

PRODUCT CATEGORY RULES

Issue date: 07.04.2017

Valid to: 07.04.2022

Version No: 1.0

PART A: CONSTRUCTION PRODUCTS AND SERVICES



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Revision log

Version No.	Description of changes made
1.0	First version of PCR Part A.

Introduction

The product category rules (PCR) in this document are intended for companies preparing an environmental product declaration (EPD) for construction products and services, including construction elements and integrated technical systems used in any type of construction works. Construction elements and integrated technical systems, incorporated within construction works, can be considered as construction products.

The purpose of this document is to define clear guidelines when performing a life cycle assessment (LCA), to ensure that the same LCA methods are being used for any product group, and to support the modularity principal, so that each EPD can be used as an information source for construction works.

NOTE: ISSUES UNDER DEVELOPMENT

This is a restructuring of EPD Norway's PCRs for construction products and services, from a single PCR to a two-part system with a common PCR Part A and a product category specific PCR Part B. During this restructuring process some content has been updated to be in accordance with the development of existing standards (e.g. to refer to EN 15804:2012+A1:2013, instead of older versions). This restructuring and updating is part of the Technical Committee's mandate. The purpose is to ensure harmonisation of the common requirements for all construction products and services.

However, several topics have been identified that have not been possible to resolve during the restructuring and updating. Examples of such issues are accounting of biogenic carbon during the life cycle and insufficient guidance on economic allocation in existing standards. These topics will preliminary be addressed in PCR Part B for the specific product groups, until PCR Part A is revised.

The reason for postponing the revision of PCR Part A is the ongoing revision of ISO 21930, which is a normative standard to this PCR. As of April 2017, ISO 21930 is being revised and is in the Final Draft International Standard (FDIS) stage. When this standard is updated, a revision process of EN 15804 is expected to begin to harmonise both standards. Several of the topics that have not been resolved in PCR Part A are expected to be addressed in the revised ISO 21930 and EN 15804.

See Web appendix section D for an updated list of issues under development.

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1 Scope

The intended application of this set of product category rules (PCR), PCR Part A, is to give guidelines for the development of environmental product declarations (EPD) for construction products and services, and to further specify the underlying requirements of the supporting life cycle assessment (LCA). The core rules valid for all construction products are given in standard EN 15804. The different clauses in this document follow EN 15804, whereby any additional specifications are given here through examples and requirements from EN 15804. The reader of this document therefore needs to have access to EN 15804 and the general programme instruction (GPI) from EPD Norway in order to prepare an EPD.

There are three possible choices for creating EPD's, as shown in Table 1. For choices 1 and 2, the LCA result is reported in relation to a declared unit. It is possible to develop these EPD's with this PCR document, that is to say, without a PCR Part B. This PCR makes it possible to develop an EPD based on a declared unit. An EPD that is based on a functional unit requires an additional PCR, namely PCR Part B. For choice 3, the LCA result is reported in relation to a functional unit (FU). A functional unit makes it possible to compare a product's environmental performance within that product group, so long as the products are based on the same PCR and same FU. This kind of PCR is called PCR Part B, and is developed for a defined product group. A PCR Part B may also be developed to support LCA regulations for a specific product group or service. PCR Part B may be purposefully limited to include specific LCA regulations, and/or a defined functional unit, which will make comparisons possible between EPD's that are based on the same FU, and which are defined under the same PCR Part B.

Table 1: Three choices for creating EPD's

Choice	EPD type	PCR Part A	PCR Part B
1	EPD – cradle to gate	Required	Optional
2	EPD – cradle to gate with options	Required	Required
3	EPD – cradle to grave	Required	Required

2 Normative references

ISO 14025: 2006, *Environmental management – Type III environmental declarations – Principles and procedure.*

ISO 21930: 2007, *Sustainability in building and construction – Environmental declaration of building products.*

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

ISO 15686-1: 2000, *Buildings and constructed assets — Service life planning — Part 1: General principles.*

ISO 15686-8: 2008, *Buildings and constructed assets – Service life planning – Part 8: Reference service life.*

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

EN15942: 2011, *Sustainability of construction works — Environmental product declarations — Communication formats: business-to-business.*

NB: The standards may be referred to in short format for readability. E.g. EN 15804:2012+A1:2013 is referred to as EN 15804 in this document.

