TRANSPORT SERVICES

PRODUCT CATEGORY CLASSIFICATION: UN CPC 6421, 6422, 6423, 6424, 6511, 6512, 6521, 6512, 6521, 6531, 6532, 6801, 6802

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VALID UNTIL 2027-06-20

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1 INTRODUCTION

This document constitutes Product Category Rules (PCR) developed in the framework of the International EPD® System: a programme for type III environmental declarations[1] according to ISO 14025:2006, ISO 14040:2006, ISO 14044:2006, and product-specific standards such as EN 15804 and ISO 21930 for NMHC ction products. Environmental Product Declarations (EPD) are voluntary documents for a company or organisation to present transparent, consistent and verifiable information about the environmental performance of their products (goods or services).

The rules for the overall administration and operation of the programme are the General Programme Instructions (GPI), publicly available at www.environdec.com. A PCR complements the GPI and the normative standards by providing specific rules, requirements and guidelines for developing an EPD for one or more specific product categories (see Figure 1). A PCR should enable different practitioners using the PCR to generate consistent results when assessing products of the same product category.

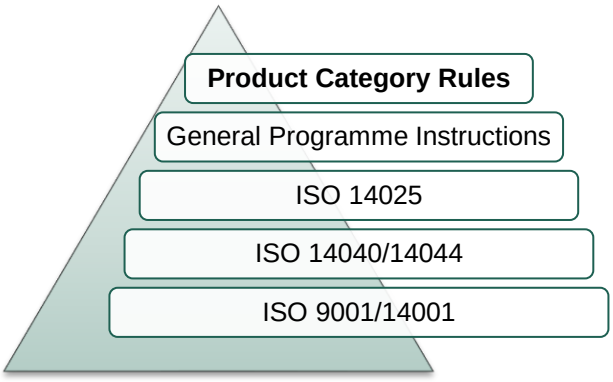

Figure 1 The hierarchy between PCRs, standards and other documents. EN 15804 and ISO 21930 are normative standards for construction products only.

Within the present PCR, the following terminology is adopted:

- The term “shall” is used to indicate what is obligatory, i.e. a requirement.
- The term “should” is used to indicate a recommendation, rather than a requirement. Any deviation from a “should” requirement shall be justified in the PCR development process.
- The terms “may” or “can” is used to indicate an option that is permissible.

For definitions of further terms used in the document, see the normative standards.

A PCR is valid for a pre-determined period of time to ensure that it is updated at regular intervals. The latest version of the PCR is available at www.environdec.com. Stakeholder feedback on PCRs is very much encouraged. Any comments on this PCR may be sent directly to the PCR Moderator and/or the Secretariat during its development or during its period of validity.

Any references to this document shall include the PCR registration number, name and version.

The programme operator maintains the copyright of the document to ensure that it is possible to publish, update, and make it available to all organisations to develop and register EPDs. Stakeholders participating in PCR development should be acknowledged in the final document and on the website.

[1] Type III environmental declarations in the International EPD® System are referred to as EPDs, Environmental Product Declarations.

2 GENERAL INFORMATION

2.1 ADMINISTRATIVE INFORMATION

Name:	Transport services
Registration number and version:	2023:06, version 1.0.1
Programme:	The International EPD® System
Programme operator:	EPD International AB, Box 210 60, SE-100 31 Stockholm, Sweden. Website: www.environdec.com E-mail: info@environdec.com
PCR Moderator:	Javier Martin Echazarret, Instituto Nacional de Tecnología Industrial (INTI), jechazarreta@inti.gob.ar
PCR Committee:	Instituto Nacional de Tecnología Industrial (INTI), Swedish Transport Administration
Date of publication and last revision:	2024-04-10 (Version 1.0.1) A version history is available in Section 8.
Valid until:	2027-06-20
Schedule for renewal:	A PCR is valid for a pre-determined time period to ensure that it is updated at regular intervals. When the PCR is about to expire, the PCR Moderator shall initiate a discussion with the Secretariat how to proceed with updating the PCR and renewing its validity. A PCR may be also be updated without prolonging its period of validity, provided significant and well-justified proposals for changes or amendments are presented. See www.environdec.com for the latest version of the PCR. When there has been an update of the PCR, the new version should be used to develop EPDs. The old version may however be used for 90 days after the publication date of the new version, as long as the old version has not expired.
Standards conformance:	▪ General Programme Instructions of the International EPD® System, version 4.0, based on ISO 14025 and ISO 14040/14044 ▪ Greenhouse gases — Quantification and reporting of greenhouse gas emissions arising from transport chain operations – ISO 14083
PCR language(s):	At the time of publication, this PCR was available in English. If the PCR is available in several languages, these are available at www.environdec.com. In case of translated versions, the English version takes precedence in case of any discrepancies.

