



Product Category Rules for  
Construction & Building Sector –  
A Circular Ecology EPD Programme  
Main PCR

Version 1.0

Date: December 2025

## Definitions

See also the definitions within the applicable core PCRs, EN 15804:2012+A2:2019 and ISO 21930:2017.

### **Biogenic carbon**

Carbon that is absorbed, stored, emitted, or released by materials of biological origin within their life cycle. Examples include carbon contained in wood, natural fibres, agricultural residues, or other bio-based products.

### **Capital goods**

Physical assets used in the production of other goods and services, such as buildings, infrastructure, machinery and equipment.

### **Carbon offsetting**

Mechanism for compensation for all or part of the carbon footprint through the prevention, reduction or removal of an amount of greenhouse gas emissions in a process outside of the product system under study. [adapted from ISO 14050:2020]

### **Complementary PCR (c-PCR)**

A specific set of rules that complements a core PCR by providing additional methodological requirements for a more defined category of products or materials (e.g. cement, asphalt, insulation).

### **Construction element**

Part of a construction (ISO 6707-1:2004, 5.5.6) containing a defined combination of construction products. [aligned to ISO 21930:2017 3.2.3]

### **Construction product**

Item manufactured or processed for incorporation in construction works. [aligned to ISO 21930:2017 3.2.2]

*Notes: Construction products are items supplied by a single responsible body. It includes any goods or services related to construction works. Construction assemblies, construction elements and integrated technical systems, incorporated within construction works, can be considered to be construction products.*

### **Construction service**

Activity that supports the construction works or subsequent maintenance (ISO 6707-1:2004, 7.1.40). [aligned to ISO 21930:2017 3.2.6]

### **Core calculation method**

The core LCA calculation method that is applied as the base LCA method, in addition to the requirements of this PCR. Examples include EN 15804:2012+A2:2019, ISO 21930:2017, which in this standard are core PCRs and are considered as the core calculation method.

### **Cut off rule**

Criteria for excluding inputs and outputs from the system boundary.

### **Declared unit**

Quantity of a product for use as a reference unit in an EPD, based on one or more information modules.

**Functional unit**

Quantified performance of a product system for use as a reference unit. May only be applied in cradle to grave EPDs.

**Fugitive emissions**

Unintentional releases of gases (e.g. refrigerants, dust, methane leaks) not captured in controlled processes.

**Gross GWP**

The total global warming potential of a product system, including all greenhouse gas emissions. [See CEN/TR 16970:2016; 6.2.2 and Table 2]

**Integrated technical systems**

Installed technical equipment to support the operation of construction works. [aligned to ISO 21930:2017 3.2.4]

*Notes: This includes technical equipment for heating, cooling, ventilation, domestic hot water, lighting and electricity production and other systems for sanitation, security, fire safety and internal transport. This can include technical systems that are integrated into construction products, such as interfaces for electronic controls. Derived from the definition of “technical building systems” in ISO 16818:2008, 3.225.*

**Mass balance approach**

Method of attributing recycled or renewable inputs to products without physical traceability.

**Net GWP**

Global warming potential excluding the emissions from the incineration of waste. [See CEN/TR 16970:2016; 6.2.2 and Table 2]

**Primary data**

Data specific to the processes and activities within an organisation (e.g. site specific energy use).

**Secondary data**

Data that does not meet the requirements for primary data. For example, generic or average data from databases or literature (e.g. ecoinvent).

**System boundary**

The set of processes and life cycle stages included in the assessment. Note that Module D is considered as beyond the system boundary.

## Abbreviated Terms

**ADP** – Abiotic Depletion Potential

**AP** – Acidification Potential

**CFP** – Carbon Footprint of a Product

**CO<sub>2</sub>e** – Carbon dioxide equivalent

**c-PCR** – Complementary Product Category Rules

**DQI** – Data Quality Indicator

**EP** – Eutrophication Potential

**EPD** – Environmental Product Declaration

**FU** – Functional Unit

**GPI** – General Programme Instructions

**GWP** – Global Warming Potential

**LCA** – Life Cycle Assessment

**LCI** – Life Cycle Inventory

**LCIAM** – Life Cycle Impact Assessment Method

**PCR** – Product Category Rules

**PEF** – Product Environmental Footprint

**POCP** – Photochemical Ozone Creation Potential

**RSL** – Reference Service Life

# Table of Contents

Definitions.....	i
Abbreviated Terms.....	iii
Table of Contents.....	iv
1 Introduction.....	1
1.1 Background.....	1
1.2 How to Read this PCR.....	1
2 Scope and Application.....	2
2.1 Objectives of this PCR.....	2
2.2 Scope of this PCR.....	2
2.3 Declared and Functional Units.....	2
2.4 System Boundaries and Modules.....	3
2.5 Alignment with Industry PCRs.....	4
2.6 Limitations.....	4
2.7 Creation and Maintenance of this PCR.....	4
3 Key References.....	6
4 General Principles.....	7
4.1 Transparency Requirements.....	7
4.2 Comparability.....	7
4.3 Product Averages and Product Families.....	7
4.4 Communication Format.....	7
5 LCA Methodology Rules.....	8
5.1 Core Product Category Rules (Core Calculation Methods).....	8
5.2 Declared and Functional Units.....	9
5.3 Cut Off Rules and Inclusions.....	9
5.4 Mass Balance.....	10
5.5 Process Emissions.....	10
5.6 Allocation Approach.....	10
5.6.1 General Allocation Procedures.....	10
5.6.2 Allocation of Waste.....	11
5.6.3 Allocation of Co-Products Used in Cement and Concrete Products.....	13
5.7 Primary Data Requirements.....	13
5.8 Data Quality Information.....	13
5.9 Use of Secondary LCA Data.....	14

5.10	Electricity and Biogas Energy.....	14
5.11	Biogenic Carbon Content (Carbon Sequestration) .....	15
5.12	Gross and Net GWP Accounting .....	16
5.13	Capital Goods.....	17
5.14	Supporting and Indirect Business Activities .....	17
5.15	Products with Operational Energy Consumption .....	17
5.16	Carbon Offsets.....	17
5.17	Mass Balance Approach .....	18
5.18	System Expansion .....	18
5.19	Core Environmental Indicators.....	18
5.20	Provision of Additional Environmental Information .....	19
5.21	Requirements by Lifecycle Stage.....	19
5.21.1	Modules A1–A3.....	19
5.21.2	Module A4.....	20
5.21.3	Module A5.....	20
5.21.4	Modules B1–B7.....	20
5.21.5	Modules C1–C4.....	21
5.21.6	Module D .....	21
5.22	Climate Declarations.....	22
6	Project LCA Report .....	23
7	EPD Content .....	24
7.1	Declaration of General Information .....	24
7.2	Life Cycle Impact Assessment Method and Impact Indicators.....	24
7.2.1	Updates to Characterisation Factors.....	24
7.3	Additional Reporting Requirements.....	24
7.4	Presentation of Results.....	24
7.5	Period of Validity .....	24
	References .....	25
	Appendix A - PCR Review Statement .....	26

# 1 Introduction

## 1.1 Background

Environmental Product Declarations (EPDs) are Type III environmental declarations, providing independently verified life cycle assessment (LCA) results for products and services. They enable stakeholders across the construction value chain to access environmental data, supporting procurement decisions, design choices, and regulatory compliance.

