR may also allow the declaration of results for two different declared/functional units in the same EPD, although this is not recommended; this must be justified in the PCR development process.

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 to address the information (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, where relevant.

If the function of the product in the use phase is known and can be clearly defined, a functional unit shall be used. 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 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 phase is unknown, if the product can be used for several different functions, or if the function cannot be clearly defined, a declared unit may be used. 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 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, 1 mobile phone,
- mass of a product, e.g. 1 kg of cement, and
- volume of a product, e.g. 1 litre of water, 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.

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

A PCR may require or recommend a technical specification of the product, e.g. 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 a given context.

The technical specification may include 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. 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 requirements or guidance on how to estimate product life spans.

Note that a technical or actual 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. If relevant, an RSL may be defined in the PCR. As such, the RSL may be an integral part for relating the performance of a product to the functional unit. 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 may be needed to fulfil the functional unit.

If relevant, the PCR may specify the RSL for a product category. 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 that shall, should or may be applied 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 99% of the total energy use, mass of product content, and environmental impact is accounted for (see Section A.3.3).

For 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 end-of-life treatment is excluded, the following criteria shall be fulfilled[21]:

- 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 as a result of a physical or chemical transformation process,

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

- 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.

A.3.1 LIFE-CYCLE STAGES

For the purpose of different data quality rules and for the presentation of results, the product life cycle should be divided into the following life-cycle stages (see Figure 2):

- upstream processes (from cradle to gate) mainly including the production of material inputs to the core processes (e.g. raw material acquisition and refinement, and the production of intermediate components),
- core processes (from gate to gate) mainly including the processes managed by the organisation that owns the EPD, but also some other process (see Section A.3.1.2), and
- downstream processes (from gate to grave) including for example further processing of the product, distribution transports, retail, product use and end-of-life management of the product.

Based on market needs, a PCR may require division into other life-cycle stages. For example, for construction products, the division into life cycle stages and information modules outlined in EN 15804 shall be applied (i.e. life cycle stages A-D subdivided into information modules A1-A3, A4-A5, B1-B5, B6-B7, C1-C4, and D). Also, for other product categories for which it can be valuable for the market to align with the EPD practices of construction products, it may be relevant to use the division into life cycle stages and information modules in EN 15804. The PCR shall specify which life cycle stage division to use, and if the division is not into upstream, downstream and core processes, this shall be justified in the PCR development process. If the PCR allows the declaration of life-cycle stages or modules based on consequential LCA modelling, such as module D of EN 15804, the results of those life-cycle stages/modules shall always be separately declared.

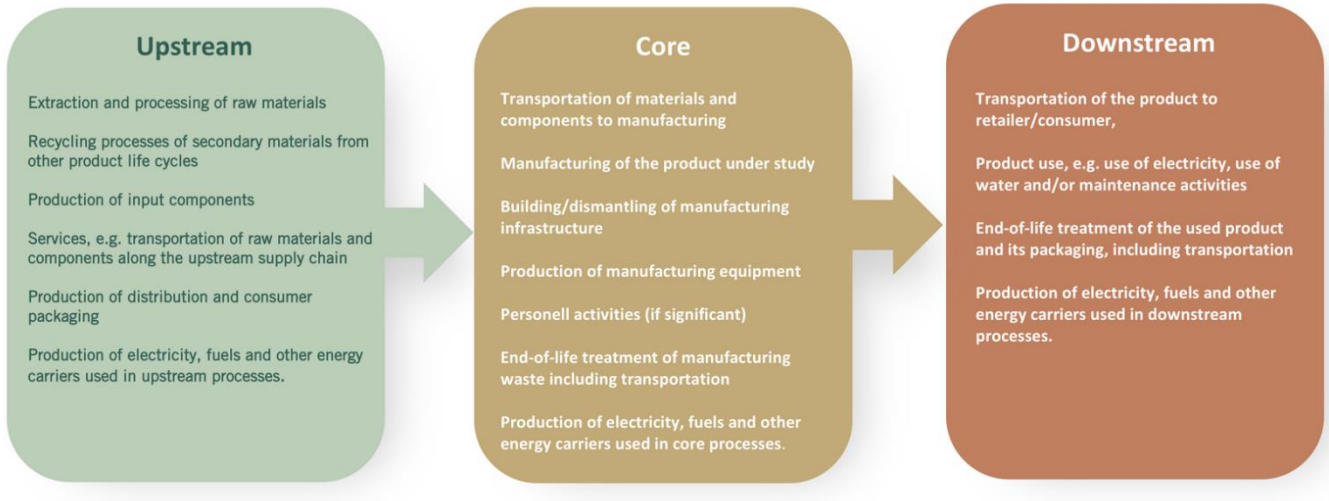

Figure 2. The life cycle of a product divided into life-cycle stages: upstream, core m, and downstream, and examples of typical processes of each stage. Note that due to market demands other divisions may be used.