2.2 SCOPE OF PCR

2.2.1 PRODUCT CATEGORY DEFINITION AND DESCRIPTION

This document provides Product Category Rules (PCR) for the assessment of the environmental performance of transport services and the declaration of this performance by an EPD. The product category corresponds to UN CPC 6421, 6422, 6423, 6424, 6511, 6512, 6521, 6512, 6521, 6531, 6532, 6801 and 6802.

Division: 64 Passenger transport services

Group: 642 Long-distance transport services of passengers

6421 Interurban railway transport services of passengers

6422 Interurban road transport services of passengers

6423 Long-distance water transport services of passengers

6424 Air transport services of passengers

Division: 65 Freight transport services

Group: 651 Land transport services of freight

6511 Road transport services of freight

65111 - Road transport services of freight by refrigerator vehicles

65112 - Road transport services of freight by tank trucks or semi-trailers

65113 - Road transport services of intermodal containers

65114 - Road transport services of freight by man- or animal-drawn vehicles

65115 - Moving services of household furniture and household goods

65116 - Road transport services of letters and parcels

65117 - Road transport services of dry bulk

6512 Railway transport services of freight

Group: 652 Water transport services of freight

6521 Coastal and transoceanic water transport services of freight

Group: 653 Air and space transport services of freight

6531 Air transport services of freight

6532 Space transport services of freight

Division: 68 Postal and courier services

Group: 680 Postal and courier services

6801 Postal services

6802 Courier services

2.2.2 GEOGRAPHICAL SCOPE

This PCR may be used globally.

2.2.3 EPD VALIDITY

An EPD based on this PCR shall be valid for a 5-year period starting from the date of the verification report (“approval date”), or until the EPD has been de-registered from the International EPD® System.

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

- an increase of 10% or more of any of the declared indicators of environmental impact,
- errors in the declared information, or
- significant changes to the declared product information, content declaration, or additional environmental, social or economic information.

If such changes have occurred, but the EPD is not updated, the EPD owner shall contact the Secretariat to de-register the EPD.

3 PCR REVIEW AND BACKGROUND INFORMATION

This PCR was developed in accordance with the PCR development process described in the GPI of the International EPD® System, including open consultation and review.

3.1 OPEN CONSULTATION

3.1.1 VERSION 1.0.0

This PCR was available for open consultation from 2022-10-31 until 2022-12-30, during which any stakeholder was able to provide comments by contacting the PCR Moderator and/or the Secretariat.

Stakeholders were invited via e-mail or other means to take part in the open consultation and were encouraged to forward the invitation to other relevant stakeholders. The following stakeholders provided comments during the open consultation and agreed to be listed as contributors in the PCR and at www.environdec.com:

- Antonio Dobon Lopez, Packaging, Transport & Logistics Research Center – ITENE
- Fu-Yu, Tsai - Sinotech Engineering Consultants, LTD.
- Petra Brinkhoff, TRB Sverige AB and Sveriges Åkeriföretag (Network organisation for hauling companies and The Swedish Association of Road Transport Companies)

3.2 PCR REVIEW

3.2.1 VERSION 1.0.0

PCR review panel:	The Technical Committee of the International EPD® System. A full list of members is available at www.environdec.com. The review panel may be contacted via info@environdec.com. Members of the Technical Committee were requested to state any potential conflict of interest with the PCR Committee, and if there were conflicts of interest they were excused from the review.
Chair of the PCR review:	Maurizio Fieschi
Review dates:	2023-03-14 until 2023-04-17