3 Terms and definitions

A complete list of definitions is given in EN 15804, Section 3.

3.1 Environmental Product Declaration (EPD)

Environmental declaration providing quantified environmental data using predetermined parameters and, where relevant, additional environmental information.

[EN 15804:2012 definition of *type III environmental product declaration*]

3.2 Life cycle assessment (LCA)

Compilation and evaluation of the inputs, outputs and the potential environmental impacts of a product system throughout its life cycle.

[ISO 14044: 2006]

3.3 Declared unit

The quantity of a construction product for use as a reference unit in an EPD for an environmental declaration based on one or more information modules. Information modules are illustrated in Figure 1.

[EN 15804:2012]

3.4 Functional unit

The quantified performance of a product system for use as reference unit.

[EN 15804:2012]

3.5 Construction product

Item manufactured or processed for incorporation in construction works

Note 1 to entry: Construction products are items supplied by a single responsible body.

[SOURCE: ISO 6707-1:2014, 6.1.2, modified – with ‘construction product’ being indicated, instead of ‘product’ as the primary preferred term used to designate this concept. Note 1 to entry added.]

3.6 Construction service

Activity that supports the construction process or subsequent maintenance

[EN 15804:2012]

3.7 Construction element

Part of a construction.

4 Abbreviations

EPD Environmental product declaration

DU Declared unit

FU Functional unit

PCR Product category rules

LCA Life cycle assessment

LCI Life cycle inventory

LCIA Life cycle impact assessment

RSL Reference service life

ESL Estimated service life

5 General aspects

5.1 Objective of PCR Part A for any construction product and service

This PCR Part A document describes EPD Norway's methodology for creating an EPD for any construction product or service. The basic advantage of one single PCR document, covering all construction products and services, is to guarantee that the same basic methodology is used, and that it supports the modularity principle (i.e. that it should be possible to sum up the results with other subsystems).

This PCR has been prepared in-line with the requirements outlined in EN 15804. Any text or specifications already given in EN 15804 will therefore not be repeated here. For that reason, and for ease of use, this document follows the same headings as given in EN 15804, and if required, introduces appropriate sub-headings.

An EPD created according to EN 15804 provides quantified environmental information for all kinds of construction product and services, in a harmonised and scientific way. Additional Norwegian requirements provide additional information on aspects, such as health aspects during the use stage of a building, or choices regarding electricity mix, as specified in the GPI from EPD Norway.

The purpose of an EPD in the construction sector is to provide the basis for assessing buildings and other construction works, through identifying building solutions, which cause less stress to the environment.

Declarations based on this standard are not in themselves comparative assertions. EPD's of construction products may not be comparable if they do not comply with EN 15804, are not seen in a building context, or are not based on common functional unit, as defined in a PCR Part B.

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5.1.1 Hierarchical PCR structure

The hierarchical PCR structure applied in EPD Norway, allows for the development of specifications in a PCR Part B that provide additional product or service specific requirements to the requirements given in this document (PCR Part A). PCR Part B is optional if the EPD being developed is based on a declared unit (EPD choice 1 or 2). For most construction products, it is recognised that rules given in PCR Part A are sufficient when developing an EPD based on a declared unit. PCR Part A for construction products and services can therefore be used as basis for an EPD, even if a PCR Part B has not yet been developed. However, this implies that the EPD is restricted always use a declared unit, and not a functional unit.

Moreover, a declared unit does not include a full life cycle, and is not anticipated for comparison. An EPD that aims for comparison must be based on a full life cycle, and therefore use a functional unit (EPD choice 3). In this case, it is in EPD Norway's manifest to develop PCR Part B's, as described in the GPI. The main reasons for carrying out a PCR Part B is given below, but not limited to these aspects:

- The calculation rules have to be clarified for a specific construction product or service.
- To support inventory data, for instance where common generic data has to be accepted as specific (used by all).
- Make it possible to add additional environmental aspects or indicators to the EPD reporting format, which are common to that specific product group.
- Make it possible to publish an EPD for comparative purposes that, amongst other things, includes the definition of a functional unit and harmonised scenario settings.