Typical processes included in upstream, core, and downstream stages are described in the following subsections. For further details on processes included in life cycle stages A-D and associated information modules, see EN 15804.

In EPDs of services, the guidance given by the below subsections may not apply. For example, production/execution of the service shall be regarded as a core process, and manufacturing of items or consumables used in the production/execution of the service shall be regarded as upstream processes. Also, a service will typically not have a downstream process (e.g., management of generated waste is a core process).

A.3.1.1 Upstream processes

All relevant unit processes along the upstream supply chain shall be included, for example:

- extraction and processing of raw materials,
- recycling processes of secondary materials from other product life cycles (see Section A.6.2),
- production of input components,
- relevant services, such as transport of raw materials and components along the upstream supply chain to a distribution point (e.g. a stockroom or warehouse),
- production of distribution and consumer packaging[22], and
- generation of electricity and production of fuels, steam and other energy carriers used in upstream processes.

A.3.1.2 Core processes

- All relevant unit processes along the upstream supply chain shall be included, for example: transportation of materials and components to the manufacturing of the product under study,
- manufacturing of the product under study,
- building (or dismantling) of a production site, infrastructure, production and maintenance of manufacturing equipment, and personnel activities if they make up a significant share of the overall attributable environmental impact,
- end-of-life treatment of manufacturing waste, even if carried out by third parties, including transportation (see Section A.6.3), and
- generation of electricity and production of fuels, steam and other energy carriers used in core processes

A.3.1.3 Downstream processes

All relevant unit processes shall be included, for example:

- transportation of the product to retailer/consumer,
- product use, e.g. use of electricity or water, use activities causing direct emissions, maintenance activities, and
- end-of-life treatment of the used product and its packaging, including transportation;
- generation of electricity and production of fuels, steam and other energy carriers used in downstream processes.

A.3.2 SPECIFICATIONS OF OTHER BOUNDARY SETTINGS

Boundary in time shall define the time period for which the life cycle inventory data are recorded, e.g. for how long emissions from waste deposits are accounted. As default, the time period over 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 data. This year shall, as far as possible, represent the year of the publication of the EPD.

Boundary towards nature shall define the flow of material and energy resources from nature into the technical system (i.e., the product system) and emissions from the technical system to air, soil, and water. Agriculture, forestry, aquaculture and similar production systems are part of the technical system, i.e. elementary flows that originate from applied substances (e.g. fertilizers) and eventually leaves to water, soil or air shall be accounted for.

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

[22] If part of the production of the consumer packaging (see ISO 21067 Section 2.2.7) is part of the manufacturing process, it may be more relevant to include it as part of the core processes. This should be defined in more detail in the PCR.

Boundaries towards other technical systems shall define the flow of materials and components to/from the product system under from/to other product systems. If there is an inflow of recycled material to the product system in the production/manufacturing stage, the transport from the scrapyard/collection site to the recycling plant, the recycling process, and the transportation from the recycling plant to the site where the material is being used shall be included. If there is an outflow of material or component to recycling, the transportation of the material to the scrapyard/collection site shall be included. The material or component going to recycling is then an outflow from the product system.

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

The default cut-off rule shall be set to 1%. In other words, the included inventory data shall together give rise to at least 99% of the results of any of the environmental impact categories (not including inventory data of processes that are explicitly outside the system boundary as described in the PCR). Also, 99% of the mass of the product content and 99% of the energy use of the product life cycle shall be accounted for. Deviations from this cut-off rule shall be described in the PCR and justified in the PCR development process. It is important to emphasise that, in general, the cut-off of inventory data should be avoided, and all available inventory data shall be used. Using cut-off rules shall not give the impression of "hiding" information but rather facilitating the data collection for practitioners. Exclusion of inventory data based on the cut-off rule shall be documented in the LCA report.