3.3 EXISTING PCRS FOR THE PRODUCT CATEGORY

As part of the development of this PCR, existing PCRs and other internationally standardized methods that could potentially act as PCRs were considered to avoid unnecessary overlaps in scope and to ensure harmonisation with established methods of relevance for the product category. The existence of such documents was checked among the following EPD programmes and international standardisation bodies:

- International EPD® System. www.environdec.com.
- Agence de l'Environnement et de la Maîtrise de l'Energie + AFNOR (ADEME).
- Association PEP (PEP Ecopassport).
- ASTM International (ASTM).
- Bau-EPD. https://www.bau-epd.at/.
- BRE Global. https://bregroup.com/services/testing-certification-verification/en-15804-environmental-product-declarations/.
- Canadian Standard Association Group (CSA).

- Carbon Leadership Forum (CLF).
- Centrum environmentálních prohlášení (CENDEC).
- Confederation of European Paper Industries (CEPI).
- Danish Environmental Protection Agency (EPD-DK).
- DAPHabitatSystem. https://daphabitat.pt/en_US/home/
- Declaración Ambiental de Productos de Construcción (DAPCO).
- Earthsure - Institute for Environmental Research and Education (IERE).
- ECO-LEAF.
- Environment and Development Foundation (EDF).
- EPD Denmark. https://www.epddanmark.dk/.
- EPD Ireland. https://www.igbc.ie/epd-home/.
- EPD Italy. https://www.epditaly.it/.
- EPD Norge. https://www.epd-norge.no.
- European Aluminium Association (EAA).
- FDES. https://www.inies.fr/inies-et-ses-donnees/fdes-produits-de-construction/.
- Global EPD. https://www.aenor.com/certificacion/certificacion-de-producto/declaraciones-ambientales-de-producto
- IBU. https://ibu-epd.com/.
- ICC Evaluation Service (ICC-ES).
- IFT Rosenheim (IFT).
- INIES (FDES INIES).
- ITB EPD Program. https://www.itb.pl/epd.
- Kiwa – Ecobility Experts. https://www.kiwa.com/de/en/themes/ecobility-experts/ecobility-experts-epd-program/.
- Korean Environmental Industry & Technology Institute EDP (KEITI EDP).
- National Ready Mixed Concrete Association (NRMCA).
- NSF International (NSF).
- PEP Ecopassport. http://www.pep-ecopassport.org/.
- Product Environmental Footprint (PEF).
- Programm für Umweltproduktedeklarationen des SÜGB. https://www.sugb.ch/.
- RTS EPD. https://cer.rts.fi/en/rts-epd/.
- Stitching MRPI. https://www.mrpi.nl/.
- UL Environment (UL).
- ZAG EPD. https://en.zag.si/en/epd.

The only existing PCR with overlapping scope found was PCR 2005:15 Road transport services of freight of food products and meals of the International EPD® System, valid until 2023-01-01, which will be replaced by the present PCR.

3.4 REASONING FOR DEVELOPMENT OF PCR

This PCR was developed to enable publication of EPDs for this product category based on ISO 14025 and ISO 14040/14044. The PCR enables different practitioners to generate consistent results when assessing the environmental impact of products or services of the same product category, and thereby it supports comparability of products or services within a product category.

3.5 UNDERLYING STUDIES USED FOR PCR DEVELOPMENT

The methodological choices made during the development of this PCR (declared/functional unit, system boundary, allocation methods, impact categories, data quality rules, etc.) were primarily based on the following underlying studies:

- Transport, freight, lorry 3.5-7.5 metric ton, EURO3 RoW, Andrew Simons, Ecoinvent 3
- Transport, freight, lorry 3.5-7.5 metric ton, EURO6 RoW Andrew Simons, Ecoinvent 3
- Transport, freight, lorry 7.5-16 metric ton, EURO3 RER, Andrew Simons, Ecoinvent 3
- Transport, freight, lorry 7.5-16 metric ton, EURO5 RoW, Andrew Simons, Ecoinvent 3
- Transport, freight, lorry 16-32 metric ton, EURO3 RoW, Andrew Simons, Ecoinvent 3
- Transport, freight, lorry 16-32 metric ton, EURO6 RoW, Andrew Simons, Ecoinvent 3
- Transport, freight, sea, container ship with reefer, freezing GLO, Tereza Levova, Ecoinvent 3
- Transport, freight, sea, container ship GLO, Tereza Levova, Ecoinvent 3
- Transport, freight, sea, tanker for liquefied natural gas GLO; Philippa Notten, Ecoinvent 3
- Transport, freight, aircraft, dedicated freight, long haul GLO; Philippa Notten, Ecoinvent 3
- Transport, passengers, passenger aircraft, medium haul GLO; Philippa Notten, Ecoinvent 3
- Transport, freight train, diesel RoW; Frédéric Gindroz, Ecoinvent 3
- Transport, freight train, electricity RoW; Frédéric Gindroz, Ecoinvent 3

4 GOAL AND SCOPE, LIFE CYCLE INVENTORY AND LIFE CYCLE IMPACT ASSESSMENT

The goal of this section is to provide specific rules, requirements and guidelines for developing an EPD for the product category as defined in Section 2.2.1.

4.1 FUNCTIONAL UNIT

The functional unit shall be stated in the EPD. The environmental impact shall be given per functional unit. A description of the function of the product should be included in the EPD, if relevant.

The functional unit shall be defined in accordance with the main function of the service.

- If the main function of transport is the transport service of a specific number of revenue passengers, the functional unit that shall be chosen to quantify the main function is the transport of 1 revenue passenger-equivalent (peqkm) over 1 km.
- If the main transport function is the freight transport service, the functional unit is 1 metric ton over 1 km for freight transport services and 1 kg over 1 km for postal and courier services.

The mass transported includes primary packaging but excludes the packaging for the loading in case of freight, and the mass of transported passenger includes baggage.

The passenger-equivalent kilometre (peqkm) is defined by ISO 14083.

4.2 TECHNICAL SPECIFICATION, LIFESPAN AND REFERENCE SERVICE LIFE (RSL)

Not applicable for this product category.

4.3 SYSTEM BOUNDARY

The International EPD® System uses an approach where all attributional processes from “cradle to grave” should be included using the principle of “limited loss of information at the final product”. This is especially important in the case of business-to-consumer communication.

The scope of this PCR and EPDs based on it is cradle to grave.

4.3.1 LIFE-CYCLE STAGES

For the purpose of different data quality rules and for the presentation of results, the life cycle of the product is divided into three life cycle stages:

- Upstream processes
- Core processes
- Downstream processes

In the EPD, the environmental performance associated with each of the three life-cycle stages above shall be reported separately and in aggregated form. The processes included in the scope of the PCR and belonging to each life cycle stage are described in Sections 4.3.1.1 – 4.3.1.3.

4.3.1.1. Upstream processes

The following attributional processes, if applicable, are part of the product system and classified as upstream processes:

- Production of the energy carrier used by each vehicle/hub like electric energy and fuels.
- Production and supply of auxiliary materials for maintenance and cleaning activities of each vehicle/hub.

- Production and supply of refrigerant gas.
- Production and supply of packaging for loading freight or letters and parcels which are added by the transport operator.
- Production and supply of food and its packaging delivered to passengers during trip.
- Production of vehicles used in the transport services (but the results of this shall be declared separately, so that the remaining results for the climate change indicator fulfils ISO 14083).
- Construction of buildings and transport hubs used in the transport service (but the results of this shall be declared separately, so that the remaining results for the climate change indicator fulfils ISO 14083).

Upstream processes not listed may also be included. All elementary flows at resource extraction shall be included, except for the flows that fall under the general cut-off rule in Section 4.5.

