



GENERAL INSTRUCTIONS FOR THE DAPHABITAT SYSTEM



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I – CONTEXT

1. OBJECTIVE

The primary objective of the General Instructions for the DAPHabitat System is to ensure the accurate and consistent operation of the registration programme. This document establishes the procedures for the creation and validation of the Product Category Rules (PCR) and for the development, verification, and registration of Environmental Product Declarations (EPD), Type III environmental declarations (ISO 14025), within the scope of the DAPHabitat System.

This document has been prepared in accordance with normative requirements (ISO 14025:2009) that ensure the reliability of the DAPHabitat registration system.

The programme instructions are subject to continuous review and may be updated as necessary. However, it is anticipated that new versions of the DAPHabitat System documents will be published annually, incorporating the relevant updates resulting from the ongoing review processes. This review and update process is conducted with the support of the Technical Commission of the System and the Programme Operator.

II – DAPHABITAT SYSTEM: NATIONAL EPD REGISTRATION SYSTEM

1. GENERAL THOUGHTS

The DAPHabitat System is a registration programme for Environmental Product Declarations (EPDs) related to habitat sector products. This national registration programme allows any interested company or entity to apply for the development of EPD documents or to register EPDs, irrespective of their country of origin.

The DAPHabitat has been developed with the intention of enabling manufacturers and producers (interested party) to communicate the environmental performance of their products, allowing them to compete in both national and international markets using this credible and reliable communication tool (business-to-business, B-to-B, or business-to-consumer, B-to-C), which are the EPDs. The development and operation of EPD registration programmes, as well as their development and utilisation, are voluntary in nature.

2. OBJETIVES

The support provided to organisations wishing to disseminate information regarding the environmental performance of their products in national or international markets is the primary objective of the DAPHabitat System. To achieve this aim, the DAPHabitat System focuses its efforts on the development and/or

aEPDtion of PCR and the registration of EPDs for all products and services involved in construction and building services within the habitat sector.

The registration of EPDs enables the visibility of verified information regarding the environmental performance of products. EPDs, as a communication tool, serve to enhance both the efforts of manufacturers in developing environmentally acceptable products and to encourage the procurement of products accompanied by reliable environmental information. By developing an EPD, accurate and verified information is conveyed, which can stimulate the continuous improvement of commercialised construction products. On one hand, manufacturers will gain a more detailed understanding of the performance of their products, allowing them to identify improvement opportunities that lead to a reduction in their negative environmental impacts. On the other hand, at the point of acquisition products for the habitat sector, costumers (companies or end users) will be able to make their choices informed by trustworthy information.

EPDs from other registration programmes may not be comparable to EPDs registered in the DAPHabitat System¹. Some DAP programmes require and verify LCA indicators that are not part of the EN 15804+A2 requirements, such as toxicity and health indicators, for example. If the LCA performed for the DAP results in such indicators and they are verified by a competent party, the DAP is accepted by the DAPHabitat System. This type of information will be added as additional information.

ISO 14025 recommends not duplicating efforts in the development of PCR documents, facilitating wherever it is possible the recognition and adoption of Product Category Rules (PCR) developed by other registration programs. This is a key issue to avoid obstacles in the commercialization of products in markets that consider the requirement of EPD. To achieve this goal, the DAPHabitat System considers the possibility of recognizing and adopting PCR documents from other European registration programs according to some requirements aligned with ISO 14025 and the main objectives of ECO Platform (International Non-Profit Association established by European EPD Program Operators registering ECO Platform EPD´s, European Trade Associations in the building and construction sector and LCA Practitioners), where DAPHabitat is a founding member. However, before using these documents, **it is essential to verify the existence of complementary PCR (c-PCR) to EN 15804 standard for the specific category of products. These c-PCR, published by CEN as European legal normative, are aligned with established European standards and provide reliability to the life cycle study developed for the elaboration of an EPD.**

Sticking to the main goal, assist and support organizations that intend to communicate the environmental performance of its products, DAPHabitat System provides two databases, one corresponding to the publication of the PCR documents developed and another corresponding to the list of verified and registered

¹ Some international markets, particularly the French market, do not recognize EPD registered by DAPHabitat due to the higher requirements demanded. In this case, it is suggested to contact the Portuguese programme operator to be guided on the best approach to overcome this constraint.

EPD in Portugal, according to the procedures described herein. The EPD and PCR documents have validity periods, giving these databases an updated basis, ensuring updated information sources about the products.

The documents in this voluntary program comply with the latest version currently in force European and international standards, not limited to ISO 14025, ISO 14040/14044, EN 15804, ISO 21930, ISO 14027, and ECO Platform guidelines.

Thus, to ensure that the DAPHabitat System remains updated, credible, and in compliance with international best practices and standards, all programme documents—including these General Programme Instructions, the Core Model Product Category Rules, and the specific Product Category Rules—are subject to a continuous review process.

The review of the documents and procedures is carried out through the following mechanisms:

- **Annual Review:** A complete review of all system documents is conducted every year. The main objective of this annual review is to incorporate the updated versions of the ECO Platform guidelines and requirements. This ensures our harmonisation with this European network of programme operators.
- **Review by Standard Update:** An extraordinary review is triggered whenever there is an update to a core system standard. This measure ensures that our programme always reflects the most recent technical and methodological requirements.

Following the review, the updated proposals are submitted to the Technical Committee, which monitors the process. **After a consultation period, comments and suggestions from all interested parties are collected.**

Once the analysis of the contributions is complete, the final version of the documents is published. The changes are communicated clearly and promptly to all interested parties, including the verification body, so that the verification of DAPs is always based on the programme's most current and consistent requirements.

3. ORGANIZATIONAL STRUCTURE

The DAPHabitat Systems is organized according to the following administrative and functional structure, following the NP ISO 14025:2009, as illustrated in Figure 1. There are structures that assume different roles and responsibilities, allowing this registration program to operate in a transparent manner.

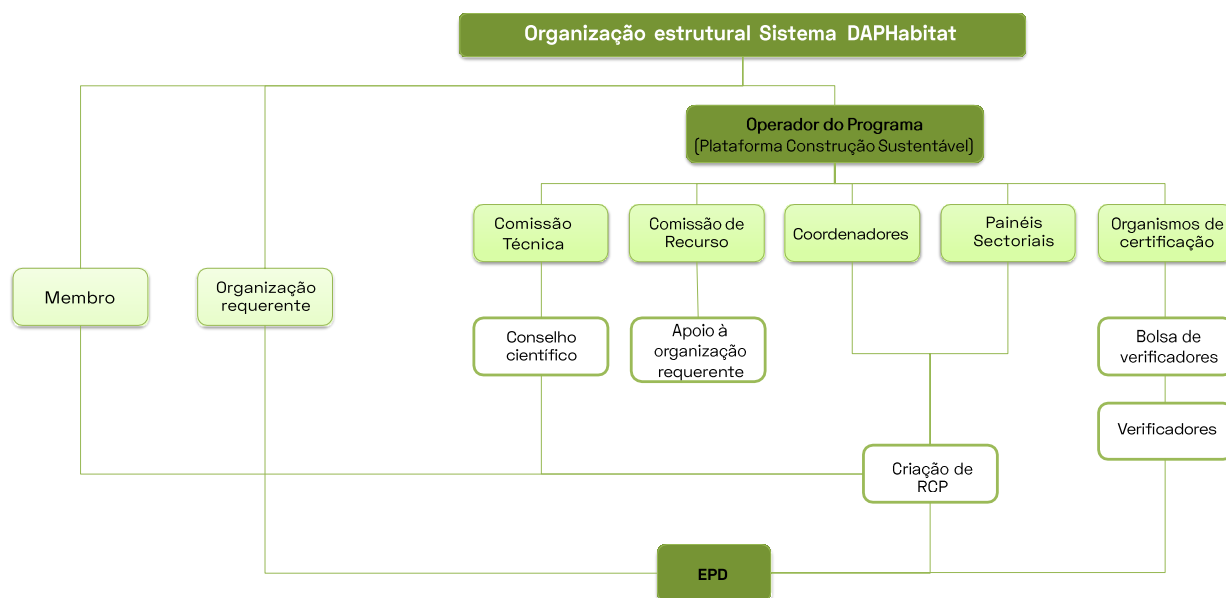


Figura 1: Organização estrutural do Sistema DAPHabitat.

The organization of DAPHabitat System is divided according to the development of PCR documents, recognition and adoption of the complementary PCR published by CEN, recognition and adoption of the PCR documents from other registration programs; EPD development, EPD verification and their inclusion in the programme database.

3.1. ADMINISTRATION

The DAPHabitat System is managed by the Sustainable Construction Platform, a non-profit association. In this EPD program, the administrator is named Program Operator (PO).

The PO should assure that the following information is available:

- General Instructions for the DAPHabitat System,
- List of all the PCR documents developed in the scope of the DAPHabitat System, and its availability,
- EPD registered in the DAPHabitat System, and explanatory material, when necessary.

Tabela 1: Identification of the DAPHabitat System Programme Operator.

Identification	Associação Plataforma para a Construção Sustentável
NIF	509 037 321
Location	<u>Delegation:</u> Departamento de Engenharia CivilUniversidade de Aveiro 3810-193 Aveiro Portugal
Contact	deptecnico@clusterhabitat.pt
Website	www.clusterhabitat.pt

The PO is a key agent in the work of the DAPHabitat System, being responsible for the following functions:

- Prepare, revise and communicate the General Instructions of the DAPHabitat System, in cooperation with the Technical Committee.
- Publish the entities involved in the programme.
- Assure the choice of skilled professionals to take part of the Technical Committee of the DAPHabitat System, giving them information on what will be their functions, namely those referring to the revision and approval of the coherence of the PCR documents developed throughout this registration programme.
- Establish a clear and coherent procedure for the elaboration of a PCR.
- Cooperate with specialists in the elaboration of a PCR, that will determinate the development of a guideline of an environmental product declaration Type III.
- Guarantee that the developed EPD are in accordance with the standard requirements and DAPHabitat rules.
- Publish the PCR and EPD documents developed in the registration programme.
- Management of PCR document lists and EPD registrations available to the public at www.DAPHabitat.pt;
- Assure that the certification parts are qualified to carry out their functions.
- Assure the quality in the selection of the qualified verifiers for the verifiers pool.
- Assure the qualifications of the members that take part of the PCR revision panel (technical committee).
- Establish a clear and reliable procedure for the revision process of a PCR and make available the identification of the members that belong to the revision group of these documents.
- Monitoring the changes made in the procedures and documents of the other EPD registration programs and get a revision of the procedures and documents, when necessary.
- Manage and settle the price of the EPD registration and maintenance fees.

-  Participate in ECO-Platform activities and establish the communications with the ECO-Platform, as well as communicate the update of their guidelines.
-  Assure the ECO-Platform rules.
-  Establish the logo and brand procedures of the DAPHabitat System.

3.2. TECHNICAL COMMITTEE

The technical committee consists in a group of technical experts on LCA and specific skills in various sectors from habitat fields. One of the main purposes of this Committee is technical and scientific assistance to the registration program on issues relating to the Product Category Rules, the Environmental Product Declarations and Life Cycle Assessment (LCA). The Technical Committee is the panel for the approval and validation of the developed PCR and review panel.

This group consists of invited members by the PO, respecting the detention of the necessary skills that are described below:

-  Knowledge of the general context of the sector, product and environmental aspects related to the product.
-  LCA expertise and corresponding working methodologies.
-  Knowledge of the relevant labelling, environmental declarations and LCA rules.
-  Knowledge of applicable PCR rules.
-  Knowledge of the EPD registration programme.

3.3. MEMBERS

The members of the DAPHabitat System are all of those that register on www.DAPHabitat.pt. The registration allows the members to have access to the developed PCR database and the possibility to participate by giving their opinion, within the public consulting stage inherent to the elaboration of the documents. This procedure of cooperation is developed through the EPD Forum and the PCR Forum, a tool available at www.DAPHabitat.pt.

3.4. CERTIFICATION BODIES

The DAPHabitat System guarantees the clarity and independence of the verification process of the EPD because it can only be registered when the documents (EDP and project report) were submitted and approved in a verification process required by the registration program. The verification process is made by verifiers that are part of the “verifiers pool” managed by certification bodies (third independent party), recognized by the PO. The recognition of an entity as a certification body of the DAPHabitat System is done accordingly with the procedure mentioned in line with 8.3.1. chapter IV.

The identification of the recognized entities as certification body of the DAPHabitat System should be available at www.DAPHabitat.pt.

3.5. VERIFIERS

The verifiers are qualified professionals that will integrate the “verifiers pool” managed by the certification body approved by the PO. The admission of the verifiers should be done in accordance with the procedures and demands mentioned in line with 8.3.2 chapter IV of this document.

The verifiers are responsible for deciding if the EPDs, elaborated by an organization, are in accordance with the corresponding national and international requirement of the rules, and with required procedures of the registration program. To authenticate the verification of an EPD, the verifiers should prepare a report of the procedure of the verification made, accordingly with the predetermined format given by the corresponding certification body. This report may be available to the public, if required.

In order to guarantee independence, the verifier must not be the same person responsible for the LCA. Furthermore, they must communicate any pressure exerted by the EPD owner, the author of the LCA study, or any other party aiming to influence the result of the verification. With this information, the PO will take action, if necessary.

The verifier must not make any recommendations. They should be impartial and not try to influence the EPD according to their own opinion.

3.6. PCR MODERATORS

The development of the PCR documents should be led by specialists/experts in the LCA methodology and experts in the requirements and operation of the DAPHabitat System.

When the necessity of developing a PCR document arises, the Sustainable Construction Platform should assign at least one moderator responsible to develop the following tasks:

-  Develop a draft of the PCR document, by applying the required procedure, according to the requirements of the reference standards, considering the PCR documents of similar products developed by other European registration programmes.
-  Evaluate the necessity of developing new LCA studies to complete the draft of the document.
-  Coordinate the organization of the sectorial panel with the PO.
-  Gather the comments of the sectorial panel and the Technical Committee concerning the presented version of the PCR and include them in the document.
-  Manage the public consulting together with the PO, this is, gathering the relevant information mentioned in the PCR Forum or sent by email to the PO.

-  Manage the authentication of the PCR document according to the gathered comments (PCR Forum and Technical Committee).
-  Elaborate the final draft of the document.
-  After the approval of the final version, the members of the DAPHabitat should be informed that the new PCR document is available in the database of the registration programme.
-  Keeping the PCR document in discussion, collecting with the PO, the comments for improvement that are given, so that they can be considered in the revision period.

During the development of the PCR, it is recommended to provide scientific articles or other relevant documents at www.DAPHabitat.pt. The selection of the publications that should be available is the responsibility of the coordinator and the PO.

3.7. SECTORIAL PANEL

The sectorial panel is constituted by representatives of companies, corporate associations or other entities and specialists in a certain product category. This sectorial structure is expressed through a consulting and participation mechanism where parties interested in the process of developing the PCR determine how the LCA study should be made.

For each PCR document, the PO and the coordinator should gather the most appropriate sectorial panel. This procedure should be carried out with a notice of convocation by email describing the process and the work tasks. It is the responsibility of the coordinator and the PO to gather the opinions and comments that appear from this work group and include them in the document so that it can be validated by the Technical Committee.

The coordinator and the PO can decide to create a sectorial panel, although this is not mandatory. The participation of these groups in the development process of the PCR can be independent from the public consultation phase (addressed to the members of the DAPHabitat System) that will happen at the PCR Forum, this is, the PCR document can also be discussed in a private group through the tool available at www.DAPHabitat.pt (PCR Forum).

3.8. APPEAL COMMITTEE

The Appeal Committee is part of the organizational structure of the DAPHabitat System, and its function is to assist the solicitant organization in case of complaints or appeals concerning the decision of the EPD verification made by the certification bodies.