This approach for PCR Part A and B, implemented in EPD Norway, will streamline the work needed for developing an EPD.

5.1.2 Specifications for developing a PCR Part B

The hierarchical PCR approach makes it possible to simplify the development, as well as the reading of, PCR's. As a rule, text from a PCR Part A shall not be repeated in a PCR Part B. This approach does not only simplify the writing or reading of a PCR, but it also reduces redundant information in different PCR's, and simplifies the maintenance of the system itself. This approach therefore supports that modularity between different PCR's are continuously maintained.

By referring to EN 15804 or PCR Part A instead of repeating the most current valid text, changes in a PCR Part A will have a direct effect in already existing PCR Part B's. Consequently, all choice 3 EPD's shall refer to the current version of the PCR Part A used, and the PCR Part B relevant to the product or service being declared. Any future revision of the PCR Part A, will therefore also have a direct effect on all underlying (already running) PCR's, and may overrule specifications made in a PCR Part B. Nevertheless, to avoid misunderstanding, it is recommended that such PCR Part B's must be improved within a given time frame, to handle the revision of the current document. No open consultation, as specified in the GPI, will be required.

When writing the text in a PCR Part B, the same clause structure as defined in PCR Part A shall be maintained. As a rule, directly after each heading, each clause shall be specified as follows:

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- **“As in PCR Part A”**; meaning that the clause remains the same without any additional specifications or comments.
- **“As in PCR Part A, and...”** is followed by an additional requirement; meaning that this requirement is a common requirement within this specific product group.
- **Additional text “... ..”** that specifies the rules given in PCR Part A; meaning that either the aim to clarify or explain what is already regulated in PCR Part A, or that the PCR Part B includes a new rule that is not in conflict with the overarching PCR structure.

When the latter alternative given above is used in a PCR Part B, it is recommended, if applicable, to describe what is already regulated, and give motivations as to why the additional rules are introduced. If the PCR Part B text is restricted to a clarification or exemplification of what is already regulated, it is recommended to repeat part of the overarching PCR Part A text, so that the reader will get a fuller context. In this case, without reading the other documents in parallel.

The approach outlined above, to write a PCR Part B in EPD Norway, will limit the risk for conflicting regulations, will simplify PCR maintenance, and speed up the time for making new product category rules valid. It also supports the modularity principal, since most regulations that affect the modularity principle are already regulated in the overarching documents (NS 15804, GPI and PCR Part A). The writing rules given here concerning PCR Part A and B are valid for EPD Norway, and also follow the approach for PCR's under EN 15804 that are developed by other product technical committees (TC) within the European Committee for Standardization (CEN).

PCR development, shall besides definition of the product group, and if relevant a common declared unit, be focused on:

- 1) Further LCA specification.
- 2) Product group scenario settings.
- 3) Definition of a functional unit.
- 4) Additional environmental indicators or information, in order to handle all significant aspects of a product group, as required by ISO 14025.

If the PCR does not include any of the specification's listed above, no PCR Part B needs to be developed.

5.2 Types of EPD in respect to life cycle stages covered

PCR Part A covers the following types of EPD (see Figure 1):

- EPD 1: Cradle to gate for all products
- EPD 2: Cradle to gate with options
- EPD 3: Cradle to grave