4.3.1.2. Core processes

The following attributional processes, if applicable, are part of the product system and classified as core processes:

- Vehicle use:
  - Emissions from energy carriers used to produce mechanical work or heat or to operate chemical or physical processes at vehicle level, from all on-board vehicle systems used for propulsion and for auxiliary services like refrigeration.
  - Emissions not from the use of energy carriers, such as wastewater from sea transports, emissions from the release of refrigerant gas topped up during the logistic service, emissions from the use of tires, etc.
  - All loaded and empty trips made by each vehicle, hence including energy consumed during diversionary and/or out-of-route (non-revenue) miles.
- Vehicle maintenance:
  - Ordinary maintenance and extraordinary maintenance related to tire substitution, oil change, filter substitution, brake fluid and pad substitution, topping up of heat transferring fluid and gear oil substitution or others.
  - Maintenance of insulation of the loading space used to create thermal insulation from outside.
- Vehicle cleaning:
  - Loading space washing and disinfection
- Infrastructure maintenance:
  - Ordinary maintenance and extraordinary maintenance shall be included.
- Transport hub operation:
  - Transport hub operational processes shall include operation of all handling, on-site transportation, transhipment and (dis)embarking equipment and facilities, including heating and temperature control.
  - Emissions from all energy carriers used during transport hub operations.
  - Emissions during start-up and idling of transhipping and (de) boarding equipment.
  - Energy use for sorting machines and other production services.

Manufacturing processes not listed may also be included. The production of the raw materials used for transport service shall be included. A minimum of 95% of the total weight of the declared product including packaging shall be included.

The product system shall not include:

- Travel to and from work by personnel.
- Research and development activities.
- Independent business located within a transport hub such as retail and hospitality services, whose functions are severable and incidental to the transportation operation of the transport hub.

4.3.1.3. Downstream processes

The following unit processes, if applicable, are part of the product system and shall be classified as downstream processes:

- End-of-life treatment of the packaging added by the transport operator for the loading of freight when they are delivered.
- End-of-life treatment of materials related to maintenance like tires, oil changed, filter substituted, brake fluid and pad substituted, topping up of heat transferring fluid and gear oil substituted.
- End-of-life treatment of the vehicle (but the results of this shall be declared separately, so that the remaining results for the climate change indicator fulfils ISO 14083).

4.3.2 INFRASTRUCTURE AND CAPITAL GOODS

In general, the production and end-of-life processes of infrastructure or capital goods[2] used in the product system should be excluded, unless there is evidence that they are relevant in terms of their environmental impact, or when a generic LCI dataset includes infrastructure/capital goods, and it is not possible, within reasonable effort, to subtract the data on infrastructure/capital goods from this dataset. If an infrastructure/capital good is produced with the intention to be used one or a few times only (e.g., a manufacturing plant or machinery constructed to produce only one product), this infrastructure/capital good shall be included.

The inclusion or exclusion of infrastructure/capital goods shall be transparently described for upstream, core and downstream processes in the LCA report and in the EPD.

If infrastructure/capital goods are included, the following disclaimer shall be included in the results sections of the LCA report and in the EPD (land use and toxicity indicators shall only be mentioned if declared in the EPD):

The results of the impact categories abiotic depletion of minerals and metals, land use, human toxicity (cancer), human toxicity, non-cancer and ecotoxicity (freshwater) may be highly uncertain in LCAs that include capital goods/infrastructure in generic datasets, in case infrastructure/capital goods contribute greatly to the total results. This is because the LCI data of infrastructure/capital goods used to quantify these indicators in currently available generic datasets sometimes lack temporal, technological and geographical representativeness. Caution should be exercised when using the results of these indicators for decision-making purposes.

4.3.3 OTHER BOUNDARY SETTING

4.3.3.1. Boundary towards nature

Boundaries to nature are defined as flows of material and energy resources from nature into the system. Emissions to air, water and soil cross the system boundary when they are emitted from or leaving the product system.

4.3.3.2. Boundary towards other technical systems

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

4.3.3.3. Temporal boundary

The temporal boundary defines the time period for which the life cycle inventory data is recorded, e.g. for how long emissions from waste deposits are accounted. As default, the time period over which inputs to and outputs from the product system is accounted for

[2] Examples of infrastructure and capital goods are the building in which the studied product or upstream materials or components are produced, machinery used in the manufacturing of the product or its materials or components, or vehicles used in transports in the product system. For example, if the EPD is on wind power, the power plant itself is considered the studied product and not infrastructure/capital goods. However, the buildings and machinery that make the wind turbine components are considered infrastructure/capital goods. Similarly, if the EPD is on a transport service, the vehicle is considered the studied product and not infrastructure/capital goods.

shall be 100 years from the year that the LCA model best represents, considering the representativeness of the inventory data. This year shall, as far as possible, represent the year of the publication of the EPD.