This Appeal Committee is constituted by a minimum number of three elements, including the PO and Technical Committee representatives, according with the area of the complaint.

The documentation concerning the EPD registration process in the database (project report, EPD and verification report) is available in the DAPHabitat System during a period of one year from the validation date of the EPD.

4. DAPHABITAT SYSTEM COMMITMENT

The PO establishes quality management as a central pillar to ensure credibility and trust in its processes. The commitment to impartiality is a fundamental and non-negotiable aspect, secured through this document and robust mechanisms that govern all its activities. The PO's leadership understands the crucial importance of impartiality and demonstrates this commitment clearly in its general programme rules. In this regard, the DAPHabitat System is prohibited from providing consulting and advisory services.

Our entity commits to protecting all confidential information from manufacturers, clients, and partners that is shared during the verification process. Confidentiality is maintained by all employees involved.

Commitment to Impartiality: The PO and all DAPHabitat System collaborators are obligated to ensure impartiality in all their activities. This commitment is visible not only in declarations but in the way the programme is managed.

To safeguard its impartiality, the PO implements a formal mechanism that monitors and manages potential conflicts of interest. This mechanism provides a detailed view on:

- **Internal principles:** It evaluates the adequacy of internal policies and guiding principles related to the impartiality of all its activities.

Verification and DAP publication decisions are made based on technical and normative criteria, regardless of any commercial, financial, or other pressures. The remuneration of the team and management does not depend on the verification results.

The System operates with full transparency regarding its procedures, rules, and decisions. The programme rules, verification procedures, and the registry of DAPs and verifiers are accessible and public, ensuring access for all interested parties.

- **External influences:** It analyses any tendency for the PO to allow commercial considerations or other external influences to compromise the consistent and impartial operation of the programme. This includes the development of PCRs, verification, and the publication of DAPs.
- **Transparency and trust:** It addresses issues that affect impartiality and trust in the certification process, promoting transparency.

The DAPHabitat System's Impartiality Safeguarding Mechanism is managed by System Management Officers, a highly important and autonomous role that reports directly to top management. This mechanism is the basis for ensuring that all programme activities, from the development of PCRs to the verification and publication of DAPs, are conducted objectively, fairly, and free from any kind of conflict of interest.

1. Commitment:

The System Management Officers commit to:

- Acting with total exemption and objectivity in all their functions.
- Reporting any potential conflict of interest, whether financial, personal, or of any other nature.
- Ensuring the confidentiality of the information they access during the processes inherent to DAP verification and registration.

2. Continuous Monitoring and Evaluation:

The impartiality assurance mechanism addresses, at a minimum, the following critical factors, adapted from the ISO 17065 standard, to ensure there are no conflicts that could compromise the system's objectivity:

- **Policies and Principles:** The officers are responsible for ensuring the alignment of processes with the principles of impartiality and transparency. Any deviations identified are corrected immediately.
- **Risk Management:** A Conflict-of-Interest Register must be maintained, where all potential risks to impartiality (financial, commercial, or otherwise) are recorded. Each risk is classified by severity level and has a detailed mitigation plan and deadlines for its resolution. Proven cases of conflict will lead to the individual's removal from the process in question.
- **Relationship with Interested Parties:** All interactions with companies, consultants, or other organizations are registered. The officers evaluate relationships to ensure there is no favouritism or commercial dependence that could compromise objectivity.
- **Promotional Activities:** The officers ensure that the DAPHabitat System's marketing and promotional activities do not turn into advocacy actions that could compromise its neutral and technical position.

Throughout this document, aspects will be mentioned that should be taken into account so as not to compromise the system's quality management, such as ensuring the absence of pressure among the different parties that make up the DAP preparation process.

4.1. COMMUNICATION OF RULE UPDATES

The DAPHabitat System's core documents are updated annually or whenever necessary, in view of the ECO Platform guidelines and the update of national and international standards relevant to the proper preparation of EPDs.

The PO is responsible for communicating updates to the DAPHabitat System rules, identifying the changes as a reflection of new versions of national/international standards, as well as updates to the ECO Platform guidelines.

The updates are communicated to all members of the Technical Committee, the verification body, the pool of verifiers, and interested parties via emails, news on the website, updates through the Sustainable Construction Platform's social media, scheduling online or onsite meetings, among others. All changes are also recorded within the documented procedure for the management of all documents related to the System.

Contact between the PO and its Technical Committee or the verification body's pool of verifiers is made on a regular monthly basis or whenever requested. This contact is a priority regarding the sharing of information about the update of the System's rules.

4.2. PUBLIC CONSULTATION PROCEDURE, COMPLAINTS, AND COMMENTS

The PO establishes and implements a formal procedure to deal with comments, questions, and complaints from all interested parties. This procedure aims to ensure the programme's transparency, fairness, and continuous improvement, and is applicable to all expressions of dissatisfaction related to DAPs, PCRs, or the general functioning of the programme.

Step 1: Reception and Registration

- Complaints can be submitted via deptecnico@clusterhabitat.pt.
- All complaints received will be registered in a central system, including the date, the complainant's identity, the nature of the complaint, and the parties involved.

Step 2: Analysis and Classification

- The complaint will be analyzed to determine its relevance and nature.
- Complaints will be classified according to criteria such as:
 - **Type of Complaint/Comment/Suggestion:** Verification failure, incorrect data in the DAP, ambiguity in the PCR, etc.
 - **Parties Involved:** Manufacturer, verifier, Technical Committee, author of the PCR.
 - **Impact:** Severity level of the non-conformity.
- If the complaint is deemed unfounded or is outside the scope of the programme, the complainant will be notified with due justification.

Step 3: Investigation and Resolution

- The PO will designate a responsible person to investigate the complaint. The investigation will involve the analysis of all relevant documentation and communication with the parties involved.

- The resolution process includes identifying the root cause of the problem and defining corrective actions.
- The resolution of the complaint, along with the actions taken, will be communicated to the complainant within a reasonable timeframe.

Step 4: Management Monitoring and Review

- The PO will periodically review all complaints and the actions taken.
- The analysis of this information will serve to identify patterns or systemic failures in the programme, such as the need to adjust a PCR or provide additional training to a verifier.
- If a complaint points to a need for harmonisation or an ambiguity in the standards, the PO will submit that issue to the ECO Platform to ensure uniformity at an international level.

In the event of a dispute that cannot be resolved through the complaint management procedure, the PO guarantees an independent arbitration mechanism.

- An Appeal Committee, composed of independent specialists and programme representatives, will be convened to analyse the dispute and make an impartial decision.
- The Committee's decision will be final and binding on the parties involved.

The PO also establishes a clear procedure for the suspension or withdrawal of DAPs that are not in compliance with the programme rules.

- **Reasons for Suspension/Withdrawal:** Discovery of falsified data, verification failure, non-compliance with the PCR, etc.

In these cases, the DAP owner will be notified of the non-compliance and will have a maximum period of 35 business days to respond and correct the problem. Until the problem is corrected, the EPD will be removed from the DAPHabitat System's online list in order to avoid the publication of EPDs that are inconsistent with EN 15804 and the rules of this System. If the problem is not resolved, after 60 days the DAP will be formally withdrawn, and a public notice will be issued, if necessary.

III – PCR DEVELOPMENT

1. CONTEXT

Given the increasing potential of internationalization of the organizations (companies, corporate associations, etc.) through the effective demonstration of the environmental performance of their products, the EPD appears as a reliable communication tool of the technical features and environmental aspects of the products.

Nowadays, an increasing concern with the environmental performance of the products used in the habitat arises, consequently there is a need to implement measures that allow the decrease of the environmental pressure caused by the extraction process of raw material, product manufacturing, application, use and maintenance until their final disposal and elimination.

The main objective of the EPD for products of the habitat is to clarify quantitatively the environmental performance of the products, responding to the expectations of the markets. These declarations are made with a set of information that describes a product environmentally. LCA-based EPDs intend to compare products that have equivalent functions, if they are drawn up according to the same PCR document. To achieve this goal, harmonized calculation rules must be established to ensure that similar procedures are used when creating EPDs from the same product category.

To facilitate the export of products, it is necessary to harmonize the development of EPDs at the international level. Currently, for construction products and services, this harmonization is achieved through the European Standard EN 15804:2012+A2:2019 and the EPDs, as normative elements issued for the different product categories.

2. PCR DEFINITION

It is fundamental that the DAPHabitat System is accepted in the national and international markets, based on a transparent procedure that identifies and defines the category of the product for the habitat in a useful and well-structured document – PCR.

PCR are documents that include a set of rules, prerequisites, and specific guidelines for the EPD development, such as: indicators to declare, life cycle stages to consider in the processes, rules for the elaboration of scenarios, life cycle inventory data and assessment of the impact categories, rules for biogenic carbon content, additional environmental data rules, conditions for comparing products/services and EPDs registration in the DAPHabitat System's database, issues related with the verification and registration of the EPD on the DAPHabitat System and other information considered important.

Product specific or horizontal PCR that provide additional compatible requirements, not contradictory to EN 15804, are called c-PCR (Complementary Product Category Rules). **The c-PCR published by CEN TC supersedes the PCR documents published by program operators relating to the corresponding product**

category. Their existence should always be verified for the interested category of products prior to the development of the LCA study.

The PCR are “living” documents that can be changed over time in case of significant alterations in the LCA methodology or in the technological development of a given product. Any published PCR document should be verified, and the necessary changes should be announced in the PCR Forum. This type of regulating document has a validation period of up to five years, assuring the revision and the update of the content.

The elaboration of a PCR document is composed of several developments (Figure 2), moderated by the coordinators. As atividades inerentes a este processo traduzem-se em momentos de trabalho moderados pelos coordenadores.

After the development of the document draft for the PCR, the coordinator should send it to the PO, which should direct it to the Technical Committee, so they can verify the precision of the document namely the fulfillment of the normative requirements and General Instructions of the DAPHabitat System. This procedure assures that the EPD, developed based on the future PCR document, will contain the relevant environmental aspects of the product/service. In a final stage the PO will approve the final document and publish it in the database of the DAPHabitat System at www.DAPHabitat.pt.

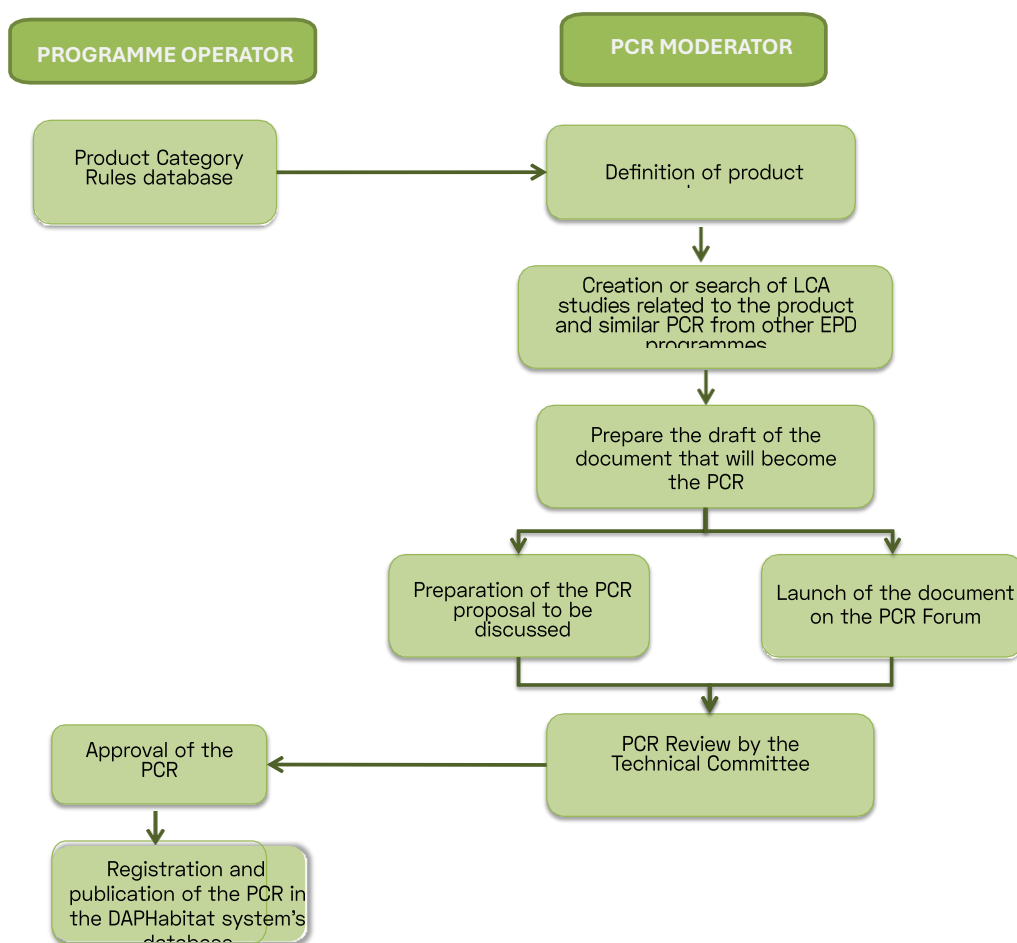


Figure 2: Development process of the PCR.

3. CONTENT OF THE PCR DOCUMENTS

According to ISO 14025:2009 the PCR should be structured in a document that identifies the objective and the scope of the information based on the LCA study for a product category and the rules used in the production of additional environmental information for the same category. This document should also determine the stages of the life cycle to be included, the information modules to include and the way these can be grouped and presented. The PCR should be based on one or more LCA studies (accordingly with the standard ISO 14040 and ISO 14044) and other relevant studies, allowing the requirements for additional environmental information to be identified.

The PCR document should include:

- Definition and description of the product category (e.g.: function, technical performance and use).
- Definition of the objective and scope of the LCA of the product (e.g.: functional/declared unit, reference service life, border of the system, description and quality of the data, criteria for the inclusion of inputs and outputs and the units to be used).
- Results of the inventory analysis (e.g.: data collection, calculation procedure and allocation of the materials, energy and emission flows, information about biogenic carbon content).
- Selection of the impact categories and calculation rules, if applicable.
- Predetermined considerations for the presentation of the LCA data (data category of the inventory and indicators of impact category), environmental impact indicators and additional environmental impact indicators.
- Requirements to provide additional environmental information, including all methodological requirements (e.g.: specifications to identify dangers and risk analysis).
- Materials and substances to be declared (e.g.: information about the product, including the material specification and substances that can have a harmful effect on human and/or environmental health in all the life cycle stages).
- Instructions for data production implicit in the declaration's development (LCA, Life Cycle Inventory (LCI), information module and additional environmental information).
- Instructions concerning the content and format of the EPD.
- Information about the stages that are not considered, in case the declaration is not based on an LCA that covers all the life cycle stages.
- Validation period of the document.

If one of these parameters is not considered, it should be properly justified in the document.

3.1. PCR BASIC MODULE

The work of developing a PCR document is vital for the functioning of EPD registration programs. The preparation of a PCR document is a complex process that involves an extensive development period, encompassing various stakeholders and multiple stages.

In the DAPHabitat System, it was considered important to create a "PCR Basic Model" document for construction products and services in accordance with EN 15804. This base document aims to simplify and harmonize the creation of specific PCR documents, giving them a similar appearance and structure while avoiding the development of lengthy documents that may contain duplicate information. Thus, the Basic Model EPD document synthesizes the main content that is common across all product categories in the construction sector, in accordance with the specifications of EN 15804.

The PCR document Basic Model describes the general calculation rules (according to EN 15804) to conduct LCA studies and the preparation of an EPD registration in the DAPHabitat System referring to all products and construction services for buildings and other construction works, while establishing technical guidelines for the preparation of the Project Report to be delivered along with the EPD for the verification process.