This Product Category Rules (PCR) document has been developed for the Circular Ecology EPD Programme, with a goal to align with international best practice, such as the LCA calculation requirements set out in the ECO Platform – LCA Calculation Rules and Specifications for EPDs. It establishes general principles and methodological rules specific to construction and building sector products and services, while programme level requirements such as verification, publication, and validity are defined in the Circular Ecology General Programme Instructions (GPI).

The PCR is intended for use by manufacturers, industry associations, LCA practitioners, and verifiers working with construction products and services. It provides a common reference framework for construction product EPDs under the Circular Ecology EPD programme.

## 1.2 How to Read this PCR

This PCR covers various requirements and recommendations; the following language is applied:

- “Shall” – clauses written with “shall” are a mandatory requirement. They shall be adhered to.
- “Should” – clauses written with “should” are recommended. Typically, if they are not adhered to, it requires justification.
- “May” – clauses written with “may” are permitted.

## 2 Scope and Application

This section defines the purpose, coverage, and limitations of this PCR. It explains what the PCR is designed to achieve, the standards it follows, the types of products and declarations it applies to, and the boundaries of its use.

This PCR shall be read in conjunction with the Circular Ecology GPI. Matters relating to EPD development, verification, validity, registration, and publication are defined in the GPI. Methodological rules specific to life cycle assessment are defined in this PCR.

### 2.1 Objectives of this PCR

The objective of these Product Category Rules (PCR) is to provide the methodological framework for the development of Environmental Product Declarations (EPDs) under the Circular Ecology EPD Programme. This PCR provides additional requirements and relevant provisions for developing EPDs in accordance with ISO 14025:2006. It applies specifically to construction products and services used in the construction sector (including buildings and infrastructure).

It builds on the basic principles of life cycle assessment set out in ISO 14040:2006+A1:2020 and ISO 14044:2006+A2:2020. This PCR is applied in addition to a core calculation method (core PCR), such as defined in Section 5.1. These include:

- **EN 15804:2012+A2:2019** – *Sustainability of construction works – Environmental product declarations – Core rules for the product category of construction products. [hereinafter referred to as EN 15804];* or
- **ISO 21930:2017** – *Sustainability in buildings and civil engineering works – Core rules for environmental product declarations of construction products and services. [hereinafter referred to as ISO 21930].*

This PCR shall also be read in conjunction with the Circular Ecology General Programme Instructions (GPI), which define programme level rules for verification, validity, and publication.

### 2.2 Scope of this PCR

This PCR applies to all construction products and services (including buildings and infrastructure sector products). See the definitions at the front of this document.

For example, raw materials, intermediate products, finished building and construction goods, and building and construction related services (e.g. installation, maintenance, demolition).

It is intended for use by manufacturers, suppliers, industry associations, and other organisations developing EPDs within the Circular Ecology EPD Programme.

### 2.3 Declared and Functional Units

Declared units shall be used as the default reference. Functional units may only be applied for cradle to grave EPDs that are supported by a defined reference service life (RSL).

## 2.4 System Boundaries and Modules

The system boundaries and life cycle modules for EPDs under this PCR are aligned with those defined in EN 15804. This Modular structure shall be used regardless of the core calculation method chosen. The Modules are shown in Figure 1.

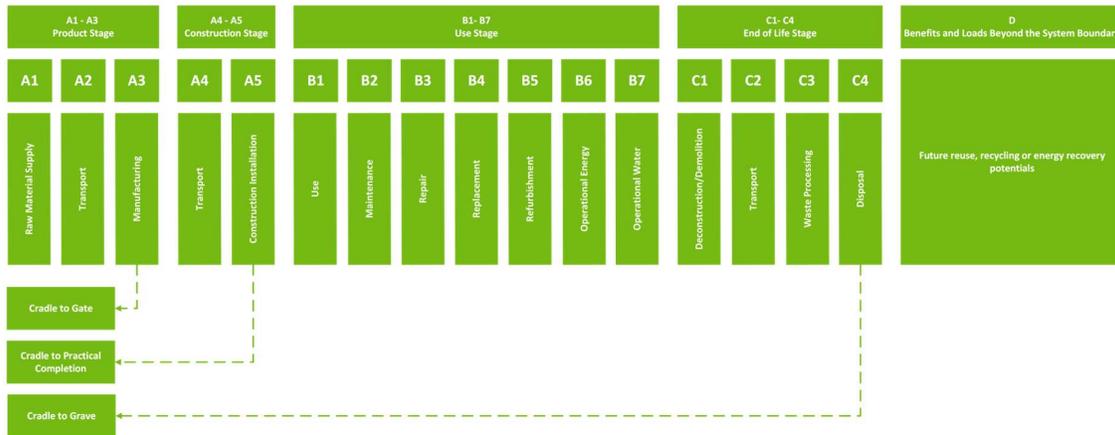


Figure 1 - EN 15804 Module Diagram

EPDs developed under this PCR shall only cover one of the following scopes:

### 1. Cradle to gate

- Modules A1-A3.
- May be used for EPDs selecting ISO 21930 as the core PCR.
- Shall only be used for EPDs selecting EN 15804 as the core PCR where an exemption applies. Exemptions are defined further below in this section.

### 2. Cradle to gate with modules C1-4 and module D

- Modules A1–A3, C1–C4, D.
- Mandatory minimum scope for EPDs selecting EN 15804 as a core PCR unless an exemption applies. Exemptions are defined further below in this section.

### 3. Cradle to gate with options, modules C1-4 and module D

- Modules A1–A3, C1–C4, D, plus optional modules. Additional modules may be one or more from A4-A5 and/or B1–B7.
- Module B6 is mandatory for products that consume energy in operation.

### 4. Cradle to grave and module D

- Modules A, B, C, and D.
- EPDs applying a functional unit shall cover the cradle to grave boundary.

Excluded life cycle modules shall be justified and reported in the project LCA report and in the EPD.

**Exemptions:** For EPDs selecting EN 15804 as the core PCR, certain products are exempt from including Modules C and D, provided **all three** conditions of EN 15804 Clause 5.2 are met:

- The material or product is physically integrated with other products during installation so that it cannot be physically separated at the end of life.
- The material or product is no longer identifiable at the end of life due to physical or chemical transformation.
- The material or product does not contain biogenic carbon.

## 2.5 Alignment with Industry PCRs

This PCR should be applied to EPDs under the Circular Ecology EPD programme, for building and construction sector products and services. This PCR cannot be applied in isolation; it requires the selection of a core calculation method (core PCR). This is either EN15804 or ISO 21930 (or both where no conflicts arise), care has been taken in the development of this PCR to avoid conflicts with these two standards. However, should a conflict arise, the requirements of the core PCR take precedence.

For EPDs selecting EN 15804 as the core PCR, any complementary PCRs according to EN 15804+A2 published as EN standards by the European Committee for Standardization (CEN) that is relevant to the product and adopted by the Circular Ecology EPD Programme, shall have precedence over any other c-PCRs and over this Circular Ecology PCR.

This PCR may also be applied in combination with a non-CEN complementary PCR (c-PCR) for a more specific sub-category of construction products, from either Circular Ecology or other operators. Only c-PCRs approved for use in the Circular Ecology EPD Programme shall be applied.

Further details on the process to identify and avoid conflicts between PCRs (this PCR, the core calculation method (core PCR), complementary PCRs from CEN, or approved cPCRs), including the hierarchy, are detailed in the GPI Section 4.3.1 Selection of PCRs. If there are any instances of conflicts between PCRs, they shall be disclosed in the project LCA report and shall include a sensitivity analysis on LCA results.

