

ECO PLATFORM

Audit and Verification Guidelines for ECO EPD Programme Operators

Version 6 (March 2023)



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1 INTRODUCTION

1.1 Background

The objective of ECO Platform is the development of verified environmental information of construction products, in particular Type III declarations called EPD (Environmental Product Declarations)¹. The ECO Platform coordinates the development of consistent EPD programmes in Europe and stimulates the use of a common implementation of the EPD methodology based on EN 15804 for the European market, which will lead to a common applicability of EPD between EPD programmes [by-laws ECO Platform 2013.06.04]. The term “EN 15804” means in this document the current version of EN 15804. However, the ECO Platform may have to introduce periods of transition between revisions or amendments of the standard.

The ECO Platform does not act as a programme operator nor supply a “European EPD”. A European organization aiming to develop an EPD of its products using average European data may - for a better recognition and acceptance – use the ECO Platform network, by providing its documents using the service of a programme operator who is an audited member of the ECO Platform, thereby gaining acceptance by other programme operators of the ECO Platform.

1.1.1 ECO EPD according to EN 15804

The European standard EN 15804 is the basis for the common EPD approach by all ECO Platform members. They have committed themselves to follow a common ECO EPD approach according to EN 15804 and its annexes and recommend its interpretation by the corresponding CEN TR 16970 (Sustainability of construction works — Guidance for the implementation of EN 15804) thereby supporting the harmonisation of “core-EPD”. This recommendation is reflected in the verification checklist, which is mandatory to be applied for an ECO Platform EPD.

Of the recommendations for interpretation of EN 15804 in CEN TR 16970 the following did not reach consensus and in consequence are not included in the checklist for verification:

- No requirement where in the EPD document the indicators of an EPD are placed.
- It is optional to follow the guidance of Table 2 in CEN 16970 (polluter pays principle).
- The ECO Platform does not automatically accept default values in c-PCR at ECO Platform level, default values are subject to a case-by-case discussion.

The ECO Platform members also have committed to mutually recognize the EPD when they are verified according to the common ECO procedures laid out in this document, as providing a common level of quality based on ISO 14025 and EN 15804.

These “Audit and Verification Guidelines for ECO EPD Programme Operators” hereafter called Audit and Verification Guidelines; of core-EPD provide the common quality rules for the verification of the EN 15804 requirements only. It does not provide requirements for the verification of any additional information.

The ECO Platform coordinates the development of consistent EPD programmes based on ISO 14025 in Europe and stimulates the use of a common implementation of the EPD methodology based on EN 15804 for the European market.

EPD approach

The European standard EN 15804 is the basis for the common EPD approach by all ECO Platform members.

The ECO Platform members have committed to mutually recognize the EPD when they are verified according to the common ECO procedures described in this document: The Audit and Verification Guidelines

¹ www.eco-platform.org/the-mission.html

The ECO Platform members strive for the highest accepted level of quality of EPD based on EN 15804 and related documents that can currently be expected on the market and which can be mutually recognized.

1.2 Mutual recognition in the ECO Platform

Mutual recognition of EPD deals with the recognition of a specified quality level and requirements regarding the content of an EPD following decisions by the ECO Platform Board. This also includes some issues not dealt with in the CEN or ISO standards mentioned in this document.

Mutual recognition of such a common quality level is a first step towards a broader applicability and improved comparability of EPD issued by different operators.

Mutual recognition of EPD deals with the recognition of a specified quality level and requirements regarding the content of an EPD.

1.2.1 Stepwise mutual recognition

The ECO Platform works along the following steps:

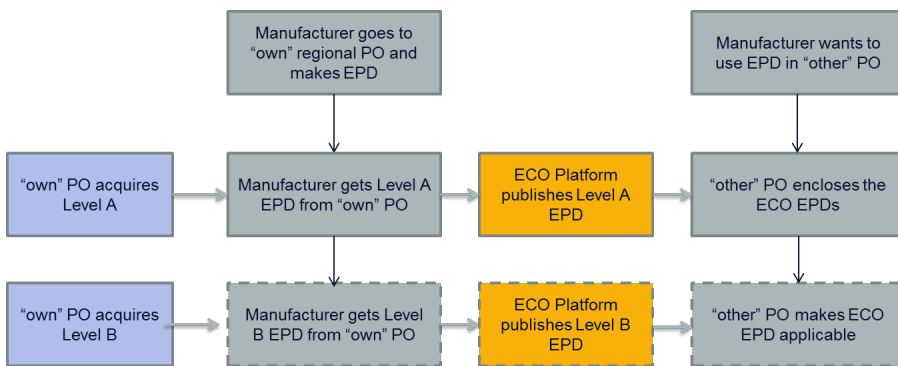


Fig. 1: Illustration of stepwise mutual recognition with level A and level B.

1.3 Level A mutual recognition – quality assurance and incorporation of common approaches:

The ECO EPD programme operator ensures the application of the common ECO Platform quality rules for the verification of the ECO Platform EPD:

- EPD are verified using the verification checklist developed by the ECO Platform, in accordance with EN 15804 and agreed interpretations of this standard in CEN TR 16970.
- The programme operator has implemented the common quality rules for verification – as described in these Audit and Verification Guidelines – in the programme rules.
- An ECO EPD comprises the indicators and technical information identified in EN 15804 and EN 15942 for communication, as well as information necessary to apply the indicator results properly in building assessment.
- Additional information in an ECO EPD is also verified.
- The content of the ECO Platform “List of content to declare in an ECO EPD” (see chapter 4.5 Part C) are declared in the programme operator’s EPD.

Each programme operator is audited according to the ECO Platform audit procedure by a team elected from the other to check the above.

When the audit has been passed successfully, the programme operator is to use the “ECO EPD verified” logo on all issued EPD and to publish all “ECO EPD” digitally via the ECO Portal.

The ECO EPD are recognized by the other ECO Platform members (i.e. recognized to be of the high ECO Platform quality).

1.4 Level B mutual recognition – applicability across different programmes and mobility in Europe

The next step towards better applicability and comparability across different EPD programmes is providing transparency about programme-specific requirements of the different EPD programmes. Furthermore, manufacturers should be able to understand what additional information is required to transform their existing EPD into an EPD applicable in other programmes.

The ultimate goal is to enable EPD freely crossing borders and being applied across Europe without additional modifications. This mobility will not be achieved on short notice, largely due to reasons out of control for the ECO Platform (see Fig. 2). The ECO Platform members are continuously working to progress towards level B.



1.5 Further explanation and examples

The representativeness of an EPD should be transparent in order for the user of the EPD to decide if the data are applicable in a specific situation. Scenarios from B- or C-modules may need adaptation to a specific situation and specific geographic conditions to be used in building assessments. Examples of this are: adaptation of transport distance, specific scenarios for installation or end-of-life, climate dependent service life, etc. In some cases, such specific situations are described as default scenarios in product group specific PCR. While the manufacturer who owns the EPD decides which scenarios are applied in an EPD, the programme operator who issues the EPD ensures through the verification process that the representativeness and the chosen scenarios are clear. The building assessor evaluates this and where necessary adapts the given EPD data and thus brings the scenarios of the product in accordance with the scenarios relevant to the building (EN15978).

NOTE 1 Some EPD may fulfil all additional requirements and are mutually recognized for their quality level, but may not be applicable without modifications for e.g. building calculations in a specific building assessment scheme.

NOTE 2 Verified data in an EPD are for all practical purposes considered factually correct. However, they may not necessarily be applicable in other contexts than the original goal of the EPD.

NOTE 3 An EPD programme may have additional limitations for application related to the required reference databases. This may imply that also the modules A1-A3, although fulfilling the required quality level for mutual recognition, can be subject to additional requirements given in the individual EPD programmes.

Example “background data”: In an EPD for carpets, provided by a carpet manufacturer producing e.g. tufted carpets from a plastic yarn, data sets for the upstream yarn production may differ depending on the database used. Since normally such EPD are most sensitive to the impacts connected to yarn production, the results will differ depending on the background data used. The proposed mutual recognition will imply that the ECO EPD – if according to EN 15804 and verified – must be recognized. However, the ECO EPD could be subject to additional requirements if the data are going to be applied in a certain context i.e. in building assessment schemes with restricted databases.

Example “representativeness”: An EPD for insulation materials declaring the environmental performance representing the products produced by the members of a manufacturer’s association located in Germany probably does not have how the same values as technically the same insulation product produced in Norway by a Norwegian association. When the LCA is conducted correctly, the differences should describe reality closely. However, the German EPD cannot be applied substituting a Norwegian EPD for a Norwegian product unless those data dependent on regional conditions (e.g. provision of electricity and transport) are exchanged. If the German product is applied in a Norwegian building, the German EPD applies, however the transport data shall be adapted.

It is important to declare clearly what the EPD represents by describing the representativeness of the declaration. Modules A1-A3 contain factual information as the production processes have actually happened and can be followed back

Transparent information in an EPD supports the assessment on building level.

Example “background data”:

Example “representativeness”

in principle. However, relevant background data needs to have the appropriate data quality with respect to time and location, which is sometimes difficult to check. Furthermore, the EPD may cover different production averages e.g. association averages or an average product of a manufacturer.

The scenarios in Modules A4-C and D are not factual but are a choice of certain conditions. There the description of the scenario is important. Again, averages may be part of a scenario, in such cases it is also important to be clear about what the scenario represents.

NOTE 4 Some EPD programmes require and verify LCA indicators that are not part of the requirements in EN15804, for example toxicity indicators. If the LCA performed for the ECO EPD results in such indicators, the EPD is accepted as being verified.
This kind of information is typically additional information.

2 AUDIT LEVEL A – QUALITY ASSURANCE AND VERIFICATION

With the ECO EPD Audit, programme operators ensure a common quality of verification of an ECO EPD according to EN15804, ISO 14025 and applying interpretations of agreed CEN/TR16970. In this Version 3 of the Audit and Verification Guidelines, only Level A is dealt with.

2.1 General ECO Platform Audit Procedure for Programme Operators

An emerging or established ECO EPD programme operator is audited by other ECO Platform members checking on compliance with the Audit and Verification Guidelines (latest version applies). Nothing additional to the requirements in this Paper is audited.

Each ECO EPD programme operator² has to be audited successfully before the operator can use the “ECO EPD verified” logo on EPD of its clients.

The ECO Platform Quality and Management WG coordinates the ECO Platform audits. Results of audits (passed/not passed) are reported to the Board by the convenors of Quality and Management WG.

The following Figures 2 and 3 illustrate the different steps of an ECO Platform Audit. The procedure on hand includes the “lessons learned” from the audits of the participating EPD programme operators in 2014 - 2018

ECO EPD programme operator

An emerging or established ECO EPD programme operator is audited by other ECO Platform members to check on compliance with the quality and verification rules in the ECO Audit Guidelines.

Audit procedure level A

² Regardless if the programme operator is established or emerging

ECO Platform Workflow Initial Audit - Audit Part 1

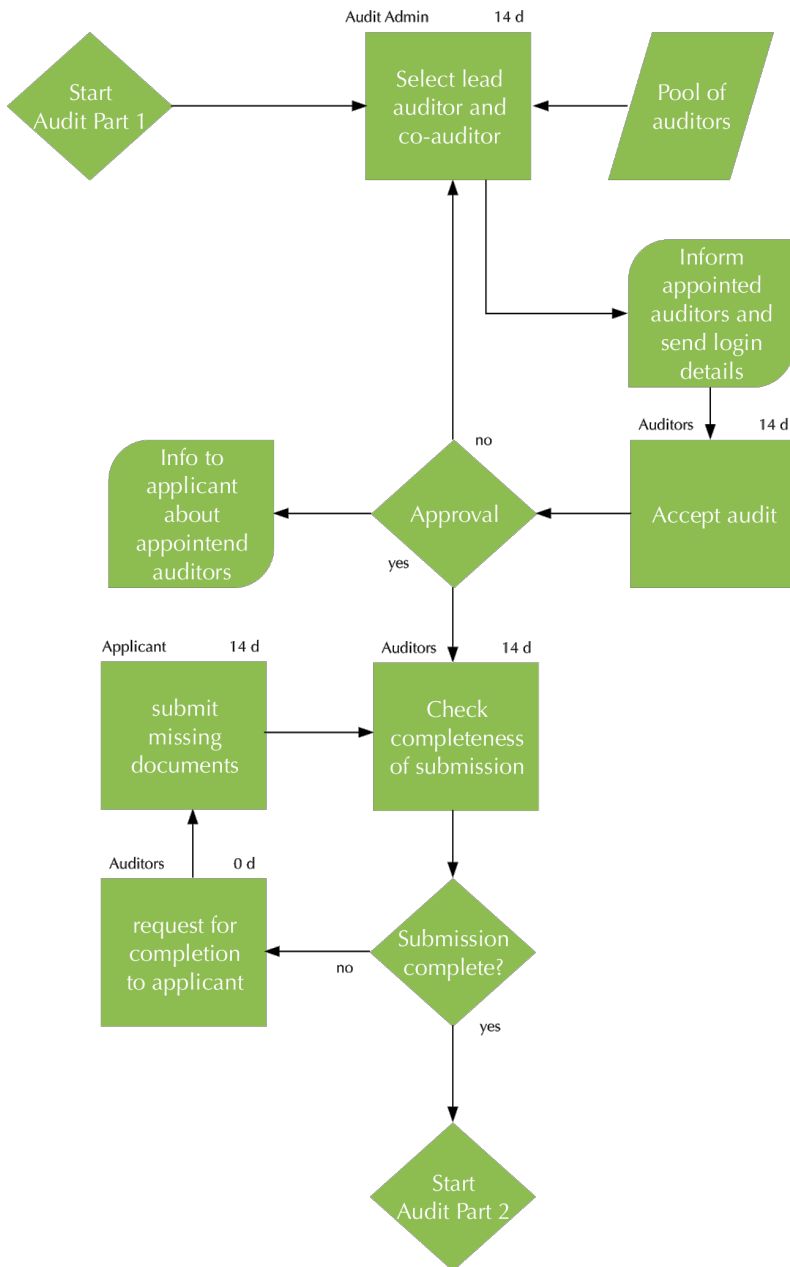


Fig. 2: ECO Platform workflow – initial audit (audit part 1)

ECO Platform Workflow Initial Audit - Audit Part 2

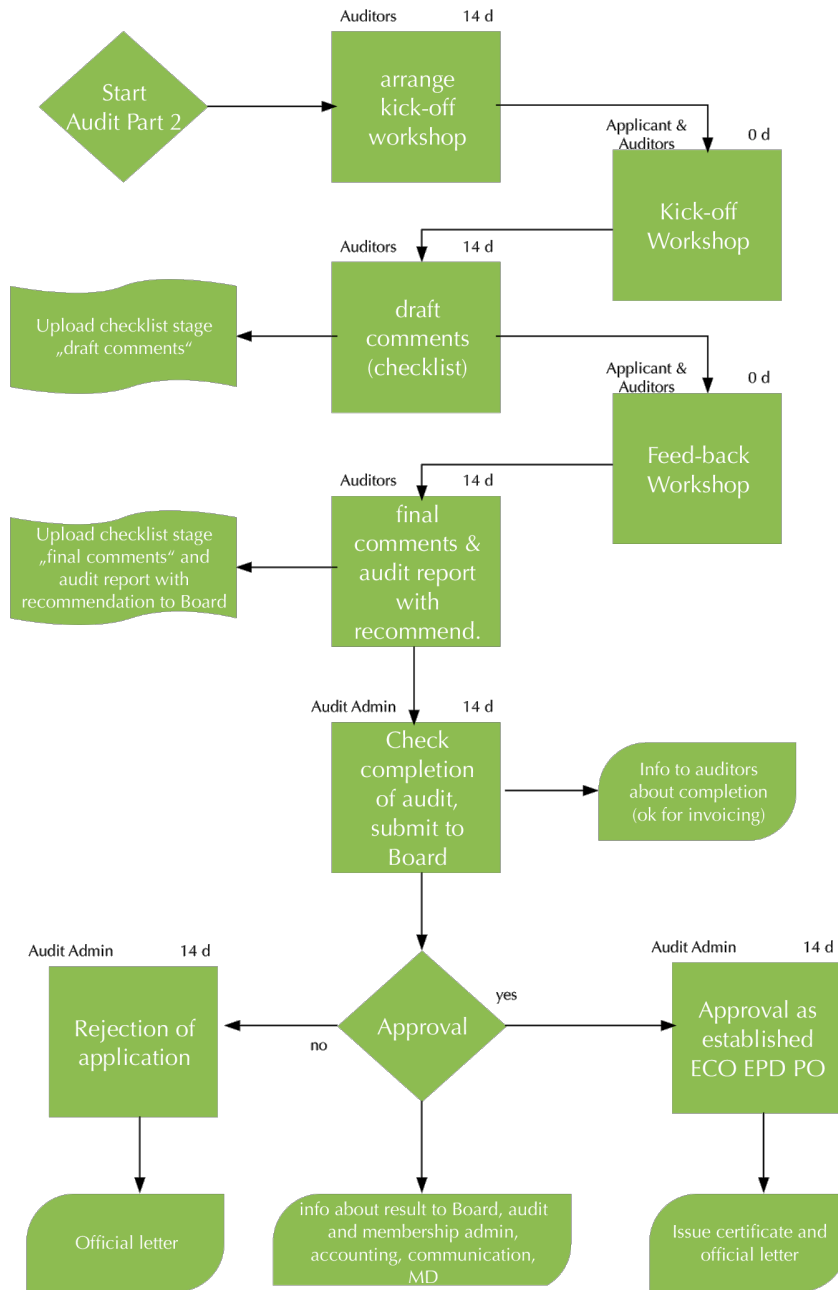


Fig. 3 ECO Platform workflow – initial audit (audit part 2).