In the scope of the 3.1 version of the General Instructions of the DAPHabitat System, the development of an EPD based only through the PCR document: Basic Module version 3.1 is allowed in the following order:

- i. There is no c-PCR document published by CEN TC as European standard for the interested category of product.
- ii. There is no PCR document: Specific in the DAPHabitat System or other registration program belonging to ECO Platform.
- iii. PCR documents exist in another registration program belonging to ECO Platform, although it cannot be recognized and adopted by DAPHabitat.

In all other cases, it is recommended that the "RCP: Base Model" rules be followed throughout the development of the EPD.

3.2. PCR SPECIFIC – COMPLEMENTAR

A PCR document Specific (or complementary) referring to a product category, under the construction products and services, must define at least the Reference Service Life (RSL), the functional unit or the declared unit applicable to the product category that represents. All specific PCR to be published in the DAPHabitat System database must be submitted to a public consulting process, as well as to the approval of the Technical Committee. The methodology for developing a PCR document: Specific is detailed in the next chapter.

However, **it is essential to verify the existence of complementary PCR, i.e., c-PCR published by CEN TC as a European standard, as these documents, when available, replace the PCR documents related**

to the Programme Operator for the specific product category. Therefore, **their use should take priority** over the use of specific PCR belonging to the Program Operator or other Program Operators covered by the mutual recognition agreement (rules and requirements) by the ECO Platform.

4. PCR DEVELOPMENT PROCESS

A PCR document can be developed accordingly with at least 3 initiatives:

-  The organization that intends to develop an EPD requests the PCR document to the PO;
-  The organization develops and delivers a draft document to the PO for validation and publication in www.DAPHabitat.pt;
-  Development of the document by initiative of the PO.

The three initiatives presented for the development of a PCR document have different starting points, therefore they are in different development stages. The presented procedure shows the preparation process of a PCR document developed from the initial contact with the PO. However, in any of these cases, the PO should always be contacted so that, accordingly with the development stage of the document, it can evaluate and suggest the stages to be included in the validation and registration of the document at the DAPHabitat System at www.DAPHabitat.pt.

The development of the PCR documents should take place accordingly with the following stages:

1. Initiation;
2. Preparation;
3. Consulting;
4. Validation and Approval;
5. Publication;
6. Update.

4.1. INITIATION

The initial development stage of these documents intends to determine the essential characteristics that will be an indispensable part of all the process. The initiation phase is divided in the following steps:

-  Indication of at least one Moderator for the development of the PCR document.
-  Assessment of available PCR;
-  Indication of LCA/PCR experts.
-  Definition and constitution of the sectorial pane.
-  Participation of the Technical Committee.

- Announcement of the initiation of the PCR work.

4.1.1. Indication of the PCR Moderator(s)

The PO is responsible for the indication of a Moderator for the initiation process of each PCR document, which should consider specialists in LCA/PCR and experts on the registration program. This stage consists of the indication of someone responsible for the PCR document to be developed, that should coordinate the work of the authors and the intervention of the interested parties. The Moderator of the PCR should guarantee in this initial stage:

- The participation of the interested parties in the development of the PCR document, accordingly with the sectorial board formed by product manufacturers belonging to the product category in question.
- The consulting of the existing PCR documents (of similar products) in other European registration programs. If it is decided not to use an existing and available PCR, the Moderator along with the Technical Committee must justify the reasons for developing a new document.
- The enforcement of the standard NP ISO 14025:2009, EN 15804:2012+A2:2019 and ISO 21930:2017, concerning the products and construction services.

Through the mentioned instructions, the Moderators along with the PO should intervene accordingly with the following stages:

- Invite LCA and PCR development experts to be part of the team for the elaboration of the new PCR document.
- Develop the first draft of the PCR document, applying the procedure mentioned on the reference standards and considering PCRs of similar products of other registration programs.
- Manage the constitution of the sectorial panel.

4.1.2. Assessment of the Available PCR Documents

A PCR document should be harmonized with most of the markets, so they can be used internationally. The development of these documents for a specific product category should be made considering the existing PCR on an international level for the same product category, adjusting, if necessary, to the new standards and the wishing market areas. In case a document is considered interesting or appropriate to the development, there should be a revision to validate its consistency and precision in the calculation rules for the LCA.

If there is no PCR document developed for the product category, it should be prepared and approved accordingly with procedures mentioned here.

4.1.3. Identification of the Documents Author

A PCR document can be prepared by PO and/or other external entity initiative. The LCA experts with some experience on PCR and EPD development are essential elements for this conception process, which contribute to the creation and adjustment of new PCR documents.

The development of PCR documents for each product category should be included LCA experts should with knowledge of the intended type. The intervention of these experts makes the process more technical and reliable, guarantying that the PCR are regulating documents with precise information concerning the LCA studies on products. This assures that the presented results on future EPD based on these PCR are reliable.

4.1.4. Constitution of the Sectorial Panel

Sectorial panels are essential to understand the needs of the national and international markets of the manufacturers, once they are trained by representatives of the company, corporate associations and other entities or experts in the field of product categories. The sectorial panels are constituted to help in the development of a PCR document.

The constitution of these sectorial panels should be made through individual communication (e.g. by e-mail) by the PO or by the coordinator of the PCR document in development. After the acceptance of the elements to be part of the panel, they should be informed about the situation of the work in course and the foreseen activities. The PO should guarantee that all the interested parties will be involved and provide a valuable source of contributions for the development of the PCR document.

The contribution of the sectorial panels in the development of a PCR document should be made through the PCR Forum, creating private work groups in www.DAPHabitat.pt, or by e-mail.

4.1.5. Participation of the Members from the Technical Committee

Before the work can be announced publicly at www.DAPHabitat.pt the Technical Committee of the DAPHabitat System should be informed regarding the constitution of the working group formed for the development of the PCR document. The PO must put in consideration the Moderator(s) of this process to the Committee.

4.1.6. Announcement of the Initiation Phase

The initiation phase for the development of a PCR document should be announced at the PCR Forum at www.DAPHabitat.pt. This announcement should be complemented with a brief explanation of the objective and identification of the assigned Moderator(s).

This announcement is very important for various reasons, namely because it allows to:

-  Inform publicly about the work in development that can alert the interested parties, encouraging their participation and cooperation.
-  Avoid the development of equivalent work regarding the same issue (national or international).

4.2. PREPARATION

The preparation phase of a PCR is divided into a few important activities that enable the orientation of the parties throughout a group of demanding tasks. Therefore, the preparation phase includes the following elements:

-  Identify the indicators to be included in future EPD.
-  Identify the biogenic carbon content to be included in the EPD.
-  Specify the LCA methodology to be explored in the PCR.
-  Select relevant additional environmental information;
-  Verify if there is coherence with standards demands.

4.2.1. Indicators selection

There is a small group of minimum indicators that should be presented in an EPD. However, it is important to determine if the contemplation of other indicators in a product category will become an asset to future EPD. This contemplation of other indicators groups should be assured in this stage of preparation of the PCR documents. The total of indicators to be approached does not have to be the same for all the product categories, but they must be declared in accordance with the requirements of EN 15804.

4.2.2. Biogenic carbon

The construction products' composition shows the presence of biogenic carbon, both in the products themselves and in their packaging. Depending on the biogenic carbon content identified both in the mass of product materials and in the mass of packaging materials, this must be known, quantified, and expressly expressed in the EPD.

4.2.3. LCA Methodology

The general information presented in the EPD is based on the product LCA study, becoming essential that the content of the PCR includes the key elements of the LCA, such as:

-  Instructions and definition of the functional/declared unit.
-  Instructions and explanation of the system boundaries.

-  Instructions of the cut-off criteria².
-  Instructions of the allocation rules; Instructions of the carbon content.
-  Instructions of the implicit data that show the general and specific data to be used.
-  Instructions of the parameters that describe the environmental performance (additional to those that should already be included in the general format).

4.2.4. Relevant Additional Environmental Information

According to the NP ISO 14025:2009, the EPD should include additional environmental information considered relevant in the classification of the product. The PCR documents should mention what kind of relevant information must be included in the EPD. This type of information should be based on:

-  Data that is not integrated in the LCA study.
-  Information about other types of environmental management or environmental certificates of the product.
-  Options of waste management;
-  Information about activities related to social responsibility concerning the product.

4.3. CONSULTING

Within the process of creating PCR, all developed documents must be subject to an “open” consulting procedure before its final version being published in the DAPHabitat System database. This consulting phase is the responsibility of the program operator and the PCR coordinator, being divided into the following tasks:

1. Identify the interested parties to be involved in the discussion (communicate to the identified members as potential interested parties).
2. Prepare the open consulting procedure through the PCR Forum at www.DAPHabitat.pt;
3. Gather and validate the comments, adding up the collected contributions to the draft.

4.3.1. Identifying the Interested Parties

The intervention of the interested parties in the discussion process of the draft PCR is vital to its development. So, it is relevant that the interested parties of this project are a private individual or an interested entity in a specific feature about the PCR document in development, if they registered as members in the DAPHabitat System.

² For the EPD, the LCA "cut-off" [100:0] methodology must be used. For example, if the ecoinvent database is used, the only models accepted for the LCA calculation are "cut-off by classification" or "cut-off" in accordance with the EN 15804+A2 standard.

4.3.2. Consulting Procedure – PCR Forum

The consultation procedure for the development and review of Product Category Rules (PCRs) is conducted in accordance with the requirements of **ISO 14025, section 6.5**, which requires the open participation of all relevant interested parties.

Point 6.5 of ISO 14025 establishes the requirements for openness and participation in the PCR development process. The main idea is that PCRs should not be created unilaterally by the Programme Operator alone, but that there should be a public and transparent consultation process that includes all relevant interested parties.

These interested parties can be:

- Manufacturers and suppliers
- Sector associations
- Non-governmental organisations (NGOs)
- Public authorities
- Government agencies
- Consumer groups
- Other subject matter experts

The goal of this openness is to ensure that PCRs are robust, technically sound, and accepted by everyone. The inclusion of these different points of view helps to avoid bias and increases the credibility of the rules and, consequently, of the DAPs that will be verified based on them.

The consultation phase is carried out through the PCR Forum, a tool available at www.daphabitat.pt, or via the email address deptecnico@clusterhabitat.pt. This capability of the registration programme allows for the creation of participatory discussions by the various interested parties, whether national or international, facilitating the consultation process and ensuring the ease of participation for members of the DAPHabitat System.

4.3.3. Comments Gathering

As result of the consulting phase emerge contributions and suggestions for improvement of the draft of the PCR. From these results it is important to gather all the relevant contributions and comments to improve the draft. It is the responsibility of the moderator of the PCR document along with the PO to develop a summary with all contributions and to identify which are the most relevant changes to apply to the document that will be delivered to the Technical Committee.

4.4. VALIDATION AND APPROVAL

The validation and approval of the final PCR is one of the final phases of the process of PCR development and is divided into the following sub phases:

-  Final draft of the PCR.
-  Validating procedure of the final version and PCR approval.
-  Validation of the PCR document.

4.4.1. Final Draft of the PCR

The Moderator is responsible for the final draft of the PCR document, which should attach to the proposed version the contributions considered relevant for the final document. If there are comments of the interested parties that are not considered in final version of the document, the decision should be properly justified by the Moderator of the PCR document along with the PO.

4.4.2. Validation and approval

The validation procedure of the PCR document is the responsibility of the Technical Committee, which should approve the final version of the document proposed by the Moderator. If necessary, the members of TC can ask for explanations to the Moderator of the document concerning the presented proposal and its considerations. If the Technical Committee suggests alterations to the proposed version, the moderator of the PCR document is responsible for the new final version of the document for validation.

The approval phase of the document corresponds to the final phase of all the process. After the official validation of the proposed document by the Technical Committee, it will be approved and available at www.DAPHabitat.pt

4.4.3. Validation of the PCR Documents

A PCR document is valid for a period up to 5 years from its issue date. The period during which the document is valid should be described in it, always safeguarding the variations of the market requirements and the development of new production and technological processes.

When the final phase of the validity period of a PCR document nears, the PO and the responsible Moderator must initiate the revision process, in order to develop a new version of the document with the needed changes and afterwards proceeding to the revision and validation of the updated version.

4.5. PUBLICATION

After finalizing the process of creating and validating the PCR documents, these must be published in the DAPHabitat System database at www.DAPHabitat.pt. The program operator is responsible for the publication and promotion of the document. The PCR publication also implies the publication of all the documentation and relevant information that supports its development, which must be disclosed along with the final PCR document.

4.6. REVISION

The revision of a CPR document is carried out if there is a need to update the document before the end of the official date of the validity period or after the end of this period.

There are some reasons that justify this procedure, like the appearance of new information from the industrial sector that influence the LCA study, the changes of the market requirements to the comments received through the PCR Forum during the validation period of the document, which expresses the relevant motives for the alteration. When this necessity is predetermined, the revision of the document before the end of the validation date, this intention should be mentioned in the published document.

The revision of a PCR document should be initiated before the end of the validation date, previously announcing the start of the revision time in the PCR Forum. In the PCR Forum the opening and expiration date of the revision should be announced so that the interested parties have knowledge and can contribute. If there is a sectorial panel for the product category in question, this should be notified to be involved in the revision works.

In an initial phase, the updating process of a PCR document must show that the document:

-  Is written according to the rules of the document (updated version).
-  Is in conformity with the applicable standards.
-  Provides the necessary instructions so that the main environmental features of the product are presented in the EPDs.

The revision process of the PCR document is the responsibility of the members of the Technical Committee.

To achieve the main goals of the revision process, the DAPHabitat System should:

-  Allow that all available documents can be reviewed during the validation period.
-  Require that the Moderators of the corresponding documents are alert to the comments and gather them.
-  Allow the extension of the discussion period of a document, if there are no comments until the date initially determined.

The procedures and criteria for establishing a PCR review panel are essential to ensure the process is fair, transparent, and technically robust.

1. Procedure for Establishing the Review Panel

The review panel is not a fixed group, but rather a specialized team assembled for the review of each specific PCR. The process for its creation is as follows:

- **Identification of the Need:** The PO or the Technical Committee identifies the need to review a PCR.
- **Selection of Candidates:** Based on the defined criteria, the PO identifies and contacts potential specialists with relevant experience in the product category in question.
- **Invitation and Confirmation:** The specialists are invited to join the panel. They must confirm their availability and, more importantly, declare the absence of any conflicts of interest that could compromise their impartiality.
- **Formation of the Panel:** The panel is formally constituted, with a coordinator responsible for managing the review process, collecting contributions, and communicating with the PO.

2. Criteria for Selecting Panel Members

The selection of panel members must be based on clear criteria to ensure their qualification and impartiality.

- **Relevant Technical Experience:** Members must have in-depth knowledge of the industrial sector, production processes, materials, and manufacturing technology associated with the product category in question.
- **Knowledge of LCA and Standards:** It is essential that members have a strong command of the applicable standards, such as EN 15804, ISO 14025, ISO 14040, and ISO 14044.
- **Independence:** Panel members must not have a direct commercial or financial interest in the outcome of the PCR review. Their participation is based on their technical expertise, not on competitive advantages.
- **Diversity:** It is important that the panel is composed of members who represent different perspectives, such as industry, academia, technical consultants, and, if relevant, product users. This diversity ensures a more complete and balanced review.

By formalising these procedures and criteria, the commitment to transparency and quality is reinforced, ensuring that PCRs are developed and reviewed by competent and impartial professionals.

4.6.1. Comment of the Available Documents

During the validation period of the documents available on the database of the DAPHabitat System, these can be commented on by any interested parties, which must be members of the DAPHabitat System, at the PCR Forum. The comments registered will be gathered and considered on the revision phase of the documents.

The PO should be directly contacted if there is any necessary alteration in a PCR document. The consideration of the solicited alteration will be evaluated by the Technical Committee and, if approved, the PO will inform the PCR documents Moderator of the urgency of the revision process.