## 2.6 Limitations

The following limitations apply to EPDs developed under this PCR:

- EPDs shall not be used to make comparative assertions, unless all respective EPDs in the comparison meet fully the comparability criteria defined in ISO 14025:2006, Section 6.7.2; and EN 15804 Section 5.3 (for declarations adhering to this as a core PCR), or ISO 21930 Section 5.5. (for declarations adhering to this as a core PCR).
- The PCR is primarily intended for business-to-business communication. While the information may be accessed by other stakeholders, care should be taken in interpreting results outside the context of EN 15804 or ISO 21930.
- This PCR is not intended for business-to-consumer communications.

## 2.7 Creation and Maintenance of this PCR

This PCR has been developed by Circular Ecology in its capacity as Programme Operator. It was taken through an independent third-party review of LCA experts. The review panel was composed of:

- Dr Jane Anderson (chair), ConstructionLCA.
- Dr Matthew Fishwick, Fishwick Environmental.
- Chloe McCloskey, Independent LCA Consultant.

A panel review statement is contained in Appendix A.

The PCR was also submitted to a public open consultation from 10<sup>th</sup> to 31<sup>st</sup> October 25. It was available on the Circular Ecology website and advertised through Circular Ecology's networks, including 18,000 individuals on their email list and to over 21,000 LinkedIn followers.

The first version of PCR was issued in December 2025. Further updates to the PCR shall be undertaken according to the process laid out in the General Programme Instructions, Section 2.8.

This PCR shall remain valid until withdrawn by Circular Ecology. Its suitability for use will be reviewed in accordance with the General Programme Instructions.

### 3 Key References

The documents below are important for the application of this PCR. For undated references, the latest version applies.

- **EN 15804:2012+A2:2019**  
*Sustainability of construction works – Environmental product declarations – Core rules for the product category of construction products.*
- **ISO 21930:2017**  
*Sustainability in buildings and civil engineering works – Core rules for environmental product declarations of construction products and services.*
- **ISO 14025:2006**  
*Environmental labels and declarations – Type III environmental declarations – Principles and procedures.*
- **ISO 14040:2006+A1:2020 and ISO 14044:2006+A2:2020**  
*Environmental management – Life cycle assessment – Principles, framework, requirements, and guidelines.*
- **ISO 14067:2018**  
*Greenhouse gases – Carbon footprint of products – Requirements and guidelines for quantification and communication.*
- **EN 15941:2024**  
*Sustainability of construction works – Data quality for environmental assessment of products and construction work – Selection and use of data.*
- **EN 15942:2021**  
*Sustainability of construction works – Environmental product declarations – Communication format business-to-business.*
- **ECO Platform (2024)**  
*ECO Platform – LCA Calculation Rules and Specifications for EPDs, Version 2.0 (December 2024). Available from: [www.eco-platform.org/our-documents.html](http://www.eco-platform.org/our-documents.html).*
- **The General Programme Instructions (GPI)**  
*The Circular Ecology General Programme Instructions (GPI).*

## 4 General Principles

This PCR applies the general principles defined in the Circular Ecology GPI, Section 5, which shall be adhered to.

### 4.1 Transparency Requirements

Transparency requirements for EPDs under this PCR are defined in the Circular Ecology GPI, Section 5.3, which shall be adhered to.

### 4.2 Comparability

EPDs developed under this PCR provide environmental information but shall not be used for direct product comparisons unless the conditions of ISO 14025:2006, Section 6.7.2; and EN 15804 Section 5.3 (for declarations adhering to this as a core PCR), or ISO 21930 Section 5.5. (for declarations adhering to this as a core PCR); are satisfied. Comparability rules are defined in the Circular Ecology GPI, Section 5.4.

### 4.3 Product Averages and Product Families

EPDs under this PCR may represent the types of EPDs specified in the Circular Ecology GPI, Section 5.5 on Product Averages and Product Families. The rules and requirements for groupings of products within EPDs are defined within the GPI.

### 4.4 Communication Format

EPDs using this PCR are intended for business-to-business communication. The communication format of the EPD shall be in accordance with EN 15942:2021. Only a valid EPD shall be communicated, e.g. it must be published and remain published and valid.

## 5 LCA Methodology Rules

This section sets out the methodological rules for carrying out LCAs in support of EPDs under this PCR. These rules provide additional requirements to ensure consistency, transparency, and alignment across the programme.

### 5.1 Core Product Category Rules (Core Calculation Methods)

EPDs developed under this PCR shall be based on recognised life cycle assessment calculation methods consistent with the ISO 14040/44 framework with an attributional LCA approach.

This PCR shall be applied in addition to a core calculation method (a core PCR), where the following standards are accepted as core PCRs for EPDs:

- **EN 15804:2012+A2:2019** – *Sustainability of construction works – Environmental product declarations – Core rules for the product category of construction products.*
- **ISO 21930:2017** – *Sustainability in buildings and civil engineering works – Core rules for environmental product declarations of construction products and services.*

Climate declarations may be published to either of the above core PCRs, also adhering to the requirements of this PCR, as a carbon only declaration. Climate declarations do not need a separate EPD to be published, they shall follow all the same rules and requirements but for a carbon only assessment, with only the GWP indicators in the scope of environmental indicators.

A climate declaration shall choose one of the above core PCRs as a carbon only assessment; they may optionally also choose to adhere to the additional requirements in:

- **ISO 14067: 2018** – *Greenhouse gases – Carbon footprint of products – Requirements and guidelines for quantification and communication.*
  - The requirements in the core PCRs shall take precedence over ISO 14067.
  - The requirements of ISO 14067 shall take precedence over this PCR.

*[For statement of clarity, ISO 14067 may only be applied in addition to a core PCR, e.g. EN 15804 and ISO 14067, or ISO 21930 and ISO 14067.]*

For all declarations, the chosen core PCR(s) shall be adhered to, in addition to the requirements of this PCR and the Circular Ecology GPI. The LCA calculations and report shall be produced in line with the requirements of the core PCR(s).

The choice of core PCR should be selected based on geography. For a product that is primarily distributed within Europe, EN 15804 should be selected. For products distributed primarily outside of Europe, ISO 21930 should be selected.

Care has been taken in the development of this PCR to avoid conflicts with the core PCRs. However, in any instances of conflicts between the core PCR and this PCR, the core PCR will take precedence. However, any conflicts are to be declared in the project LCA report, and a sensitivity analysis shall be included in the project LCA report. The conflict shall also be reported to Circular Ecology, so they may consider whether this PCR needs to be updated.

In the case that any of the above standards are updated with new versions, the latest published version will apply, with a 12 month grace period to reflect a transitional period.

Other equivalent recognised national or international standards may be eligible in the future, should they prove to be consistent with the principles and requirements of ISO 14040/44 and ISO 14025, and provide a core LCA calculation method. Interested parties may contact Circular Ecology through [their website](#).

## 5.2 Declared and Functional Units

The declared unit shall be the standard reference for EPDs and shall always be defined in line with the core PCR, being Clause 6.3.3 of EN 15804, Clause 7.1.3 of ISO 21930 and Clause 6.3.3 of ISO 14067:2018.