2.2 The Audit

The auditors have to check whether the “Audit and Verification Guidelines for ECO EPD Programme Operators” are implemented in the programme operator’s General Rules and other mandatory documents.

The auditor shall check for non-compliance with the Audit and Verification Guidelines in compliance with EN15804. Issues can be compliant or non-compliant.

NOTE 1: The audit is neutral and personal comments should be refrained from.

2.2.1 Time frame to finish the auditing job

1 month to comment as team - as a draft

1 month for asking feedback of the audited programme operator and discuss, and propose a final assessment – feedback is limited to one loop i.e. 2 months in total to finish the procedure.

The exact time frame has to be established between programme operator and auditors before the audit starts.

NOTE 2: if the documentation is incomplete, the programme operator shall get a certain period of time to complete it. The availability of auditors should be taken into account and the lead auditor can decide to change the audit team in case problems occur. From the date of delivery, the time frame for auditors starts again.

2.2.2 Audit checklist and report

The checklist and reporting format in chapter 6.3 Annex C must be used in the audit procedure.

2.2.3 Audit documentation

Each ECO EPD programme operator is audited according to the ECO Platform audit procedure on the above-mentioned issues by a team of 2 auditors, preferably verifiers, provided by programme operators of ECO Platform that are otherwise not involved in the audit process.

For this purpose, the audited ECO EPD programme operator shall provide an internal³ dossier to the auditors in English language including:

- Programme rules
- Evidence that the ECO verification checklist provided in this Audit and Verification Guidelines serves as basis for verification of ECO EPD,
- An example ECO EPD and its verification report
- Transparency about the way the verifier team is composed for the example ECO EPD, showing the independency and qualification of the verifier.

³ Translations do not need to be official for internal audit purposes.

Some program operators have different documents than the ECO verification checklist. In that case it may be required to provide further verification documentation to show to the auditor that the principles and issues of the ECO verification checklist are followed

Each ECO EPD programme operator is audited by representatives of other ECO Platform members to check compliance with the quality and verification rules in chapters 3 and 4. The audit procedure is a separate ECO Platform document.

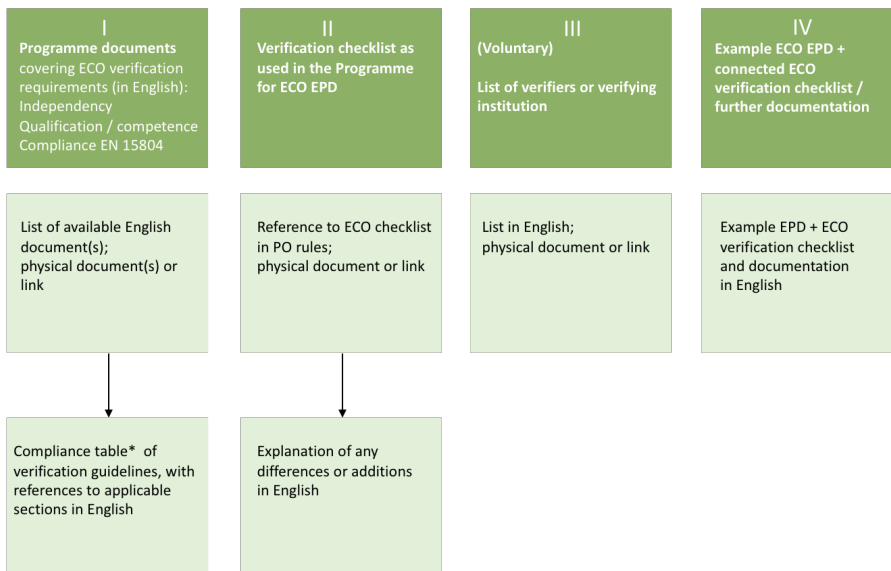
It is not mandatory for the programme operators to have English ECO EPD in general. However, the example ECO EPD, which is part of the Audit by the ECO Platform shall be provided in English. The verification report (e.g. based on the filled out checklist) for the example EPD shall also be made available in English.

NOTE 3: For level A mutual recognition (quality and verification and common approaches) the English documentation is restricted to the verification issues of the Audit process. It is not required to have for example PCR (if existing), verification reports and EPD other than the Example EPD available in English. The required documentation may be further specified in future according to ISO14025, together with ECO Platform Working Group I.

2.2.4 Dossier, Documents to be submitted by PO

The dossier for the audit shall comprise the following (III = voluntary):

Compliance Table of Verification guidelines



In order for the auditor to find the relevant sections for the audit in the programme rules, the dossier shall comprise the following Compliance Table:

Compliance Table of Verification guidelines,
with references to applicable sections in program operator rules

		Document No/ clause [hyperlink]	Website [hyperlink]	Text / explanation
1.	Technical and managerial independency of the verifier from the LCA practitioner and EPD owner. Avoidance of pressure on the verifier*			
1.1	Independent 3rd party verification according to ISO 14025			
1.2	Addressing the risk of pressure from manufacturer / LCA practitioner on verifier – avoiding influence on the outcome			
2.	Qualifications and competence of the verifier with regard to knowledge of and experience in LCA and EPD for construction products. *			
2.1	Individual or team knowledge of and practical experience in LCA (ISO 14040-14044), EPD (ISO14025, EN 15804, ISO 21930) and of construction branch and products / industry			
2.2	Communication of new developments in EPD standards to verifiers and ensuring that new developments are included in programme rules and PCR. – based on available ECO Platform information			
2.3	Appointment and registration procedure for verifiers (including an arbitration procedure in case of complaints)			

3. Compliance EN15804				
3.1	Programme rules confirm aim to be in compliance with EN15804			
3.2	Using a verification checklist based on the ECO checklist, aiming to confirm that the EPD is in compliance with EN15804 (procedural and methodological), that the EPD reflects the underlying LCA, and ensuring a minimum control on validity and plausibility of LCI-data and technical scenarios			
3.3	Having an EPD format in place that is in accordance with EN15804			
3.4	If additional information is required or allowed in the EPD format, clarity is secured for the reader to understand that it concerns additional info, which is not part of core EPD according to EN15804. It is required to have additional information externally verified			
3.5	Having an arbitration procedure in place in case of disputes and complaints			

* The programme operator can present documentation to support the competence, knowledge and implemented procedures in relevant areas. Relevant information for the auditor could be that a verifier or a verifying institute is accredited by a member of the European Cooperation for Accreditation (EA), designated by the European Commission, for a certain field – this could be regarded as a “evidence” of competence in that particular field. The auditor should take into account that the programme operator provides such additional information.

2.3 Auditors

This chapter deals with the auditors and their role: profile of auditors with regards to requirements of experience and references of the individual persons, and how to settle an audit team out of the auditor pool.

2.3.1 Auditor pool and application criteria for ECO Platform auditors

Auditor pool and responsibility of Programme Operators:

Each established programme operator in ECO Platform appoints at least one auditor who is available for 1-3 audits a year and can act within the audit time frame. Other ECO Platform members can voluntarily submit auditors; in that case the same obligations apply.

Auditors are appointed in a rolling approval process throughout a year. The programme operators shall confirm auditors' participation or replacement each year by email. The programme operator must hand over a written commitment to Quality and Management WG that the auditor is able to commit to required audits and the time frames.

Criteria for auditors to be appointed to the ECO Platform pool of auditors

The experience of an auditor does not necessarily require thorough LCA knowledge but must have a focus on audits and verification and understanding the ECO Platform Rules. Good knowledge of the standards ISO 14025 and EN 15804 is required.

Requirements for bodies providing audit and certification of management systems – and an EPD Programme can be considered as such – can be found in “**ISO 17021-1: conformity assessment — Requirements for bodies providing audit and certification of management systems —Part 1: Requirements**”

The Eco Platform refers to this standard and gives special attention to the sub-clauses 9.4.5, 9.4.5.3, 9.4.8, and 9.4.8.1 and, as a general framework, to clause 4 and definition 3.3 linked with 5.2.5.

The ECO Platform also refers to **ISO 19011** which provides guidance on auditing management systems, including the principles of auditing, managing an audit programme and conducting management system audits, as well as guidance on the evaluation of competence of individuals involved in the audit process, including the person managing the audit programme, auditors and audit teams. ISO 19011:2011 is applicable to all organizations that need to conduct internal or external audits of management systems or manage an audit programme. Special attention is given to clause 4 as a general framework and sub-clauses 6.4.6 - 6.4.8 and clause 7.2.3.2 in which generic knowledge and skills of management system auditors as well as audit team leaders are described. Auditors should have knowledge and skills in the areas of audit principles, procedures and methods, as well as managements systems and the ECO Platform documents.

Requirements for auditors

Procedure to provide an auditor by the POs and requirements for the auditors

Criteria for auditors to be appointed

ISO 19011 for the auditing management system

It can be of advantage to have **LCA knowledge** such as:

- General knowledge of industry and product-related environmental matters,
- Good process and product knowledge within the relevant product or service audited,
- Knowledge of the basic LCA methodology,
- In-depth knowledge of the relevant standards in the field of environmental labelling and declarations, and life cycle assessment,
- Experience in critical review of LCA and/or verification of environmental declarations.

Detailed application criteria are provided in chapter 6.1.

Approval of the auditors:

The programme operator or ECO Platform member is responsible for the nomination and screening of the auditor's competences.

Non-disclosure Agreement (NDA) and confidentiality:

The documents, dossier and audit report are confidential and should be dealt with by Quality Management / Audits Manager and defined ECO Platform Audit Team. All parties involved have to sign a confidentiality agreement as provided in chapter 6.2 as part of the application criteria.

All audit relevant documentation should be archived in the ECO Platform Quality and Management system, including the NDA.

2.3.2 Lead Auditor, Auditing teams

The Manager for Quality and Management WG elect the Audit team, including the lead auditor from the pool of auditors for each audit, including recurring audits. The key intention is to establish a rotating scheme in such a way that all auditors in the audit pool are regularly involved in audits.

The audit team consists of 2 persons: minimum 1 person belonging to Established ECO Platform programme operators, the other person can belong to any other Eco Platform member.

The audit team leader manages the planning, leads the team towards conclusions and ensures that the audit report is completed. The generic knowledge and skills of audit team leaders can be found in ISO 19011 clause 7.2.3.4.

The **programme operator** or ECO Platform member is responsible for the nomination and screening of the auditor's competences.

All parties involved have to sign a confidentiality agreement

Audit team, including the lead auditor from the pool of auditors for each audit: minimum 2 persons

2.4 Recurring audit procedure after 3 year-expiry

The ECO Platform Quality and Management WG initiates the recurring audit, by sending a formal letter/email to the programme operator due for audit, in reasonable time before the expiry after 3 years validity time after the last audit. ECO Platform defines the audit team, audit team leader and facilitates an ECO Platform audit start up Telco/web meeting.

Authorisation as established ECO Platform member for 3 years

The ECO Platform programme operator being audited must define a key contact person for the audit and dedicate sufficient resources and time in order effect the audit according to the agreed time schedules.

2.5 Audit information upload on ECO Platform website

ECO Platform will take care of an audit section on the ECO Platform website, with both an internal (confidential) area as well as a public area.

audit information on ECO Platform website

2.5.1 Internal audit information on website

As soon as the ECO Platform website offers the opportunity, all audit results shall be uploaded by the auditors on the confidential area for audits. The ECO Platform will be responsible for keeping the audit documents and other relevant information, such as checklist and report format, pool of auditors etc., up to date.

2.5.2 List of Established Programme Operators

In order to be transparent to customers and to give incentives to pass the ECO Platform audit process, the list of Established ECO Platform members that passed the audit will be publicly available on the website.

established ECO Platform members on ECO Platform website

2.6 Expiry/Periodic audit

The ECO Platform audit is valid for 3 years. After a 3-year period, ECO Platform will initiate and effect a recurring audit. If the programme rules are substantially changed during the 3-year period, an audit before the expiry date is necessary. This can be initiated by the Established ECO Platform programme operator or by the chair of the ECO Platform Quality and Management WG.

2.7 Training of auditors

Each programme operator providing auditor/s to the ECO Platform pool of auditors has the responsibility to make sure that the auditors have up to date competence and that the auditors follow the current ECO Platform Audit and Verification Guidelines.

If necessary and required, ECO Platform will organize an audit webinar training for the pool of auditors.

2.8 Procedure in case of failed audit

In case a programme operator does not pass the audit for becoming an Established EPD PO, the Manager for Quality Management / Audits will inform the ECO Platform Board.

The Board should decide if and which sanctions are required. The Board also has to decide what happens with existing ECO EPD from a programme if they fail the surveillance audit. Sanctions could apply both to programme operator (in case of breach of the responsibilities) and the customers (in case of misuse of the logo or a “failed verification results”). In any case, the “ECO EPD verified” logo cannot be used until the audit has passed successfully.

In both cases, the programme operator will have reasonable time to provide necessary and requested information in order to pass the audit. If the programme operator does not comply and provide missing information and documentation for the audit, the audit is completed but not approved. The ECO Platform member status is changed accordingly.

The invoiced amount for the audit has to be paid in full, even if the result is not approved. If the same programme operator applies again for an audit to become an Established EPD, a full audit procedure will take place and ECO Platform will invoice for the new audit accordingly.

The programme operator, which has not passed the audit, can make a formal written complaint to ECO Platform Board. The Board will discuss, decide and inform the complaint within 6 months.

Training of auditors

Each programme operator providing auditor/s to the ECO Platform pool of auditors has the responsibility to make sure that the auditors have up to date competence and that the auditors follow the current Audit and Verification Guidelines

Actions to be followed if audit fails

3 GENERAL REQUIREMENTS FOR EPD VERIFICATION

3.1 Goal and Scope of ECO Platform EPD verification process

The goal of the ECO Platform verification process and verification content is to define minimum requirements for the of EPD, in order to secure a common quality level of the EPD and a consistent approach with regard to EN15804 and CEN TR 16970.

The Audit and Verification Guidelines refer to ECO EPD, in accordance with EN 15804 and agreed interpretations in CEN TR 16970. They focus on:

- Qualification and quality control of the verifier,
- Content of the verification.

NOTE 1 Verification and appointment of verifiers are dealt with in the individual EPD programs. The ECO Platform will not strive for a common pool of verifiers for the time being; verifiers should be related to specific EPD programmes as this appears to be more practical e.g. for language issues and local market requirements

3.2 Independence

3.2.1 Principle

The technical and managerial independency of the verifier from the LCA practitioner and EPD owner (manufacturer, client) shall be guaranteed. Financial pressure on the verifier should be avoided.

Independence is important to avoid influence on the outcome of the verification.

3.2.2 Requirements

The programme operator shall organize the following:

- 3rd party verification
- Independent 3rd party verification is mandatory. This means that the verifier is based outside the organizations of the manufacturer. If the LCA practitioner and verifier belong to the same organization, they should operate in separate entities. Their independence shall be assured, for example by accreditation of their institution according to ISO 17021. Alternatives are possible as long as the independence of the verifier can be proven and the procedures are in line with the verification requirements of ISO 14025.
- Address the risk of pressure from manufacturer / LCA practitioner on verifier - to avoid influence on the outcome
- Influence or pressure from manufacturer or LCA practitioner on the verifier shall be avoided. The programme operator shall organize the verification procedure and/or backup for the verifier in a way that limits this risk or provides solutions in case pressure occurs.