4.6.2. Control of the Comments Gathered

The control and reception of the comments on the PCR documents available on the database of the DAPHabitat System, is the responsibility of the Moderators of the corresponding PCR documents in collaboration with the PO.

4.6.3. Extension of the Revision Period

The revision of a PCR document is characterized by a period during which the proposed version for the document is visible at the PCR Forum. If the period of revision ends without any comments, the PO can extend the revision period of the document and the reception period regarding the contributions of the interested parties for updating the document.

4.7. IDENTIFICATION

The PCR documents should be identified according to the indicated parameters in Table 2. The data presented is only an example.

Tabela 2: Identification of the PCR document.

NAME	RCP 001 – Revestimentos de cobertura – V.1.0 (2012)	
DATE AND REGISTRATION NUMBER	20-10-2012 / 001	
VERSION	NEW x	UPDATE ☐
PCR MODERATOR	Name(s) of the moderator	
AUTHOR(S)	Name of the authors or entity	
SECTORIAL PANEL	Identification of the members (entities and/or individuals)	
CONSULTING PERIOD	20-07-2012 a 20-09-2012	
VALID UNTIL	20-10-2017	

The names of the parties involved in the production or renewal of a PCR must be included and properly referenced.

The PCRs developed to date and available for use in the DAPHabitat System have involved entities such as the Portuguese Environment Agency, the Technological Centre for Ceramics and Glass, Instituto Superior Técnico Lisboa, the University of Aveiro, the University of Coimbra, and the University of Minho. In addition to these entities, the sectoral panels of the various specific RCPs received contributions from:

- RMC - Revestimentos de Mármore Compactos, SA
- Dominó - Indústrias Cerâmicas, SA
- Sonae Indústrias, SGPS
- APICER - Associação Portuguesa da Indústria de Cerâmica
- Amorim Isolamentos
- Sofalca-Aglomerados de Cortiça, ACE
- Argex-Argila Expandida, S.A.
- IberFibran-Poliéstereno Extrudido, S.A.
- Termolan-Isolamentos termo-acústicos, S.A.
- Eurofoam-Indústria de poliestireno extrudido, Lda
- Knauf Insulation
- Sanindusa-Indústrias de Sanitários, S.A
- Sanitana
- APICER-Associação Portuguesa da Indústria de Cerâmica
- Artebel, S.A.-Soluções construtivas em betão
- ANIPB-Associação Nacional dos Industriais de Prefabricação em Betão
- Argex-Argila Expandida, S.A.

5. IDENTIFY APPROPRIATE CPR

To identify the product category, and consequently the correct PCR for the product for which you intend to prepare an EPD, you must pay attention to the following points:

Step 1: Understand the Client's Product: Detailed analysis of the product

-  What is the product's main function? What materials is it made of? What is its final use (e.g., in building a house, in a car, etc.)? Is the product a component, a system, or a basic material?

Step 2: Consult the EPD List of the DAPHabitat System: Check the DAPHabitat programme's public list: It contains a list of all product categories that have already been published.

-  Read the descriptions of the existing PCRs to see if any fit the function and materials of the client's product.

Step 3: Analyze the PCR Structure: Upon finding a seemingly suitable PCR, check:

-  The Scope: This section specifies exactly which products the PCR covers. Make sure the client's product is included.
-  The Functional and Declared Units: Check if your client's product fits within the reference units defined in the PCR. For example, the unit could be "1m² of a wall" or "1kg of material".

Step 4: Final Verification: If you find a PCR that fits perfectly, you should proceed with the product's Life Cycle Assessment (LCA), following the rules and requirements defined in that document.

What to do if there is no suitable PCR?

If you cannot find a specific or published PCR in the form of a European standard that fits, or if your client's product is completely new, it may be necessary to develop a new one.

-  Contact the DAPHabitat System team to initiate the process of developing a new PCR.
-  The development of a new PCR follows international standards, such as ISO 14025 and EN 15804, and involves sector experts to ensure that it is fair and transparent.

However, **it is fundamental to check for the existence of complementary PCRs, i.e., PCR-cs published by CEN TC in the form of a European standard, since these documents, when they exist, replace the Programme Operator's related PCR documents for the specific product category.** Therefore, **their use should be prioritised** over the use of specific PCRs from the PO itself or from other Programme Operators covered by the mutual recognition agreement implicit in the ECO Platform.

6. PROCEDURE OF RECOGNITION AND ADOPTION OF OTHERS PCR

In Europe, an EPD of construction products should be elaborated based on a PCR document in accordance with the EN 15804:2012+A2:2019 and whose registration program, from which is derived, is based on the requirements of the ISO 14025.

For the registration of an EPD in DAPHabitat System, this declaration has to be based on a Life Cycle Assessment (LCA) study based on a PCR document. For the category of products of interest, the existence of complementary RCPs published in the form of European regulations must be verified.

The entity that intends to develop an EPD should look for a PCR document to support the LCA study of the product, by contacting the DAPHabitat System, prioritizing the complementary PCR mentioned above. If the DAPHabitat System does not have available the required PCR document and this document exists in another registration program, a procedure for **recognition** and adoption described herein should be applicable.

If a PCR document that can serve this purpose does not exist, the organization should develop the LCA study according to the PCR document – Basic Module for Products and Services of Construction of the DAPHabitat System.

If the entity contacts the Certification Body to submit the EPD proposal for verification and the Certification Body, upon conducting the document analysis, finds that the LCA study was not conducted based on any RCP document from the DAPHabitat System or any other RCP document formally recognized and adopted by the registration program (as indicated in point III-3.1), the Certification Body must, in this situation, inform the entity to contact the OP to rectify the occurrence in accordance with the program's rules.

In the context of mutual recognition among registration programs, the adoption of existing RCP documents is a fundamental procedure for the recognition of EPDs in Europe. However, this recognition and adoption of documents must be carried out in a coherent and precise manner. **However, it is essential to check for the existence of RCP-c published by the CEN TC in the form of European regulations for the desired product category, as these documents, when they exist, supersede the specific RCPs published by the program operators of the different European registration systems.**

Once there is no c-PCR and if the DAPHabitat System does not have the specific PCR document for elaborating the LCA of the product, the PO verifies the existence of the intended PCR document in another registration program belonging to ECOPlatform (www.eco-platform.org). The PCR document with potential to be used must be sent by the PO to the Technical Committee (TC) of DAPHabitat System. For a specific PCR document to be formally recognized and adopted a legal opinion is issued, after the analysis that allows the entity to develop its LCA study based on the formally adopted PCR document.

6.1. PROCEDURE STEPS

The procedure of recognition and adoption, in this situation, should be carried out as follows:

1. Indication of two representatives of the Technical Committee.

The PO must request by e-mail (deptecnico@clusterhabitat.pt) to Technical Committee to indicate which two representatives of the TC are responsible for the analysis of the PCR document. These two representatives should ensure the technical and scientific competences required for the product category concerned.

2. Document analysis.

The two representatives of the TC should ensure the completeness of the PCR document to be adopted by checking whether the document is according to the General Instructions of the DAPHabitat System and follows the EN 15804:2012+A2:2019, particularly with regard to the following requirements:

-  Rules for the LCA;
-  Definition of the functional unit.
-  System boundary.
-  Compatibility with national rules.
-  Allocation criteria adopted.

-  Impact categories.
-  If exists a public consulting procedure.

3. Approval of the recognition and adoption of the PCR document in plenary

The PO should schedule a meeting to approve the recognition and adoption of PCR document suggested by the two representatives of the Technical Committee.

4. Issue a legal opinion of recognition and adoption of the PCR document.

After approval of the recognition and adoption of the PCR document by the Committee a legal opinion must be issued which formalizes the recognition and adoption of the PCR document in discussion. They should be forwarded to the entity that opens the process as well to the Certification Body.

After this procedure, the PCR document can be used on the EPD development for the registration in the DAPHabitat System. There should not be two recognized documents for the same category of product.

The recognition and adoption of any specific PCR document from another EPD registration program should be published on the site www.DAPHabitat.pt.

IV – EPD DEVELOPMENT

1. CONTEXT

For an EPD to be registered and be available at the database, as a brand of the DAPHabitat, it is necessary that the requiring organization makes: a LCA study of the product(s)/service(s) accordingly with the requirements mentioned in the PCR documents; develop an EPD based on the results of this study and the model of the EDP available when requested to the PO by e-mail; require the verification of the accuracy of the data used in the study, as well as the results and the validation decision of the document obtained to proceed with the registration.

2. DEFINITION OF EPD

The EPD, known as Environmental Product Declaration, are Type III environmental declarations that represent a group of quantified and reliable information, working as an excellent volunteer communication tool concerning the environmental performance of the product during its life cycle. This kind of environmental labelling allows the result comparison regarding the environmental performance between products that have similar functions. The EPD are declarations from the manufacturers, based on the LCA of a product or service, to be considered Type III environmental declarations, according with the standard NP ISO 14025:2009, these declarations must suffer a verification procedure managed by an independent third party (certification body).

3. TYPOLOGY

In the context of the DAPHabitat System, all individual manufacturers and associated groups of manufacturers may declare the environmental performance of their products or services. An entity that does not manufacture the product but sells it under its own brand may register the corresponding EPD, provided it meets all the documents required by the DAPHabitat System in relation to the mentioned product. Furthermore, it must present a declaration prepared by the product's manufacturer(s) authorising the registration of the EPD.

Thus, within this programme, the registration of EPDs can be carried out according to two types:

-  Single Manufacturer EPD and
-  Group of Associated Manufacturers EPD.

On the other hand, the EPD can concern a specific product or multiple products. When the EPD declares the environmental performance of a specific product from a manufacturer, it is referred to as a specific EPD.

In order to reduce the effort required by individual manufacturers to obtain EPDs for similar products, it is possible to develop Multiple Product EPDs.

There are three possibilities for registering Multiple Product EPDs in the DAPHabitat System:

1. Average product EPD: the environmental performance is declared for a set of products that belong to the same product class.
2. Representative EPD: the manufacturer or a group of manufacturers may select a representative product from a set of products belonging to the same class. The environmental performance is declared for the selected product. The selection of this representative product must be clear and properly justified in the EPD and in the project report.
3. Worst-case scenario EPD: the environmental performance is declared for the product with the worst environmental performance from a set of products belonging to the same class. The selection of the product with the worst environmental performance should be based on those with the poorest results concerning the Base Environmental Indicators (section IV-5.2.3.3), specifically the indicators relating to "Global Warming Potential" and the indicators that describe resource use (section IV-5.2.3.4), especially the indicators relating to primary energy usage,

It is important to note that, for multi-product EPDs, it is mandatory to demonstrate the variability (minimum and maximum values) of the declared environmental impact indicators. It is also necessary to present a technical description of the set of products covered by the average EPD (such as density or other relevant property according to the PCR-c), the number of locations of the manufacturing facilities included in the EPD; and/or the names of the companies, brands, or manufacturer associations. If only representative companies/locations are selected, both the sampling process and the geographical coverage must be indicated.

In EPDs registered in the DAPHabitat System, regardless of their typology, the version of the impact assessment method used must be included.

3.1. PRODUCT CLASS DEFINITION

The implementation of an EPD for a product class is feasible, defining it as a Multi-Product EPD (which can be an average EPD, representative EPD, or worst-case EPD), provided that the following conditions are met for the various products included in the same class:

-  Have similar functions, technical performance and use.
-  Belong to the same product category in the way that it's possible to use the same PCR document, including the same functional unit and system boundaries, the same cut-off criteria, allocation rules and parameters that describe the environmental performance.

The selection and justification of the products belonging to the same EPD must be presented and described transparently. The names of all products belonging to the group being declared must be indicated in the EPD.

3.2. EPD OF ONE COMPANY

A manufacturer can develop different kinds of EPD, such as:

-  EPD of a specific product produced in one production unit.
-  Average EPD (CEN/TR 15941:2010) of a specific product produced in more than one production unit.
-  Average EPD (CEN/TR 15941:2010) of a product category produced in one production unit
-  Average EPD (CEN/TR 15941:2010) of a product category produced in more than one production unit.
-  EPD representative of a product class produced in one production unit.
-  EPD representative of a product class produced in more than one production unit.
-  Worst-case EPD of a product class produced in one production unit.
-  Worst-case EPD of a product class produced in more than one production unit.

3.3. EPD OF A GROUP OF ASSOCIATED ORGANIZATION

Industrial and sector associations can create EPDs based, typically, on average data (from specific data), representing in average values the products of affiliated members. The name of each manufacturer and the products involved must be listed in the supporting report of the EPD and in the EPD itself.

Thus, it is permitted for a specific group of associated manufacturers to develop different types of joint EPDs, such as:

-  Average EPD (CEN/TR 15941:2010) of a specific product produced in the production units of a group of manufacturers.
-  Average EPD (CEN/TR 15941:2010) of a product class produced in the production units of a group of manufacturers.

3.4. DAP OWNER

The owner of an EPD is the manufacturer of the product or service declared in that EPD. A manufacturer is understood as any natural or legal person who manufactures a construction product or has such a product designed or manufactured and markets this product under their name or registered trademark.

However, given the existence of different scenarios regarding the EPD owner, the DAPHabitat System clarifies the following:

Scenario 1) If Manufacturer B places a product manufactured by Manufacturer A on the market under its own name and/or brand, having ordered and received it from "B"'s facilities, it may be possible to register an EPD whose owner will be Manufacturer B.

This scenario, however, brings up important issues that should be considered, such as:

- 1) The LCA of the product manufactured by Manufacturer A, although sold by Manufacturer B, must be carried out to support the EPD. Both manufacturers must be aware of and authorise this data sharing.
- 2) The EPD for Manufacturer B will also have to consider additional aspects such as:
 - a. Impacts associated with the distances between Manufacturer A's and Manufacturer B's facilities, if applicable.
 - b. Impacts associated with the distances from Manufacturer B's facilities to the assembly or storage site, if applicable.
 - c. Impacts associated with Manufacturer B's potential new packaging.

In the end, it is expected that the entire procedure for preparing an EPD whose owner will be Manufacturer B is followed, including the LCA study, verification, and registration with the Programme Operator.

Scenario 2) If Manufacturer A already has a registered EPD for its product but wishes to register it again under the name and/or brand of Manufacturer B, who also markets the same product under another brand, it is not possible to change the EPD owner. However, it may be possible to register an EPD for Manufacturer B for the same product.

In this case:

- 1) The LCA for the product may be based on the LCA in the EPD already registered by Manufacturer A, and therefore it is important that both manufacturers are aware of and authorise this data sharing.
- 2) Verify if it is the exact same product, or if there is any change compared to the EPD already registered.
- 3) The EPD for Manufacturer B will also have to consider additional aspects to the EPD of Manufacturer A, such as:
 - a. Impacts associated with the distances between Manufacturer A's and Manufacturer B's facilities, if applicable.
 - b. Impacts associated with the distances from Manufacturer B's facilities to the assembly or storage site, if applicable.
 - c. Impacts associated with Manufacturer B's potential new packaging.

4. SOFTWARE TOOLS FOR EPD GENERATION

EPDs can be generated with or without the use of software tools with specific calculation functions, developed by LCA specialists, which cannot be altered by the user. These tools facilitate the creation of the EPD, offering advantages to manufacturers due to the automation and simplification of this process.

The use of software tools for the creation of EPD is the responsibility of the manufacturer or the group of manufacturers that make use of them.

Among the software tools, those that support LCA studies and those that allow the generation of EPDs stand out. The LCA support tools are partially automated and require manual entry of inventory data related to the target product system; as a result, the LCA results for the relevant product class are provided. The output of the LCA tool is a list of indicator results necessary for an EPD. For this reason, these tools are valid for certain relevant PCR of interest.