A functional unit shall only be used in cradle to grave EPDs (although a cradle to grave EPD may be produced with a declared unit). For EPDs using a functional unit, the functional unit shall be defined where:

- **EN 15804 is the core PCR:** According to Clause 6.3.2 of EN 15804, including elements of its definition specified in Clause 6.3.2.1 of EN 15804. The use of a functional unit in an EPD requires a Reference Service Life (RSL) to be specified according to the methodology laid out in Clause 6.3.4 of EN 15804.
- **ISO 21930 is the core PCR:** According to Clause 7.1.2 of ISO 21930. The use of a functional unit in an EPD requires a Reference Service Life (RSL) to be specified according to the methodology laid out in Clause 7.1.4 of ISO 21930.

For all declarations, the mass of the declared unit, or functional unit, shall be stated in the EPD. The mass of packaging in the foreground data shall also be declared in the EPD.

Declared units and functional units should be logical and scalable to the applications (construction projects) where they are consumed. For example, 'm<sup>2</sup>' for a carpet is a logical unit, but 'per kg or tonne' is difficult to apply.

Common units include kg, tonne, m<sup>2</sup>, m<sup>3</sup>, items, per m.

## 5.3 Cut Off Rules and Inclusions

Cut off rules define the conditions under which inputs and outputs may be excluded from the system boundary. The purpose of these rules is to ensure that reported results capture all significant contributions.

- Individual inputs and outputs may be excluded if data is not available, but only where (see EN 15804, Clause 6.3.6):
  - They are less than 1% of renewable and non-renewable primary energy usage and 1 % of the total mass input of that unit process.
  - The total of neglected input flows per module, e.g. per module A1-A3, A4-A5, B1-B5, B6-B7, C1-C4, shall be a maximum of 5 % of energy usage and mass.
- If inputs are excluded within the mass threshold, the results shall be scaled up to reflect a product with a mass of 100%, ensuring a conservative approach to the scaling.
- Excluded flows shall not contain substances known to be particularly hazardous or environmentally significant (e.g. heavy metals, persistent organic pollutants).

- Assumptions and exclusions shall be documented in the project LCA report and in the EPD, along with justification.

## 5.4 Mass Balance

The project LCA report should present a summary of the mass balance, by inputs and outputs from the product system, noting any losses within the system (such as evaporation, waste, etc.).

The mass of the declared or functional unit shall be declared in the project LCA report and in the EPD. The mass of the packaging in the foreground data shall also be declared in the project LCA report and in the EPD.

## 5.5 Process Emissions

Process emissions are released as a direct result of chemical or physical reactions within an industrial process (e.g. from chemical reactions in cement or clay kilns, reduction of iron ore in a blast furnace).

These can represent a significant contribution to certain impact categories of some materials and products and therefore require consideration in the LCA.

- Process emissions for foreground data within the boundary A1-3 shall be included in the LCA.
  - For example, process emissions of kiln fired clay.
- Process emissions in background databases shall not be updated or removed without justified cause, documentation, referencing and approval through the EPD verification process.
- Process emissions that are missing from background databases shall be updated to include them. Any moderations to process emissions in background databases shall be transparently documented in the project LCA report, with a summary note added to the EPD.
- Exclusion of foreground process emissions is only permitted where it can be demonstrated that their contribution is negligible and they fall within the general cut off rules (see Section 5.3).
- The EPD shall clearly state if there are any process emissions in foreground processes, or if none were added to the product system. This requirement does not need to quantify the process emissions in the EPD, although they shall be quantified in the project LCA report.
- The methodology and assumptions used to assess process emissions shall be documented in the project LCA report. A summary shall be included in the EPD.

## 5.6 Allocation Approach

### 5.6.1 General Allocation Procedures

Allocation shall be applied transparently and consistently. Allocation shall follow the requirements of EN 15804, Clauses 6.4.3.1 and 6.4.3.2 (for EPDs selecting this as the core PCR); or ISO 21930, Clauses 7.2.5.1 and 7.2.5.2 (for EPDs selecting this as the core PCR), applying the following hierarchy:

- 1. Process subdivision:** Allocation shall be avoided if possible, by physical causality.

- Inputs and outputs shall be divided into two or more sub-processes wherever possible based on a physical relationship.
  - This is not possible for joint or co-production systems.
- 2. Physical properties where there is a low difference in revenue:** Based on mass or energy content:
- Where there is a relevant physical relationship **and** where the difference in revenue of output between the products and co-products is <25%.
    - The difference in revenue shall be <25% on both the basis of:
      1. The volume of all products and co-products output from the product system; and
      2. Per unit mass output of the product and co-product.
- 3. Economic value:** For all other cases, economic allocation.
- Economic allocation should apply reflective, representative economic values with the methodology disclosed in the project LCA report. Ideally, the average economic value over the 12 month period should be applied. Although if there are justifiable concerns that the last 12 months aren't reflective of normal market conditions, a 3 year average may be applied.
  - Most cases are likely to fall under economic allocation.

**Note:** Processes generating a very low contribution (1% or less) to the overall revenue may be neglected within the allocation.

Allocation shall respect the main purpose of the processes studied, allocating all relevant products and functions appropriately.

Inherent properties (such as biogenic carbon content, energy content, secondary material content) shall only be treated as physical properties, respecting the physical flows of these inherent properties. These flows shall not be allocated; they are inherent properties.

All allocation procedures applied shall be documented in the project LCA report and in the EPD, including justification of the chosen method. The EPD shall provide a summary of co-products allocated in foreground data.

EPDs adhering to ISO 21930 shall ensure the requirements of ISO 21930 Section 7.1.7.2.7 on “Output of waste” are met, which requires usable output flows (such as secondary material, fuel or recovered energy) from the A1-3 boundary to be treated as waste and not co-products.

### 5.6.2 Allocation of Waste

All waste materials shall be allocated according to the polluter pays principles of EN 15804 and ISO 21930, up to the end-of-waste state.

In line with the polluter pays principle, the impacts of production waste within the A1-3 boundary should be allocated to the product system that generated the waste, until the end-of-waste state has been achieved. For example, the embodied impacts of making materials, such as metals, plastics, etc., should be assigned to the product system that generated this waste material. The

corresponding downstream impacts of handling and waste management should also be allocated to the product system that generated the waste until the end-of-waste state is achieved.

The end-of-waste state is achieved when it complies with all of the following criteria (see EN 15804 Clause 6.3.5.5):

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

If all conditions are not satisfied, it is considered as a waste.

For materials that move between two product systems, for example, from the system that generated the waste to the system that consumes these materials, the end-of-waste state would typically be achieved once it has an economic value. This would be achieved once an organisation incurs costs to obtain the waste materials. For example, if an organisation collects the waste material at their own expense, e.g. costs of transport, to use the material as an input in their processes, it would be deemed to have an economic value. In this case, the impacts of the transport of this material are therefore part of the next product system (next lifecycle).

Internally recycled material within a manufacturing operation, such as runaround scrap, shall not be considered as a secondary material input or output, e.g. closed loop recycling within the same manufacturing process doesn't result in an input or an output of this manufacturing process, it instead reduces the quantity of inputs and wastes.

**For declarations adhering to EN 15804:**

For flows that were generated within the A1-3 boundary and were considered as a waste at the point they were produced, it should be considered not possible for them to be allocated as co-products. Allocating waste as co-products would violate the polluter pays principle. The chosen method should therefore be to treat these as waste materials, justified on the basis of adhering to the polluter pays principle required in EN 15804. These flows should therefore be considered as waste, rather than co-products, leaving without allocation of any impacts (e.g. cut-off method) to not violate the polluter pays principle.