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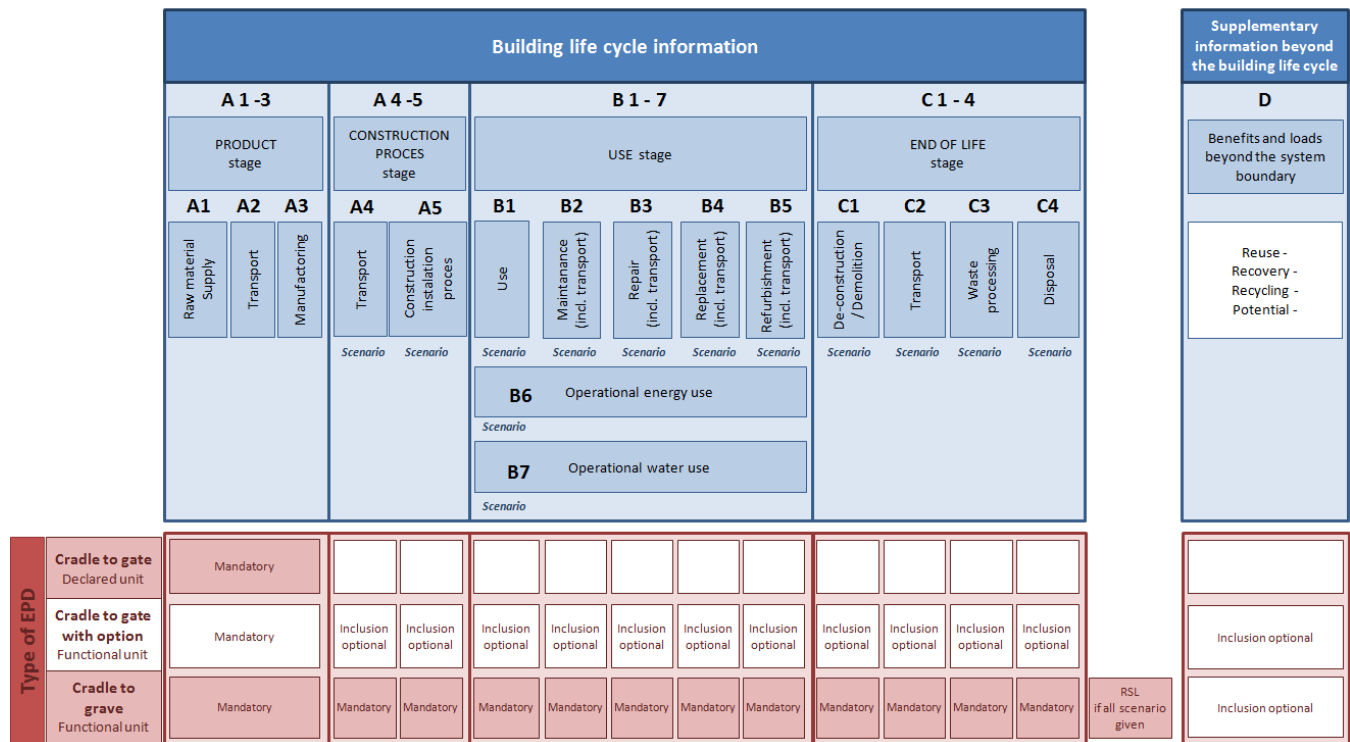


Figure 1: The building life cycle modules and stages as basis for the different types of EPD.

Modules A1 to A3 are mandatory for all construction products.

Modules A1 to A5 are mandatory for construction services. This is a specification in addition to EN 15804, since this matter is not covered in that standard. In this case, life cycle module A5 describes the impact that appears for those parts of the service that are completed in relation to any construction work installed at the construction site. Life cycle module A4 includes the transportation needs arising from the product suppliers and construction workers that perform the service that is declared in life cycle module A5. In other words, life cycle modules A1 to A3 include the upstream impacts that are not emitted at the construction site (A5) or emitted during transport work accounted for in life cycle module A4. An EPD for a construction service is then typically used as a data input in life cycle modules B2 to B5, i.e. used as an input for scenarios for any of the information modules on the construction works level.

5.3 Comparability of EPD of construction products

As in EN 15804.

5.4 Additional information

As in EN 15804, and additional requirements given in PCR Part A Section 7.4.

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5.5 Ownership, responsibility and liability for the EPD

The manufacturer, or group of manufacturers, are the sole owners and have liability and responsibility for the information given in the EPD.

5.6 Communication format

A standardised digital communication format for an EPD, according to EN 15804 is not established, but shall if developed, be in accordance with EN 15942: 2010.

6 Product category rules for LCA

Besides the calculation rules for LCA outlined here in PCR Part A, some construction products and services may also have a PCR Part B developed. These PCR Part B's may include further detailed rules. A list of PCR Part B's are listed in the web appendix to this PCR Part A, and give information as to if the PCR Part B includes:

- 1) Further LCA specification.
- 2) Product group scenario settings.
- 3) Definition of a functional unit.
- 4) Additional environmental indicators or information.