In the case of tools for generating EPDs, these utilize an LCA model developed based on the EN 15804 standard. This model is parameterized for the list of potential components of a product, allowing the user of the tool to select the components of a specific product from a predefined menu. EPDs are entirely created through the software, based on the results of the LCA.

However, **the DAPHabitat System requires that the software tools used in the production of an EPD (or its LCA study) be verified, ensuring compliance with ECO Platform requirements that guarantee data quality.** This means that such tools should not be applied without prior verification. **EPDs developed using tools, as described, that are not verified or recognised by the ECO Platform are not eligible for registration in the DAPHabitat System.**

The verification of software tools for EPD creation to be registered must include the tool's project report (prepared by the tool's creator), the EPD project report (typically generated by the tool), and the verification report of the first EPD calculated by the tool (provided by the tool's verifier). Tools should not be altered after verification. Whenever changes are registered (e.g., updates to the LCA model), a new verification of the tool must be conducted. The tool owner must keep a record of changes, describe them, and make them available to the OP and the verifier.

Note: the verification of an EPD according to the Verification Guidelines of the DAPHabitat System must always be carried out, regardless of the means of developing the EPD (see more about EPD verification in IV - 8).

Note: tools that have already been verified by other European OPs belonging to the ECO Platform may be accepted. For this, it is necessary that, along with the documents required for the verification and registration of the EPD, a declaration of conformity from the verifying body of the tool is submitted, confirming the validity of its verification.

4.1. TOOL VERIFICATION

The owner of the LCA tool is responsible for the proper verification of the tool. The owner of the LCA tool and the owner of the EPD can be different legal entities.

The following are the requirements to be presented for the verification of tools that support LCA studies and the generation of EPDs, as previously defined:

- **Elements to be included in the Project Report of the Tool:**

- Legal entity owner of the tool,
- Identification of the tool, including the version number,
- Applicable RCP for the tool, including its version,
- Description of the tool's LCA model,
- Assumptions on which the model is based,
- Assessment of the sensitivity of variable parameters,
- Description of data quality,
- Conditions under which the tool should be used, and
- Information for the EPD project report, if necessary.

- **Project Report of the EPD:**

- Includes all the necessary information for the verification of the first EPD and the subsequent EPDs, namely, the reference to the version of the tool and, if the verifier requires it, to the project report of the tool. Furthermore, a description and explanation of the variable input data and the main factors contributing to the results of the indicators should be provided, as well as a description of the quality of the variable input data.

The verification of the tool must be documented in a Tool Verification Report, to be provided to the PO. The tool verification report should include the verification of the LCA according to the verification checklist stipulated by the PO (see more about EPD verification in IV - 8).

In addition to these requirements, the tool verification must include the verification of a real or fictitious product from a first EPD. This step is carried out considering the requirements of the OP's verification checklist (see more about EPD verification in IV - 8). The intention is for all subsequent EPD project reports to use this first project report as a model.

The verification of tools that integrate EPD/LCA is similar to what was previously described. In these cases, the LCA and the EPD are integrated into an administrative management system, ensuring that the integrity of the data entered is maintained at a level comparable to that of verification by an independent third party. These tools may also contain intrinsic safeguards to ensure this data integrity. The outcome of these tools can be an LCA or (more commonly) a complete EPD.

To address the special characteristics of the integrated tools, the following additional requirements need to be met:

- The tool must have a feature that logs all changes made within the tool itself, including but not limited to new data, modification of formulas and algorithms, background data changes, expansion

to additional RCPs, changes in the format and content of outputs. It is also important that any modifications made are recorded.

- The tool must provide a function that records at least the following information for all generated EPDs: name and number of the EPD, date of generation, name of the user who generated the EPD, and all input parameters defined by the user.
- The verifier must assess the credibility of the results, taking into account the maintenance and update process of the tool, the integrity of the data (evaluation of the quality control process for manual data entry and automatic data entries), and other additional evidence deemed relevant.

The EPD Verification Report generated by these tools must report all verification actions of the EPD and refer to the verification report of the tool, allowing for the identification of the tool (for example, in the case of a verification review) and providing the version of the tool and the PCR to which it belongs. The tool must also be identified in the EPD, including the version number.

The verified tool has a validity period of 5 years. After this period, it must undergo a new verification process.

The DAPHabitat System accepts the registration of EPDs made using tools that have already been verified and accepted by other European Programmes belonging to the ECO Platform, under the mutual recognition agreement and according to the same basic rules for tool verification.

5. METHODOLOGY FOR DEVELOP THE EPD

According to the operational rules of the DAPHabitat System, the preparation of EPDs takes place through a set of well-defined stages, involving various stakeholders.

Up to five different types of EPDs can be registered:

1. EPD "from cradle to gate with modules C and D" – where it is only mandatory to consider the information modules A1 to A3, C1 to C4, and D.
2. EPD "from cradle to gate with options, modules C and D" – where it is only mandatory to consider the information modules A1 to A3, C1 to C4, and D, with some optional modules (from A4 to B7) being selected afterward.
3. EPD "from cradle to grave and module D" – where all information modules from A to D are mandatory.
4. EPD "from cradle to gate" – where it is only mandatory to consider the information modules A1 to A3.
5. EPD "from cradle to gate with options" – where it is only mandatory to consider the information modules A1 to A3. The optional modules can be A4 and/or A5.

A Type 2 EPD can include modules A, B, C, and D, thus having a system boundary identical to that of a Type 3 EPD. However, what differentiates them is the fact that Type 3 EPDs require a complementary base PCR (PCR-c) and a functional unit, in conjunction with the DAPHabitat system's base model PCR.

All construction products and materials must declare modules A1-A3, C, and D. Only products that meet the following three conditions may be exempt from this obligation:

-  The construction product or material is physically integrated with other products during installation, making it impossible to separate them at the end of life.
-  The construction product or material is not identifiable at the end of its life as a result of physical or chemical transformation processes.
-  The product or material does not contain biogenic carbon.

5.1. PROCEDURE

The organizations that intend to register the EPDs in the national system of product environmental declarations for the habitat - DAPHabitat System (Scheme 3) must:

-  Contact the OP to obtain guidance and clarification on the development, verification, and registration process of the EPDs.
-  Contact the OP to obtain information on the applicable RCP documents for the target product.
-  Develop the LCA study according to the reference RCP document. The LCA report must comply with the format indicated in section V.
-  Prepare a draft of what the EPD will be based on the results of the LCA study and following the requirements present in this document and in the reference RCP documents.
-  Contact a certification body recognized by the DAPHabitat System and manage the verification process, providing this entity with all the necessary documentation.
-  Contact the OP after the verification process has been completed with a favorable result, so that the registration and publication of the EPD in the DAPHabitat System database can proceed. The organization must deliver the EPD to the OP in paper format and in digital format, signed by the verifier and the certification body.

An EPD will only be available in the DAPHabitat System database in www.daphabitat.pt after the applicant organisation has paid the fees for the registration procedure (see 8.7.1).

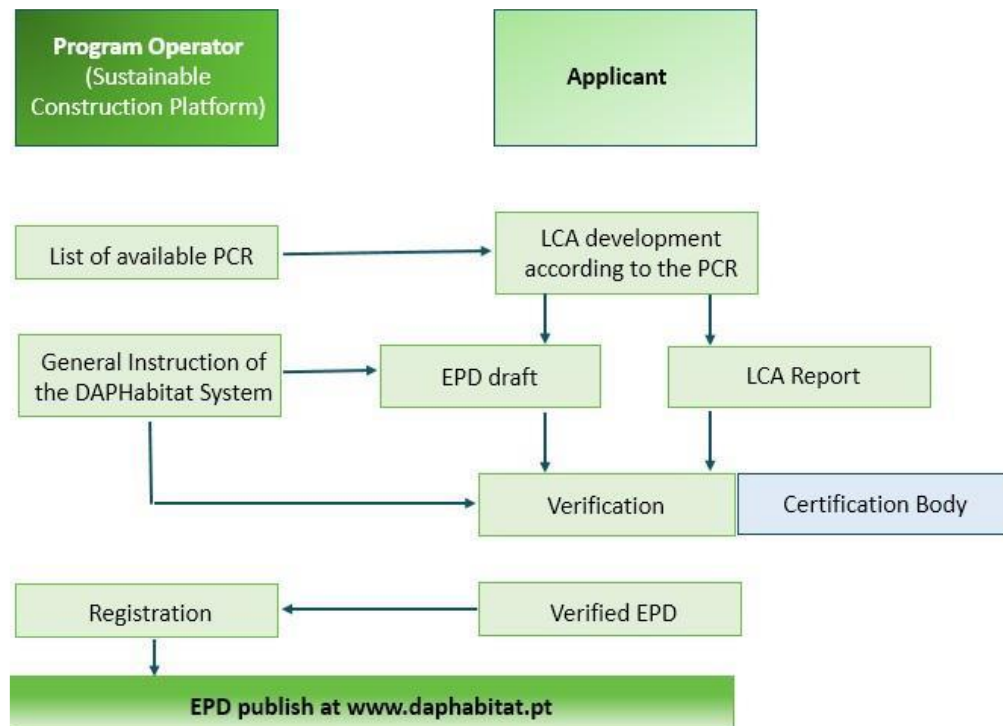


Figura 3: Development procedure, obtaining and registration of an EPD.

5.2. CONTENTS AND REQUIREMENTS

The EPDs provide quantified information about the environmental performance of products or services in the habitat sector. This type of environmental declaration can also provide information related to health concerning pollutant emissions into indoor air, pollutants for soil and groundwater (water contamination) throughout the lifespan of the products, as well as additional environmental information.

The main objective of an EPD for habitat sector products is to provide a reliable scientific information base for the analysis of buildings and other works in the construction sector, allowing for the assessment of negative impacts on the environment.

An EPD should contain the following contents:

- General information to declare;
- Information related with the EPD;
- Information related with the product;
- Information related with the environmental performance of the product;
- Information related with the verification and registration of an EPD;
- References.

5.2.1. General information to declare

The DAPHabitat System requires that an EPD includes some general information regarding the program operator, the owner of the EPD, the manufacturer and the product. This information should be declared according to the requirements present in this document and should be presented in accordance with the model available if required by e-mail deptecnico@clusterhabitat.pt.

EPDs are registered in the DAPHabitat System in Portuguese and English. Translations into other languages are not recorded in the System's database; however, if a translated version in other languages is needed, the client must contact the OP to understand the possibility, efforts, and costs associated with this translation.

Note valid for shared material resources: mass balance approaches (MBA), 'Book and Claim' methods as per ISO 22095 (e.g., BMB (biomass balance) and/or approaches for allocating recycled content should not be used in the preparation of EPDs.

5.2.1.1. Information Regarding the Registration Program

An EPD should include information related to the program, such as:

-  Identification of the program operator (website and email);
-  Address of the program operator;
-  Logo of the program operator;
-  Address and email;
-  Logo of the DAPHabitat System.

5.2.1.2. Information Regarding the Requiring Organization/Owner

In an EPD must be reported the identification of the organization that wants to obtain the Type III Environmental Product Declaration, through the following information:

-  Name of the entity;
-  Address and location;
-  Contacts (email, number, fax);
-  Entities logo;
-  Information about the applied management system (e.g.: environmental, quality ...).

There can also be included other types of information about the producer, such as:

-  Specific aspects relating to the production;
-  Environmental policies of the entity.

5.2.1.3. Information Regarding the EPD

The EPD should be identified by the following criteria:

-  Name of the authors of the declaration;
-  Emission date³;
-  Registration date;
-  Validation date;
-  Registration number;
-  Representative of the EPD (geographic, group of manufacturers if applicable, etc.);
-  Where to look up the explanatory material;
-  Type of the EPD, according to the information modules included (only the indication of the EPD type);
-  EPD typology according to its characteristic (specific EPD and/or multi-product EPD);
-  Name of the manufacturers, if the EPD belongs to a set of manufacturers;
-  ...

5.2.1.4. Information Regarding the Reference PCR Document

The EPD should be developed based on the PCR produced or adopted by the registration program, in case they are available. This kind of information should be included in the EPD, mentioning the following aspects related to the PCR document used:

-  Name;
-  Date;
-  Registration number;
-  Version;
-  Identification of the Moderator(s) of the PCR document and contact;
-  Authors;
-  Sectorial panel;
-  Revision panel (members of the Technical Committee);
-  Validation date of the document.

5.2.2. Information Regarding the Product

An EPD should include information related to the product (or the product category), such as:

-  Identification of the product (e.g.: model number, code);

³ The issue date (publication date) on the EPD must be the same as the day the EPD is accepted in the verification process. The validity period of the EPD is based on the date of approval, not the date of publication.

- Illustrative identification of the product (images of the product with quality);
- Technical requirements (should refer to the applicable regulation of the product, including national rules);
- Description of the main technical characteristics of the product (material and type of product, in fabrication course, final product, description of the technical and functional characteristics);
- Description of the use of the product (the description of the use of the product should refer to the product ready for delivery, ready to apply and do its function, in the use stage, even if this comes from a process afterwards);
- Reference service life (in multi-product EPDs, indicate the average reference service life or the range);
- Market placement (applicable regulation, national rules should be mentioned);
- Quality control (if applicable, it should be mentioned if there is a quality control system related with the product to declare);
- Special delivery conditions (the special conditions or characteristics of delivery should be declared in the EPD. To describe these parameters the reference base should be the normalized product and other technical information);
- Components and substances to declare (components and substances of the product that can be relevant in its characterization, including information about materials and substances that can cause harmful effects to the human and environmental health, in all the stages of the life cycle. It should also include information about present substances in the “Candidate List”, at least when its nature exceeds the threshold necessary for the notification of substances in items (concentration level superior to 0.1% in mass (m/m)) to the European Chemicals Agency)
- Historical of the LCA study (in case the LCA study of the product is already developed, there should be developed a brief summary of those studies).

The data age and collection period must be indicated in the EPD. The allocation methods must also be declared in the EPD.

The EPD for products that use energy in module B6 of the use phase and that are permanently installed in buildings or infrastructure (as defined by the manufacturer) and are considered as construction products must be developed in compliance with:

- EN 15804+A2;
- ECO Platform standards;
- Reference PCR;
- And, if electricity is used, it must consider the requirements of EN 50693, whenever possible.

5.2.3. Information Regarding the Environmental Performance of the Product

The information related to the environmental performance of the product has the LCA study of the product as support. All the important information to be included in an EPD is described in this document. However, the PCR of reference should always be consulted, since it depends on the product category, there can exist more specific requirements for the part of an EPD.

5.2.3.1. Functional Unit or Declared Unit

A functional unit and a declared unit are a reference to the organization of the input and output data, allowing that these should be expressed on a common basis. In addition, the functional unit allows comparison with other product systems that have been evaluated to fulfill the same function. On an EPD should be mentioned which units were used on the LCA study and why the choice.

When the functional unit or the declared unit are not presented in a unit of mass, it is necessary to present a conversion factor that converts the presented unit into the mass of the declared product.

5.2.3.2. Stages of the Life Cycle Assessments

In this part of the EPD should be mentioned which environmental indicators to be included in an EPD, considered essential the description and presentation of all types of information concerning the product life cycle, from the upstream aspects of the manufacturing process, the manufacturing process of the product, until its use and end of life stage.

5.2.3.2.1. Diagram of Inputs and Outputs of the LCA Included Processes

In a body of a Type III Environmental Product Declaration must be presented a simple flowchart that illustrates all the studied inputs and outputs of the production system. This flowchart should be divided into the different stages of the life cycle, namely, production and end of the life stages, and when applicable construction and use. The main stages can also be subdivided. The modules referring to the production stages, end of life stage, and complementary information must be declared for all products and construction materials.

The flowchart should be accompanied by a brief description of the manufacturing, installation, use, and end-of-life processes.