These requirements mean that post-consumer recycled material enters a product system without burdens, once its end-of-waste state was achieved in the product system that generated it.

However, pre-consumer recycled material needs to consider if it was at one point after being generated considered as a waste, or if it already met the end-of-waste conditions at the point of generation. For example, if the pre-consumer material was derived from manufacturing defects or breakages and needed to be processed and evaluated further to meet technical and legislative requirements, it would be a waste and would enter a product system without burdens once the previous end-of-waste state was satisfied. However, if the pre-consumer recycled material was expected to be generated from a process and was intended to be used in another production line by

the manufacturer, it would be considered as a co-product and co-product allocation procedures apply. *[Note: In line with Section 5.6.2, internally recycled material within a manufacturing operation, such as runaround scrap, is not considered as a secondary material input or output.]*

If the origin of the pre-consumer recycled material can't be determined, it shall be considered as a co-product, with co-product allocation procedures applying. All calculations and assumptions on the allocation approach, economic values and assumed production systems for the co-product allocation shall be declared in the project LCA report. These requirements are for EN 15804 declarations only.

### 5.6.3 Allocation of Co-Products Used in Cement and Concrete Products

Allocation for processes producing co-products used in cement, mortar and concrete shall use an economic allocation. Examples include, but are not limited to:

- Ground granulated slag, basic oxygen furnace slag, etc., from steel production.
- Fly ash (PFA) and other ash byproducts, e.g. from coal fired electricity generation, waste incineration facilities, etc.
- Artificial gypsum.
- Aluminium oxide containing sources arising as a co-product from alumina products.

**Exemption:** There is an exemption for historic stockpiled waste materials, where the material has been stockpiled for at least 5 years without application, more akin to a waste product. In such cases, the material is treated as a waste product, without the co-product allocation of the original production system. This includes consumption of material from historic stockpiles of fly ash, which was at the time a waste product of coal fired generation, without a demand for the fly ash material, and where the coal fired facility is no longer active. This material may come into the product system as a waste product, rather than a co-product. However, any transportation and processing (such as heat treatment, processing or upgrading) shall be included within the system boundary of the LCA.

## 5.7 Primary Data Requirements

EPDs under this PCR shall follow the primary data requirements in the Circular Ecology GPI Section 5.8.

## 5.8 Data Quality Information

Data quality information shall be included in all EPDs developed under this PCR, in accordance with EN 15941:2024. Notably, the project LCA report shall report in line with EN 15941:2024 Section 7.3.2, and the EPD shall adhere to EN 15941:2024 Section 7.3.3.

All text describing data quality shall use the terminology provided for Quality Level in EN 15804, Table E.1 or Table E.2. This describes data quality in relation to time, geography and technology. The EPD shall specify which table has been applied.

The use of any data assessed to be poor or very poor, according to the definitions in EN 15804, Table E.1 or Table E.2, shall be qualitatively described in the EPD. Any use of fair data for either time, geography and technology that has more than 30 % for any core indicator shall be noted in the EPD.

The published EPD shall provide a summary addressing representativeness, completeness, coverage, precision, consistency, uncertainty, reproducibility and the sources used. More detailed data quality evaluation, including documentation of foreground and background data sources and their versions, shall be provided in the project LCA report.

## 5.9 Use of Secondary LCA Data

Use of secondary LCI and LCA datasets shall follow the requirements in the Circular Ecology GPI Section 5.7. Data shall be selected in accordance with EN 15941:2024 Section 8.4.4.1, which provides a hierarchy for selection, from specific data through to generic and proxy data.

## 5.10 Electricity and Biogas Energy

The default approach in this PCR is a market-based approach for foreground data, e.g. supplier specific electricity emissions factors are applied when there is evidence of contractual instruments (e.g. Guarantees of Origin). Without such evidence, a residual electricity mixture is applied. Residual electricity mixtures may be found in secondary LCA databases; there is also data published for European member countries of Association of Issuing Bodies (AIB)<sup>1</sup>.

Electricity modelling shall follow the requirements of the ECO Platform LCA Calculation Rules and Specifications for EPDs (ECO Platform, Version 2.0, 2024), Clause 2.5.1 - electricity rules for a market-based approach. See Table 2 and Table 3 to aid with interpretation on where to apply actual mix, consumption mix, residual mix, within foreground and background data sources.

The EPDs may optionally publish as supplementary information GWP A1-3 results with a location-based method.

Biogas modelling shall follow the requirements of the ECO Platform LCA Calculation Rules and Specifications for EPDs (ECO Platform, Version 2.0, 2024), Clause 2.5.2 - biogas rules.

For an entity producing more than one product, pooled energy resources with contractual instruments shall not be virtually allocated to specific products unless a separate energy supply and contract is in place, in line with the requirements of ECO Platform LCA Calculation Rules and Specifications for EPDs (ECO Platform, Version 2.0, 2024), Clause 2.5 – Pooled energy resources with contractual instruments.

In addition to the ECO Platform LCA calculation rules and the requirements of the Circular Ecology GPI (see particularly the GPI Section 6.3 on Additional Reporting Requirements), the following shall apply:

- **Energy Supply Commitments**
  - Where renewable or supplier specific electricity is applied or biogas used, the EPD owner shall commit to maintaining an equivalent percentage of certified supply for the full 5 year validity period of the EPD.
  - Circular Ecology reserves the right to request evidence from the EPD owner at any time.

---

<sup>1</sup> Available from: <https://www.aib-net.org/facts/european-residual-mix>

## 5.11 Biogenic Carbon Content (Carbon Sequestration)

Biogenic carbon content shall be calculated and reported in accordance with EN 15804, in both the project LCA report and EPD. The following requirements shall be followed:

- **Reporting Format:**
  - Biogenic carbon content within A1-3 shall be reported separately, in the units of kg C and kg CO<sub>2</sub>e, for the declared or functional unit, for both the carbon content in the product and the carbon content in accompanying packaging. The biogenic carbon content in the product shall also be reported in kgCO<sub>2</sub>e per kg of product.
  - Where the mass of biogenic carbon content in the product is above 5%, the conversion factor to kg CO<sub>2</sub>e shall be provided.
  - Uptake and release of biogenic carbon shall be declared in the relevant life cycle modules where they occur, except for declarations where A5 isn't within the boundary of study which may balance out the biogenic carbon of the packaging in Module A3 (see the bullet on packaging further below). The project report and EPD shall summarise which modules the biogenic carbon was released back to nature.
  - The project LCA report shall document assumptions and data sources for all biogenic carbon modelling.
- **Physical Property:**
  - Biogenic carbon content shall be modelled as a **physical property** for any material, respecting the inherent properties. It shall not be allocated but always reflect the physical properties, as per EN 15804 6.4.3.1.
    - Respecting biogenic carbon content of all flows as a physical property requires no allocation; each flow (e.g. product, co-product, waste) respects its own inherent property. This is not the same as an allocation by mass. For example, in the case of debarking timber, which removes the bark from a log to produce debarked logs and bark chips as separate outputs. These parts of the tree have different moisture contents, and the bark chips may collect debris as part of the process. Moisture content is a parameter that affects the biogenic carbon stored per unit mass of timber. Allocation of the input biogenic carbon by the mass of the output debarked log and bark chips would therefore not result in a correct assignment of the biogenic carbon content. It needs to consider any differences in the moisture content of each output. This requires no allocation, because the biogenic carbon is an inherent property of the bark and the logs, respectively. Each would consider their own mass and moisture content to calculate the biogenic carbon content accordingly. Furthermore, the log may then go through a sawmill, which derives various products and co-products, such as softwood, wood chips, sawdust. A mass based allocation of the biogenic carbon content of the log to outputs would also not respect the biogenic carbon as a physical property. Timber logs are composed of a heartwood core and a sapwood outer zone. These both have different moisture contents, so allocation of the biogenic carbon content by mass of the outputs would

again derive inaccurate biogenic carbon flows. No allocation is needed for physical properties; they are inherent to each material. This example is only regarding physical (inherent) properties; the allocation of other flows, such as energy consumption, emissions, etc., follows the usual allocation requirements of Section 5.6.