6.1 Product category

This PCR is valid for any construction product or service. The product group includes construction elements and integrated technical systems used in any type of construction works, whereby construction elements and integrated technical systems, incorporated within construction works, can be considered as construction products.

6.2 Life cycle stages and information modules to be declared

6.2.1 General

Which life cycle stages or modules to be included in an EPD are dependent on the type of EPD given in Table 1. EPD's based on EN 15804 shall include the life cycle stages or modules as given in Figure 1.

Besides the mandatory life cycle modules A1 – A3, it is up to each manufacturer to decide the scope of the EPD and the amount of life cycle information modules to be declared.

6.2.2 A1-A3. Product stage, life cycle information modules

The product stage shall include, as given in standard EN 15804:2012, Clause 6.2.2:

- A1, raw material extraction and processing, processing of secondary material input (e.g. recycling processes),
- A2, transport to the manufacturer,

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- A3, manufacturing, including provision of all materials, products and energy, as well as waste processing up to the end-of waste state or disposal of final residues during the product stage.

Module A1, A2 and A3 may be declared as one aggregated module, A1 - A3.

6.2.3 A4-A5. Construction process stage, life cycle information modules

The construction process stage includes, as given in standard EN 15804:2012, Clause 6.2.3:

- A4, transport to the building site,
- A5, installation into the building.

6.2.4 B1-B5. Use stage, life cycle information modules related to the building fabric

The use stage, relating to the building fabric includes, as given in standard EN 15804:2012, Clause 6.2.4:

- B1, use,
- B2, maintenance,
- B3, repair,
- B4, replacement,
- B5, refurbishment.

6.2.5 B6-B7. Use stage, life cycle information modules related to the operation of the building

The use stage related to the operation of the building includes, as given in standard EN 15804:2012, Clause 6.2.5:

- B6, operational energy use,
- B7, operational water use.

6.2.6 C1-C4. End-of-life stage, life cycle information modules

The end-of-life stage includes, as given in standard EN 15804:2012, Clause 6.2.6:

- C1, de-construction, demolition,
- C2, transport to waste processing,
- C3, waste processing for reuse, recovery and/or recycling,
- C4, disposal.

6.2.7 D. Benefits and loads beyond the system boundary, life cycle information module

Module D includes, as given in standard EN 15804:2012, Clause 6.2.7:

- D, reuse, recovery, recycling and/or recovery potentials.

6.3 Calculation rules for the LCA

6.3.1 Functional unit

The functional unit for EPD cradle to grave is defined as:

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e.g. <1 kg/tonne/m²/m³ of treated surface, with a specified function, properly maintained and repaired during a reference service life of 60 years>.

If a functional unit is addressed in the EPD, a conversion factor shall be reported in the EPD to make it possible to recalculate the environmental performance to a physical unit, preferably by mass (kg).

6.3.2 Declared unit

The declared unit for an EPD is cradle to gate and/or EPD cradle to gate with options, and is defined as:

e.g. 1 <kg/tonne/m²/m³> of manufactured product, whereby mass (kg) is the preferable unit.

If the declared unit is not given by mass, where possible, a conversion factor shall be given in the EPD that makes it possible to recalculate the environmental performance to a mass unit (kg).

6.3.3 Reference service life (RSL)

Reference service life (RSL) is only mandatory for EPD's that either include stage B, or a functional unit. If a RSL cannot be established, it is acceptable to use an estimate, or refer to common estimated service lives (ESL), typically found in technical building handbooks. Such an estimated service life shall be supplemented with text in the EPD that explains the origin of the data or information that it is an estimate. It is also allowed to assume that the construction product will last as long as the building part as defined by NS 3451: 2009 table of building parts (e.g. superstructure etc.) of the construction works, if relevant.

If the use stage and a FU are reported in an EPD, and a reference service life is applied, the settings valid for the RSL shall be documented in the EPD as specified accord to EN 15804, Table 10.