4.3.3.4. Geographical boundary

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

4.4 SYSTEM DIAGRAM

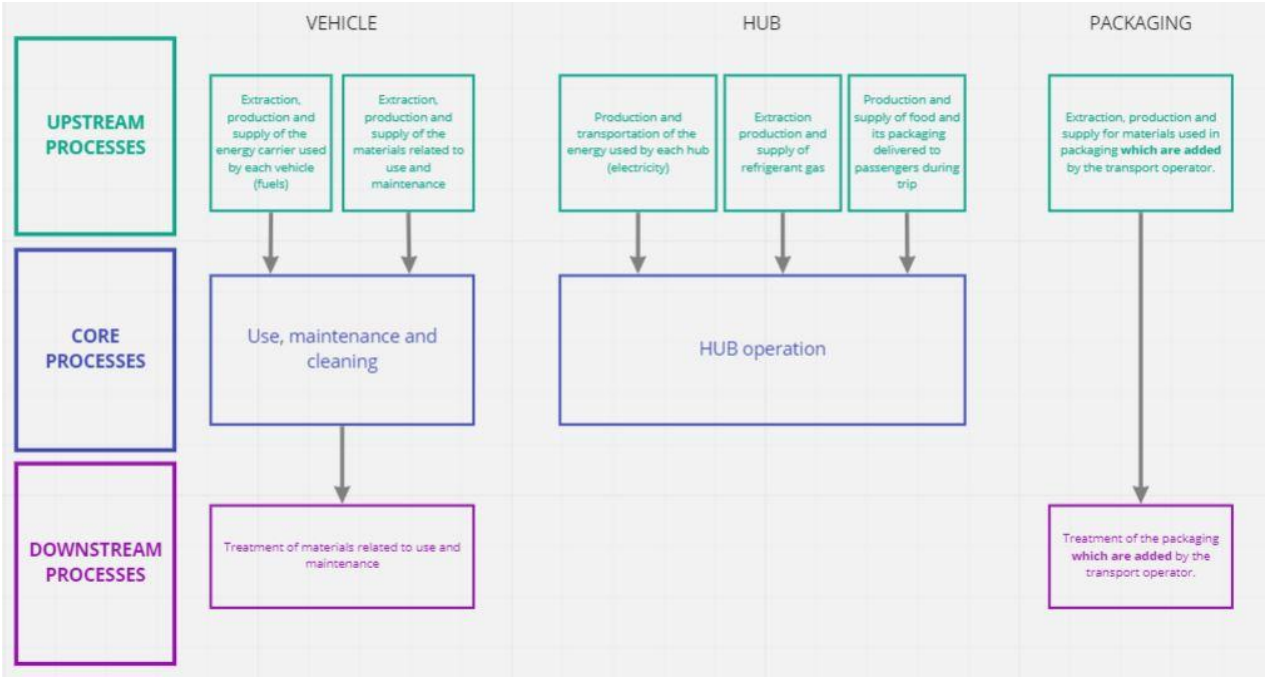

Figure 2 System diagram illustrating the processes that shall be included in the product system, divided into upstream, core and downstream processes. The illustration of processes to include may not be exhaustive.

4.5 CUT-OFF RULES

A cut-off rule of 5% shall be applied. In other words, the included inventory data (not including inventory data of processes that are explicitly outside the system boundary as described in Section 4.3) shall together give rise to at least 95% of the results of any of the environmental impact categories. In addition, 95% of the mass of the product content and 99% of the energy use of the product life cycle shall be accounted for. The cut-off of inventory data should, however, be avoided, and all available inventory data shall be used.

The cut-off of inventory data, based on the above cut-off rule, should be an output of a sensitivity analysis, alone or in combination with expert judgment based on experience of similar product systems. Further, the cut-off shall be possible to verify in the verification process, hence the exclusion of inventory data based on the cut-off rule shall be documented in the LCA report, and the EPD developer shall provide the information the verifier considers necessary to verify the cut-off.