NOTE 2 While the verifier shall work independently and may not influence the manufacturer and or the LCA practitioner, the latter must answer questions for clarification by the verifier and if needed substantiate claims or meta-information on data. Such

verification guidelines in order to guarantee harmonised verification procedure among the ECO Platform members

Independence is important to avoid influence on the outcome of the verification.

clarification often leads to the elimination of errors or improves the background report.

Limiting the risk of pressure can be done in several ways. For example:

- Payment in advance and/or payment independent of the outcome of the verification.
- The programme operator contracts the verifier and manages the verification process; there is no direct contact between the verifier and the commissioner of EPD.
- The programme operator offers the possibility for verifiers to discuss problems during verification. Further problems should be described in the verification report (which could be disclosed).
- The programme operator has procedure in place to solve potential conflicts between manufacturer/LCA practitioner and verifier;

Examples of how EPD realise independence practically can be found in chapter 5.

3.3 Qualification of the verifier

3.3.1 Principle

Qualifications and competence are important to ensure a certain quality level of the verification and of the EPD. The ECO Platform members strive for the highest level of quality that can currently be expected on the market and which can be mutually recognized.

Qualifications and competence are important to ensure a certain quality level of the verification and of the EPD

3.3.2 Proof of competence

There are several ways for verifiers to indicate their knowledge and experience, and program operators may in detail have different ways to assure the verifiers are competent. For example:

- A defined level of practical experience as LCA practitioner or verifier, e.g. number of years of experience or a number of LCA studies,
- Experience with EPD, e.g. having prepared a certain number of EPD,
- Competence in specific construction product sectors,
- Participation in LCA/EPD standardisation work,
- Participation in LCA/EPD networks, platforms, etc.,
- Coaching or supervision by a more experienced LCA practitioner or verifier if experience is missing.

Competence of verifiers

NOTE 3: A verifier can be a single person, a team of individual persons or individuals in an organisation. Appointment and registration about the way the verifier team is composed should be transparent to ensure independence from the organization to be verified, and to ensure the right competences.

Up-to-date knowledge

The programme operator must ensure that the above-mentioned knowledge and experience is available and up to date at the time of verification.

As a minimum the programme operator must communicate – based on information coordinated or provided by the ECO Platform, if available - about new

Regular training of verifiers is necessary

developments in EPD standards (especially from CEN TC product groups) to verifiers and ensure that new developments are included in programme rules and PCR.

There are several ways for the programme operator to ensure that verifiers' competence is up to date, for example by:

- Training by the programme operator,
- Newsletters, publications on website,
- Requiring the verifier to be up to date when accepting a verification, as part of the overall requirements to verifier,
- Selection of verifier for a specific product group verification process, e.g. based on actual CV.

Appointment and registration

An appointment and registration procedure for verifiers (including an arbitration procedure in case of complaints) shall be part of the programme rules. The appointment and registration can be either organized by the programme operator itself or by a third party.

A list of qualified registered verifiers (can also be the organization as such⁴) should be publicly available or available upon request in case of complaints. Verifiers in person should always be traceable in case of questions.

It is up to the programme operator if the registration is open for all interested verifiers or not, as long as the procedure is transparent.

Examples of how EPD settle the qualification can be found in chapter 5.

3.4 Requirements for verification procedure

3.4.1 Principles

Verification of ECO EPD shall ensure that the EPD is in compliance with EN 15804 and the agreed interpretations of CEN TR 16970 and declares all required content mentioned in chapters 4.2 - 4.4, Parts A-C.

An ECO EPD includes all items stated in the "List of content to declare in an ECO EPD". An ECO EPD may include additional information, as defined in ISO 14025 and EN 15804, based on national requirements or specific market needs. Additional information shall always be verified if included in the ECO EPD.

The verification shall confirm that the verifier could not find any deviation from the compliance of the EPD with the following

- EN 15804, ISO 14025,
- The ECO Platform rules,
- The ECO Platform list of content.

It shall also confirm that the information given in the declaration is in line with the LCA underlying the declaration and that this information is scientifically sound.

Appointment and registration of verifiers

Verification of the ECO EPD shall ensure that the EPD is in compliance with EN 15804 and the agreed interpretations of CEN TR 16970

⁴ As "the verifier" can also be a team of verifiers, an organization can secure to deliver the right team for verification. Appointment and registration about the way the verifier team is composed should be transparent to ensure independency from the organization to be verified, and to ensure the right competences.

3.4.2 Requirements

Verification checklist

The programme operator shall provide a checklist to be used by the verifier for the verification report. This checklist must at least contain all issues mentioned in chapter 4 of this ECO Audit and Verification Guidelines.

ECO EPD

An EPD carrying the “ECO EPD verified” logo shall be verified through a programme operator that has successfully completed the Quality and Verification Audit of the ECO Platform. While all content of the ECO Platform content list is required, the format and the design are not prescribed but the programme operator can decide on its own.

An ECO EPD with this logo can be a cradle-to-gate, cradle-to-gate with options, or a cradle-to-grave EPD.

Additional information in the EPD

An EPD carrying the “ECO EPD verified” logo may contain more information than just the information required according to EN15804. Any such additional information should be clearly separate from the EN15804 indicator results, as shown in the “List of content to declare in an ECO EPD” in chapter 4.5 Part C. Any additional information shall be information required by the respective PCR i.e. judged as relevant by the programme operator and shall be verified according to ISO14025 before being included in the ECO EPD.

Control mechanism and arbitration

If stakeholders (verifier, LCA practitioner, competitor, user of EPD, etc.) have comments, questions or suspect an error in the ECO EPD, this issue should be brought forward to the respective programme operator, not the ECO Platform. For this purpose, the programme operator shall have an arbitration procedure in place to handle disputes and complaints concerning the quality and validity of the EPD.

Examples of how EPD settle disputes about quality can be found in chapter 5.

Requirements

verification checklist- The programme operator shall provide a checklist to be used by the verifier for the verification report.

An EPD carrying the “ECO EPD verified” logo shall be verified through a programme operator that has successfully completed the Quality and Verification Audit of the ECO Platform.

An EPD carrying the “ECO EPD verified” logo may contain more information than just the information required according to EN 15804.

programme operator shall have an arbitration procedure in place to handle disputes and complaints

4 CORE CHECKLIST FOR VERIFICATION

This checklist presents the items that shall be verified as a minimum. It is presented as a 'tick-box'. The verification report shall provide transparency about discussions and (if applicable) improvements having been made according to the verifier's comments. The program operator shall integrate these items into their own verification procedures.

The verifier should by principle not make any recommendations. He/she should be impartial and not try to influence the EPD according to his/her opinion.

The core checklist is limited to data presented in EPD. Some EPD programmes offer the possibility to verify LCA tools for EPD, but for this version of the Audit and Verification Guidelines tool verification is not included.

The verifier shall give a statement about the result of the verification, clarifying at minimum:

- Which EPD is addressed,
- That the work concerned is a verification (not a certification),
- That the verification has been done by an independent 3rd party,
- That the EPD was verified according to EN 15804 and ECO Platform rules or that the EPD was verified according to EN 15804+A2 and ECO Platform rules
- The PCR or c-PCR, which were applied for the EPD, the PCR version shall state which version of EN 15804 was applied.

Examples:

<p>I hereby confirm that, following detailed examination as independent 3rd party verifier, I have not been able to trace any relevant deviations by the Environmental Product Declaration [<i>declaration number</i>], issued for [<i>product name(s)</i>] by [<i>company name</i>] and by its project report from the requirements outlined in the corresponding product category regulations based on EN 15804 (version to be stated) and those interpretations by CEN TR 16970 agreed by the ECO Platform.</p> <p><i>Name of the relevant PCR Guidance</i>⁵</p> <p><i>Reference to the use of the ECO Platform checklist</i></p> <p>The company-specific data and upstream and downstream data have been examined as regards plausibility and consistency; the declaration owner is responsible for its factual integrity.</p> <p>The project report on the Life Cycle Assessment and the report(s) on features of environmental relevance are filed at [<i>name of Program Operator</i>].</p> <p>Name and signature of</p> <table style="width: 100%; border: none;"> <tr> <td style="width: 50%; border: none;">3rd party verifier</td> <td style="width: 50%; border: none;">Place and date</td> </tr> <tr> <td style="border: none;">>>></td> <td style="border: none;">>>></td> </tr> </table>		3 rd party verifier	Place and date	>>>	>>>
3 rd party verifier	Place and date				
>>>	>>>				

Core checklist for verification of EPDs by approved POs and other documents

EPD verification:
general report

NOTE:
For a transition period until October 2022 both versions EN15804:2012+A2:2019 and EN15804:2012+A1:2013 are valid. The EPD must be verified against either one complete version. Verification report general

⁵ NOTE: CEN TC c-PCR documents, if existing, overrule Programme Operator-related PCR documents for the specific product group.

4.1 Calculation rules for the Life Cycle Assessment and requirements on the project report:

This checklist is applicable for EPDs according to both current versions of the core PCR: EN15804:2012+A1:2013 and EN15804:2012+A2:2019.

Where differences occur in requirements or references, the checklist is divided, to accommodate these.

All items in the checklist below must be checked in the verification. Most items are mandatory to check, some are optional. If the issue is in line with the requirements and accepted by the verifier, the box “checked and approved” is ticked.

If the LCA underlying the EPD is already critically reviewed according to ISO 14044 before the verification, no duplications are necessary.

The verifier shall report any deviations from the requirements. The dialogue between verifier and LCA practitioner should be made transparent as well as any improvements made during the verification process. This can be done separately from the checklist (an example is provided below the checklist).

This chapter also presents the specific requirements which apply to Electric and Electronic Equipment (EEE) (including HVAC systems) EPD, where the EEE products are permanently installed into the building or infrastructure.

Specific rules shall be provided, when relevant, into the c-PCR of the Program Operators of ECO Platform Network.

Specific rules are provided, when relevant, for products which are not used in the construction sector by the Program Operators of ECO Platform.

The EPD for EEE products that are considered as construction products shall be developed in coherence with:

- EN 15804+A2
- EN 50693
- Program Operator c-PCR

4.2 Other requirements for EEE products

Regulatory perspective

When an EPD is said to be applicable to a local context (ex. Country specific EPD), the more demanding regulation applying to the local context shall be applied for the calculations of the EPD (ex. recycled content, recovered content, by-product content), if the EPD application requires it.

Therefore, if the country regulation is less demanding than the applicable European regulation, then the European regulation shall apply; if the local regulation is more demanding than the applicable European regulation, then the country regulation shall apply, if the EPD application requires it.

Allocation rules (specific requirements for EEE to 5.4 and 12.1 to 12.9)

See section 5.4 in the checklist.

Information regarding specific allocation rules (rules, factors, interpretation...) which are not described either in EN 15804+A2 or in the applicable c-PCR shall be included in the EPD.

Communication of interpretation (specific requirements for EEE to 15.1 to 15.3)

The information mentioned in 15.1 to 15.3 shall be provided in the background report, and the verifier shall have access to it. They are usually not mentioned in the EPD, which is in line with EN 15804+A2.

Modules B

All modules B shall be presented in the EPD. Technical information for the relevant B module(s) shall be provided in the EPD.

Module B6

B6 (energy consumption) shall be added in EPD of final products which are consuming energy, directly or indirectly (ex. a cable is consuming energy through dissipation/losses in the cable when electricity goes through it)

B6 shall be presented separately to let users of the EPD accommodate the calculation when appropriate.

The program operator shall provide a justified use scenario to apply for each family of products (or Product Category) that it covers within its program, together with the related calculation formula when appropriate. Usually this will be done through a PCR publication (see EPD Italy c-PCR).

When an existing regulation applies to the calculation of B6 at the geographical scope that the EPD states it covers, the “justified use scenario” to calculate B6 shall be the more demanding regulation applying to the entire scope (see also “regulatory context”).

Module D

Module D shall be calculated.

When program instructions do not cover module D, EN 15804+A2 requirements shall apply.

1	General information	Mandatory / optional	Reference	Checked and approved
1.1	Commissioner of LCA study, LCA practitioner	M	EN15804+A1/EN15804+A2 ch.8.2	
1.2	Date of issue of LCA report	M	EN15804+A1/EN15804+A2 ch.8.2	
1.3	Statement that the Life Cycle Assessment study has been performed in accordance with the requirements of EN 15804 and applicable PCR (date and version)	M	EN15804+A1/EN15804+A2 ch.8.1/8.2 + applicable PCR	
1.4	Statement of the version of EN15804+A1:2013 or EN15804+A2:2019 used for the study and EPD	M	EN15804+A1/EN15804+A2 ch.8.2	
1.5	Any other independent verification of the data given in the LCI/LCA documentation?	O		
1.6 EEE	For EEE-construction products: Statement that this EPD follows additional requirements for construction products considered as Electronic or Electric Equipment	M	EN15804+A1/EN15804+A2/EN 50693	
2	Study goal	Mandatory / optional	Reference	Checked and approved
2.1	Reasons for performing the Life Cycle Assessment	M	EN15804+A1/EN15804+A2 ch.8.2	
2.2	Intended application – (e.g. for EPD, databases, publication etc.)	M	EN15804+A1/EN15804+A2 ch.8.2	
2.3	Target group (B2B, B2C,)	M	EN15804+A1/EN15804+A2 ch.8.2	

3	Functional unit / Declared unit	Mandatory / optional	Reference	Checked and approved
3.1	Functional / Declared unit, including relevant technical specification The functional unit of a construction product shall specify: <ul style="list-style-type: none"> • the application of a product or product groups covered by the functional unit; • the reference quantity for the functional unit when integrated in the construction works; • the quantified key properties, when integrated into a building, for the functional use, quantified performance characteristics or minimum performance of the construction product, taking into account the functional equivalent of the building; • the minimum performance characteristics under defined conditions shall be fulfilled over the defined time period of the functional unit; • a specified period of time under reference in-use conditions considering the RSL. If the functional unit uses a different time period than the RSL, the RSL shall be given as technical information in the EPD (see 6.3.3). 	M	EN15804+A1: ch.6.3.1-6.3.2 or EN15804+A2: ch. 6.3.1-6.3.3 and applicable c-PCR	
3.2	Indication of a factor for the conversion into kg	M		
3.3	If product groups (similar products from one manufacturer and/or from different production plants) are formed as averages: <ol style="list-style-type: none"> a. Description of the type of average; b. Calculation rules for the formation of averages; c. Representativeness of averages in the EPD. 	M	EN15804+A1/EN15804+A2: ch.8.2	
4	Product description	Mandatory / optional	Reference	Checked and approved
4.1	Composition of the product The level of detail: the main components necessary to understand what type of product is concerned (detailed mass description is not necessary if confidential). In case of average EPD: at minimum qualitative description of averages and qualitative description of ranges.	M	ISO 14025	
4.2	Description of technical and functional characteristics and area of intended application in the building. In case of average EPD: at minimum qualitative description of averages and qualitative description of ranges of functions	M	Applicable European product standard or c-PCR	
4.3	Flow diagram of main production processes and visualization of system boundaries. Level of detail: see 4.1	M	ISO 14025	