6.3.4 System boundaries

EN 15804 gives a detailed description of what is included in each life cycle information module. These module descriptions are valid in PCR Part A without exceptions. Note that the environmental impact related to bought electricity in life cycle module A3 – Manufacturing, is treated as a raw material input and is accounted for in life cycle module A1.

6.3.5 Criteria for the inclusion of inputs and outputs (cut-off)

General cut-off criteria are given in standard EN 15804:2012, Clause 6.3.5.

The declaration of material content of the product in the EPD shall list, as a minimum, substances contained in the product that are listed in the "Candidate list of Substances of Very High Concern for authorization", commonly referred to as the REACH candidate list, when their content exceeds the limits for registration with the European Chemicals Agency (ECHA). Chemicals listed on the Norwegian list of priority substances shall also be listed if the product or service is used in Norway. National priority lists shall be used if this PCR Part A is to be used by other program operators in other countries.

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6.3.6 Selection of data

General requirements and guidelines concerning use of generic and specific data, and the quality of those data, are described in the standard EN 15804:2012, Clauses 6.3.6 and 6.3.7.

In addition, the following rules should be applied:

- For manufacturing of a product, specific annual data shall be applied.
- Actual data age (when data was collected) shall be stated.
- For upstream processes, EPD's are preferable, followed by specific data. Generic data should only be used if the other two categories are not available.
- When PCR's are available for other background data, the procedures in the respective PCR's shall be followed.

MODULES	A1-A3		A4 and A5	B1-B7	C1-C4	D
	Production of commodities, raw materials	Product manufacture	Construction processes	Use processes	End-of-life processes	Next product system
Process type	Upstream processes	Processes the manufacturer has influence over	Downstream processes			
Data type	a) EPD-data b) Specific data c) Generic data ¹	Manufacturer's average or specific data	Generic data			

Figure 2. Application of generic and specific data

6.3.6.1 Data for electricity

EPD Norway allows two approaches to be used for electricity, namely a physical national grid mix, or an electricity source with a guarantee of origin.

In the case of a physical grid mix, it shall be from the country where energy consuming processes take place. The mix of electricity (calculation procedure) shall be documented in the LCA report. Any deviations from these requirements shall be justified. If the manufacturer purchases guarantees of origin for their electricity, these may be used instead of the physical grid mix of the country according to the requirements given in the GPI.

Guidance for calculating the electricity grid mix:

- The electricity mix used shall be the national production mix, including imports, direct emissions, infrastructure and transmission losses. This scope shall be applied for electricity bought in life cycle modules A3 and A5 (if reported). If the available LCI data does not follow this approach for electricity consumed in A3 and A5, then a calculation based on statistics has to be performed.
- Specific data for electricity consumed in life cycle module A3: Average values from the last 3 to 5 years should be used, if the mix is not stable.

¹ See CEN/TR 15941 "Sustainability of construction works — Environmental product declarations — Methodology for selection and use of generic data".

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- Upstream processes (other than electricity bought in life cycle modules A3 and A5) may use data for electricity that is typically found in commercially available databases, as long as they are for a valid country.

Guidance for guarantees of origin:

- Manufacturers that purchase guarantees of origin may use this instead of the grid mix given for the country of manufacture. If guarantees of origin are used, the manufacturer shall ensure that these are used throughout the validity period of the EPD. (The specifications given here may be overruled by requirements given in the General Programme Instructions, Section 4.4).

It is recognised that the physical electricity mix can be calculated in Europe, based on statistics published by ENTSO-E. See also **Feil! Fant ikke referansekilden.**, whereby ENTSO-E information is summarised, so that it can be combined with generic data for different energy sources, in order to calculate the environmental performance of the electricity grid in some countries.

6.3.6.2 *Losses taken into account by different users and the installed voltage supplied*

If this information is lacking in the national average, grid losses may be used.

See also Section **Feil! Fant ikke referansekilden.. Feil! Fant ikke referansekilden..**

6.3.7 Data quality requirements

The quality of the data used to calculate an EPD shall be addressed in the LCA project report (see Chapter 8 and ISO 14044: 2006, Clause 4.2.3.6). The specific requirements given in EN 15804:2012, Clause 6.3.7 apply for construction products. In addition, the following requirements shall be applied:

- When calculating cradle to gate data as input data, the PCR for the given product shall be used. For instance, for directly consumed heat and electricity, infrastructure shall be included in accordance with PCR for Electricity, Steam, and Hot and Cold Water Generation and Distribution, PCR CPC 17 [1].
- Hazardous waste shall be specified according to relevant national regulations (specific and/or average background).