The cut-off of inventory data, based on the cut-off criteria set by the PCR, should be an output of a sensitivity analysis, alone or in combination with expert judgment based on experience of similar product systems. Further, the cut-off shall be possible to verify in the verification process. The EPD developer shall provide the information the verifier considers necessary to verify the cut-off (e.g., in the form of a sensitivity analysis).

For construction products, cut-off requirements are outlined in EN 15804.

A.4. DESCRIPTION OF DATA AND DATA QUALITY REQUIREMENTS

Life cycle inventory data are classified into specific data and generic data, where the latter can be selected generic data or proxy data. The data categories are defined as follows:

- **specific data** (also referred to as "primary data" or "site-specific data"):
  - data gathered from the actual manufacturing plant where product-specific processes are carried out;
  - actual data from other parts of the life cycle traced to the product under study, for example site-specific data on the production of materials or generation of electricity provided by contracted suppliers, and transportation data on distances, means of transportation, load factor, fuel consumption, etc., of contracted transportation providers; and
  - LCI data from databases on transportation and energy ware that is combined with actual transportation and energy parameters as listed above.
- **generic data** (sometimes referred to as "secondary data"), divided into**:**
  - **selected generic data**: data (e.g. commercial databases and free databases) that fulfil prescribed data quality characteristics for precision, completeness, and representativeness (see below Section A.4.1),
  - **proxy data**[23]: data (e.g. commercial databases and free databases) that do not fulfil all of the data quality requirements of "selected generic data".

Specific data shall be used for the core processes. Specific data shall be used for upstream and downstream processes, when available, otherwise generic data may be used. The PCR may set stricter rules for using specific data in selected upstream or downstream processes, e.g. for the production of consumer packaging. Generic data should be used in cases in which they are representative for the purpose of the EPD, e.g. for bulk and raw materials on a spot market, if there is a lack of specific data on the final product or if a product consists of many components.

[23] In earlier versions of the GPI, proxy data was referred to as "other generic data".

A.4.1 RULES FOR USING GENERIC DATA

For generic data to be classified as “selected generic data”, the following requirements apply (which may be further specified in the PCR):

- datasets shall be based on attributional LCA modelling (e.g., not be based on marginal data and not include credits from system expansion),
- the reference year shall be as current as possible and should be representative for the validity period of the EPD,
- the 1% cut-off rule (as described in Section A.3.3) shall be met on the level of the product system,
- datasets shall represent average values for a specific reference year; however, how data are generated could vary, e.g. over time, and then they should have the form of a representative annual average value for a specified reference period (such deviations shall be justified and declared in the EPD), and
- the representativeness of the data shall be assessed to be better than ±5%, in terms of the environmental impact calculated on the basis of the data, of data that is fully representative for the given temporal, technological and geographical context

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 on selected generic. Listing such databases in the PCR does not replace the need for data quality assessment during the LCA study.

If data that meets the above requirements on selected generic data are not available, proxy data may be used. The environmental impacts associated with proxy data shall not exceed 10% of the overall environmental impact of the product system.

For construction product EPDs, the data quality requirements in EN 15804 apply.

A.4.2 GENERAL DATA REQUIREMENTS

This section lists general data quality requirements. For further requirements per life-cycle stage, see Section A.4.3.

Guarantees of Origin may be used to demonstrate that a specific electricity mix has been used. Also, other contractual instruments may be used, as long as reliability, traceability, and the avoidance of double counting are ensured, which is the case if the instrument guarantees that the electricity product (adopted from ISO 14067):

- conveys the information associated with the unit of electricity delivered together with the characteristics for the generator,
- is assured with a unique claim,
- is tracked and redeemed, retired or cancelled by or on behalf of the reporting entity,
- is as close as possible to the period to which the contractual instrument is applied and comprises a corresponding timespan, and
- is produced within the country, or within the market boundaries where consumption occurs if the grid is interconnected[24].

The Guarantees of Origin (or similar) shall be valid for at least the upcoming year and the manufacturer shall make a commitment to buy Guarantees of Origin for the full validity period of the EPD. If the electricity mix changes during the EPD validity (e.g. if the Guarantees of Origin are no longer valid) in a way that has an impact on the results or other contents of the EPD, the rules in Section 6.5 shall be followed. The EPD shall contain information on how electricity has been modelled for core processes, e.g. including whether Guarantees of Origin (or similar) and/or residual electricity mixes have been used. The EPD should also contain information on how electricity has been modelled for upstream and downstream processes, if relevant and if the information is available.