5 +A1	System boundaries in accordance with the modular structure of the EN 15804+A1	M (Not applicable if EN15804+A2 is used)	Reference	Checked and approved
5.1	Description of the LC stages/modules declared. Omissions of life cycle stages declared.	M		
5.2	Comprehensive declaration of modules A1 to A3 as a minimum requirement, A1-A3 can be reported as an aggregated module.	M	EN15804+A1 ch. 6.3.4	
5.3	A1 to A3: System boundary <ul style="list-style-type: none"> • Description of all processes the modules cover • System boundary to nature (e.g. between forest and technosphere in wood production) • Use of secondary materials and secondary fuels and waste produced • Specification of the “end-of-waste state” for material leaving A1-A3 as waste • If part of the energy calculation: Reference to the contract/certificate of green electricity. • No offsetting allowed 	M	EN15804+A1 ch. 6.3.4.2 and applicable c-PCR	
5.4	A1 to A3: Allocation of co-products: <ul style="list-style-type: none"> • Selection of the allocation factors for co-product allocation • Justification of selected allocation method (economic, physical) • Justification of specific allocation processes (e.g. if data are not available to allocate according to the EN15804 rules) NOTE: Application of the “polluter pays” principle to the use of waste as substitute for primary fuels or materials is left to the programme operator; Presentation of the energy and material flows as a result of deviating allocation processes <ul style="list-style-type: none"> • No declaration of loads and benefits in Module D from allocation of co-products in A1-A3 	M	EN15804+A1 ch. 6.4.3.2 + Annex B.1 CEN TR 16970 ch.6.4.3.2 ff	
5.4 EEE	In addition for EEE-construction products: Information regarding specific allocation rules (rules, factors, interpretation...) which are not described either in EN 15804+A1 or in the applicable c-PCR shall be included in the project report and in the EPD.	M	EN15804+A1 ch. 6.4.3.2 + Annex B.1 CEN TR 16970 ch.6.4.3.2 ff	
5.5	A4 to A5 (optional module): Description of all processes the modules cover	M	EN15804 +A1 ch. 6.3.4.3 and applicable PCR	
5.6	Accounting losses in the modules in which they arise (e.g. A4, during transport to construction site)	M	EN15804+A1 ch. 6.3.4.1	
5.7	B1 to B5 (optional module): Description of all processes the modules cover	M	EN15804+A1 ch. 6.3.4.4 and applicable PCR	
5.8	B6 and B7 (optional module): Description of all processes the modules cover	M	EN15804+A1 ch. 6.3.4.4 and applicable PCR	
5.8 EEE	In addition for EEE-construction products: All modules B shall be calculated for the EPD Technical information for the relevant B module(s) shall be provided in project report. B6 (energy consumption) shall be added in the calculation of EPD of final products which are consuming energy, directly or indirectly (ex. a cable is consuming energy through dissipation/losses in the cable when electricity goes through it.	M		

	B6 shall be presented separately to let users of the EPD accommodate the calculation when appropriate. The program operator shall provide a justified use scenario to apply for each family of products (or Product Category) that it covers within its program, together with the related calculation formula when appropriate. Usually this will be done through a PCR publication. When an existing regulation applies to the calculation of B6 at the geographical scope that the EPD states it covers, the “justified use scenario” to calculate B6 shall be the more demanding regulation applying to the entire scope (see also “regulatory context”).			
5.9	C1 to C4 (optional module): Description of all processes the modules cover	M	EN15804+A1 ch. 6.3.4.5 and applicable PCR	
5.10	C3 (optional module): <ul style="list-style-type: none"> • Waste treatment • Materials for recycling • Impacts of recycling processes to achieve end of waste • Justification of the “end-of-waste state”: <ul style="list-style-type: none"> – Existing purpose – Existing market or demand – Compliance with technical requirements and legal guidelines – Fulfils limit values for Substances of Very High Concern (SVHC) 	M	EN15804+A1 ch. 6.3.4.5 Table 6+ 7.2.5 + annex B.1 and applicable PCR	
5.11	C4 (optional module): Is the complete waste disposal process included in this module? Is its inclusion described transparently and is it plausible?	M	EN15804+A1 ch. 6.3.4.5 and ch.6.3.4.6	
5.12	D (optional module): System boundary and contents of module justified Assumptions with regard to substituted processes in D incl. year of reference (e.g. assumptions with regard to substitution of electricity and power production).	M	EN15804+A1 ch. 6.3.4.6	
5.13	D (optional module, thus if covered): Check if the net flow calculation is done correctly, transparently, plausible, taking into consideration relevant factors, e.g.: <ul style="list-style-type: none"> • Processing losses over the whole life cycle (including collection and pre-processing) • Inputs in Modules A1 to A3 (and A4 to B5 if necessary) • The reaching of end-of-waste-state by all waste flows considered in module D 	M	EN15804+A1 ch. 6.3.4.6 and 6.4.3.3	
5.14	D (optional module, thus if covered): No benefits or loads of allocated co-products	M	EN15804+A1 ch.6.4.3.3	
5 +A2	System boundaries in accordance with the modular design of the EN 15804+A2	M Not applicable if EN15804+A1 is used	Reference	Checked and approved
5.1	Description of Life Cycle stages/modules declared. Omissions of the life cycle stages declared	M	EN15804+A2 ch. 5.2	
5.2	Comprehensive declaration of modules A1-A3, C and D as a minimum requirement. If necessary, A1-A3 can be reported as an aggregated module. The minimum requirement can be omitted – are the requirements for exemption met? Only products which fulfil all three of the conditions below shall be permitted to be exempt from this requirement:	M	EN15804+A2 ch. 6.3.5	

	<ul style="list-style-type: none"> the product or material is physically integrated with other products during installation so they cannot be physically separated from them at end of life, and the product or material is no longer identifiable at end of life as a result of a physical or chemical transformation process, and the product or material does not contain biogenic carbon. <p>NOTE 1 This means any product containing biogenic carbon cannot omit the declaration of modules C1–C4 and module D.</p>			
5.2 EEE	<p>In addition for EEE-construction products: All modules B shall be calculated for the EPD Technical information for the relevant B module(s) shall be provided in the project report.</p> <p>B6 (energy consumption) shall be added in the calculation of EPD of final products which are consuming energy, directly or indirectly (ex. a cable is consuming energy through dissipation/losses in the cable when electricity goes through it.</p> <p>B6 shall be presented separately to let users of the EPD accommodate the calculation when appropriate. The program operator shall provide a justified use scenario to apply for each family of products (or Product Category) that it covers within its program, together with the related calculation formula when appropriate. Usually this will be done through a PCR publication. When an existing regulation applies to the calculation of B6 at the geographical scope that the EPD states it covers, the “justified use scenario” to calculate B6 shall be the more demanding regulation applying to the entire scope (see also “regulatory context”).</p>	M		
5.3	<p>A1 to A3: System boundary</p> <ul style="list-style-type: none"> Clear description of what the modules cover; System boundary to nature (e.g. in the case of forests between nature and technosphere); Use of secondary materials and secondary fuels and waste produced (check end-of-waste state); Specification of the “end-of-waste-state” for material leaving A1-A3 as waste; If applicable: Reference to the contract/certificate of green electricity. <p>No off-setting allowed</p>	M certificates optional	EN15804+A2 ch. 6.3.5.2 and applicable c-PCR	
5.4	<p>A1 to A3: Allocation of co-products:</p> <ul style="list-style-type: none"> Selection of the allocation factors for co-product allocation and justification of allocation method; Justification of specific allocation processes (e.g. if data are not available to allocate according to the EN15804 rules); Presentation of the energy and material flows in case of deviating allocation processes; No declaration of loads and benefits in Module D from allocation in A1-A3. 	M	EN15804+A2 ch. 6.4.3.2 CEN TR 16970 ch. 6.4.3.2	
5.4 EEE	<p>In addition for EEE-construction products: Information regarding specific allocation rules (rules, factors, interpretation...) which are not described either in EN 15804+A2 or in the applicable c-PCR shall be included in the project report and in the EPD.</p>	M		
5.5	<p>A4 to A5 optional module, thus if covered: Clear description and content of modules</p>	M	EN15804+A2 ch. 6.3.5.3 and applicable PCR	
5.6	<p>Accounting losses in the modules in which they arise (e.g. A4, transport to construction site)</p>	M	EN15804+A2 ch. 6.3.5.1	

5.7	B1 and B7 (optional modules except for EEE-construction products, thus if covered): Clear description and content of modules	M	EN15804+A2 ch. 6.3.5.4 and applicable PCR	
5.7 EEE	For EEE-construction products: B1 to B7 are mandatory modules. Clear description and content of modules, see 5.2.	M		
5.9	C1 to C4: Clear description and content of modules	M	EN15804+A2 ch. 6.3.5.5 and applicable PCR	
5.10	C3: <ul style="list-style-type: none"> • Waste treatment • Materials for recycling • Impacts of recycling processes to achieve end of waste • Justification of the “end-of-waste state” <ul style="list-style-type: none"> ○ Existing purpose ○ Existing market or demand ○ Compliance with technical requirements and legal guidelines ○ Fulfils limit values for Substances of Very High Concern (SVHC) 	M	EN15804+A2 ch. 6.3.5.5 + table 8 + ch. 7.2.4.4 + annex B.1 and applicable PCR	
5.11	C4: Is the complete waste disposal process included in this module? Is its inclusion described transparently and is it plausible? Carefully check the correct allocation for deposition of biogenic material: The degradation of a product’s biogenic carbon content in a solid waste disposal site, declared as GWP-biogenic, shall be calculated without time limit. Any remaining biogenic carbon is treated as an emission of biogenic CO ₂ from the technosphere to nature.	M	EN15804+A2 ch. 6.3.5.5 and ch. 6.3.5.6	
5.12	D: System boundary and contents of Module justified Assumptions with regard to substituted processes in D incl. year of reference (e.g. assumptions with regard to substitution of electricity and power production).	M	EN15804+A2 ch. 6.3.5.6	
5.13	D: Check if the net flow calculation is done correctly taking into consideration relevant factors, e.g.: <ul style="list-style-type: none"> • Processing losses over the whole life cycle (including collection and pre-processing); • Inputs in Modules A1 to A3 (and A4 to B5 if necessary); • The reaching of end-of-waste-state by all waste flows considered in module D. 	M	EN15804+A2 ch. 6.3.5.6 and 6.4.3.3	
5.14	D: No benefits or loads of allocated co-products	M	EN15804+A2 ch. 6.3.6.5 and ch.6.4.3.3	
6	Power mix	Mandatory / optional	Reference	Checked and approved
6.1	Selection of the power mix in accordance with the location of the production site(s) Is the reference year for the dataset documented?	M	CEN TR 16970 + prEN 15941 and applicable PCR	
Info	Terms & Definitions Definitions for the terms “Guarantee of Origin (GoO)”, “Consumption Mix” and “Residual Electricity Mix” are provided in prEN 15941.			
6.1.1	Electricity (rules in addition to ISO 14067)	Mandatory	Reference	Checked and approved

6.1.2	<p>Does the PO accept the application of GoOs (and market-based approach) for contractual purchase of electricity?</p> <p>If applicable: Validity period of the certificates for GoOs (date of purchase must be related to period of production and primary data collection on site) in accordance with the PCR and general program rules of the issuing PO</p> <p>Is the GoO document and documentation about the purchased electricity available for the EPD verification?</p>	M	Applicable PCR	
6.1.3	Requirements of Pr15941:2022 fulfilled?	M	prEN 15941:2022	
6.1.4	<p>Tracking, Traceability</p> <p>Case 1: Manufacturer produces energy on site (is physically linked to plants nearby):</p> <p>Check on energy amounts from accounts. Check if GoOs are generated and supplied into the market (in case of (partial) supply into market, respective tracking of amounts used for production of products and/or supply into grid. GoO (informing on sort of power mix and origin/site of energy providers) documents must be provided)</p> <p>Note 1: Attention: LCA-models for CO₂ figures (or other indicators in GoOs and/or on energy bills may be different from LCA models needed to fulfil EN 15804/ISO 21930 and construction related PCRs/this guidance paper on hand. The figures cannot replace each other.</p> <p>Note 2: if producers sell GoOs from their own renewable plants on site, they must not use the same GoOs themselves! They must buy GoOs from other energy suppliers or declare residual mix figures.</p> <p>Case 2: Electricity provider chosen from national state with legislation for electricity labelling (e.g. for 2022: Austria):</p> <p>Energy mix is found in detail on contracts/bills, registry for proof of origin existing, no residual mix necessary, everything is marked. Task: Energy providers must deliver proof of origin (Mandatory: Contract papers with name and address of contract partners, Optional for the time being: addresses of plants, sites). Energy amounts from contracts/accounting documents must correspond to energy consumption in LCA</p> <p>Note: tracking numbers could sometimes only be provided from national energy control bodies. These systems are fully digitalized and the “book and claim” method is fully automatized. Energy providers book and within seconds the energy amounts are cancelled in the AIB system. That is done MWh per MWh and proof documentation in form of Excel sheets etc. would be thousands of lines. This kind of proof shall only be demanded and checked by verifiers in case of justified doubt about all other documents delivered by energy providers/certification bodies.</p> <p>Case 3: Electricity provider chosen from national state with registry</p>	M	<p>ISO 14067</p> <p>prEN 15941</p>	

<p>As above, GoOs must be provided with tracking numbers, check on double counting: used tracking numbers must be cancelled in registry. (Note: Tracking numbers are in most cases (but not all!) deleted automatically in national systems, sometimes energy providers are able to deliver excel files to check on energy amounts versus number of certificates. Solution: Show proof for tracking or documentation of justification why tracking was not possible</p> <p>Documentation shall be checked on the following information, GoO documents must be provided:</p> <p>Mandatory:</p> <ul style="list-style-type: none"> ▪ Energy provider ▪ Client ▪ Electricity mix, attributes of electricity ▪ Energy amounts ▪ Time periods for issue and validity of GoOs <p>Optional, justification must be provided if information is not available:</p> <ul style="list-style-type: none"> ▪ Addresses of power plants ▪ Tracking numbers ▪ Information on (direct) coupling yes/no <p>Note: Proof from external verification bodies (accredited bodies) may contain less information than listed above so further checks may be necessary.</p> <p>Note: sometimes only 100% green energy products are deleted from registry. Mixes of green energy and non-renewable energy are sometimes not deleted. (Example: Energy providers may only state that they have certain amounts of renewables in the mix, but no GoOs available):</p> <p>Conclusion: A sensitivity analysis shall be carried out, in case that significant amounts of electricity cannot be tracked: No tracking numbers and transparent GoOs: No acceptance-> residual Mix. Solution for ECO Platform: “significant” means “if the change in amounts of electricity lead to more than 10% change in results of GWP total”, see EN 15804.</p> <p>Note for upstream data: products with a high percentage of electricity in upstream data should be looked at with attention/check if specific data for upstream processes is available. Justification required, if not available.</p> <p>Intermediate conclusion if GoOs are available but without confirmation of cancelling: proof that manufacturers have asked for cancellation confirmation is sufficient for a period of up to a max. of the validity of the EPD.</p> <p>Case 4: Energy provider from national state with no registry: No benefit of GoOs, use consumption mix (residual mix would be consumption mix and with that worst case).</p>			
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	<p>If GoO are accepted and applied:</p> <ul style="list-style-type: none"> • specific data for energy generation shall be used whenever available <ul style="list-style-type: none"> ○ i.e. have the foreground processes (e.g. in module A3) been calculated with the specific data from the supplier of the green electricity? ○ has the residual mix been used for the quantification of all electricity generation without GoOs <i>for foreground data</i>? • <i>background data</i>: <ul style="list-style-type: none"> ○ has been calculated using the residual mix for the relevant electricity generation without GoO? ○ a justification has been provided if relevant electricity generation without GoO has not been calculated with residual mix? • Has the consumption mix (= national production + imports – exports), been applied for any modules beyond the modules A1-A3 (i.e. the factory gate), for which no GoOs are used? <p>Note 1: The factory gate can sometimes also include A4 and A5 (e.g. ready-mix concrete). Note 2: Only if the EPD owner has direct control over a particular process in any of the B modules and/or C modules (which, e.g., may be the case for construction services or for recycling), generation of electricity used in this process may be modelled with GoO and residual mix.</p>			
6.1.5	<p>If a PO decides that GoOs cannot be used for the quantification of the LCA with respect to electricity generation, all EPD shall be calculated applying the national consumption mix.</p>	M	Applicable PCR	
6.1.6	<p>Reporting and communication done as required in prEN 15941:2022 Reporting an additional quantification in the project report is recommended:</p> <ul style="list-style-type: none"> • market based approach: using GoOs and residual mix, • location based approach: using the actual consumption mix (= national production + imports – exports), • If a double quantification is reported in the project report, options are: <ul style="list-style-type: none"> ○ to provide 2 EPD ○ to declare two result tables in the EPD ○ to declare two scenarios in the EPD ○ to provide an interpretation of the different results in the EPD 	M	prEN 15941	
6.1.7	<p>If the contractual situation is not clear (see last position in ISO 14067) a sensitivity analysis shall be reported in the project report.</p> <p>Note: In some countries, parts of the electricity from renewable energy sources might be sold/exported as renewable electricity without being excluded from the</p>	M	ISO 14067	