5.2.3.3. Indicators that Describe the Potential Environmental Impacts

The life cycle of the different products of the habitat uses natural resources in different ways and can produce different kinds of pollutants for the environment. These aspects can origin potential different environmental impacts, this is, different categories of impact.

The information related to the environmental impact is expressed by categories of impact coming from the LCA study. The categories of impact are calculated through the characterization factors (conversion factors) that allow to convert/translate, for example, the quantity of polluting elements produced in impact categories.

The following table presents information on the impact categories expressed with the impact indicators of the Life Cycle Impact Assessment (LCIA) using characterization factors. These key environmental impact indicators should be included in each module declared in the EPD.

Tabela 3: Core environmental impact indicators.

Impact category	Indicators	Unit (expressed per functional/declared unit)
Climate change – total	Global Warming Potential total (GWP-total)	kg carbon dioxide (CO ₂) equiv.
Climate change – fossil	Global Warming Potential fossil (GWP-fossil)	kg carbon dioxide (CO ₂) equiv.
Climate change – biogenic	Global Warming Potential biogenic (GWP-biogenic)	kg carbon dioxide (CO ₂) equiv.
Climate change – land use and land use change	Global Warming Potential land use and land use change (GWP-luluc)	kg carbon dioxide (CO ₂) equiv.
Depletion	Depletion potential of the stratospheric ozone layer (ODP)	Kg Trichlorofluoromethane (CFC 11) equiv.
Acidification	Acidification potential, Accumulated Exceedance (AP)	mol H ⁺ equiv.
Eutrophication aquatic freshwater	Eutrophication Potential, fraction of nutrients reaching freshwater end compartment (EP-freshwater)	kg phosphate (PO ₄) equiv.
Eutrophication aquatic marine	Eutrophication Potential, fraction of nutrients reaching marine end compartment (EP-marine)	kg N equiv.
Eutrophication terrestrial	Eutrophication potential, Accumulated Exceedance (EP-terrestrial)	mol N equiv.
Photochemical Ozone formation	Formation potential of tropospheric ozone (POCP);	kg non-methane volatile organic compounds (NMVOC) equiv.
Depletion of abiotic resources - minerals and metals	Abiotic depletion potential for non-fossil resources (ADP-minerals&metals)	kg antimony (Sb) equiv.

Depletion of abiotic resources - fossil fuels	Abiotic depletion for fossil resources potential (ADP-fossil)	MJ, net calorific value
Water use	Water (user) deprivation potential, deprivation-weighted water consumption (WDP)	m³ world equiv. deprived

In case it is necessary to characterize other potential environmental impacts for a product category through other impact categories, these should be described in the corresponding PCR and should be included in the EPD.

The EPD must use the most recent version of the characterization factors published by the Joint Research Centre (JRC), as per EN 15804+A2. A transition period is allowed to give LCA tools time to implement the new characterization factors. This period will be one year from the launch of the updated characterization factors.

If the previous versions of the characterization factors are identical or conservative, they can be used in the preparation of EPDs. Thus, an EPD based on JRC EF 3.0 can be used as a starting point for an EPD based on JRC EF 3.1. However, the EF 3.0 results for the optional indicators Potential for incidence of diseases due to fine particulate matter emissions, Potential for Human Exposure Efficiency to U235, Comparative Toxic Unit Potential for ecosystems, Comparative Toxic Unit Potential for humans (non-cancerous), and Soil quality potential index cannot be justified as identical or conservative in relation to EF 3.1. Therefore, the EF 3.0 results for these indicators must not be declared in an EPD based on EF 3.1 (but they can be included in the project report).

5.2.3.4. Parameters that describe the Use of Resources and Environmental Information Based on the Life Cycle Inventory

For greater transparency in the description of the environmental performance of construction products by means of environmental impact indicators, the three groups of indicators and environmental information based on LCI described below must be declared.

5.2.3.4.1. Indicators that describe the Use of Resources

The gathering of information about the data that characterizes the resources consumption during the life cycle of the product results from inventory work. The following parameters describe the use of renewable and non-renewable materials, renewable and non-renewable primary energies and of water, gathered based on the data of the LCA study inventory.

-  Use of renewable primary energy (except renewable primary energy used as raw material) | **MJ, inferior calorific power**

- ☞ Use of renewable primary energy resources used as raw material | **MJ, inferior calorific power**
- ☞ Total use of renewable primary energy resources (primary energies and primary energy resources used as raw material) | **MJ, inferior calorific power**
- ☞ Use of non-renewable primary energy (except non-renewable primary energy used as raw material) | **MJ, inferior calorific power**
- ☞ Use of non-renewable primary energy resources used as raw material | **MJ, inferior calorific power**
- ☞ Total use of non-renewable primary energy resources (primary energy and primary energy resources used as raw material) | **MJ, inferior calorific power**
- ☞ Use of secondary materials | **kg**
- ☞ Use of renewable secondary fuels | **MJ, inferior calorific power**
- ☞ Use of non-renewable secondary fuels | **MJ, inferior calorific power**
- ☞ Use of net freshwater | **m3**.

The parameters should not be grouped, they should be reported individually.

When the use of resources contributes in less than 5% in each impact category, this parameter should be included in the list “other parameters”.

5.2.3.4.2. Environmental information that describes the Waste Categories

The production of waste results from the life cycle stages of the product should be declared mentioning::

- ☞ Hazardous waste;
- ☞ Non-hazardous waste;
- ☞ Final disposal.

The characteristics that make waste hazardous are described in the existing applicable legislation such as the European Waste Framework Directive.

5.2.3.4.3. Environmental information that Describes the Output Flows

The indicators listed in this section describe the output flows derived from LCI that should be included in each declared module of an EPD and may also be part of the additional information for end-of-life scenarios.

- ☞ Components for reuse;
- ☞ Materials for recycling;
- ☞ Materials for energy recovery;
- ☞ Exported energy.

These indicators are calculated based on the gross values that leave the system boundary when they reach the end of waste state, as described in Annex B of EN 15804.

Components for reuse and materials for recycling fulfill the conditions of the end-of-life stage. The indicator material for energy recovery do not include materials for waste incineration. Waste incineration is a method of processing waste and is allocated within the boundaries of the system. Materials for energy recovery are based on thermal energy efficiency rate of a power station not less than 60 % or 65 % for installations after 31st of December 2008 in order to be in line with the distinction made by the EC. Exported energy refers to energy exported from waste incineration and landfill.

5.2.3.5. Biogenic carbon

The biogenic carbon content of the products, as well as their packaging, must be included in the DAP. This information may be omitted whenever the content of biogenic carbon in the product, or in the respective packaging, is less than 5% of the mass of the product, or the respective packaging.

If the EPD is of type 1 or 4 (see IV - 5) and the product's packaging contains more than 5% biogenic carbon, the biogenic carbon sequestration in the A1-A3 module group must be offset by adding a virtual equivalent emission of biogenic CO₂ in the A1-A3 group itself. If this offset has been performed, it must be declared in the environmental performance section of the EPD (see IV – 5.2.3.).

If the EPD is of other types (see IV - 5) and the product's packaging contains more than 5% biogenic carbon, module A5 must be included within the system boundaries, and the biogenic carbon sequestration will then be offset by a biogenic carbon emission in module A5 (this emission can be virtual if the biogenic carbon leaves the product system as material for recycling or reuse).

5.2.3.6. Other Environmental Parameters

The selection of other environmental parameters to be included in an EPD should be considered accordingly with the relevance of a product category and also accordingly with the scope of a developing EPD. All the parameters considered relevant to a product category should be mentioned in the corresponding PCR.

The references used to consider other environmental parameters should be mentioned in the PCR.

5.2.3.7. Additional Environmental Information

An EPD can include additional environmental information, which is related to the environmental aspects (in case they are relevant), besides the environmental information of LCA, LCI or information modules. The additional environmental information should be only related to the environmental aspects. The instructions concerning the security of the product not related to the environmental performance should not be declared.

The identification of the significant environmental aspects must, at least, consider the following:

-  Real and potential impacts on the biodiversity;

- ▢ Geographic aspects related with any stage of the life cycle (e.g.: discussions on the relation between potential environmental impacts and the location of the product system);
- ▢ Data on the product performance if environmentally significant;
- ▢ The accession of the organization to any environmental management system, with a declaration where interested parties can find details on a certification program;
- ▢ Any environmental certification program applied to the product and a declaration about where an interested party can find details on a certification program;
- ▢ Other environmental activities of the organization, such as the participation in recycling or recovery programs, as long as the details of these programs are available to the buyer or user, and the contact information is presented;
- ▢ Information that comes from the LCA but it is not mentioned in the base of the LCI or Assessment of the Impact of the Life Cycle (LCIA) (e.g.: information about the origin of possible recycled raw material, used in the composition of the product);
- ▢ Instructions and limitations for an efficient use;
- ▢ Most suitable option of waste management for used products;
- ▢ Identification of the dangers and hazard analyses for the human and environmental health; Potential incidents that can have impacts in the environment..

This kind of additional information should be presented mentioning, in a clear way, that they are not part of the LCA or LCI and information modules, so they should:

- ▢ Be based on valid and verified information, in agreement with the standards of ISO 14020 and section 5 of ISO 14021;
- ▢ Be specific, exact and non-misleading;
- ▢ Be relevant for the product in question;
- ▢ Not be susceptible to wrong interpretations, in particular through the omission of certain facts;
- ▢ Relate only with the existing environmental aspects, or with the existing probability during the life cycle of the product, or be related with the life cycle of the product;
- ▢ Only declare the absence of a substance as “without...” when the level of the specific substance is not superior to those that would be detected with a recognized residual level or pre-defined level;
- ▢ Do not refer to the absence of substances or characteristics that are not all associated to the product category;
- ▢ Do not implicit a comparative demand, but should be comparable in the same product category;
- ▢ Follow the requirements mentioned in the ISO 14021 in case the symbols are used.

The PCR can provide more specific instructions of the type of additional environmental information, to be declared in an EPD for a certain product category.

Some Programme Operators require other indicators to be declared that are not part of the EN 15804+A2 requirements, such as toxicity and health indicators. If the manufacturer intends to include these and/or

other indicators in their EPD and they are verified by a competent third party, the EPD is accepted by the DAPHabitat System. This type of information will be added as additional information.

All additional information will be verified by the verification body.

5.2.4. Electricity rules

At the moment, the use of Guarantees of Origin (GOs) or other similar contractual instruments for demonstrating and using electricity in the EPD to be registered in the DAPHabitat System can only be communicated as additional information in the EPD, either as textual information or added as an additional results table. Thus, all electricity considered in any EPD to be registered in this System must be determined based on the average mix of electricity produced in the national grid. In a situation where the manufacturer generates energy on their own premises and markets it, they cannot consider this marketed energy in their energy consumption.

Just as for electricity, contractual instruments are not accepted for biogas. Therefore, the consumption mix for gas from the distribution grid must be used, and biogas from a directly connected supplier and/or internally generated biogas must be modelled based on the characteristics of the gas supplied.

For more details, consult the DAPHabitat System's base model PCR.

5.2.5. Information Regarding the Verification and Registration

A EPD deve incluir informação sobre o processo de verificação, tal como:

-  Instructions of external verification;
-  Identification of the independent verifier and signature;
-  Identification of the certification body, signature of the person in charge and/or stamp of the entity;
-  Date of the verification and validation date of the EPD..

5.2.6. References

The references used to develop an EPD should be justified in the end of the document.

6. EPD TEMPLATE

To ensure the consistency and transparency of the EPDs registered in the DAPHabitat System, the PO establishes a standardized format for their preparation and publication. All clients are required to use the official EPD template provided by the PO upon request via the daphabitat.pt website or by email (deptecnico@clusterhabitat.pt). This template ensures the inclusion of all mandatory data and its

presentation in a uniform manner. The template includes standardized sections for the product description, the Life Cycle Assessment (LCA) data, the environmental impact results, and the verification requirements.

In the template, all fillable fields contain instructions, aligning with the guidelines set out in EN 15804, the PCRs used, and the ECO Platform guidelines.

7. CONDITIONS OF COMPARABILITY BETWEEN EPDs

Data consistency within our EPD programme is essential to ensure the credibility and comparability of information.

To ensure data consistency, the following information is considered to fall under clause 6.3 d) of ISO 14025 and therefore requires uniformity through some points already mentioned in this document, but limited to:

- Electricity emission factors: CO₂ emissions per kWh must be calculated based on the same energy mix (e.g., the most recent national energy mix), regardless of the factory where the product was produced.
- Functional unit: According to the reference PCR.
- EPD template: This ensures that all requested information is completed and standardized for all EPDs.

The EPD can be comparable as long as certain conditions are carried out, in agreement with the standard NP ISO 14025:2009, such as:

 The definition and description of the product category are identical (e.g.: function, technical performance and use);

 The definition of the objective and scope of the product's LCA, in accordance with the ISO 14040, has the following characteristics:

- ✓ The functional unit is identical;
- ✓ The boundary of the system is equivalent;
- ✓ The description of the data is equivalent;
- ✓ The criteria for the inclusion of inputs and outputs are identical;
- ✓ The quality requirements of the data including coverage, precision, completeness, representativeness, coherence, reproductively, sources and uncertainties are equivalent;
- ✓ The units are identical.

 For the inventory:

- ✓ The methods of data gathering are equivalent;
- ✓ The calculation procedures are identical, and
- ✓ The allocation flow of the materials, energues and the emissions are equivalent.

 If applicable, the selection of impact category and calculation rules are identical;

- The predetermined parameters for the LCA data presentation (category of the data of the inventory and indicators of the impact category) are identical;
- The requirements for the provision of additional environmental information, including any methodological requirements (e.g.: specifications for the identification of dangers and risk analyses) are equivalent;
- The materials and substances to be declared are equivalent;
- The instructions for the production of data to develop the declaration (LCA, LCI, information modules and additional environmental information) are equivalent;
- The instructions regarding the content and format of the Type III declaration are equivalent;
- If the EPD is not based on an LCA that covers all the stages of the life cycle, the information about the phases that are not considered is equivalent;
- The validation period is equivalent.

For the comparability between the EPD to be possible, it's also required that:

- The environmental impacts of the stages omitted in the life cycle of the products are not significant, or the data of the life cycle omitted are identical, in the acceptable limits of the uncertain data;
- In the same category are developed based on the corresponding PCR.

Comparisons are possible at the sub-building level, e.g. for assembled systems, components, products for one or more life cycle stages. In such cases the principle that the basis for comparison of the assessment is the entire building, shall be maintained by ensuring that:

- The same functional requirements as defined by legislation or in the client's brief are met, and
- The environmental performance and technical performance of any assembled systems, components, or products excluded are the same, and
- The amounts of any material excluded are the same, and
- Excluded processes, modules or life cycle stages are the same; and
- The influence of the product systems on the operational aspects and impacts of the construction works are considered;
- The elementary flows related to material inherent properties, such as biogenic carbon content, the potential to carbonate or the net calorific value of a material, are considered completely and consistently, as described in this standard.

To ensure the comparability of EPDs within the DAPHabitat System, the main tool that enables this is the mandatory adherence to PCRs. PCRs, which are specific to each product category, define the requirements for the LCA, including the system scope (boundaries), allocation rules, mass or energy cut-off criteria, and the environmental impact indicators to be reported. The use of these standardized rules ensures that all LCA studies, regardless of the manufacturer, are conducted with the same calculation methodology, allowing for a technical and fair comparison between products. Thus, all LCA studies and EPDs are submitted to a verification process by an independent third-party verifier. This verifier is responsible for auditing the

documentation of the LCA study and the EPD to confirm full adherence to the PCRs and to international life cycle assessment standards (ISO 14040 and ISO 14044). This approach, which involves methodological standardization, independent verification, and the use of uniform data, is the basis for the credibility of our programme, ensuring that environmental information is accurate, transparent, and comparable for all interested parties.