Mass balance approaches (MBAs) are sometimes used in LCA contexts to claim biobased, renewable, and/or recycled product content. MBAs are based on organizations (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. This implies that if biobased, renewable or recycled raw materials are

[24] In Europe, the European Continental (UCTE), Nordic, United Kingdom, Ireland and Baltic electricity grids shall be considered to be interconnected.

not physically present in the product, the content of the product may be accounted as being biobased, renewable or recycled. Because of this, the current position of the International EPD® System is that MBAs do not follow the ISO 14040 series and related standards and shall not be used in EPDs. If MBAs are further developed, exemptions may be done in specific PCRs. Such exemptions shall be justified and approved in the PCR development process.

A.4.3 DATA QUALITY REQUIREMENTS PER LIFE-CYCLE STAGE

Below are the default data quality requirement per life-cycle stage. Further specifications of, or deviations to, these rules may be included in the PCR. Exceptions to the requirements below or in the PCR may be accepted, if justified in the EPD; such exceptions are subject to the approval by the verifier on a case-to-case basis.

Upstream processes:

- Data referring to processes and activities upstream in a supply chain over which an organisation has direct management control shall be specific and collected on site.
- Data referring to contractors that supply main parts, packaging, or main auxiliaries should be requested from the contractor as specific data, as well as infrastructure, where relevant.
- Data on transport of main parts and components along the supply chain to a distribution point (e.g. a stockroom or warehouse) where the final delivery to the manufacturer can take place, should be specific and based on the actual transportation mode, distance from the supplier, and vehicle load.
- In case specific data is lacking, selected generic data may be used. If this is also lacking, proxy data may be used (see Section A.4.1).
- For upstream processes modelled with specific data, generation of electricity used shall be accounted for in this priority:

    1. Specific electricity mix as generated, or purchased from an electricity supplier, demonstrated by a Guarantee of Origin or similar as provided by the electricity supplier.
    2. Residual electricity mix of the electricity supplier on the market.[25]
    3. Residual electricity mix on the market.
    4. Electricity consumption mix on the market.

    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.

    "The market" in the above hierarchy may correspond a national electricity market, if this can be justified.

    The electricity mixes used to model upstream processes shall be documented in the EPD, where relevant.
- Packaging: specific data shall be used for the consumer packaging production if it is under the direct control of the organization or if the environmental impact related to the consumer packaging production is more than 10% of the total product environmental indicators. In other cases, generic data may be used. When consumer packaging shows the organization's logo, the project report should report the exerted/non-exerted direct control on the production of consumer packaging by the organization.

Core processes:

- Transport from the final delivery point of raw materials, chemicals, main parts, and components (see above regarding upstream processes) to the manufacturing plant/place of service provision should be based on the actual transportation mode, distance from the supplier, and vehicle load, if available.
- Goods: Specific data shall be used for the assembly of the product and for the manufacture of main parts as well as for on-site generation of steam, heat, electricity, etc., where relevant.

[25] This is important as an electricity supplier may operate on several markets.

- Services: Specific data shall be used for the consumption of materials, chemicals, steam, heat, electricity, etc., necessary for execution of the service
- For electricity used in the core processes, generation of electricity used shall be accounted for in this priority:

    1. Specific electricity mix as generated, or purchased from an electricity supplier, demonstrated by a Guarantee of Origin or similar.
    2. Residual electricity mix of the electricity supplier on the market.
    3. Residual electricity mix on the market.
    4. Electricity consumption mix on the market. This option shall not be used for electricity used in processes over which the manufacturer (EPD owner) has direct control[26].

    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.

    "The market" in the above hierarchy may correspond to a national electricity market, if this can be justified.

    The mix of electricity used in the core processes shall be documented in the EPD, where relevant.
- Waste treatment processes of manufacturing waste should be based on specific data, if available.

Downstream processes:

- Data for the use stage are usually based on scenarios, but specific data should be used when available and relevant.
- 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 use of electricity in the region/country where the product is used (as specified in the geographical scope of the EPD) shall be accounted for in the following priority:

    1. Residual electricity mix on the market.
    2. Electricity consumption mix on the market.

    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.

    "The market" in the above hierarchy may correspond a national electricity market, if this can be justified.

    The mix of electricity used in the downstream processes shall be documented in the EPD, where relevant.
- The transport of the product to the customer shall be described in the EPD, where relevant, and be accounted for in this priority:

    1. Actual transportation modes and distances to specific a 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.
- Scenarios for the end-of-life stage shall be technically and economically practicable and compliant with current regulations in the relevant geographical region based on the geographical scope of the EPD. Key assumptions regarding the end-of-life stage scenario shall be documented in the LCA report.