	<p>supplied mix. For this reason, in such cases a sensitivity analysis applying the relevant consumption grid mix shall be conducted and reported in the project report to demonstrate the difference in results of the electricity tracking instruments.</p>			
6.1.8	<p>Calculation of residual mixes</p> <p>Available datasets from used database GaBi/Ecoinvent can be taken and the AIB Method implemented within must be documented (in EPD as well as in project report). Self-modelling can be executed, if no data sets are available on the market or other reasons for doing so exist. Transparent and trackable documentation is mandatory.</p> <p>For „self-modelling“ of residual mixes the following rules apply:</p> <p>Modelling of European residual mixes must follow the latest AIB Guide with the newest method.</p> <ul style="list-style-type: none"> ▪ https://www.aib-net.org/facts/european-residual-mix <p>In all cases the verifier has to check:</p> <p>How was the Residual Mix modelled?</p> <p>Were applicable datasets used from GaBi/Ecoinvent or was ‘self-modelling’ utilized?</p> <p>In the case of self-modelling: The modelling shall be documented comprehensively.</p> <p>Note: this document does not formulate explicit rules on which electricity mixes to use for upstream data of supplied materials.</p> <p>LCA-practitioners shall provide emission factors to the verifier per kWh of modelled energy mixes, at least for the GWP-indicators, or for core EN 15804+A2-LCIA-indicators (in the project report or by alternative means).</p>	M		
6.2	Biogas	M	prEN 15941 annex E2.3	
6.2.1	<p>If a PO allows the calculation of Biogas (based on a market-based approach), the biogas-calculation shall be handled in analogy to 6.1 green electricity. The tracking must be done as transparent as possible. (References to prEN 15941 are preliminary, based on the recent draft version and may be subject to change.)</p> <p>Is the modelling of biogas in line with the following description?</p> <p><u>Biogas from the gas network:</u> Biogas certificates/GoO shall be used when the supplier is able to guarantee that the biogas meets the requirements for tracking and traceability, see prEN 15941 E.2.1. For gas purchased without the certificates the residual mix shall be applied. If the requirements tracking and traceability are not fulfilled the consumption mix shall be used.</p> <p><u>Biogas from a directly connected supplier:</u></p>	M	prEN 15941 annex E2.3	

	<p>Life cycle data for the biogas supplied may be used if there is a dedicated pipeline or supply between the organization and the biogas plant from which the life cycle data is derived, and no contractual instruments have been sold to a third party for that consumed biogas. Otherwise, the residual mix shall be used.</p> <p><u>Internally generated biogas:</u> For internally generated and consumed biogas, where no contractual instruments have been sold to a third party, the life cycle data for the biogas shall be used for that product. Otherwise, the residual mix shall be used.</p> <p><u>Residual gas mix:</u></p> <p>As long as the AIB system does not provide Guidance and/or data sets for residual gas mixes and the data bases GaBi/Ecoinvent also do not give appropriate data sets, the residual mix must be calculated following the AIB guidance for green electricity as closely as possible.</p> <p>Note1: in 2022, only Austria has established a system for mandatory full declaration of gas production (no residual gas, biogas GoOs are handled with the same automatic “Book-Claim-Cancel in Registry Approach” as green electricity. All other countries may have already installed systems for tracking/national registries. The GoOs and proof documents for cancellation in the system must be shown, else residual gas mix or worst case (= fossil) must be calculated. Alternatively, a sensitivity analysis as stated in prEN 15941 Annex E2.3 must be carried out to avoid double counting.</p> <p>Note2: For biogas it is not always clear at which geographical point in the gas grid the biogas is put into the pipe system nor are the pipe systems connected in a way as electricity grids are connected. Until further notice a physical connection of gas grid systems is not required to accept GoOs for biogas.</p> <p>Note3: The above rules are meant only for input as energy carrier (not as feedstock).</p>			
<p>6.3</p>	<p>Optional: Additional information for transparency:</p> <ul style="list-style-type: none"> — Provide in the EPD the GWP of the applied electricity mix for A1-A3 in kg CO₂e/kWh; — Provide the GWP of the applied gas mix for A1-A3 in kg CO₂e/MJ. <p>Justification shall be given in the Project Report if any information is not provided.”</p> <ul style="list-style-type: none"> - Minimum: use of Residual Mix or of modelled energy mix shall be declared. Information if GoOs are used must be declared. <p>Detailed description of Energy datasets should be provided</p>	<p>O</p>		

8	Criteria for excluding inputs and outputs	Mandatory / optional	Reference	Checked and approved
8.1	Selection of the cut-off criteria, description of application of the criteria and assumptions in line with standard and PCR? (A complete mass balance is normally not possible without high effort. This is why cut-off decisions are often based on assumptions about the effect of the flow that has been cut off).	M	EN15804+A1: ch. 6.3.5 and ch. 8.2 OR EN15804+A2: ch. 6.3.6 and ch. 8.2 and applicable PCR	
8.2	List of excluded processes?	M	EN15804+A1/EN15804+A2 ch. 8.2	
9	Data collection, electing background data	Mandatory / optional	Reference	Checked and approved
9.1	Selection and use of generic data and background data justified and validity demonstrated?	M	EN15804+A1: ch. 6.3.6 OR EN15804+A2: ch. 6.3.7 And - EN 15941 applicable PCR	
9.2	Documentation on background data: Name of the (background) data record, its source (data base, literary source etc.),	M	EN 15941 and applicable PCR + EN15804+A2: ch. 6.3.7	
9.3	Data collection, including data quality issues, according to LCA rules: <ul style="list-style-type: none"> • Assessment period for each module considered in the Life Cycle Assessment (e. g. one year average, etc.) • Appropriateness of background data (temporal, geographical, technological) • Other assumptions concerning background data, e.g. about data gaps • Omissions of life cycle stages, processes • Assumptions regarding energy and electricity production incl. year of reference. It should also be transparent which electricity/energy model is applied as avoided product if energy recovery is included in the optional Module D. • Assumptions concerning other relevant background data where relevant for the system boundary 	M	ISO 14044:2006, section 4.3.2; Documentation ISO 14040 And EN15804+A1 ch. 6.3.6 Or EN15804+A2 ch. 6.3.7 + ch. 6.3.8	
10	Validity of data	Mandatory		Checked and approved
10.1	<ul style="list-style-type: none"> • < 10 years for background data • < 5 years for manufacturer's data • Data manufacturer based on 1 year average • Time period of 100 years, in case of landfill scenario longer if relevant • Technical background complies with physical reality • Integrity of generic data records, system limit and cut-off criteria for generic data records validity demonstrated <p>Applicable if using EN15804+A2: does the documentation format follow the current ILCD format and nomenclature?</p>	M	EN15804+A1 ch. 6.3.7 Or EN15804+A2 ch. 6.3.8 and EN15941 and applicable PCR	

10.2	<p>Documentation on generic data:</p> <ul style="list-style-type: none"> - name of the (generic) data record, - its source (database, bibliographic source, etc.), - year of data collection and its representativeness <p>Handling missing data</p> <p>Assessing data quality (time, geographical and technological representativeness). For 15804+A2: document data quality for all data sets contributing to at least 80% each of the core impacts.</p> <p>Check on plausibility, comparison of indicators with others from datasets verified after the same standards or comparison of flows and/or indicators of other significant sources of information!</p>	M	<p>EN15941 and applicable PCR</p> <p>If using EN15804+A2, additionally annex E, see 10.3</p>	
10.3	<p>Generic data (see Table 1, EN 15804) shall include data quality assessment information according to EN ISO 14044:2006, 4.2.3.6. The data quality assessment information shall cover at least the following elements:</p> <ul style="list-style-type: none"> — time-related coverage; — geography coverage; — technology coverage. <p>It shall be based on either of the two systems described in Annex E. the data quality assessment must cover at least 80% of each core impact.</p> <p>The quality of the life cycle inventory data established for the EPD shall also be assessed accordingly</p> <p>Random checks could be carried out or based on importance; some data should be checked in the verification.</p>	M	15804+A2, 6.3.8.3 and Annex E	
11	Development of scenarios at product level in modules A4-A5-B-C-D	Mandatory / optional	Reference	Checked and approved
11.1	Statement that the scenarios included are currently in use and are representative for one of the most likely scenario alternatives. 100% scenarios shall be given. Additional declaration of representative mixes for the relevant region is permissible.	M	<p>EN15804 + A1, 6.3.8</p> <p>CEN TR 16970</p> <p>Ch.6.3.8</p> <p>Applicable PCR</p>	
11.2	Documentation of the relevant technical information, e.g. recycling or reuse rates, with reference to the literature source?	M		
11.3	Default values in CEN TC c-PCR are preferred. Deviations from these values must be justified.	M		
12	Allocations	Mandatory / optional	Reference	Checked and approved
12.1	General allocation principles applied (avoidance of allocation, no double counting / omissions, uniform application of the allocation rules, sum of inputs and outputs of a unit process after allocation must be equivalent to sum of inputs and outputs before allocation etc.)	M	ISO14044:2006 4.3.4	
12.2	Presentation and justification of allocations in the use of secondary materials or secondary fuels as raw materials	M	<p>EN15804+A1/EN15804+A2. 6.4.3 and 8.2</p> <p>and applicable PCR</p>	
12.3	Presentation and justification of allocations in the plant (allocation between different products/production lines in a plant)	M		

12.4	If applicable: Presentation and justification of allocation of multi-input processes (e.g. landfilling or incineration)	M		
12.5	Co-product allocation correctly applied, see also EN15804+A1 or EN15804+A2 and no. 5.4 in this checklist.	M	EN15804+A1/EN15804+A2 ch. 6.4.3.2	
12.6	Documentation of allocation factors used and their (independent) sources	M		
12.7	Allocation process for reuse, recycling and recovery, check specifically: <ul style="list-style-type: none"> • End-of-waste state, Consistency with other scenarios of waste management • Conventional average technologies and practices • Specification and justification of end-of-waste state where applicable • If applicable (module D): Selecting substituted processes in accordance with the PCR or (if no PCR is available) representative actual processes <p>NOTE: Application of the “polluter pays” principle to the use of waste as substitute for primary fuels or materials is left to the programme operator.</p> <ul style="list-style-type: none"> • If applicable (substitution in Module D): Calculation of net flows • Conservative approach, i.e. choice of those scenarios and calculation rules that reflect the highest environmental impacts in comparison to other choices <p>Note: Modules C and D are optional when using EN15804+A1 and mandatory according to EN15804+A2</p>	M	EN15804+A1/EN15804+A2 ch.6.4.3.3 and applicable PCR	
12.8	Justification if generic data is applied which does not comply with the allocation principles, or where this compliance is not known and there are reasons to doubt it. Expert guess of how this influences the indicator results should be provided.	M	Applicable PCR	
12.9	If applicable: calculation of biogenic carbon content in CO ₂ -eq. documented in transparent ways?			
12.10 EEE	For EEE-construction products: See 5.4 EEE: Information regarding specific allocation rules (rules, factors, interpretation...) which are not described either in EN 15804+A2 or in the applicable PCR shall be included in the project report and in the EPD.	M	EN15804+A2 ch. 6.4.3.2 CEN TR 16970 ch. 6.4.3.2	
13	Life cycle modelling information	Mandatory / optional	Reference	Checked and approved
13.1	Transparent presentation of LCA modelling (for example by tables, screenshots from LCA software programmes etc.)	M	EN15804+A1/EN15804+A2 ch.8.4	
13.2	Clear description how specific (company) data are used. Is the assignment of company data to the datasets provided by the LCA software, described transparently and is it plausible?	M	EN15804+A1/EN15804+A2 ch.8.4	
13.3	Assignment of process data to the LC modules plausible?	M	EN15804+A1/EN15804+A2 ch.8.4	
13.4	For several locations/products: Presentation of modelling of all locations and products as well as any weighting thereof	M		

13.5	<p>Plausibility and consistency of data (mass balance, energy balance) This can only be fulfilled with random checks if the effort for a verification shall be reasonable, e. g.:</p> <ul style="list-style-type: none"> • Mass balance of inputs and outputs, e. g. mass balance of material resources (feedstock) input and output (product/waste/emissions/secondary material) • CO and CO2 emissions coherent with the mass input of fossil energetic resources • Check of the sum of non-renewable and renewable parts or between feedstock and fuel parts • Are the energy indicators coherent with the energetic resources used? 	M	EN15804+A1/EN15804+A2 ch.8.4	
14	Parameters of the Life Cycle Inventory (LCI) and Life Cycle Impact Assessment (LCIA)	Mandatory / optional	Reference	Checked and approved
14.1	Presentation of the parameters in tabular form for all modules A1 to D.	M	EN15804+A1/EN15804+A2 ch. 7.2.2 EN15978 ch.12.5	
14.2	<p>Presentation of the parameters describing:</p> <p>EN15804+A1:</p> <ul style="list-style-type: none"> • environmental impacts (7 parameters), • the use of resources (10 parameters), • the waste categories (3 parameters) • output material flows (4 parameters) <p>EN15804+A2:</p> <ul style="list-style-type: none"> • Core environmental impacts (13 indicators), • Additional environmental impacts (6 indicators) and coherent disclaimers. Table 4 shall be included in the EPD for the declared additional environmental indicators. If additional indicators are not declared, they shall be mentioned in the EPD, e.g. as an entry of "ND" to Table 4 or as text. • the use of resources (10 indicators), • the waste categories (3 indicators) • output material flows (4 indicators) • biogenic carbon content (in product and packaging) <p>Note: The sum of GWP fossil + GWP Land use and land use change must be equivalent to GWP Total</p> <p>Justification in case of constraints/indicators not declared?</p>	M	EN15804+A1/EN15804+A2 ch. 6.5, 7.2.3 – 7.2.5 Table 4 Note: the requirements differ between the standard revisions, although chapter numbers align	
14.3	Has the packaging been included in the declaration of the LCI related indicators, e.g. in the quantification of the content of primary energy?	M		
14.4	Selection of correct characterisation factors and elimination of long-term emissions (> 100 years)	M	EN15804+A1/EN15804+A2 ch.8.2 and annex C and applicable PCR Note: the characterisation factors differ between the standard revisions, although chapter numbers align	
14.5	Justification of characterisation factors applied in case of input/output flows that are not on the list of characterisation factors of the EN15804 and applicable PCR	M		

14.6	Information on the environmental impacts in the project report: <ul style="list-style-type: none"> Reference to characterisation models and factors Statement that the estimated impact results are only relative statements which do not indicate the end points of the impact categories, exceeding threshold values, safety margins or risks 	M	EN15804+A1/EN15804+A2 ch.8.2 Note: the requirements and characterisation factors differ between the standard revisions, although chapter numbers align	
15	Interpretation	Mandatory / optional	Reference	Checked and approved
15.1	Interpretation of the results based on a dominance/contribution analysis of elected indicators?	O		
15.2	Relationship between the results of the LCI and the results of the LCIA	M	EN15804+A1/EN15804+A2 ch.8.2	
15.3	Assumptions and restrictions as regard the interpretation of results in the EPD, in terms of both methods and data	M	EN15804+A1/EN15804+A2 ch.8.2	
15.4	In the case where an EPD is declared as an average environmental performance for a number of products a statement to that effect shall be included in the declaration together with a description of the range/ variability of the LCIA results if significant; The description of the range can be qualitative or quantitative	M	EN15804+A1/EN15804+A2 ch. 7.1i and 8.2 CEN TR 16970 ch. 7.1.	
15.5	Interpretation of the influence of data quality. An assessment of data quality should be provided if the data quality differs for significant data.	O	EN15804+A1 ch. 6.3.7 and 8.2 Or EN15804+A2 ch. 6.3.8, ch. 8.2 + annex E and ISO 14040	
15.6	Comprehensive transparency as regards value decisions, justifications and expert opinions, i.e. transparency to avoid misinterpretation.	M	EN15804+A1/EN15804+A2 ch.8.2	
16	Additional information	Mandatory / optional	Reference	Checked and approved
16.1	If additional information is given, check the documentation: <ul style="list-style-type: none"> Laboratory results/measurements listed in the content declaration Laboratory results/measurements listed in the functional/technical performance Documentation on the declared technical information on individual life cycle stages not taken into consideration in the construction product's LCA (but applicable building assessment (e.g. transport routes, energy consumption during the use stage, cleaning cycles etc.) Laboratory results/measurements pertaining to the declared emissions in indoor air, oil or water during the use stage 	O	EN15804+A1/EN15804+A2 ch.8.3	
16.2	Where relevant: ensure that information additional to EN15804 is verifiable e.g. by reference to standards or other publicly accepted test requirements.	M		

17	Documentation for calculating the reference service life (RSL)	Mandatory / optional	Reference	Checked and approved
17.1	The RSL shall be declared if the full life cycle A1-C4, or the B-Modules are declared. Documentation for calculating the reference service life (RSL) shall be representative for the declared product.	M	EN15804+A1 ch. 6.3.3 or EN15804+A2 ch. 6.3.4 and normative Annex A	

4.3 Communication between involved parties during the verification process

The verifier shall report any deviations from the requirements in the verification report. The dialogue between verifier and LCA practitioner should be made transparent. This can be done in or separately from the checklist. The format to do so is free to choose. Examples are given below:

Documentation of outcome of verification necessary

Example:

Verification issue number	Question / comment	response

Example (partly based on XP TS 14071)

Comment N°	Chapter Article Paragraph	Alinea Table	Type of comment (Ed, Te, Ge)	Ref. to an Eco check list (or programme rules) section	Verifier comment and recommendation	EPD owner / LCA practitioner answer	Final verifier statement

4.4 Requirements for the EPD

It is mandatory to verify all the items in this section.