According with the EN 15804 and the EN 15942, with the EPD of products and construction services should be mentioned that these can't be comparable if they are not developed accordingly with the standard EN 15804.

To guarantee the comparison of results between the EPD the results should be expressed with at least two significant digits (for example, 0,012), however in case inferior values are verified, it should extend to the first significant digit or use the scientific normalized representation.

8. VERIFICATION AND REGISTRATION

An EPD needs to be verified by an independent third party in order to guarantee the liability of the documents content, considering the consumer as one of the potential target markets. The verification procedure is a confirmation through the proposition of objective evidence that the EPD requirements are satisfied. This process is coordinated by certification bodies recognized as independent from the bodies involved.

Only after the validation of the decision of the EPD is allowed to register the document at the DAPHabitat System, for the information regarding the environmental performance and quantitative data present in this environmental label to be available at the data base at www.DAPHabitat.pt.

Whenever the verification requirements are updated, there will be a notification on the website www.DAPHabitat.pt. The clients who are in the process of verifying their EPDs at the time of the update of the requirements will have a six-month transition period. Once this transition period is over, the EPDs will no longer be accepted for verification according to the outdated principles.

8.1. OBJECTIVE AND SCOPE OF THE VERIFICATION PROCEDURE

The main objective of this subchapter is to establish the methodology regarding the verification procedure of an EPD in the field of the DAPHabitat System and the general principles.

The set of rules established by the verification procedure follows the ECO Platform guidelines and it is applicable to every national and international organization that intends to verify the EPD according to the methodology defined by the ISO 14025 standard, with the purpose of registering the declaration and publishing it on the National Registration System for Environmental Product Declarations for habitat - DAPHabitat System database.

The OP provides the verifying body with a list of control topics to be considered in the verification and to be used by the verifier for the verification report.

All the omissions in this document will be analyzed by the PO.

8.2. CERTIFICATION BODIES AND VERIFIERS

In the process of verifying an EPD, verifiers belonging to verification bodies, managed by certification bodies recognized by the DAPHabitat System operator, are involved.

According to the principles and rules established by the OP, the certification body must have a database with individual records of qualified verifiers for the EPD verification process within the DAPHabitat System. The certification body selects the verifier to carry out the EPD verification. The manufacturer does not select the verifier.

8.3. QUALIFICATION OF THE INVOLVED PARTIES

8.3.1. Certification Bodies

In the context of the operational rules of the DAPHabitat System, for an organization to be recognized as a certification body, it must be approved by the OP. This approval involves an internal evaluation procedure, for which the organization must submit the following documentation to the operator:

-  Identification of the organization;
-  The rules used by the entity in the verification procedure in the scope of the DAPHabitat System, following the General Instructions of the DAPHabitat System, as well as the verification requirements present at the NP ISO 14025:2009, ISO 14020, EN 15804;
-  The qualification process of the technicians for the verifiers pool;
-  The rules of the management entity for the pool of verifiers;
-  Competences of the technicians involved;
-  Procedure of the entity for the handling of complaints;
-  Procedure of the entity concerning corrective and preventive actions;
-  Procedure regarding the decision commission or decision process.

After the evaluation of the organizational competences, on the part of the PO, the acceptance decision of the organization as certification body of the DAPHabitat System, will be announced formally to the organization and will be celebrated a protocol/agreement between the certification bodies and the PO, Sustainable Construction Platform. After this decision, the identification of the certification body will be published by the PO at www.DAPHabitat.pt.

8.3.2. Verifiers

The verifiers have to be independent to the development of the EPD and should not be involved in the elaboration of the LCA, they should not have conflict of interests resulting from the position in the structural organization of the DAPHabitat System.

Additionally, a verifier should satisfy the following competence requirements:

-  Knowledge of the sector, products and environmental aspects related with the products;
-  Knowledge of the process and product in the scope of relevant product category;
-  Technical knowledge of LCA and methodology LCA developing (ISO 14040, ISO 14044);
-  Knowledge of the relevant standards in the areas of environmental labeling. Environmental declarations and LCA;
-  Knowledge of the regulation board in which were prepared the requirements for the Type III environmental declarations, namely the EPD (EN ISO 14025, ISO 21930:2017);
-  Knowledge of the regulation board in which the concept of the EPD was introduced (namely the NP ISO 14025, ISO 14020, EN 15804);
-  Knowledge of the functioning of the National System for Environmental Product Declarations for the habitat – DAPHabitat System;
-  Frequency in the training programs organized by the PO.

In addition, to ensure the integrity of the verification process, the independence of the verifier in the verification process must be safeguarded. To this end, the following procedures apply:

- **Communication of Pressure:** The verifier is obliged to immediately communicate to the PO any pressure, whether exerted by the EPD owner, the author of the LCA study, or any other interested party, that seeks to influence the verification result. Once this information is received, the PO will take the necessary measures to resolve the situation.
- **Prevention of Financial Pressure:** The PO is committed to preventing any type of financial pressure that could compromise the verifier's independence or impartiality. Measures will be implemented to mitigate such pressures, ensuring that verification results are based solely on technical merit and compliance with established standards.

When a verifier reports an attempt to influence, the PO can take the following actions, depending on the severity and nature of the situation:

- **Verifier Replacement:** In cases of significant pressure or an insurmountable conflict of interest, the PO may designate a new verifier for the project. This is the most direct measure to re-establish impartiality.

- **Investigation and Mediation:** The PO may initiate a formal investigation to ascertain the facts and mediate the situation between the verifier and the party responsible for the pressure. The goal is to resolve the issue professionally, while reinforcing the programme's rules.
- **Formal Warning:** If the pressure is considered a violation of the programme's rules, the PO may issue a formal warning to the EPD owner or any other party involved, highlighting the consequences of such actions.
- **Contract Review:** The PO may review the contractual terms with the parties involved, adding more rigorous clauses to prevent future attempts to influence.

These measures ensure that the verification system remains robust, reliable, and free from external interference, protecting the credibility of the programme and the validity of the EPDs.

8.3.3. Application for the Integration in the Pool of Verifiers of the Certification Bodies

The application for the integration in the pool of verifiers can be presented by initiative of the candidate, or by invitation of the certification bodies or the Sustainable Construction Platform (Program Operator).

For the integration process the verifier should send to the certification body a request according with the documentation mentioned by the recognized entity by the DAPHabitat System. The integration and qualification procedure of the technicians as qualified verifiers is an important part of the DAPHabitat System and is from the responsibility of the certification bodies.

The decision about the qualification of a verifier should be based on the necessity of carrying out an initial verification of an EPD, so as to prove his competence as verifier in the verification of an EPD (in case there are no references). So, it is acceptable to carry out a verification of an EPD, to be registered in the DAPHabitat System, to evidence the requirements of the necessary competences of the future verifier.

In addition, the verifier or the verification team must demonstrate that their **knowledge and experience** are available and **up-to-date at the time of verification, in accordance with ISO 14025**. This means that verifiers are subject to a periodic assessment performed by the quality Certification coordinator and director and the process management officer, according to the following criteria:

-  Meeting deadlines / content and quality of reports;
-  Attitude demonstrated as a team;
-  Complaints made and duly justified by customers;
-  Customer satisfaction with the work done during the verification;
-  Evaluation of the presence while performing the verification.

In addition, the following procedures also apply:

- **Continuous Training:** Verifiers must prove they regularly participate in training and professional development activities to stay abreast of the most recent developments in standards, methodologies (such as LCA), and sector requirements.
- **Monitoring of Standards:** It is the verifier's responsibility to monitor updates to essential standards like EN 15804 and the ECO Platform rules, ensuring their verification always reflects the most current criteria.
- **Periodic Assessment:** The PO reserves the right to request periodic assessments to verify the continuous competence of verifiers.
- **Relevant Experience:** The verifier must be able to demonstrate that they possess relevant practical experience in the sector or product type in question, ensuring a deep understanding of the processes and data being verified.

This rule ensures that each EPD verification is conducted with the highest level of competence and technical knowledge, strengthening the credibility of the environmental declarations issued within our programme.

8.4. VERIFICATION PROCESS

The verification process is essential so that an organization can register their EPD at the DAPHabitat System. The organization should elaborate the EPD and submit it to the verification procedure demanded by the rules established in the General Instructions of the DAPHabitat System. To start this process the demanding organization should contact the PO or directly contact the certification bodies. To contact with this recognized bodies by the DAPHabitat System, the organization should check at www.DAPHabitat.pt where these are identified. All the documentation required by the certification body to start the verification of an EPD should be delivered the certification body.

To ensure the credibility and impartiality of our programme, the appointment and registration of verifiers will follow the following principles:

- **Competence Requirements:** The competence requirements for verifiers are established in conformity with ISO 14025, section 8.2.2. This ensures that all professionals designated for verification possess the necessary technical knowledge, experience, and qualifications to perform the work in a rigorous and consistent manner.
- **Appointment and Arbitration Procedure:** The process of appointing and registering verifiers includes an arbitration procedure to deal with any potential complaints. This mechanism allows for the fair and impartial resolution of any issues that may arise regarding a verifier's work. Interested parties can submit a complaint to the PO, who will activate the arbitration process for analysis and resolution of the situation.

In the arbitration process, an arbitration panel is appointed, typically composed of 1 to 3 members. These arbitrators are technical specialists, but they must be independent and have no ties to the parties involved in the conflict. Their mission is to objectively analyse the case, requesting documents and hearing the involved parties, as well as to decide and communicate the decision. If the decision is favourable to the claimant, the PO may take corrective measures, such as replacing the verifier, nullifying the verification, or issuing a formal warning.

For this process, the PO will be in direct contact with the certification body, ensuring that it correctly manages its pool of verifiers.

8.4.1. Methodology, principles and renewal

The verification procedure should guarantee the liability and the veracity of:

-  The implicit data gathered and used for the LCA calculations;
-  The way of how the calculations of the LCA were done, so that the rules described in the PCR document of reference are followed;
-  The presentation of the environmental performance included in the EPD;
-  The other additional environmental information included in the declaration, if they exist.

After the EPD verification is carried out, this is validated for a period up to 5 years since the date of emission. After this period, the declaration should be reviewed, and the verification should be renewed. An EPD can be reevaluated and updated, if necessary, when exists changes in the technology of the production process or other circumstances that can change the content and accuracy of the document. In the renewal of a verification, the focus should concentrate preferably in changes that occurred in the ground conditions of the EPD development or others changes referring internal procedures of the organization, with importance to the EPD.

An EPD should be recalculated after a period of 5 years. Adopting the principles defined in EN 15804:2012+A2:2019, it is considered that a reasonable change in the environmental performance of a product must be communicated to the certification body when this change is 10% or more in any of the indicators declared in the EPD (clauses 7 and 9 of EN 15804:2012+A2:2019). This change may require an update of the EPD while it is still valid.

In case of a revision of the PCR document of reference in which an EPD has been based, there should be made a renewal of the verification during a transition period of 18 months.

The certification bodies should guarantee that the verification procedure is developed in two distinct stages:

-  Documental analyses and data verification;
-  Verification and validation of an EPD.

8.4.1.1. Document analysis and data verification

In the documental analysis it is important to analyze all the documents that justify the input data and information included in the EPD, the implicit LCA study as well as the documents that describe other environmental information included in the EPD. This documental analysis should guarantee at least:

-  The compliance of the LCA with the PCR document of reference;
-  The compliance of the EPD with the standards of the class ISO 14040;
-  The compliance of the LCA and the EPD with the General Instructions of the DAPHabitat System;
-  The assessment of the data coverage included, precision, integrity, representativeness, consistency, reproducibility, sources and uncertainties;
-  The plausibleness, quality and precision of the data base of the LCA;
-  The quality and accuracy of the additional environmental information;
-  The quality and accuracy of the support information;
-  The update of the LCA and EPD information;
-  The compliance, accordingly with the relevant environmental legislation, related with the product (if applicable).

8.4.1.1.1. Conformity of the LCA with the document PCR of reference

For the verification procedure it is essential that the verifier proves if the calculation base of the LCA were made accordingly with the instructions described in the PCR document of reference. By this way the verifier should prove if:

-  The functional unit was defined in accordance with the PCR document of reference;
-  All the relevant information is documented for each unitary process and for the declared information modules (verify if the declared information is coherent and comprehensible to allow an independent evaluation of the importance of the data in compliance with the PCR document of reference);
-  The accuracy of the data is reliable.

In the verification of the results on Impact Assessment, the verifier should confirm if the calculations were made correctly, based on the results of the inventory analyses and the characterization factors recommended. This verification can be made by random sample this is, the verifier can confirm if the calculations of one or more indicators of impact category are prepared properly through the selection of a given number of impact categories, focusing on the more determined parameters in each selected category for verification. The identification of more determined parameters can be made through the assessment of their contribution regarding to the total environmental impact of the product in study.

Regarding the confirmation of the information from the inventory analyses, the verifier can, by random sampling, validate the conformity with the sources of the original data for the unitary processes and declared

information modules. The organization should provide, through a request (by the verifier), the information about the implicit data and the calculations already made.

The control through sampling can preferably be carried out for unit processes that have a significant influence on the results of the Inventory Analysis, as well as for unit processes and declared information modules selected randomly.

In case the certification body considers important other verification procedures, these should be presented to the Program Operator, through a document with the proposed verification rules.

8.4.1.1.2. Visite to the organization

The verifier should confirm if the information presented in the EPD reveals with precision the information contained in the documents on which the declaration is based on. The verification procedure should also confirm if this information is valid and scientifically solid. To guarantee the reliability of the verification it is necessary that the verifier goes to the organization that requested the EPD verification to confirm the documentation at place. The visit to the organization should occur during a minimum period of 1 day.

To simplify the process of documental analyses at the place, the verifier should in advance articulate and send to the requiring organization a list that identifies the necessary documentation. At the day of the visit the organization should facilitate the visit process of the verifier, having available and organized all the documentation required before.

8.4.1.1.3. Presentation of the data for verification

The requiring organization should give to the certification body responsible for the process, all the documentation necessary to verify an EPD.

To simplify the verification procedure of an EPD, it is advised to provide the following information for the verifier (taking into account the data confidentiality, accordingly with point 7.6):

-  The analyses of material and energy flow in the way to justify its inclusion or exclusion;
-  The quantitative description of the unitary processes defined in the processes modeling and life cycle stages, when its defined by a declared unit;
-  The designation of a group of data coming from an LCA software (if used) to processes and data of LCA;
-  The LCIA results by modules of unitary processes (example: by life cycle stages);
-  The results of the LCIA by productive/product unit if general data is declared for various units or for a similar product range;
-  The documentation justifying the use of a given percentage or value in the calculation of end of life scenarios;

- The documentation justifying the use of a given percentage or value in the allocation process, if it does not correspond to the defined in the reference PCR document.

8.4.1.1.4. EPD verification

The verification stage of an EPD should focus on the assessment of the validation of the data and information included in the LCA study and in the EPD. The verification procedure should confirm, at least, that an EPD is in conformity with:

- The applicable requirements of the standards EN 15804, ISO 14020 and ISO 14025;
- The document “General Instructions of the DAPHabitat System”, last version available;
- The PCR document of reference applicable.

8.4.1.1.5. Verification of the EPD generated by software tool

The EPDs generated by tools (see [IV - 4](#)) are verified against the checklist. However, all items related to process modeling and the fixed content of the EPD can be accepted based on the verification from the LCA tool and the initial verification of the EPD. This means that, as a general rule, only the variable input data and the respective results of the EPD need to be verified for plausibility.

The verification can be restricted to the following aspects:

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

The EPD verification report must include at least:

- The results of the application of the verification checklist indicated by the OP,
- the variable input data used in the EPD and identification of inputs that influence the results of the indicator in relation to the project's verification tool report,
- verification action for any additional information, for example, results of indicators not resulting from the LCA,
- reference to the tool version and the tool verification report.