6.3.8 Scenarios at the product level

Scenarios for construction, use, end-of-life and transport shall be described and documented in the LCA report according to EN 15804:2012, Clause 7.3, Tables 5-10. PCR Part B is required if a cradle to grave EPD with a functional unit is aimed for.

6.3.9 Units

As in EN 15804.

6.4 Inventory analysis

Data collection shall follow the guidance provided in ISO 14044:2006, Clause 4.3.2. The same calculation procedures shall be applied consistently throughout the study in life cycle information module A to C.

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When transforming the inputs and outputs of combustible materials into inputs and outputs of energy, the net calorific value of fuels shall be applied according to scientifically based and accepted values, specific to the combustible material.

6.4.1 Allocation of input flows and output emissions

As in EN 15804.

6.5 Impact assessment

The impact categories listed in EN 15804 shall be used, including the additional indicators listed in Clause 7.2.3. Supplementary indicators may be added, however this requires the development of a PCR Part B.

7 Content of the EPD

7.1 Declaration of general information

The content of the EPD shall follow the instructions given in EN 15804 Clauses 7.1 and 7.2.

The EPD template from EPD Norway provides requirements and guidelines for the content and format of the EPD. Pages 1, 2 and the last page of the EPD template are mandatory.

Note 1: For transparency, it is recommended to report separately on indicators related to issues under development. Examples where this may be applicable are biogenic carbon, greenhouse gas emissions from direct land use change, carbonation, etc.

7.2 Declaration of environmental parameters derived from LCA

7.2.1 General

Documentation of technical information for the construction process shall follow the requirements given in EN 15804 Clause 7.3.2.

7.2.2 Rules for declaring LCA information per module

The rules shall follow EN 15804 Clause 7.2.2.

7.2.3 Parameters describing environmental impacts

Parameters describing environmental impacts shall follow the requirements given in EN 15804 Clause 7.2.3.

7.2.4 Parameters describing resource use

Parameters describing resource use shall be according to EN 15804:2012, Table 4.

Note 1: Energy use is calculated as net calorific value (NCV), also known as lower heating value (LHV) or lower calorific value (LCV).

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Note 2: Water use is calculated as net use of fresh water, also known as water consumption. See CEN/TC 16970 Section 7.2.4.2 or ISO 14046 for further guidance.

7.2.5 Other environmental information describing waste categories and output flows

Parameters describing other environmental information describing waste categories and output flows shall be carried out according to EN 15804, Tables 5 and 6.

7.3 Scenarios and additional technical information

7.3.1 General

Documentation of technical information for the construction process shall follow the requirements given in EN 15804 Clause 7.3.2.

7.3.2 Construction process stage

7.3.2.1 A4. Transport from production site to the construction site

The construction or service site transportation stage shall be specified according to EN 15804, Table 7 for construction products and for services, if relevant.

If no official statistic is available, including statistics from the manufacturer, then estimated transport scenarios and distances may be used and documented in the EPD. It must then be stated that the scenario is based on an estimated figure, and the scenario should document what it is geographically representative of. It is also possible to include numeral transportation scenarios. i.e. different alternatives for A4 in the same EPD and results table.

7.3.2.2 A5. Installation

The installation life cycle module shall be specified according to EN 15804, Table 8.

The installation phase includes all materials and activities connected to installation. If the EPD deviates from the predefined scenarios in PCR Part B, then this shall be clearly stated and justified. Installation also includes the core process of a service. The scope of what is allocated in life cycle module A5 shall be reported in the EPD.

7.3.3 Use stage

The use stage shall be specified according to EN 15804, Table 9.

7.3.4 End-of-life

The end-of-life stage shall be specified according to EN 15804, Table 12.

7.4 Additional information

This clause has a wider scope compared to EN 15804, and includes additional information not derived from LCA.