ECO Platform has developed a “Best Practice example” for the EPD format. This document does not show or require a common design; it merely describes the agreed content of an EPD for members of the ECO Platform. In addition to the EPD content requirements of EN 15804 ch.7 (both revisions/amendments – A1 and A2 respectively) and EN 15942, this includes:

- A statement of the applied background database and software,
- A description of representativity in average EPD,
- A table for declaring biogenic carbon to be applied when the programme operator includes this in the PCR,
- A place for additional impact or LCI indicators,
- A place for additional environmental information dependent on the applicable PCR

1	Requirements	Reference	Checked and approved
1.1	EPD include as general information: <ul style="list-style-type: none"> • Text “Environmental Product Declaration in accordance with ISO 14025 and EN 15804”, prominently visible in the EPD* • Statement that “EPD of construction products may not be comparable if they do not comply with EN 15804” • Publisher name*, address*, logo, website. • Name of declared product* • Declaration owner / Name and address of manufacturer/association • Geographical area, i.e. market range, where the product is produced, where it may be applied and where the end-of-life is assumed • A statement whether the EPD is a specific or an average EPD. Description of the kind of average. • Names of manufacturer(s) when the EPD declares an average of several manufacturers • Date of issue* + validity (5 years)/date of expiry* + date of update if relevant* • EPD identification (registration number of the EPD on programme operator level and on ECO Platform level). Note: *These items shall be declared on the front page of the EPD, the other items are voluntary	EN15804+A1/EN15804+A2 ch. 7.1 ECO Platform List of content to declare in an ECO EPD (in this chapter 4.5 part C)	
1.2	PCR name PCR version (MM YYYY) If applicable: c-PCR (complementary PCR from product TC)	Applicable PCR from European product TCs	
1.3	Demonstration of verification: external ⁶ independent verification, name of third-party verifier	EN15804+A1/EN15804+A2 ch.7.1 Table 2	
1.4	Information on the validity: Does it corresponds with the specifications in the project report?		
1.5	Appropriateness of logos of the company, programme operator and ECO Platform. Appropriateness of pictures.	ECO Platform List of content to declare in an ECO EPD (in this chapter 4.5-part C)	
1.6 EEE	For EEE-construction products: Statement that this EPD follows additional requirements for construction products considered as Electronic or Electric Equipment	M	
2.	Product	Reference	Checked and approved
2.1	The product description is in line with the project report, and clearly enough described to identify the declared product unambiguously? Name and location of production site(s).	ECO Platform List of content to declare in an ECO EPD (in this chapter 4.5 part C)	
2.2	If applicable: Explanations on calculations of averages within a product group, and representativeness: Information on restrictions to the use of the EPD; Useful information in the EPD for the representativity of the average EPD: A technical description of the average product group (such as density or a property like U-value); The number of manufacturing plants included in the EPD; and/ or The names of manufacturing companies or brands or associations;	EN15804+A1/EN15804+A2 ch.7.1 ECO Platform “List of content” to declare in an ECO EPD (in this chapter 4.5 part C)	

⁶ EN15804 ch.7.2 Table 2 mentions the possibility of internal or external verification. In the ECO Platform external verification is preferred and advised

	<p>Sampling process if only representative companies/sites are chosen; Description of the relative production volume covered by the EPD; Geographical coverage;</p> <p>The range of products for which the EPD is relevant, even if data from some products has not been used directly in producing the EPD</p>	Interpretation	
2.3	<p>Specification / identification (picture, name, model) Unambiguous identification of the product(s), by standards, concessions or other means</p>	<p>EN15804+A1/EN15804+A2 ch.7.1 ECO Platform List of content to declare in an ECO EPD (in this chapter 4.4 A part C)</p>	
2.4	<p>Indication of the intended use Application and technical functions of the product</p>	<p>EN15804+A1/EN15804+A2 ch.7.1 ECO Platform List of content to declare in an ECO EPD (in this chapter 4.4 A part C)</p>	
2.5	<p>Relevant technical data (additional information is possible) including RSL if applicable (Average values or range in case of product groups)</p>		
2.6	<p>The test standards to which the technical data refers</p>		
2.7	<p>A description of the main product components and or materials is provided in accordance with the specifications of the PCR (if available) and LCA project report. As a minimum substance that are listed in the latest "Candidate List of Substances of Very High Concern for authorisation" if their content exceeds the limits for registration</p>	<p>EN15804+A1/EN15804+A2 ch.7.1</p>	
2.8	<p>Description of the manufacturing processes / all processes if several locations are involved,</p>	<p>EN15804+A1/EN15804+A2 ch.7.1</p>	
3	LCA rules	Reference	Checked and approved
3.1	<p>Information on the declared / functional unit corresponds with the specifications of the PCR (if available) and project report?</p>	<p>Applicable PCR</p>	
3.2	<p>Indication of the EPD type and declared/undeclared modules through a table of modules (MND=Module not declared)</p> <p>EPD types applicable in EN15804+A1:</p> <ul style="list-style-type: none"> - cradle-to-gate - cradle-to-gate with options - cradle-to-grave <p>EPD types applicable in EN15804+A2:</p> <ul style="list-style-type: none"> - cradle-to-gate with modules C1-C4 and module D - cradle-to-gate with options, modules C1-C4 and module D - cradle-to-grave and module D - cradle-to-gate (exemption requirements apply) - cradle-to-gate with options (exemption requirements apply) 	<p>EN15804+A1/EN15804+A2 ch. 7.2.2</p> <p>Note: the requirements differ between the standard revisions, although chapter numbers align</p>	
3.3	<p>EPD contains a (simple) flow diagram in accordance with the modular approach</p>	<p>EN15804+A1/EN15804+A2 ch. 7.2.1</p>	
3.4	<p>Description of the system boundary (can be simplified, as a picture or in wording), including the assignment of the analysed processes to the life cycle modules</p>		
3.5	<p>Indication of the key assumptions and estimates for interpretation which are not depicted elsewhere in the EPD</p>		

3.6	Presentation of the application of cut-off criteria in accordance with the project report		
3.7	Source of background data used, name and dated version. Description of what upstream and/or downstream data has been applied is optional.	ECO Platform List of content to declare in an ECO EPD (in this chapter 4.4 part C)	
3.8	Indication of the age of background data used (e.g. last update or version of the database)	ECO Platform List of content to declare in an ECO EPD (in this chapter 4.5 part C)	
3.9	Information on the data collection period and resulting averages		
3.10	Presentation of the allocations of relevance for calculation in accordance with the minimum requirements of the PCR.		
3.11	BMB (biomass balance) and/or recycled content allocation (attribution) approaches like “Mass balance credit method” and/or “Book and Claim” methods as per ISO 22095 cannot be used in connection with ECO EPDs.		
4	LCA: Scenarios and additional technical information	Reference	Checked and approved
4.1	Mandatory for all declared modules beyond A3: declaration of the assumptions pertaining to the scenarios of the declared modules in accordance with the project report. Information on undeclared modules is optional.	EN15804+A1/EN15804+A2 ch. 7.3	
4.2	If a reference service life is declared in the EPD, declaration of the scenario on which the RSL is based, in accordance with the project report	EN15804+A1/EN15804+A2 ch. 7.3.3.2 + Annex A Note: the requirements differ between the standard revisions, although chapter numbers align	
5	LCA: Results	Reference	Checked and approved
5.1	Description of the declared / functional unit		
5.2	Identification of the declared/undeclared modules: Table of Modules/indicators, illustrating the type of EPD MND = module not declared/INA = Indicator not assessed Full declaration of all indicators of EN 15804 required according to the modular approach Result Table contains: No blank cells, hyphens or other symbols. The value 0 only for parameters that have been calculated to be 0, or below a limit value (former MNR). Footnotes shall be used to explain any limitation to the result value. If according to EN15804+A2: Additional indicators included or marked as Not Declared (“ND”) in table or as text	ECO Platform “List of content” of an EPD to declare in an ECO EPD (4.4 A part C) EN15804+A1/EN15804+A2 ch.7.2.3, 7.2.4, 7.2.5 and ch.7.5 ECO Platform List of content to declare in an ECO EPD (4.5 part C)	
5.3	Programme operators may allow optional additional impact indicators and LCI indicators. These shall be identified as “additional” to the indicator basket of EN 15804, either in the EPD itself or in an annex	EN15804+A1 ECO Platform List of content to declare in an ECO EPD (in this chapter 4.5 part C)	
5.4	The declared indicator and other quantitative results shall be identical with the respective values in the project report		
5.5	In case of product averages: description of the range / variability of the LCIA results. This may be qualitative information.	EN15804+A1/EN15804+A2 ch.7	
5.6	Deletion of module columns which are not declared (permissible for the Results part)	ECO Platform List of content to declare in an ECO EPD (in this chapter 4.4 A part C)	

5.7	Formatting the table framework and parameter addressed in accordance with the specifications of the PCR or the programme operator rules		
6	Evidence for tests or certificates, depending on requirements in PCR.	Reference	Checked and approved
6.1	Additional information is provided to indoor air or oil/water, if applicable	EN15804+A1/EN15804+A2 ch.7.4	
6.2	Other additional environmental information if relevant for a country.	ECO Platform List of content to declare in an ECO EPD (in this chapter 4.5 part C)	
6.3	Declaration of the relevant evidence. Information where to find this evidence	EN15804+A1/EN15804+A2 ch.7.2 and applicable PCR, existing program rules	
6.4	Approach Power Mix: Reporting done as required in prEN 15941. Marked based approach or country specific consumption mix (reference to second EPD document in the case of double reporting)	prEN 15941	
6.5	Additional rules for transparency: <ul style="list-style-type: none"> • In EPD the emission factors of carbon footprint of the applied energy mix must be declared in XX kg CO₂e/kWh. • In EPD: Indication of energy datasets used is mandatory. Minimum: Residual Mix or modelled datasets. Mix of energy carriers should be displayed. Information if GoOs are used must be declared. 		
7	References	Reference	Checked and approved
7.1	Full indication of all referenced sources (excluding standards already quoted in full and standards concerning evidence)		
8	Annex	Reference	Checked and approved
8.1	An Annex may contain all additional information required for specific national use in different countries.	ECO Platform List of content to declare in an ECO EPD (in this chapter 4.5 part C)	

4.5 List of content of the EPD

Introduction

This document describes the mandatory content to be declared in an ECO EPD. It also serves as a best practice example for the format of an EPD when published as pdf file or printed document. The intention is to give guidance to emerging programmes with respect to the required content and its arrangement and thus improve the readability of the declaration. The example does not include pictures or graphics, because it is up to the programme operator to develop the design according to the needs of the program’s market.

The example is structured into sections, which should be seen as a recommendation of using one page per section in that order: e.g. section 1 describes the front page, section 2 the first page etc. However, the amount of information in an EPD can vary considerably, e.g. when the performance of several similar products is declared in one document. Therefore, it is not possible to prescribe the number of pages of an EPD. When the EPD becomes longer than 10 pages, it is advisable to number the clauses.

List of content of the EPD, a best practice example as guidance for developing a format for a printed EPD

Some established programmes already have rather fixed table formats embedded in other applications, thus making it difficult to change the format. Therefore, the ECO platform does not require the implementation of a common format. This document does not claim to support digitalisation of EPD.

Section 1

1. *Pictures, Logos:*

- Pictures should relate to the product and the subject of environment.
- Logo of the EPD owner
- Logo of the programme operator
- Logo of ECO-Platform

2. *Compliance statement and identification*

The front page of the EPD document shall prominently show the conformity to ISO 14025 and EN 15804+A1 or EN 15804+A2. It should also provide all administrative information for understanding which product from which manufacturer is declared, who is the programme operator responsible for the quality of the declaration, how is the EPD identified, for how long is it valid, whether it has been updated and last but not least whether the EPD conforms to the ECO platform quality requirements. Items addressed are:

- Product name;
- EPD owner's name;
- Programme operator's name;
- Registration number of the EPD on programme operator level and on ECO Platform level;
- Relevant dates of the EPD: date of issue, date of expiry, date of update if relevant.
- Verification statement according to table 2 in EN 15804+A1 or EN 15804+A2

Section 2

3. *General information:*

- Contact information of EPD owner and programme operator (e.g. name, address, website)
- Name and location of production site for specific EPD, for associations this information can be given in an Annex to the EPD
- Unambiguous identification of the product or products, by standards, concessions, product classifications (e.g. CPC) or other means
- Short, transparent description of: Application, technical functions of the product
- Verification signatures in the table from ISO 14025;
- Liability + comparability statement.
- Identification of the PCR or c-PCR (= complementary PCR from product TC);
- Orientation where more information can be found.

4. *Scope and Type of EPD:*

The result tables and the table of modules shall

- Only contain values or the letters ND (not declared).
- Contain no blank cells, hyphens

- Use ND only for parameters that are not quantified because no data is available.
 - ND can be used for modules that may be relevant on building level but cannot be declared on product level, namely Modules B3 - B5. Footnotes shall be used to explain any limitation to the result value
 - If a module is assessed, then the indicators shall be quantified.
 - If the module is not relevant for a product it should not appear in the result tables. If it does appear in the result table, the parameter results are ND, meaning that they are unknown and not zero. This leaves all options open for a building assessment.
 - Use the value 0 only for parameters that have been calculated to be 0.
 - If no processes can be expected within a declared module, it should be declared with parameter results of value 0, as no mass flows take place. This narrows down the options in a building assessment to a probable scenario. In this case the module should not appear as ND in the table of modules.

- the table of modules illustrating the Type of EPD with respect to the modules considered, e.g. cradle to gate with options (see X and ND in the figure below).

For EPD complying with EN 15804+A2, Modules A1-A3, C1-C4 and D are mandatory (mdt). A4 and A5 as well as all B-Modules are optional (op). Note that information modules generating any input or output flows considered in the declaration of module D shall also be declared.
- For services declared in A5, A4 is a necessary module, even though this is not mentioned explicitly in EN 15804+A2.

PRODUCT STAGE			CONSTRUCTION PROCESS STAGE		USE STAGE							END OF LIFE STAGE				BENEFITS AND LOADS BEYOND THE SYSTEM BOUNDARIES
Raw material supply	Transport	Production	Transport from the gate to the	Assembly	Use	Maintenance	Repair	Replacement	Refurbishment	Operational energy use	Operational water use	Deconstruction/demolition	Transport	Waste processing	Disposal	reuse- recovery- recycling- potential
A1	A2	A3	A4	A5	B1	B2	B3	B4	B5	B6	B7	C1	C2	C3	C4	D
x	x	x	x	x	ND	ND	ND	ND	ND	ND	ND	x	x	x	x	x
mdt	mdt	mdt	op	op	op	op	op	op	op	op	op	mdt	mdt	mdt	mdt	mdt
for EEE: X	X	X	x	x	X	x	x	x	x	X	x	X	X	X	X	X

- A statement whether the EPD is specific or some kind of average EPD;
- Applied background database description, i.e. applied upstream and downstream generic data (i.e. data beyond the manufacturer’s influence);
- Applied LCA software or application, including dated version.
- For EPD following EN 15804+A2 a description of the data quality description is provided in the project report. If the EPD includes a statement about the data quality, it should be in Section 2.