If the input data is always the same, an average EPD calculated with an LCA may only need to be checked once.

8.4.2. Report on the Verification Procedure

The verification procedure should be clear. The verifier should write a report mentioning the verification procedure, liable to the obligations of data confidentiality.

The verification report used is a document preconceived based on a document developed by ECOPlatform, the *ECO-verification checklist*, in the current version of “Verification Guidelines for ECO EPD Programme Operators”.

The process of verification must confirm if the information available in the EPD accurately reflect the information contained in the documents on which the declaration is based. The verification process should also confirm whether the information is valid and scientifically solid.

8.4.3. Decision and Validation of the Verification

The decision about the validation of EPD verification should be made by the certification body. When the decision of validating an EPD is confirmed, the certification bodies should communicate in writing to the Program Operator and the requiring organization, providing the necessary documentation (in the terms of the defined confidentiality) that to corroborate its validation.

Until the decision of validating an EPD must not pass a period of time superior to 6 months counting since the date of the report verification. Otherwise, the procedure of verification should be reevaluated by the certification bodies, that will be decided about the maintenance or closing. This decision should be communicated in writing to the requiring organization, with the motives that justify it. In order to reactivate the verification process, it is subject to the conditions of the CB, as well as payment by the applicant of the associated costs.

The costs of the verification work are independent from the registration process of an EPD at the data base of the DAPHabitat System and it is the responsibility of the requiring organization, and these should support this expense.

8.4.3.1. Appeal of the Decision

The validation decision of an EPD is the responsibility of the certification body, which by writing informs the requiring organization. If the validation of the EPD is not recognized and the requiring organization considers to appeal the decision, they should contact the Appeal Commission of the DAPHabitat System.

8.5. EPD RENEWAL

After verification, the EPD is valid for a period of up to 5 years from the date of issue by the manufacturer, after which its validation must be reviewed and renewed. During this period, the EPD will only be re-evaluated and updated, if necessary, to reflect changes in technology or other circumstances that may alter the content and accuracy of the declaration.

When renewing an EPD, the focus should preferably be on any changes that may have occurred in the underlying conditions for its preparation or on other changes to the organisation's internal procedures that

are relevant to the EPD.

The EPD must be recalculated whenever the underlying data has changed significantly. According to the definition in EN 15804, a reasonable change in the environmental performance of a product, to be communicated to the Technical Committee, is $\pm 10\%$ in any of the indicators declared in the EPD (see Clause 9 of EN 15804+A2). For example, this means that a change in the residual electricity mix in module A3 and/or the consumption mix in module B6 makes an update of the EPD necessary if it increases the GWP-total results by more than 10%.

In addition, substantial changes to the declared product information (for example, a change in the manufacturing location, a change in the lifetime, or products added in a multi-product EPD), content declaration (e.g., a new material/substance, altered composition), or additional environmental, social, or economic information may require an update of the EPD.

The publication of a new version of the base model PCR or the General Programme Instructions does not affect the validity of already published EPDs.

8.6. CONFIDENTIALITY OF THE DATA

The specific data of a product is many times confidential, motivated by the requirements of a competitive business, by protected owner information by intellectual property rights or by similar legal restrictions. This confidential data shall not be public, once that an EPD, normally, provides data associated to all or only relevant life cycle stages. The data of the businesses identified as being confidential and that are provided for the verification procedure, should be kept confidential, accordingly with what is mentioned in this document.

It is considered good practice, accordingly with the requirements of EN 15804, that the owner of the EPD provides the data that support the development of the EPD, to the data base of the DAPHabitat System, allowing the continuous construction of a data base with national values.

According with the EN 15804 it is also considered good practice provide a group of information to simplify the verification process by the verifier of the EPD with, as mentioned in point 8.4 of the EN 15804:2012+A1:2013, having in consideration the confidentiality of the data as mentioned before.

In addition, the PO emphasizes that:

-  The manipulation, storage, and transmission of confidential data must be done only under the rules present in this document.
-  Employees and verifiers must sign confidentiality agreements.
-  Confidentiality is maintained even after the conclusion of a project.

The PO also highlights the existence of formal procedures for data confidentiality management, in full compliance with point 6.4 h of the ISO 14025 standard. Our system ensures that sensitive company information, obtained during the EPD verification and registration processes, is rigorously protected.

Confidentiality Mechanisms in Place - includes:

- **Non-Disclosure Agreements (NDAs):** All employees and verifiers who have access to confidential data are under a non-disclosure agreement.
- **Restricted Access:** Access to sensitive data is limited to authorized personnel only.
- **Data Handling:** Proprietary information, such as Life Cycle Inventory (LCI) data, is handled in accordance with protocols that ensure its anonymization, safeguarding the companies' competitive advantage.

These procedures ensure that companies' trust in our programme is maintained, protecting their most valuable and proprietary information.

8.7. REGISTRATION PROCEDURE

An EPD can only be registered in the National System for Environmental Product Declarations for Habitat – DAPHabitat System after validation communication from the certification bodies. After the EPD validation, the organization must contact the OP to establish the registration procedures for the document in the registration program.

To proceed with the registration of an EPD in the DAPHabitat System, the applying organization must submit the following mandatory documentation to the OP:

-  Registration form (available under request by email deptcnico@clusterhabitat.pt);
-  Copy of the EPD verification validation emitted by the certification body;
-  EPD (word document);
-  Short description of the organization;
-  Company logo (vector or .jpeg);
-  High resolution pictures of the product(s) or service(s) declared in the EPD.

The registration of an EPD at the DAPHabitat System has the following financial expenses:

-  Registration fee;
-  Annual maintenance fee.

8.7.1. Registration Fees and Maintenance

In order to carry out the registration and publication of an EPD in the DAPHabitat System, there are two different costs associated with the process, the registration fee and the annual maintenance fee. The presented fees concern the administration and maintenance costs of the DAPHabitat System.

To these costs is added VAT to the legal taxes in force and may be reviewed periodically.

8.7.2. Registration fees

The registration fee is characterized by the cost of registering and publishing the EPD in the program's database hosted at www.DAPHabitat.pt. This fee is valid for a period of up to 5 years and is applied individually to each registered EPD (Table 4):

Tabela 4: Registration fee for an EPD in the DAPHabitat System.

EPD Registration	Registration Fee
1st Registration	1200 €
2nd Registration	500 €
3rd Registration	400€
4th Registration and over	300 €

The registration renewal (after 5 years) at the DAPHabitat System infers the payment of a new fee, that in case the document doesn't suffer any alteration, represents around 80% of the initial registration fee (Table 4), and that will validate the EPD publication in the System for another 5 years. In case the documents suffer changes, being the EPD renewable, the registration tax for renewing will be the same as the initial registration fee.

8.7.3. Annual Maintenance Fee

This fee includes all maintenance costs connected to the EPD in the program's database. This is an dependent cost from the number of registered EPD's. The annual fee is connected to the maintenance of each EPD registered by an organization.

Tabela 5: Annual Maintenance fee for an EPD in the DAPHabitat System.

Type of organization	Annual fee
Big	300 €
SME	200 €

The payment of the maintenance annual fee guarantees the associated marketing and the EPD availability in the www.DAPHabitat.pt.

8.7.4. Registration of a Verified EPD Abroad

If an organization requests the registration of an EPD already verified by an independent third party that is not a certification body recognized by the program operator, they should submit the EPD to a validation of the realized verification. This validation of the verification procedure will be made by the certification bodies recognized by the DAPHabitat System and is this entity that decide if the verification procedure is in accordance with the requirements and demands established in this present document.

However, in the framework of the mutual recognition of EPDs between registration programme operators as members of the ECO Platform, the DAPHabitat system recognises the verification performed by verifiers which are recognised by those partner systems, if their EPD declaration of compliance and the verification checklist are delivered at the time of registration.

In this declaration of conformity, in English or Portuguese, the positive result of the verification must be indicated, confirming that the verified EPD complies with the relevant reference RCP used, EN 15804+A2, ISO 14025, and the guidelines and rules of the ECO Platform.

8.7.5. Extension of the expiry date of a EPD's registration

When the EPD is nearing the end of its validity, the program operator will send a notification eight months before the EPD's expiration date as a reminder of the upcoming expiration.

The owner of the EPD who is preparing for its renewal may contact the DAPHabitat System to request an extension of the EPD's validity for six months. This request must be accompanied by proof of a verification request to the relevant certification body, provided through a brief statement or direct communication from the certification body to the program operator.

8.7.6. EPD registration on the ECO Portal

The EPDs registered in the DAPHabitat System are also submitted to the ECO Portal - a data center that provides free access to reliable digital data on EPDs published by various European OPs belonging to the ECO Platform.

The digital datasets registered on the ECO Portal must comply with the 'ILCD+EPD data format', as well as the minimum information list required by the ECO Platform. This list is available in the ECO Platform documents Platform (*Digital Data Requirements*), which can be found at www.eco-platform.org. This means that EPD published in a digital data format comply with the ECO Platform Digital Data Requirements

For EPD registration on the ECO Portal and among the data to be declared, the product's mass must always be specified, regardless of the declared unit. If the product unit is not specified in a unit of mass (for example, if a unit of volume, area, length, number of pieces, etc., is given), the mass of one unit (according to the declared unit) of the product must be indicated. This rule does not apply to non-material systems (e.g., services).

Example: A wooden panel has a declared unit of 1 m². Based on the information provided by the manufacturer, it is known that 1 m² of this board weighs 5.25 kg. This mass value must then be specified in the EPD to allow for its digital registration on the ECO Portal.

Material properties are mandatory, depending on the declared unit. These properties are used to express additional quantitative information that allows an application to convert the product's declared unit into a dimension that may be necessary for modeling. For example, an EPD for a mineral wool product with a declared unit of 1 kg is only useful when the weight per unit area is known.

The following material properties are mandatory to declare:

-  **If the declared unit is given in units of area:** the material properties "grammage" (also known as weight per unit area) and "layer thickness" are required.
-  **If the declared unit is given in units of volume:** the material property "gross density" is required.
-  **If the declared unit is given in units of length:** the material property "linear density" is required.
-  **If the declared unit is given in units of items:** the material property "weight per piece" is required.
-  **If the declared unit is given in some other unit:** the material property "gross density" is required.

8.8. USE OF THE DAPHABITAT BRAND

It is important to emphasize the significance of taking care with the use of the DAPHabitat brand. Should any improper use be identified, necessary measures will be taken to protect the rights and integrity of the brand. It is essential that the use of the DAPHabitat and ECO Platform brand and logo is done in accordance with the established guidelines, thereby ensuring its authenticity and value in the market. OP is committed to preserving its identity and reputation and will take appropriate action in cases of intellectual property rights violations.

V – PROJECT REPORT

The project report should be systematic and complete so it can support the verification procedure on an EPD. The project report should register an LCA and the additional information, as declared in the EPD, according with the EN 15804. This should be made available to the certification body recognized by the DAPHabitat System respecting the requirements of the confidentiality detailed in the EN 14025.

The elements of the project report should follow the requirements of EN 15804, as well as the recommendations described above.

1. STUDY ELEMENTS OF LCA

It is essential to describe in a complete and precise way the elements regarding the LCA study, such as the results, data, methods, assumptions, limitations, and conclusions of the study. The report should be strictly detailed in a way that allows the independent verification and the comprehension of the complexity and compromises inherent to the LCA. The report should also allow the use of the results and the interpretation in a coherent way with the aims of the study, supporting the data and the additional environmental information provided in the corresponding EPD. So, the elements to consider in the report should include:

General aspects:

-  Authors of the study;
-  Data of the report;
-  Declaration of the study that was developed accordingly with the requirements of the international standards ISO 14040 and ISO 14044, as well as the EN 15804:2012+A2:2019.

Objectives of the study:

-  Reasons of the development of the report; The intentioned use;
-  The target market (EPD to communicate business to business or business to customer);
-  Declaration indicating if the study supports the comparative demands destined to be released to the public.

Study field:

-  Function including the declaration of the characteristics of the product's performance and any omission of additional functions used in the comparisons;
-  Functional unit or declared unit coherent with the objective and scope, including the relevant technical specifications and the rules used to calculate average data (for example when the functional/declared unit is defined to: a group of similar products by different manufacturers; the same product produced in different fabrication facility);

- System boundaries, including omissions of the life cycle stages, processes or necessary data, quantification of inputs and outputs of material and energy, as well as assumptions about electricity production, other relevant basic data, and, where relevant, assumptions about system limits, including the way impacts are calculated in module D;
- Exclusion criteria including the description of the same assumptions, selection effect on the results and the list of the excluded processes in the study.

Analyses of the life cycle inventory:

- Data gathering procedure;
- Quantitated and qualitative descriptions of the unitary processes necessary in the modelling of the life cycle stages, when a declared unit is defined;
- Overview of biogenic carbon transfers, emissions and removals both in the different modules and between the system under study, as well as the biogenic carbon content in the functional/declared unit at the factory gate;
- Source of the general data and bibliography used to develop the study;
- Validation of the data, including the assessment of the quality and treatment of the absent data;
- Allocation rules, including documentation and justification of the allocation, as well as their Uniform application.

Impact of the life cycle assessment:

- ILCA procedures, calculations, and results of the study, including all results of additional environmental impact indicators;
- The limitations of the ILCA results regarding the objectives and scope of LCA; Relation between the results of the ILCA and the LCA results;
- Impact category and considered category indicators, including the reason of the choice and reference of the source;
- Description of all the characterization models, characterization factors and used methods, including all the assumptions and limitations, accordingly with the defined in the corresponding PCR;
- Description of all the choices of value used regarding to the categories of impact, models of characterization, characterization factors, normalization, grouping, weighting and other ILCA points. The explanation for their use and the influence on the results, conclusions and recommendations;
- Declaration mentioning that the ILCA results are relative expressions and do not preview final impacts by category (endpoint), the exceeded threshold, and security or risk limits.

Life cycle interpretation:

- Results;

- Assumptions and limitations related with the interpretations of the results declared in an EPD, and the methodology and related data for the results of the additional impact indicators;
- Description of the variance of the ILCA results in case the declared generic data coming from various sources or regarding a range of similar products;
- Assessment of the data quality;
- Total transparency in the choice of the data, motive, reason and the experts' opinion..

2. DOCUMENTATION REGARDING ADDITIONAL ENVIRONMENTAL INFORMATION

In this report should be included all the documentation regarding to the additional environmental information declared in an EPD, such as:

- Results of the tests in laboratory and/or measurement of the products composition;
- Results of the tests and/or measurement of the technical-functional performance of the product;
- Documentation concerning the declared technical information about the life cycle stages not considered in the LCA study and that can be used for the building's assessment (for example transport distances, the VUR accordingly to the attachment A of the EN 15804:2012+A2:2019, the energy consumption during the use, cleaning cycles, among others);
- Results of the laboratory tests or measurements about the data referring to the emission of substances to the indoor air of the buildings, to the soil and to the phreatic surface during the construction product use stage.

VI – REFERENCES

NP ISO 14025:2009 – “Labels and environmental declarations – Type III environmental declarations

– Principles and Procedures”;

ISO 21930:2017 – “Sustainability in buildings and civil engineering works — Core rules for environmental product declarations of construction products and services”.

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

NP EN ISO 14044:2010 – Environmental management – Assessment of the life cycle – Requirements and guiding lines”;

EN ISO 14040:2008 – “Environmental management – Assessment of the life cycle –Principles and Context”;

General Programme Instructions – International EPD System, version 5.0.1, 2025-02-27.

GENERAL INSTRUCTIONS for the EPD programme of Institut Bauen und Umwelt e.V. (General Instructions for the IBU EPD programme), Version 2.1, 2022.

ECO Platform Guidelines, 2024 www.eco-platform.org.