- **Packaging:**
  - For packaging, any biogenic carbon uptake accounted for in A3 (or A1–A3 where aggregated) shall be counterbalanced by a corresponding release of biogenic CO<sub>2</sub> associated with packaging disposal in either A5 or A3:
    - For packaging containing more than 5% by mass of biogenic carbon containing material, carbon uptake in A1-A3 shall be balanced with an equivalent release in A5 (or included within A1-A3 if A5 is not declared).
    - For packaging containing less than 5% by mass of biogenic carbon containing material, the balancing out of emissions may be completed in Module A3 directly.
    - The Module where the balancing out of biogenic carbon emissions is completed, e.g. A3 or A5, shall be declared in both the project LCA report and the EPD, for transparency.
  - Biogenic carbon content for packaging in the foreground data shall be reported transparently. It shall be reported separately, in the units of kg, C, and kg CO<sub>2</sub>e, for both the declared and functional unit, and also kgCO<sub>2</sub>e per kg.
- **Biogenic Carbon Degradation in Waste Disposal**
  - For all life cycle modules involving waste disposal (A5, B2-B5 and C4), the degradation of the biogenic carbon in solid waste disposal facilities shall be modelled without a time limit on the emissions. Any expected remaining biogenic carbon shall be treated as an emission of biogenic CO<sub>2</sub> to the air in the relevant disposal module.

The effect of temporary carbon storage and delayed emissions, i.e. the discounting of emissions and removals, shall not be included in the calculation of the GWP.

The effect of permanent biogenic carbon storage shall also not be included in the calculation of the GWP. Removals of biogenic carbon into biomass (with the exclusion of biomass of native forests) and transfers from previous product systems shall be characterised in the LCI as –1 kg CO<sub>2</sub>e/kg CO<sub>2</sub> when entering the product system. Emissions of biogenic carbon from biomass and transfers of biomass into subsequent product systems (with the exclusion of biomass of native forests) shall be characterised as +1 kg CO<sub>2</sub>e/kg CO<sub>2</sub> of biogenic carbon. See EN 15804 Section C.2.4 and ISO 21930 7.2.7.

## 5.12 Gross and Net GWP Accounting

Gross GWP and net GWP accounting are two different approaches to the emissions of incinerating waste in Modules A1-3. These are defined in CEN/TR 16970:2016 Section 6.2.2 and Table 2.

The following rules shall be applied:

- **Clear Accounting Method Chosen:** EPDs may choose to report Net GWP or Gross GWP in the main A1-3 results.
  - However, it shall be stated on the EPD which has been reported in the main results.
  - The A1-3 GWP for the alternative approach should be reported as supplementary information in the EPD, where relevant. For example, if Net GWP was chosen as the main accounting approach, and there is a notable difference in results between the two methods, the Gross GWP should be reported as supplementary information on the EPD.
  - Care should be taken to produce LCA results with a consistent method. Any secondary data sources used that haven't declared the net or gross accounting shall be mentioned in the project LCA report.
- **Additional Reporting:** If the alternative method is reported on the EPD as supplementary information, a descriptive summary of the incinerated waste materials shall be included on the EPD.
- **Module D:** Substitutions are not allowed within Modules A-C. Any potential substitution benefits shall only be reported in Module D, and never used to adjust results in Modules A-C.

### 5.13 Capital Goods

Capital goods, including buildings, infrastructure, machinery, and equipment used in the manufacture of products, should be included in the system boundaries where data is available.

The project LCA report and EPD shall state whether capital goods are included or excluded in the LCA results.

### 5.14 Supporting and Indirect Business Activities

Supporting and indirect business activities are not required to be included in the boundary of the study. Examples include business travel, energy consumption of separate head office facilities, and commuting of staff.

### 5.15 Products with Operational Energy Consumption

All products that consume energy in operations shall include Module B6 within the boundary of the study. EPDs using a declared unit should provide Module B6 per year of operation, making this clear on the EPD. EPDs using a functional unit shall apply the operational energy consumption in Module B6 in line with the specified time period of the functional unit.

### 5.16 Carbon Offsets

Carbon offsetting schemes shall not be used to reduce reported values of global warming potential (GWP) or any other impact categories. Carbon offsetting activities may be described qualitatively as additional information, but shall not affect declared LCA results in a quantitative manner.

## 5.17 Mass Balance Approach

The use of mass balance methods, e.g. to attribute recycled or renewable content to products, is not permitted under this PCR. Only physically traceable inputs shall be included.

No form of mass balance approach shall be used in the LCA, including but not limited to the chain of custody mass balance credit method, the mass balance rolling average percentage when the scope and period do not match the EPD scope and period of primary data, and book and claim methods applied to material flows.

Pooled energy resources with contractual instruments shall not be virtually allocated to specific products unless a separate energy supply and contract is in place, as per the requirements in Section 5.10.

## 5.18 System Expansion

System expansion shall not be used as a modelling approach within the product system. The only exception is Module D, where benefits and loads beyond the system boundary may be declared.

- Within Modules A–C, avoided burden methods or substitution through system expansion are not allowed.
- Module D shall transparently report benefits and loads from the net output flows, separate from the results of A–C.
- Benefits and loads shall be calculated in accordance with EN 15804 and documented in the project LCA report.

## 5.19 Core Environmental Indicators

Environmental indicators are adopted from the core calculation method.

EPDs adhering to EN 15804:

- Shall include “Core environmental indicators” as defined in EN 15804 Section 7.2.3.1.
- Shall include “Indicators describing resource use” as defined in EN 15804 Section 7.2.4.2.
- Shall include “Environmental information describing waste categories” as defined in EN 15804 Section 7.2.4.3.
- Shall include “Environmental information describing output flows” as defined in EN 15804 7.2.4.4.
- May include “Additional environmental impact indicators” as defined in EN 15804 Section 7.2.3.2.

EPDs adhering to ISO 21930:

- Shall include “Impact assessment indicators describing main environmental impacts derived from LCA” as defined in ISO 21930 Section 7.3.
- Shall include “Inventory indicators describing resource use” as defined in ISO 21930 Section 7.2.10.
- Shall include “Inventory indicator describing consumption of freshwater” as defined in ISO 21930 Section 7.2.13.
- Shall include “Environmental information describing waste categories and output flows” as defined in ISO 21930 Section 7.2.14.

- May include “Additional LCA-related environmental information not included in the pre-set LCIAM Indicators” as defined in ISO 21930 Section 8.2.

## 5.20 Provision of Additional Environmental Information

Any additional environmental information, beyond the mandatory environmental indicators of the core calculation method defined in Section 5.19, may be included only if it is based on verified data and statements. Such information shall be separate from the main table of results and indicators.

Such information shall report the method, level of verification and verifier, and enough information for transparency.