[26] For electricity markets without trade of Guarantees of Origin (or similar), the residual mix will, however, be identical to the consumption mix.

A.4.4 DATA QUALITY DECLARATION

EPDs may include a declaration of the quality of data used in the LCA calculations. The PCR may set requirements on such a declaration.

A.5 ALLOCATION RULES

Allocation can be divided into allocation of co-products, i.e. allocation of unit processes that generate several products, and allocation of waste, i.e. allocation of unit processes that generate materials that are, for example, landfilled recovered, recycled or reused, and which require further processing to cease being waste and become products (see criteria for end-of-waste state in Section A.5.2).

The principles for allocation of co-products and allocation of waste are described separately in the following subsections.

A.5.1 ALLOCATION OF CO-PRODUCTS

In case of allocation of co-products, the following hierarchy of allocation methods shall be followed:

1. Allocation shall be avoided, if possible, by dividing the process to be allocated into sub-processes and collecting the inventory data for each sub-process. The method of avoiding allocation by expanding the system boundary,[27] as advocated in ISO 14044, is not applicable within the framework of the International EPD® System due to the rationale of attributional LCA used and the concept of modularity.
2. If allocation cannot be avoided, the inventory data should be partitioned between the different co-products in a way that reflects the underlying physical relationships between them, i.e. allocation should reflect the way in which the inventory data changes if the quantity of delivered co-products changes.
3. If a physical relationship between the inventory data and the delivery of co-products cannot be established, the inventory data should be allocated between the co-products in a way that reflects other relationships between them. For example, inventory data might be allocated between co-products in proportion to their economic values. If economic allocation is used, a sensitivity analysis exploring the influence of the choice of economic value shall be included in the LCA report.

The PCR shall specify the allocation method to use in each key process where an allocation problem may be expected. This guidance should follow above hierarchy; deviations shall be justified in the PCR development process. If economic allocation is allowed by the PCR, it shall explain the reference values that shall be used.

For construction product EPDs, the allocation guidance in EN 15804 shall be followed.

A.5.2 ALLOCATION OF WASTE

Allocation of waste shall follow the polluter pays principle and its interpretation in EN 15804: “processes of waste processing shall be assigned to the product system that generates the waste until the end-of-waste state is reached.” The end-of-waste state is reached when all the following criteria for the end-of-waste state are fulfilled (adapted 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.

[27] “System expansion” here refers to both expanding the system to incorporate more co-products and the interpretation of avoiding allocation by “substituting” co-products with the same amount of product from a mono-functional alternative production technology.

The above outlined principle means that the generator of the waste shall carry the full environmental impact until the point in the product life cycle in which all the end-of-waste criteria are fulfilled. 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 no longer has a negative 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 3 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.