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7.4.1 Additional information on release of dangerous substances to indoor air, soil and water: Indoor air

As in EN 15804, in addition to the following requirement:

When technical information is available on emissions to indoor air, this should be included here. Examples of technical information include labels, declarations or test results (e.g. Nordic Swan, M1, Emicode EC1, Technical Approval, etc.).

7.4.2 Additional information on release of dangerous substances to indoor air, soil and water: Soil and water

As in EN 15804.

7.4.3 Additional Norwegian requirements

This clause describes Norwegian recommendations given by the programme operator The Norwegian EPD Foundation (EPD Norway).

7.4.3.1 Greenhouse gas emissions from electricity use in A3 Manufacturing

The global warming potential (GWP) of the electricity used by the manufacturer shall be shown in the EPD, as emissions of kg CO₂ equivalents per kWh, or as kg CO₂ equivalents per MJ.

If electricity in A3 Manufacturing is based on guarantees of origin or similar instruments, then the results with the physical national grid mix shall be calculated and reported in the EPD in parallel for reasons of transparency. This additional reporting is limited to GWP.

7.4.3.2 Dangerous substances and content declaration

If the product contains dangerous substances given in the REACH candidate list or the Norwegian priority list, then they shall be declared and justified in the EPD. If no such substances occur the following statement shall be given in the EPD: "The product contain no substances given in the REACH candidate list or the Norwegian priority list". Substances on the REACH candidate list and the Norwegian priority list may be found at:

- <http://www.echa.europa.eu/web/guest/candidate-list-table>
- <http://www.miljostatus.no/no/Tema/Kjemikalier/Kjemikalielister/Prioritetslisten/>

See also the requirements in the [BREEM-NOR A-20 list](#).

7.4.3.1 Carbon footprint

Additional information regarding the carbon footprint can be included. Examples of additional information is carbon footprint declarations (e.g. according to ISO 14067), separate reporting on indicators related to issues under development that are relevant for the carbon footprint, etc.

Ver. 1.0

7.5 Aggregation of information modules

Environmental indicators declared in the individual life cycle information modules shall not be added up into any combination of a total or sub-total for the life cycle stages A, B, C or D. There is one exception, whereby life cycle information modules A1, A2 and A3 may be aggregated into A1 – A3.

8 LCA project report

The LCA project report is the systematic and comprehensive summary of the project documentation supporting the verification of an EPD. The LCA project report shall record the LCA-based information, and the additional information as declared in the EPD, meet the requirements of EN 15804 and PCR Part A. It shall be made available to the verifier with the requirements on confidentiality stated in ISO 14025. The LCA project report is not part of the public communication.

The LCA project report shall follow the instructions given in ISO 14044 Clause 5.2 and EN 15804 Clause 8.

9 Verification and validity of an EPD

The process of verification of an EPD shall be in accordance with EN ISO 14025 Clause 8 and ISO 21930 Clause 9. After verification, an EPD is valid for a period of 5 years. An EPD does not have to be recalculated and revised after 5 years if the underlying data has not changed significantly.

Approved 07.04.2017, valid until 07.04.2022.

Norwegian EPD Foundation, Technical committee



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Leader of the Technical committee

10 Bibliography

1. PCR 2007: Product category rules for preparing an environmental declaration for Electricity, Steam, Hot and cold water, generation and distribution, PCR CPC 17, Version 1.1.
2. NS 3420:2010: Collection of all standards within the NS 3420 series - Specification texts for building, construction and installations
3. EN 15978:2010: Sustainability of construction works – Assessment of environmental performance of buildings – calculation method.
4. Candidate List of Substances of Very High Concern for authorisation,
<https://echa.europa.eu/candidate-list-table>
5. List of Priority Substances. Norwegian Environment Agency, published 02.03.2017,
Norwegian: <http://www.miljostatus.no/Tema/Kjemikalier/Kjemikalielister/Prioritetslisten>

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English: <http://www.environment.no/topics/hazardous-chemicals/lists-of-hazardous-substances/list-of-priority-substances/>

6. NS-EN 15251:2007: Indoor environmental input parameters for design and assessment of energy performance of buildings addressing indoor air quality, thermal environment, lighting and acoustics. Standards Norway.