Annexes (appendices) to an EPD also fall under these requirements.

Additional life cycle impact assessment results do not fall under these requirements, where they are accepted and recognised methods, such as from TRACI, PEF, and other life cycle impact assessment methods of equal status, which may be published as additional environmental indicators. However, any such additional life cycle impact assessment results shall still be subject to the LCA and EPD verification process.

## 5.21 Requirements by Lifecycle Stage

The following requirements are presented by the lifecycle module. The assumptions, parameters and scenarios for each applicable life cycle stage are to be reported in line with the requirements of EN 15942:2021.

In order to facilitate increased consistency, Circular Ecology maintain a log of common assumptions, as detailed in the Circular Ecology GPI Section 5.13, which is made available to LCA practitioners and verifiers working on EPDs under this programme.

Within all life cycle stages, losses within the lifecycle are to be assigned to the life cycle stage in which they occur. For example, in the case of waste derived from A1-3, the embodied impacts of the original material that ended up as waste, the transport of this waste and waste management emissions of treating it are all assigned to A3. Likewise, if it was generated in A5, from the losses within construction and installation, those impacts are all assigned to A5.

### 5.21.1 Modules A1–A3

Results should, where possible, be reported separately for A1, A2, and A3 and aggregated as an A1–A3 total in the EPD and project LCA report. If reporting separate A1, A2, and A3 wasn't possible, it shall be noted in the project LCA report.

Results for A1-3 shall be presented broken down by inputs and foreground processes in the project LCA report. This breakdown is not required in the EPD, although a breakdown may be included.

Transport shall be based on the real average distances of raw materials, where available. The average distance across the 12 month period of primary data should be applied.

Over-production of onsite renewable electricity shall not be used to reduce the A3 manufacturing energy to below zero. Electricity exported shall not be considered as energy consumed during the A1-3 boundary.

The waste management impacts of production waste, such as landfill, incineration, etc., shall be included in A3. Representative transportation distances to waste management facilities should be

based on data from the relevant national governmental or public sector statistics. In cases where there are no suitable data from such sources, an assumed distance for transport to waste management of 100 km shall be applied.

The assumed vehicle type shall be stated in the project LCA report and on the EPD.

Emission factors for transport shall account for part empty return trips (valid for all transport in all Modules).

The project LCA report shall state full references of all datapoints, and for data from background LCA databases, the exact process names for all inputs and outputs.

### 5.21.2 Module A4

Module A4 shall be modelled using real or representative scenarios for distance, vehicle type, and fuel type. This should be based on the location of the supplier delivered to a typical average location of the construction project where it is installed, giving consideration to the geography declared on the EPD. Where A4 transportation distances cannot easily be determined, or when a disagreement between the verifier and the LCA practitioner cannot be resolved, default values shall be taken from the Royal Institute for Chartered Surveyors (RICS), *Whole Life Carbon Assessment for the Built Environment* (2<sup>nd</sup> edition), Table 17. Emission factors for transport shall account for part empty return trips. Assumptions on average distances and modes of transport shall be documented in the project LCA report and EPD.

### 5.21.3 Module A5

Module A5 shall include product or material installation losses and processes, including energy and ancillary material use (consumables), unless data isn't available and it falls under the cut-off criteria.

If specific data is unavailable, generic or representative data may be used. Where installation waste rates are unknown, default values should be taken from the Royal Institute for Chartered Surveyors (RICS), *Whole Life Carbon Assessment for the Built Environment* (2<sup>nd</sup> edition), Table 18. Assumptions on material loss rates, installation energy and material consumption rates shall be documented in the project LCA report and EPD.

Waste management emissions of construction and installation waste shall be accounted for in A5. Representative transportation distances to waste management facilities should be based on data from the relevant national governmental or public sector statistics. In cases where there are no suitable data from such sources, an assumed distance for transport to waste management of 100 km shall be applied.

The impact of producing, transporting and disposing of any construction waste shall be included in A5. For example, if 1 tonne of material arises as construction waste, the impacts of Modules A1-4 for this material are all assigned to Module A5.

### 5.21.4 Modules B1–B7

Scenario assumptions are permitted for Module B, but all assumptions shall be justified and documented in the project LCA report and summarised in the EPD. For products or materials that consume operational energy, Module B6 shall be included. Operational energy data shall be either based on:

- average recorded data from a representative sized dataset of actual projects, or

- energy consumption models aiming to reflect realistic in-use energy consumption for typical users.

### 5.21.5 Modules C1–C4

Scenario assumptions for demolition, transport, recycling, recovery and disposal routes are permitted, but they shall be based on representative end of life practice and documented in the project LCA report and EPD.

End of life processing routes, such as % landfill, % incineration, etc., should be based on data from the relevant national governmental or public sector statistics. In cases where there are no suitable data from such sources, default values shall be taken from the RICS, *Whole Life Carbon Assessment for the Built Environment* (2<sup>nd</sup> edition), Table 23.

Representative transportation distances for end of life should be based on data from the relevant national governmental or public sector statistics. In cases where there are no suitable data from such sources, an assumed distance for transport to waste management of 100 km shall be applied.

Assumptions on demolition, transportation, recycling, recovery and disposal routes shall be documented in the project LCA report and EPD.

### 5.21.6 Module D

Scenario assumptions for substitution and recovery processes are permitted only within Module D, but they shall be justified, applied transparently and fully documented in the project LCA report. A summary shall be included in the EPD. See also Section 5.18 on System Expansion.

Module D net impacts shall be calculated in accordance with EN 15804, Clause 6.4.3.3 (for declarations adhering to this core PCR) or ISO 21930, Clause 7.1.7.6 (for declarations adhering to this core PCR). See EN 15804 D.3.4 for the formula on the calculation of Module D net impacts.

For Module D, output flows leaving the system boundary shall consider the net loads and benefits beyond the system boundary. Examples include the export of secondary materials, secondary fuels, and exported energy.

For example, a 10 kg metal product was made using 4 kg of secondary material as input. At the end of its lifetime, an estimated 90% of the product can be recovered for end of life recycling, which creates a net output flow of 5 kg of secondary material. This is calculated considering the 90% recovered at end of life, which provides 9 kg of secondary material. To calculate the net flow, the secondary material input must also be considered. This is 9 kg recovered end of life – (minus) 4 kg consumed as an input to the product system (e.g. at the start of its lifetime), resulting in 5 kg of net output flow of secondary material, e.g. scrap metal. This secondary metal avoids the need for the production of virgin metal in a future lifecycle. The net benefit of this may then be calculated. *[Note: Internally reclaimed material within a process is not eligible for recycled content; see the GPI Section 5.8 for further information]*

The net benefit would be calculated by comparing the environmental impact of producing 5 kg of virgin metal with the impact of producing 5 kg of recycled metal (if a 1:1 substitution). The difference between these is the net benefit created and may be assigned in Module D.

However, the above example is simplified, where there are often losses within a recycling system, so these should be accounted for in the calculation of net benefits and loads, e.g. if 90% of a material was recovered at end of life and sent for recycling there would be further losses within the recycling

system which need to be accounted for in the calculations of Module D. There also needs to be consideration to the impacts from the disposal of the lost material.

It should also be appreciated that a net load may be created. If the secondary material input was 8 kg, but only 70% was recovered at the end of its lifetime (being 7 kg), there is a net output of 7 kg – 8 kg = -(minus)1 kg net output flow of secondary metal. This is a negative number (magnitude) and would likely result in an environmental load instead of a benefit, e.g. when the impact of producing a virgin material is higher than making a recycled material. This is a loss of recycled metal and needs virgin metal to be produced to top it up.