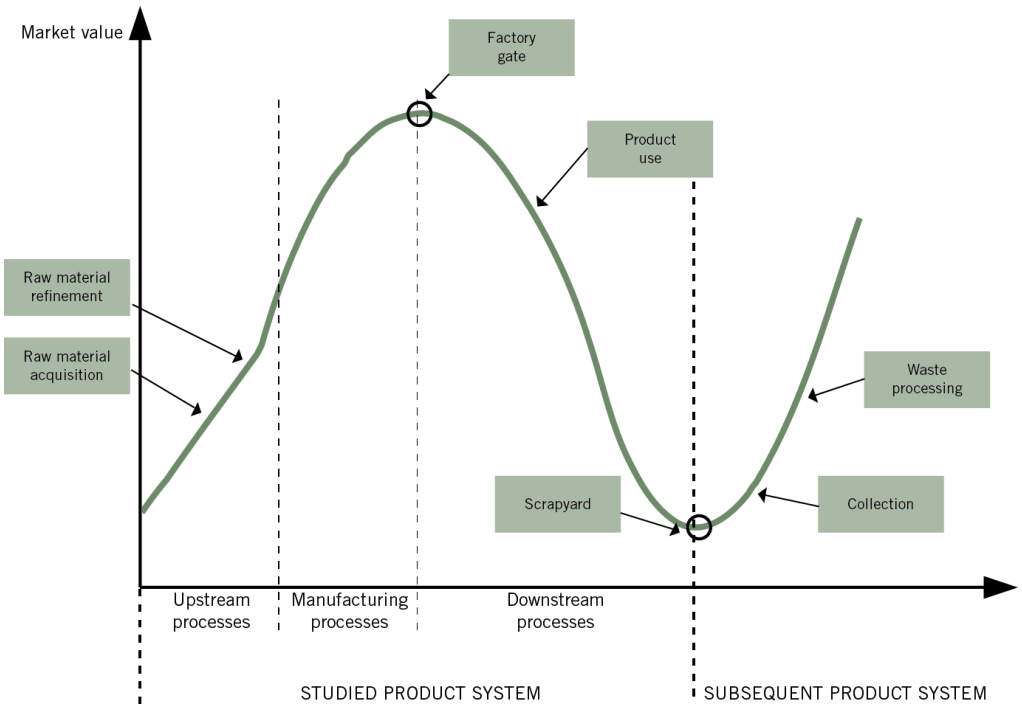

Figure 3. An example of where the system boundary between subsequent product systems involving reuse, recycling and recovery processes may be set based on the allocation procedure described in the text.

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

For waste incineration with energy recovery, the end-of-waste state is reached *after* the incineration if the waste incinerator gets paid for incinerating the material (i.e., the material has a negative economic value), which means that the environmental impact of collection, pre-processing and incineration of the waste shall be attributed to the product system generating the waste. Impacts related to making use of the energy, if any, shall however be attributed to the product system using the energy. If the end-of-waste state is reached *before* the incineration/combustion of the waste, the waste shall be considered a secondary fuel and further processing and incineration/combustion of the secondary fuel shall be attributed 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) and all other criteria for the end-of-waste state are fulfilled as well.

For waste incineration without energy recovery, the environmental impact of collection, pre-processing and incineration of the waste shall be attributed to the product system generating the waste.

For landfilling of waste, the environmental impact of landfilling as well as capturing and combustion of landfill gas, if any, shall be attributed to the product system generating the waste. Impacts related to making use of the energy, if any, shall be attributed to the product system using the energy.

Even if benefits of reuse, recycling or recovery by default should be considered to be outside the system boundary (unless an exception is allowed by the PCR, see Section A.3.1), quantitative information on recovered material/energy

that potentially can lead to environmental benefits may be declared separately as additional environmental information (see Section 9.5.6).

For construction product EPDs, the allocation guidance in EN 15804 shall be followed.

A.6 MODELLING OF END-OF-LIFE SCENARIOS

End-of-life treatment processes of the product and its packaging may depend on the destination of the product and on the end-of-life treatment alternatives available where the product and/or the packaging are expected to be disposed. For these reasons, the end-of-life may be evaluated using one or several scenarios. 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, and
- scenarios used 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.

Guidance in a PCR may deviate from above. Such deviations shall be justified in the PCR development process.

For end-of-life scenarios in construction product EPDs, the guidance in EN 15804 shall be followed.

A.7 MODELLING OF PRODUCT USE

Product use extends from the moment the end user uses the product 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).

For products used by end users, product use shall always be included within the system boundary. Product use may be excluded for intermediate products, but the exclusion shall then be justified in the PCR.

To ensure consistency between EPDs for the same product category, the PCR shall:

- clearly indicate if product use shall, should or may be included or excluded,
- define which processes belonging to product use that shall be included in the system boundary and which shall be excluded (any exclusion shall be justified), and
- provide default data/scenarios (e.g. PCRs for food products that require cooking shall report a default scenario for energy used for cooking).

The website (www.environdec.com) may provide default data to be used when preparing PCRs for modelling product use activities that might be crosscutting for several PCRs. The default data shall be used to fill in the data gaps and ensure consistency among PCRs. Better data may be used but shall be justified in the PCRs.

ANNEX B – GUIDANCE ON COMMUNICATING EPD INFORMATION

An EPD is an informative communications 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 will be used.

B.1. 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 organisation developing an EPD cannot precisely determine the audience for the document. For an EPD intended for 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 from Annex B.2 shall be applied.

B.2 THE INTERNATIONAL EPD® SYSTEM LOGOTYPE

A logotype has been developed to ensure a well-known identity for the International EPD® System (see Figure 4). 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.

Figure 4. Logotype of the International EPD® System.

The logotype symbolizes a yardstick, a standardized tool for objective measurement. The EPD measures the environmental performance of products and services in an objective and standardized way. The logotype is available for download in different file formats from www.environdec.com or via the Secretariat.