RESULTS OF THE LCA – OUTPUT FLOWS AND WASTE CATEGORIES per functional or declared unit																			
Parameter	Unit	A1	A2	A3	A4	A5	B1	B2	B3	B4	B5	B6	B7	C1	C2	C3	C4	D	
Hazardous waste disposed, HWD	[kg]																		
Non-hazardous waste disposed, NHWD	[kg]																		
Radioactive waste disposed, RWD	[kg]																		
Components for re-use, CRU	[kg]																		
Materials for recycling, MFR	[kg]																		
Materials for energy recovery, MER	[kg]																		
Exported electrical energy, EEE	[MJ]																		
Exported thermal energy, ETE	[MJ]																		

For EN 15804+A2 the core indicators are different from EN 15804+A1 with respect to the core indicators and the characterisation factors:

RESULTS OF THE LCA - ENVIRONMENTAL IMPACT per functional or declared unit																			
Core indicator	Unit	A1	A2	A3	A4	A5	B1	B2	B3	B4	B5	B6	B7	C1	C2	C3	C4	D	
Global Warming Potential total (GWP-total)	[kg CO2 eq.]																		
Global Warming Potential fossil fuels (GWP-fossil)	[kg CO2 eq.]																		
Global Warming Potential biogenic (GWP-biogenic)	[kg CO2 eq.]																		
Global Warming Potential land use and land use change (GWP-luluc)	[kg CO2 eq.]																		
Depletion potential of the stratospheric ozone layer (ODP)	[kg CFC 11 eq.]																		
Acidification potential, Accumulated Exceedance (AP)	[mol H ⁺ eq.]																		
Eutrophication potential, fraction of nutrients reaching freshwater end compartment (EP-freshwater)	[kg PO4 eq.]																		
Eutrophication potential, fraction of nutrients reaching marine end compartment (EP-marine)	[kg N eq.]																		
Eutrophication potential, Accumulated Exceedance (EP-terrestrial)	[mol N eq.]																		
Formation potential of tropospheric ozone (POCP);	[kg NMVOC eq.]																		
Abiotic depletion potential for non-fossil resources (ADP-minerals&metals)	[kg Sb eq.]																		
Abiotic depletion potential for fossil resources (ADP-fossil)	[MJ, net calorific value]																		
Water (user) deprivation potential, deprivation-weighted water consumption (WDP)	[m3 world eq. deprived]																		

7. LCA results – Optional additional impact indicators

A set of optional additional indicators is must be addressed in a mandatory table (see table below) in the EPD if complying with EN 15804+A2. If the EPD owner decides to not declare one or any additional indicator from the list in EN 15804+A2, the boxes for those modules are assigned ND = not declared. Any additional indicator not declared must be identified in the table e.g. as an entry of "ND" to the table or as text.

Example:

RESULTS OF THE LCA - ADDITIONAL ENVIRONMENTAL IMPACT per functional or declared unit																			
Parameter	Unit	A1	A2	A3	B1	B2	B3	B4	B5	B6	B7	C1	C2	C3	C4	D			
Potential Human exposure efficiency relative to U235 (IRP)	[kBq U235 eq]																		

For EN 15804+A2 the set of additional indicators must be accompanied by the appropriate disclaimer (EN 15804+A2 clause 7.2.3.3).

Disclaimer 1 – This impact category deals mainly with the eventual impact of low dose ionizing radiation on human health of the nuclear fuel cycle. It does not consider effects due to possible nuclear accidents, occupational exposure nor due to radioactive waste disposal in underground facilities. Potential ionizing radiation from the soil, from radon and from some construction materials is also not measured by this indicator.

8. LCA results – Optional LCI indicators

During the transition period between EN 15804+A1 and EN 15804+A2, in an EPD according to EN 15804+A2, additional indicators to those required in EN 15804+A1, which declare e.g. GWP modelled according to EN 15804+A1 may be added. However, they must be clearly marked as such.

The following table is an example how biogenic carbon could be declared for the different modules. In EN 15804+A2 biogenic carbon indicators are mandatory. The indicators can be expanded according to this list which is adapted from ISO 21930:2017

RESULTS OF THE LCA – BIOGENIC CARBON per functional or declared unit																				
Parameter	Unit	A1	A2	A3	A4	A5	B1	B2	B3	B4	B5	B6	B7	C1	C2	C3	C4	D		
Removals and emissions associated with biogenic carbon content of the bio-based product	[kg CO ₂]																			
Emissions from calcination and removals from carbonation	[kg CO ₂]																			
Removals and emissions associated with biogenic carbon content of bio-based packaging	[kg CO ₂]																			
Net emissions from combustion process of waste from renewable sources in A1-A3 *	[kg CO ₂ -Eq.]																			
Gross emissions from combustion of waste, primary and secondary fuels from renewable sources in A1-A3 *	[kg CO ₂ -Eq.]																			

* Example: In cases where the end-of-waste state cannot be defined unambiguously like for combustion of secondary fuels or waste in a cement kiln, the net values are calculated as the GWP [kg CO₂-Eq.] for the gross emissions, produced by the total renewable input (e.g. secondary fuel and waste input), minus the GWP of the emissions produced by the waste input from renewable sources.

The choice of modules

Short Interpretation as per ISO 14025 (referring to ISO 14040).

Section 5

9. Calculation rules:

- Declared or functional unit,
- Assumptions,
- Cut off rules,
- Data quality,
- Allocations.

10.Scenarios and additional technical information

- Clear description of processes included within system boundary A1-A3,

- Clear description of scenarios included within system boundaries for further modules beyond A1-A3 including but not limited to transport distances, losses in installation, use and end-of-life,
- Additional technical information as appropriate.
- For EPD complying with EN 15804+A2: Declaration of biogenic carbon content at the production gate, see table below

11. Mandatory additional information on release of dangerous substances to indoor air, oil and water

Additional information regarding the release of dangerous substances into indoor air, oil and water during use stage.

12. Other optional additional environmental information

Other relevant additional environmental information.

Section 6

13. References

Bibliographic sources for test descriptions, standards or other documents referenced in the EPD.

14. Annex

An Annex may contain all additional information required for specific national use in different countries.

4.6 Transition period for Programme Operators to implement new rules

ECO Platform programme operators commit to implementing new rules generally within one year after release. Each programme operator shall consider these rules through an adaptation of its PCR or if necessary, the programme rules.

New rules can arise due to different reasons, such as:

- Revisions of any of the CEN TC 350 family of standards (EN 15804, EN 15942, CEN TR 15951, CEN TR 16970) or ISO 14025, ISO 21930
- CEN TC c-PCR documents for the relevant product family
- ISO standards with a normative reference in EN 15804, e.g. ISO 21930:2017
- Additional Board Decisions

The period of one year at the maximum gives ECO Platform a good chance to stay aligned with both, international standards and the market needs.

NOTE 1: If the content of any above-mentioned document should contradict national law, respective exceptions in the programme rules should be explained for the auditors.

Additional Rules from ECO Platform for verification procedure

4.7 List of additional agreements:

This part gives an overview on further agreements of the ECO Platform (Decisions by the ECO Platform Board and/or General Assembly).

It addresses issues that are not dealt with in the EPD related standards or issues that are considered. This section also refers to common approaches intended to increase the mobility of EPD in Europe.

- **CEN TC c-PCR overrule programme operator related PCR documents.**
 PCR according to EN 15804 published as EN standards by CEN for a product family shall have prevalence over any other PCR, unless technically justified.
 The content of a national and/or programme operator related PCR should refer to the corresponding CEN TC c-PCR.
- **In an ECO EPD the ECO Platform EPD List of content shall be contained**
 The EPD includes all the content of the “List of content to declare in an ECO EPD in chapter 4.4 of this document.
- **CEN TR 16970 Sustainability of construction works** - Guidance for the implementation of EN 15804 for c-PCR
 ECO Platform members shall consider the recommendations included in CEN/TR 16970 as best practices with the following three exceptions:

 - No requirement where in the EPD document the indicators of an EPD are placed.
 - It is optional to follow the guidance of Table 2 in CEN 16970 (polluter pays principle).
 - The ECO Platform does not automatically accept default values in c-PCR at ECO Platform level, default values are subject to a case-by-case discussion.

Rules for ECO Platform POs on the use of Guarantees of Origin (GoO, defined as per ISO 14067 and prEN 15941):

- **If a PO decides that the program shall accept GoOs, all EPD in the programme shall follow the rules of this guidance document for verification (see core checklist) for the quantification of the LCA with respect to electricity generation: Double counting must be avoided. This means that all electricity generation in all EPD without GoO shall be calculated with residual mix. (In case data bases do not yet provide aggregated upstream data sets with residual mix, this shall be noted in the project report under data quality description).**
 The use of consumption mixes for all electricity generation (and no GoOs) may be communicated either as additional information in the same EPD, or as textual information, or added as an additional result table, or as an additional scenario, or as two EPDs.
- **Note:** In some countries, parts of the electricity from renewable energy sources might be sold/exported as renewable electricity without being excluded from the supplied mix. For this reason, in such cases a sensitivity analysis applying the relevant consumption grid mix shall be conducted and reported in the background LCA report to demonstrate the difference in results of the electricity tracking instruments.
- **If a PO decides that GoO cannot be used for the quantification of the LCA with respect to electricity generation, all EPD shall be calculated applying the national consumption mix.**

The use of residual mix or GoOs for all electricity generation can be communicated as additional information in the same EPD either as textual information or added as an additional result table.

- GoO validity shall be followed up. POs shall have a procedure of assuring proof of assigned GoOs on a yearly basis.

Examples for the POs from practice

5 EXAMPLES FROM EPD PROGRAMS

5.1 Examples of how to settle the independency of the verifier

Example on independency of the verifier

In the *Norwegian EPD programme (EPD-Norge)* the verifier has to be independent of the manufacturer's organization. One has to apply to become an EPD-Norge verifier. In this procedure the competence of the verifier is checked. A procedure will be worked out to handle conflicts connected to independency. Before the revision of EPD-Norge, it was allowed to have verifiers from the manufacturer's organization as long as the verifier had not been involved in the LCA and EPD work and was acting independently.

BRE's Certified Environmental Profile scheme produces EPD and provides verification of those EPD by personnel employed by the same company. According to BRE this approach conforms to the requirements of 3rd party verification under the terms of the standard ISO 14025 due to the following points:

- Independence of the verifier is guaranteed by using a verifier who has not been involved in the LCA project.⁷
- The programme instructions include a procedure for the declaration of conflict of interest. The programme instructions are part of an accredited scheme, which is externally audited by the national accreditation, body UKAS.
- The verification is undertaken at a fixed fee. Payment is made in advance to ensure that the commercial arrangement is independent of the outcome of the assessment⁸.
- BRE will not, as part of its Certified Environmental Profile scheme, assist a manufacturer to improve the outcomes of an assessment. Improvement is another part of the process. It is an impartial assessment based on information supplied by the manufacturer and follows a defined process. This is a general requirement for inspection and certification bodies.
- The scheme is open to all products within the scope of the program. All parties are treated in the same way.
- BRE certification and inspection activities are conducted in accordance with the general requirements of assurance standards: ISO/IEC17000 series & EN45011:1998.
- The United Kingdom Accreditation Service (UKAS) accredits the scheme and this assures the independence and impartiality of the verifiers. BRE is regularly audited by UKAS.

In the *Dutch MRPI system* verifiers can apply and being appointed if they fulfil certain competence requirements. An EPD reporter (manufacturer) contracts one of these verifiers himself, as long as the verifier is not the organization that

⁷ This is the same approach, which is applied to independent product testing – the person who has undertaken the testing cannot verify the results.

⁸ Similarly: this is a standard arrangement to ensure independence in the delivery of test and certification services.

performed the LCA. Verifiers do compete. For the time being there are no constraints concerning payments, but there are no cases known in which the verifier seemed to be influenced by the manufacturer. A procedure is in place in case of conflicts.

In the *French EPD program*, the verifier is chosen by the EPD owner out of a list of accredited verifiers. The programme operator checks the independence. The verification certificate also contains a verifier independence statement.

In *Italy* the intention is that the manufacturer contracts a verifier who is accredited.

In the *German IBU system*:

- The independence of the verifier is guaranteed by installing a verifier who has not been involved in the LCA project nor with the company that provides the LCA knowhow;
- the verification is undertaken at a fixed fee for any verifier (settled in a contract between IBU as commissioner and interested verifiers). The programme operator contracts the verifier and pays after the job is done. If a certain verification turns out to be complicated additional fees may be paid. The client pays the fee for the verification to the programme operator;
- the programme rules define the qualification requirements for a verifier; there is a pool of 10 registered verifiers working for IBU;
- the advisory board of IBU, acting as an independent 3rd party, appoints the verifiers on the basis of submitted proof of the qualification and of a personal presentation. A verifier is then only registered if (s)he passes 2 supervised verifications;
- the advisory board also serves as an arbitrator;
- IBU will not, as part of its Certified Environmental Profile scheme, assist a manufacturer to improve the outcomes of an assessment; (improvement is another part of the process)
- verification is an impartial assessment based on information supplied by the manufacturer and follows a defined process;
- The scheme is open to all products within the scope of the program. All parties are treated in the same way.

In *GlobalEPD*, the *Spanish EPD system* operated by AENOR, verifiers are generally staff AENOR with long experience in environmental verification (GHG, footprints, etc.). Thus, there is no economic relationship between the customer and the verifier, reducing the pressure that could arise from the financial relation. AENOR elects the verifier for each customer based on their knowledge and experience, i.e. the possibilities of pressures are much lower. In addition, neither AENOR nor their staff develops any LCA consultancy activity, thus eliminating this potential conflict of interests.

AENOR has established procedures to ensure the independency of their staff, as a cornerstone in any certification or verification process. Independence is common in all certification and verification activities developed by AENOR. AENOR has many environmental certifications under accreditation by ENAC, the Spanish accreditation body (member of the European Cooperation for Accreditation, EA). AENOR has also published a Declaration of Impartiality, available in its website: http://www.en.aenor.es/DescargasWeb/aenor/mision/AENOR_Declaration-Impartiality_2014-05-29_IN.pdf

In *Portugal*, the *DAPHabitat system programme operator* (centroHabitat) has established a protocol with a third party (independent certified body) with clear requirements in terms of contract and the verifiers' pool requirements. The conditions and terms of these relationships between programme operator, certification body, verifiers and manufacturers are published in the programme General Instructions exposed in the programme website. The third party will manage the verifiers' pool with clear established rules. The manufacturer can enter in contact with the third party that will nominate the verifier. However, the manufacturers do not choose the verifier. The contract is done between the manufacturers directly with the certification body recognized by the programme operator.

In *Austria* the programme operator Bau EPD GmbH relies on an advisory board called "PCR Gremium" acting as independent 3rd body. This board does not only check on its own new members but also on applying verifiers. Verifiers need to fulfil certain requirements (see application form on website) and must present their CV and references to the advisory board.

In *Austria* a team of two verifiers verifies all EPD. The two persons verify independently and report to the programme operator. Exchange and communication are possible (also with the LCA practitioner, but not with the manufacturer). Verifiers are contracted and paid by the programme operator, the fee is, depending on the number of data sets to be verified and/or complexity of the project. Fees are discussed in advance depending on estimated effort for verification. Manufacturers can employ so called "registered LCA-practitioners" who are obliged to participate in workshops and education trainings organized by the programme operator. If manufacturers employ non-registered LCA-practitioners, the fee for verification can be double or more if the work is not done correctly and has to be verified several times. So far, only registered LCA-practitioners have been employed.

Workshops and meetings are done at least 3 times a year. Some workshops are open to all interested stakeholders, others only to the advisory board, verifiers and LCA-practitioners.

5.2 Examples of how to ensure the qualifications of the verifier

The *German IBU system* organizes meetings between verifiers and LCA practitioners to clarify any issues. By this procedure various items were developed, e.g. a standard reporting structure for the background (or project) report or consensus about specific issues during the implementation of EN 15804.

The *Spanish AENOR GlobalEPD* uses internal verifiers with a long-year experience in other certification schemes that are LCA-based, such as GHG schemes, carbon and water footprint, having experience as an inspector of construction products, etc. In addition, there are several verifiers with experience in EPD verification. AENOR might also qualify external verifiers in the future. The verification could be performed by a team, if necessary, to gather all the necessary knowledge (LCA, the product and industry, etc.). Forums and courses keep the knowledge up to date.

The verifiers in the *French INIES system* have to pass an exam. Information meetings for verifiers are organized by the programme operator every year to provide updates.

Example on qualifications of the verifier

The *Dutch MRPI* appoints organizations/consultancies (i.e. teams of persons) as being verifiers. It must be shown that the team has the right qualifications. Membership of the Dutch Association of LCA practitioners (in the construction sector) is regarded as sufficient evidence. There is yearly meeting of MRPI with the verifiers to discuss practical issues and to keep the knowledge up to date.

The *Norwegian EPD system* calls the verifiers for an up-date training when the programme operator finds it necessary or every year, either a web-meeting or a physical meeting. A Norwegian verifier has an approval for three years and must then apply again.