The calculation of Module D shall ensure that net output flows of both positive magnitude and negative magnitude are included in the calculation of loads and benefits.

The calculation of net output flows shall be documented in the project LCA report.

## 5.22 Climate Declarations

Climate declarations are eligible under this PCR. However, they should not claim full adherence to ISO 14025, which would require coverage of a wider set of environmental indicators to adhere to. They may instead state that the calculations are in line with the applicable PCR(s) for a carbon only assessment. Climate declarations do not need a separate EPD to be published; they shall follow all the same rules and requirements but for a carbon only assessment, with only the GWP indicators in the scope of environmental indicators.

## 6 Project LCA Report

The project LCA report shall be written in English and be made available to the verifier and programme operator as part of the verification process in accordance with the confidentiality provisions of ISO 14025:2010. The Project LCA Report is not a public document and does not form part of the published EPD.

If the verifier identifies any aspects of the LCA modelling or LCA Report that are not in conformance with the applicable rules, the verifier may request additional information or further refinement of the underlying data and report.

The structure and minimum content of the project LCA Report shall follow the requirements of EN 15804 Sections 8.2, 8.3 and 8.4 (for EPD claiming adherence to this core PCR) or ISO 21930 Sections 10.2, 10.4 and 10.5 (for EPDs claiming adherence to this core PCR). Practitioners are recommended to refer to those sections for a list of expected contents.

The Project LCA Report shall include sufficient detail to demonstrate conformity with all the requirements within this PCR and with any requirements set within the Circular Ecology GPI.

The Project LCA Report shall include a summary of any environmental indicators that had to be calculated manually, for example, if energy indicators PE(N)RE, PE(N)RM, and PE(N)RT were calculated manually, a full method shall be included in the project LCA report.

The report shall provide complete and transparent documentation of the LCA study, enabling independent verification.

## 7 EPD Content

This section specifies the content of EPDs developed under this PCR. It covers the requirements for general information, life cycle impact assessment, indicators to be reported, additional programme specific rules, and period of validity. Additional information on EPD content under this programme can be found in the Circular Ecology GPI.

The Circular Ecology EPD Template shall be used for all EPDs under this PCR.

### 7.1 Declaration of General Information

Each EPD developed under this PCR shall include a declaration of general information in accordance with:

- Either EN 15804, Section 7.1 (when claiming adherence to this core PCR); or ISO 21930, Section 9.2 (when claiming adherence to this core PCR).
- and the Circular Ecology GPI, Section 6.1 (for all EPDs).

### 7.2 Life Cycle Impact Assessment Method and Impact Indicators

The life cycle impact assessment method (LCIAM) and environmental indicators shall use those stated in the core calculation method selected under Section 5.1. This programme also permits the publication of climate declarations, as described in Section 5.22. Where a climate declaration is issued, this shall clearly be identified as such, with the scope of reporting limited to climate change indicators.

Further requirements on the LCIAM, indicators, and characterisation factors are defined in the Circular Ecology GPI, Section 6.2 and shall be followed.

#### 7.2.1 Updates to Characterisation Factors

Updates to characterisation factors and transition rules are defined in the Circular Ecology GPI, Section 6.2.1. Characterisation factor methods and versions shall be stated in the EPD.

### 7.3 Additional Reporting Requirements

Additional reporting requirements for EPDs under this programme are defined in the Circular Ecology GPI, Section 6.3 and shall be followed.

The EPD shall be published in English.

### 7.4 Presentation of Results

Requirements for the presentation and formatting of results are defined in the Circular Ecology GPI, Section 6.4 and shall be followed.

### 7.5 Period of Validity

The period of validity of EPDs issued under this PCR is defined in the Circular Ecology GPI, Section 6.5. Unless otherwise specially stated in the GPI, the default validity period is **five years**.

## References

**CEN/TR 16970:2016** — *Sustainability of construction works – Guidance for the implementation of EN 15804*. European Committee for Standardization (CEN).

**ECO Platform (2024)** — *LCA Calculation Rules and Specification for EPDs, Version 2.0 (December 2024)*.

**EN 15804:2012+A2:2019** — *Sustainability of construction works – Environmental product declarations – Core rules for the product category of construction products*. European Committee for Standardization (CEN).

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

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

**European Commission JRC (2021, 2023)** — *Product Environmental Footprint (PEF) Methodology and EF 3.0 / EF 3.1 Characterisation Factors*. Joint Research Centre, European Commission.

**ISO 14025:2006** — *Environmental labels and declarations – Type III environmental declarations – Principles and procedures*. International Organization for Standardization.

**ISO 14040:2006+A1:2020** — *Environmental management – Life cycle assessment – Principles and framework*. International Organization for Standardization.

**ISO 14044:2006+A2:2020** — *Environmental management – Life cycle assessment – Requirements and guidelines*. International Organization for Standardization.

**ISO 14050:2020** — *Environmental management – Vocabulary*. International Organization for Standardization.

**ISO 14067:2018** — *Greenhouse gases – Carbon footprint of products – Requirements and guidelines for quantification*. International Organization for Standardization.

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

**RICS (2023)** — *Whole life carbon assessment for the built environment, 2nd edition*. Royal Institution of Chartered Surveyors.

## Appendix A – PCR Review Statement

*[Requirement from GPI: “The PCR document shall include a review statement, either signed by the chair on behalf of all panel members, or signed by each individual panel member.”]*

(Continues on next page).

## **Circular Ecology EPD Programme Product Category Rules (PCR) Review**

This PCR review was on the first issue of the PCR for the Circular Ecology EPD Programme published in December 2025.

### **PCR Review Statement**

The following experts in Life Cycle Assessment (LCA), Environmental Product Declarations (EPD) and construction products have undertaken a PCR review of the Circular Ecology EPD Programme Product Category Rules and issued the following statement:

- Dr Jane Anderson - Chair
- Dr Matthew Fishwick - Panel member
- Chloe McCloskey - Panel member

The review was performed according to Clause 8.1.2 of EN ISO 14025:2010, taking into consideration the EN 15804:2012+A2:2019 and ISO 21930:2017 standards together with the ISO 14040 series of standards. The review considered the Product Category Rules, the General Programme Instructions and the EPD template, to ensure that:

- the PCR has been developed in accordance with the ISO 14040 series of standards and, specifically, in accordance with 6.7.1 of EN ISO 14025:2010;
- PCR complies with EN 15804:2012+A2:2019 and ISO 21930:2017 as relevant;
- the PCR fulfils the General Programme Instructions (GPI); and
- the LCA-based data, together with the additional environmental information prescribed by the PCR, give a description of the significant environmental aspects of the product category.

The Panel made comments on the documents and Circular Ecology responded with amended documents, resulting in the PCR, GPI and EPD Template published in December 2025. The panel confirms that the PCR is in compliance with the referenced standards and complies with the GPI, and agrees that the resulting EPD would give a description of the significant environmental aspects of the product category.

The Panel commends Circular Ecology for its work and its willingness to take account of and incorporate the panel's comments throughout the process.

*Jane Anderson*

Dr Jane Anderson  
PCR Review Panel Chair

Date: 16 December 2025

The comments from the PCR Review Panel and statements of independence and competence for the members of the Panel are available from Circular Ecology on request.