The logotype may be used for different applications:

- On the EPD: the logotype shall be included on the cover page and/or as part of the programme-related information.
- On products and packaging materials: the logotype may be used together with the EPD registration number and with a reference to www.environdec.com to find the EPD and for more information. It may also be relevant to state the UN CPC code or provide an explanation of what an EPD is.
- On information materials: if an EPD owner wants to use selected information from the EPD for various purposes, they shall indicate that the data is taken from an EPD, use the logotype together with the EPD registration number and refer to the website (www.environdec.com) for more information. It may also be relevant to state the UN CPC code or provide an explanation of what an EPD is.

Other uses of the logotype are only allowed based on special agreements with the programme operator.

An example of how to use the logotype on an EPD is illustrated below.

CERTIFIED ENVIRONMENTAL PRODUCT DECLARATION

S-P-XXXXX www.environdec.com

Figure 5. Example of how to use the EPD logotype with reference to an EPD registration number and the website.

If a company/organisation chooses to use information from the declaration in other information material, they shall state that the data is taken from a certified environmental declaration, use the logotype, and quote the given registration number and web site for more information as the examples below illustrate.

An information label may be used in conjunction with advertising a product or services and on products or on the packaging of products. The reason for the information label is to provide the party that comes into contact with the product with information that the product has a registered environmental product declaration and that additional information on and a description of the contents in the declaration are available on the Internet. This information label shall have the following wording:

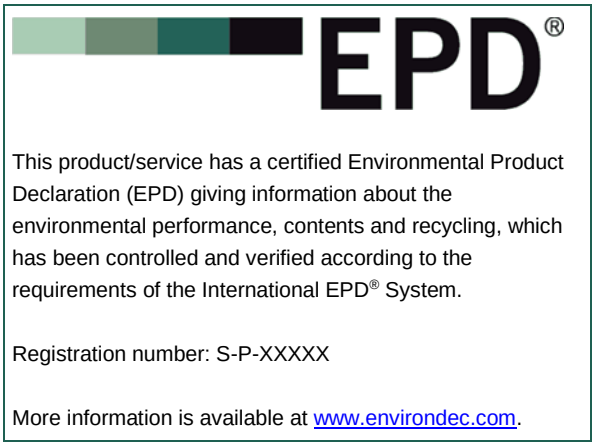

Figure 6. Example of how to use the logotype on other information materials.

Clarifications:

- The words “contents” and “recycling” shall be used only if such information is included.
- The registration number is shown here as S-P-XXXXX, to be replaced by the registration number as assigned during the registration and publication of the EPD.
- The words “This product/service” can be replaced with the name of the product/service provided that the full designation of the product/service is used in the same way as in the certificate issued by the certification body.

If only an information label is used to give information on the environmental product declaration and in conjunction with or in a manner that may affect consumers, the following wording shall be used:

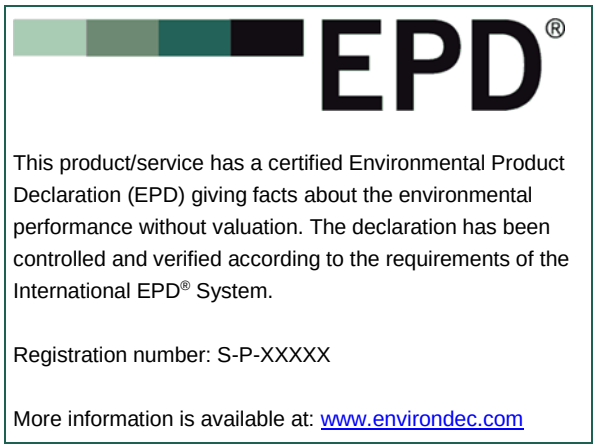

Figure 7. Example of information label.

B.3 COMPARABILITY OF EPDS

ISO 14025, Section 6.7 sets the requirements for comparability between EPDs, such as having the same product category and based on the same method (e.g. set by the PCR and GPI). EPDs from different programmes may not be comparable. Likewise EPDs based on different versions of PCRs, GPIs and the default list of indicators at www.environdec.com may not be comparable.

This information may be relevant to include when communicating the EPD.

B.4 LINKING TO THE EPD

The EPD shall only be used with a reference to the registration number and the website of the International EPD® System (www.environdec.com).

For the latest information about how to link directly to the EPD, please contact the Secretariat.