As a minimum, verifiers for the *BRE scheme* must meet the requirements of ISO 14025:2010. BRE use a matrix approach similar⁹ to that recently proposed by the European Commission Joint Research Centre (JRC) for their Product Environmental Footprint (PEF) Guide [BRE is currently preparing new programme instructions including knowledge about EN15804 and construction industry.

The *Portuguese operator (centroHabitat)* has established a protocol with a certification body that manages the verifiers' pool with rules that meet the requirements of ISO 14025:2010. The verifiers have to present background experience in LCA and sectorial knowledge. They also must do a course on the programme instructions and related verifying procedures in order to qualify for the verifiers' pool. The third party engaged by the programme operator uses coaches and co-verification in case of new verifiers.

5.3 Examples of verification procedures

Example: verification procedures

Most existing EPD programmes have a checklist available and require a standard reporting format:

The *Norwegian EPD system* has an electronic verification report.

The *Norwegian EPD system* distinguishes between two alternative types of verification: a third-party independent verification and a verification type III based on tool/databases.

In the *German IBU system* EPD calculation tools can be verified. The EPD resulting from such a verified tool are again verified however through simplified procedures adapted to the characteristics of the tool.

The *German IBU system* has an online reporting system where an EPD can be written, all based on common templates.

In the *Dutch MRPI* it is under discussion to allow verifying a calculation tool for manufacturer EPD instead of all separate EPD. This approach can be applied in case a manufacturer has many products to avoid hundreds of EPD to be verified.

5.4 Examples of implementation of mutual recognition

The *German IBU* has a mutual recognition agreement with several other POs. For this mutual recognition there were no restrictions made on the database used for upstream and downstream processes, except for the requirement of

⁹ Similar, but not the same system: the requirements on the verifiers are more specific and stringent

compatibility of the datasets with EN 15804. However, IBU has a requirement to use GABI database for EPD made in Germany for products produced in Germany. For products produced elsewhere other data bases may be used provided they are compatible with EN 15804 data quality requirements.

Both programmes have equivalent verification procedures. Among the verification tasks (required by a checklist) is the task to check the quality of the data sets used for upstream and downstream processes that were not covered by specific data and which influences the outcome of the environmental performance results relevantly. To decide what is relevant is up to the verifier.

The quality check can only be done, if the manufacturer lists the source of the data sets, and if the databases applying the data sets deliver easily accessible metadata.

It is the verifier's responsibility to request the metadata or refuse the verification if the data quality cannot be made plausible.

The mutual recognition process is monitored by a monitoring panel (MONPAN), which reports on a half-year basis for the time being. Later this can be reduced to a yearly report. The panel consists of a member from EPD International, EPD Norge, AENOR and one from IBU.

The *Dutch MRPI* requires the use of specific national LCI data for background processes, based on the Ecoinvent database. These data are provided to LCA practitioners on request. If the national background data are not used, the EPD data cannot be transferred to a national LCA database that will be used by building assessment tools in the Netherlands such as BREEAM-NL. A procedure is drafted to adapt EN15804 compliant EPD if the national background data are not used. This procedure includes a 'penalty' for the variations that may occur due to using different background data.

The *Spanish AENOR* has mutual recognition agreements in *IBU* and the *International EPD System*. Under these agreements EPD verified in the GlobalEPD programme might bear the double logo of *IBU* or *EPD International*. For the construction sector, compliance with EN 15804 is a basic requirement. Any programme operator can use the PCR of the other, to reduce the use of resources and enhance harmonization.

6 ANNEXES

6.1 Annex A: Application criteria for ECO Platform auditors

Application criteria for ECO Platform auditors

6.1.1 Application individual internal auditors of ECO Platform documentation

The programme operator or ECO Platform member is responsible for the nomination and short screening of the auditor’s competences, the availability for audits within the time frames, attending training sessions by the auditor and any financial compensation (if need).

To be provided by programme operator to convenor:

ECO Platform programme operator or member providing the auditor:	
Year applicable:	
Name auditor:	
Institution/Company of auditor:	
Telephone auditor:	
E-mail auditor:	

I as ECO EPD Programme Operator / member declare that the auditor has the required knowledge, skills and competences for the ECO Platform audits, and will be available for 1-3 audits in the applicable year according to the ECO Platform time frames.

Attachments:

1. Overview of experiences of the auditor in the relevant areas
2. Non-Disclosure Agreement signed by auditor

Place:

Date:

Signature:

Task of the auditor

Task of the auditor

An ECO EPD programme operator is audited by other ECO Platform members, preferably verifiers checking on compliance with the rules in the Audit and Verification Guidelines (latest version applies). The auditors have to check whether the Audit and Verification Guidelines are equivalently implemented in the PO’s General Rules and other mandatory documents, and whether an example EPD is provided following these rules. Nothing additional is audited and personal comments are to be kept separate.

Each PO has to be audited successfully before it can use the ECO Platform EPD logo and its clients can be awarded the “ECO Platform verified” logo on their EPD (regardless if a PO is emerging or established, the PO has to pass the audit first if the logo is intended to be used).

Persons, who want to be in the Eco Platform Pool of auditors must hereby give a commitment to their programme operator that they are able to audit and are available in the next year for 1-3 audits.

Time frame to finish the auditing job

1 month to comment as a draft
2 months in total to finish the procedure.

The exact time frame is to be established by the audit team before the start of an audit together with programme operator and lead auditor.

Education of auditors

Auditors must have completed an instruction webinar training from ECO Platform before they start auditing.

It is mandatory to follow by auditors if the ECO platform organizes a training workshop. It is intended that meetings will be web-meetings and that ECO Platform always will offer 2 sessions in different time frames.

6.1.2 Criteria and competence requirements

1) As a compulsory basis the following ECO Platform Rules and International standards have to be considered in their latest version:

- ECO Platform Audit and Verification Guidelines
- ECO Platform Audit Procedure
- Knowledge in the overall regulatory framework in which the concept of EPD have been introduced.
- Knowledge of the Type III EPD programmes
- ISO 14025 Environmental labels and declarations - Type III environmental declarations - Principles and procedures
- EN 15804 Sustainability of construction works – Environmental product declarations Core rules for the product category of construction products
- EN 15942 Sustainability of construction works. Environmental product declarations. Communication format business-to-business
- ISO 14044 Environmental management - Life cycle assessment - Principles and framework

2) ISO 17021-1. Conformity assessment — Requirements for bodies providing audit and certification of management systems —Part 1: Requirements

The Eco Platform refers to this standard and gives special attention to the sub-clauses 9.4.5., 9.4.5.3, 9.4.8, 9.4.8.1 and, as a general framework, to clause 4 and definition 3.3 linked with 5.2.5.

3) ISO 19011. Guidelines for auditing management systems

Eco Platform also refers to ISO 19011 which provides guidance on auditing management systems, including the principles of auditing, managing an audit programme and conducting management system audits, as well as guidance on the evaluation of competence of individuals involved in the audit

Time frame

to finish the auditing job

Education of auditors

Basic rules have to be considered, Audit and Verification Guidelines and relevant standards

process, including the person managing the audit programme, auditors and audit teams.

ISO 19011:2011 is applicable to all organizations that need to conduct internal or external audits of management systems or manage an audit programme.

Special attention is given to clause 4 as a general framework and sub-clauses 6.4.6 -6.4.8 and clause 7.2.3.2 in which generic knowledge and skills of management system auditors as well as audit team leaders are described. Auditors should have knowledge and skills in the areas of audit principles, procedures and methods, as well as managements systems and the ECO Platform documents, as well as 7.2.3.4.

The generic knowledge and skills of audit team leaders can be found in ISO 19011 clause 7.2.3.4.

4) It can be of advantage to have LCA knowledge such as:

- General knowledge of industry and product-related environmental matters.
- Good process and product knowledge within the relevant product or service audited.
- In-depth knowledge of the principal LCA methodology
- In-depth knowledge of the relevant standards in the field of environmental labelling and declarations, and life cycle assessment.
- Experience in critical review of LCA and/or verification of environmental declarations.

6.2 Annex B: NDA (Non-Disclosure Agreement) agreement for auditors

NON-DISCLOSURE AGREEMENT

BETWEEN

_____, validly organized and existing under the laws of _____, having its principal place of business at, _____, business identity code,

ECO Platform, an AISBL validly organized and existing under the laws of Belgium, having its principal place of business at Avenue Kersbeek, 308, 1180 Brussels, business identity code.

Hereinafter referred to as "Party" or "Parties" respectively,

WHEREAS

The Parties wish to enter into discussions regarding audit of ECO Platform (hereinafter referred to as "Project");

The Parties understand that in the course of the Discussions they will disclose and exchange information, including information of a confidential and/or proprietary nature, on their products, processes of production and/or commercial activity and agree that the confidentiality of such information should be protected.

THEREFORE, THE PARTIES AGREE AS FOLLOWS,

DEFINITION OF CONFIDENTIAL INFORMATION

"Confidential Information" includes, without limitation, all non-public information relating to business plans or practices, financial or technical matters, trade secrets, designs, know-how, inventions, operations, the marketing or promotion of products and any other information received or acquired by Recipient from the Discloser in the course of exploring the Project. It also includes the discussions between auditors in the audit process as well as the audit report.

"Confidential Information" shall not include any information, however designated, that: (i) is or subsequently becomes publicly available through no wrongful act of the Recipient; (ii) is already known to the Recipient at the time of disclosure; (iii) is rightfully received by the Recipient from a third party without restriction on disclosure and without breach of this agreement; (iv) is independently developed by Recipient and without the use of any of the Confidential Information.

USE OF CONFIDENTIAL INFORMATION

Recipient agrees that the Confidential Information will be kept confidential by Recipient and Recipient's representatives and, without limiting the generality of the foregoing, will not be disclosed by Recipient or Recipient's representatives to any person and will not be used except with the specific written consent of Discloser or except as expressly permitted by this agreement. It is understood that Recipient may use Discloser's Confidential Information solely for its internal business purpose of evaluating the Project (hereinafter referred to as "Purpose").

Recipient agrees not to use Confidential Information otherwise for its own or any third party's benefit without the prior written approval of an authorized representative of Discloser. Recipient shall refrain from reverse engineering, decompiling or disassembling Confidential Information and shall not disclose, publish, distribute or disseminate Confidential Information. Copies shall contain the same confidential or proprietary legends as the originals.

Recipient may disclose Confidential Information to its employees, attorneys, consultants and affiliates who are under proper burden of confidentiality and who have a need to know in pursuance of the Recipient's business relationship with Discloser. For the purpose of this agreement, an "Affiliate" means any person, partnership, joint venture, corporation or other form of enterprise, domestic or foreign, including but not limited to subsidiaries, that directly or indirectly, control or are controlled by, or are under common control with a party.

Recipient agrees to use reasonable care, but in any event no less than the same degree of care that it uses to protect its own confidential and proprietary information of similar importance, to prevent the unauthorized use, disclosure, publication and dissemination of Confidential Information.

OBLIGATION TO MAINTAIN CONFIDENTIALITY

Unless otherwise agreed to in writing by the Discloser, for a period of five years from the date of this agreement the Recipient shall refrain from disclosing any Confidential Information. However, the Recipient's obligations with respect to Confidential Information that is considered a trade secret of the Discloser under normal international trade practice shall continue until such Confidential Information is no longer a trade secret. This obligation to maintain confidentiality with respect to the Project also includes the existence and contents of this agreement.

REMEDIES

Discloser and Recipient each agree that its obligations set forth in this agreement are necessary and reasonable in order to protect the Discloser and its business. Both parties expressly agree that due to the unique nature of the Discloser's Confidential Information, monetary damages would be inadequate to compensate the Discloser for any breach by the Recipient of its covenants and agreements set forth in this agreement.

Accordingly, Discloser and Recipient each agree and acknowledge that any such violation or threatened violation shall cause irreparable injury to the Discloser and that, in addition to any other remedies that may be available, in law, in equity or otherwise, the Discloser shall be entitled (a) to obtain injunctive relief against the threatened breach of this agreement or the continuation of any such breach by the Recipient, without the necessity of proving actual damages, and (b) to be indemnified by the receiving party from any loss or harm arising out of or in connection with any breach or enforcement of the Recipient's obligations under this agreement.

MANDATORY DISCLOSURE EXEMPTION

Recipient may disclose Confidential Information in accordance with a judicial or other governmental order, provided that Recipient either (i) gives the Discloser's legal representative reasonable notice prior to such disclosure to allow Discloser a reasonable opportunity to seek a protective order or equivalent, or (ii) obtains written assurance from the applicable judicial or governmental entity that it will afford the Confidential Information the highest level of protection afforded under applicable law or regulation.

DUTY TO RETURN OR TO CERTIFY DESTRUCTION

Upon the request of Discloser, Recipient shall (i) at Discloser's sole cost and expense return all Confidential Information received or (ii) certify destruction of it (including all copies, summaries and analyses thereof).

NO RIGHTS GRANTED

All Confidential Information is and shall remain the property of Discloser. Nothing in this agreement shall be construed as granting any expressed or implied rights under any patent, copyright or other intellectual property right of either Party, nor shall this agreement grant either Party any express or implied rights in or to the other Party's Confidential Information other than the limited right to review such Confidential Information solely for the Purpose.

NO WARRANTY

Unless otherwise agreed by Discloser and Recipient, any Confidential Information is provided "as is" without warranty of any kind, and Recipient agrees that Discloser shall not be liable for any damages whatsoever arising from or relating to Recipient's use or inability to use such Confidential Information.

SEVERANCE

If one or more provisions of this agreement are held to be unenforceable under applicable law, the Parties agree to renegotiate such provision in good faith. In the event that the Parties cannot reach a mutually agreeable and enforceable replacement for such provision, then (i) such provision shall be excluded from this agreement, (ii) the remaining provisions of the agreement shall be interpreted as if such provision were excluded and (iii) the remaining provisions of the agreement shall be enforceable in accordance with its terms.

MISCELLANEOUS

Any term of this agreement may be amended with the prior written consent of both Parties. Any amendment or waiver affected in accordance with this section shall be binding upon the Parties and their respective successors and assigns. Failure to enforce any provision of this agreement by a Party shall not constitute a waiver of any term hereof by such Party.

This agreement is the product of both Parties and constitutes the entire agreement between such Parties and merges all prior negotiations and drafts of the Parties pertaining to the subject matter of this agreement. Any and all other written or oral agreements existing between the Parties concerning the subject matter of this agreement are expressly cancelled. This agreement does not create, for neither Party nor their respective Affiliates any obligation to enter into any further contracts with regard to the Project.

GOVERNING LAW AND JURISDICTION

This agreement shall be governed by and construed in accordance with the laws of Belgium.

The Parties shall use good faith efforts to resolve any dispute, claim or proceeding arising out of or relating to this agreement. In the event that any dispute cannot be resolved at this level, then the senior executives of the relevant Parties who have authority to settle the same shall use good faith efforts to resolve the same.

If the matter is not resolved through negotiation, all disputes between the Parties arising out of or in connection with this agreement shall be decided by the exclusive competent courts in Brussels, without prejudice to the right of either Party to seek injunctive relief before any court in any place where unauthorized disclosure or use of the Confidential Information occurs or threatens to occur.

In witness whereof, the Parties by their duly authorized representatives have executed this agreement in two original copies, each Party acknowledging receipt of one copy.

Signed in ...

FOR _____

FOR ECO Platform

Date:

Date:

Name:

Name:

Title:

Title: Managing Director ECO Platform

3. Compliance EN15804						
3.1 programme rules confirm aim to be in compliance with EN15804						
3.2 using a verification checklist based on the ECO checklist, aiming to confirm that the EPD is in compliance with the EN15804 (procedural and methodological), that the EPD reflects the underlying LCA, and ensuring a minimum control on validity and plausibility of LCI-data and technical scenarios						
3.3 having an EPD format in place that is in accordance with EN15804						
3.4 If additional information is required or allowed in the EPD format, clarity is secured for the reader to understand that it concerns additional info which is not part of core EPD according to EN15804. It is required to have additional information externally verified						
3.5 having an arbitration procedure in place in case of disputes and complaints						
6.3.2 PART 2: Comments regarding the example ECO EPD and belonging verification checklist / documentation						
2.1) Verification according to ECO checklist and EN 15804						
Are all the items verified according to the ECO verification checklist:						
Part A: Calculation rules for the Life Cycle Assessment and requirements on the project report						
Are all the items verified according to the ECO verification checklist:						
Part B: Requirements on the EPD						
2.2) Compliance with EN15804						
Does the example EPD comply to EN15804 – as verified						
2.3) Compliance with ISO 14025						
2.4) Other comments and suggestions						