4.6 ALLOCATION RULES

Allocation can be divided into allocation of co-products, i.e. allocation of unit processes that generate several products, and allocation of waste, i.e. allocation of unit processes that generate materials that are, for example, landfilled recovered, recycled or reused, and which require further processing to cease being waste and become products (see criteria for end-of-waste state in Section 4.6.2).

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

4.6.1 CO-PRODUCT ALLOCATION

The following hierarchy of allocation methods shall be followed for co-product allocation:

1. Allocation shall be avoided, if possible, by dividing the process to be allocated into sub-processes and collecting the inventory data for each sub-process.
2. If allocation cannot be avoided, the inventory data should be partitioned between the different co-products in a way that reflects the underlying physical relationships (e.g., mass, volume or energy) between them, i.e. allocation should reflect the way in which the inventory data changes if the quantities of delivered co-products change according to ISO 14083.
3. If a physical relationship between the inventory data and the delivery of co-products cannot be established, the inventory data should be allocated between the co-products in a way that reflects other relationships between them. For example, inventory data might be allocated between co-products in proportion to their economic values. If economic allocation is used, a sensitivity analysis exploring the influence of the choice of the economic value shall be included in the LCA report.

For key processes in the product system, Table 1 provides specific allocation guidance.

Table 1 Allocation method for key processes in the product system.

PROCESS	MAIN PRODUCT AND CO-PRODUCTS	ALLOCATION METHOD
Shipping service	Economic class/ Business class Load	Economic allocation based on economic fare cost for each class type and loaded freight. Economic fares should consider the insurance cost.
Machinery use, vehicles and other processes handling both cargo and passengers	Cargo handling services and passenger services	Economic allocation

4.6.2 WASTE ALLOCATION

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

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

The above outlined principle means that the generator of the waste shall carry the full environmental impact until the point in the product life cycle in which the end-of-waste criteria are fulfilled. Waste may have a negative economic market value, and then the end-of-waste stage is typically reached after (part of) the waste processing and further refinement, at the point at which the waste no longer has a negative market value. This allocation method is (in most cases) in line with a waste generator’s juridical and financial responsibilities. See the GPI for further information and examples.

4.7 DATA QUALITY REQUIREMENTS AND SELECTION OF DATA

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

- specific data (also referred to as “primary data” or “site-specific data”):
  - data gathered from the actual manufacturing plant where product-specific processes are carried out;
  - actual data from other parts of the life cycle traced to the product under study, for example site-specific data on the production of materials or generation of electricity provided by contracted suppliers, and transportation data on distances, means of transportation, load factor, fuel consumption, etc., of contracted transportation providers; and
  - LCI data from databases on transportation and energy ware that is combined with actual transportation and energy parameters as listed above.
- generic data (sometimes referred to as “secondary data”), divided into:
  - selected generic data: data (e.g. commercial databases and free databases) that fulfil prescribed data quality requirements for precision, completeness, and representativeness (see below Section 4.7.1),
  - proxy data: data (e.g. commercial databases and free databases) that do not fulfil all of the data quality requirements of “selected generic data”.

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

4.7.1 RULES FOR USING GENERIC DATA

For generic data to be classified as “selected generic data”, the following requirements apply:

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

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

The EPD may include a data quality declaration to demonstrate the share of specific data, selected generic data and proxy data contributing to the results of the environmental impact indicators.

4.7.2 EXAMPLES OF DATABASES FOR GENERIC DATA

Table *2* lists examples of databases to be used for generic data. Please note that a data quality assessment shall be performed also for data listed in the table, and that other data that fulfil the data quality requirements may also be used.

Table 2 Examples of databases for generic data.

PROCESS	GEOGRAPHICAL SCOPE	DATABASE
Upstream – Core - Downstream	Worldwide	Ecoinvent, Sphera
GHG emission factors for fuels	Worldwide	Ifeu, infras, Fraunhofer IML- EN 16258 - EcoTransit World
GHG emission factors for fuels	Worldwide	Argonne National Laboratory GREET Model

GHG emission factors for fuels	Regional	Local database

4.7.3 DATA QUALITY REQUIREMENTS AND OTHER MODELLING GUIDANCE PER LIFE-CYCLE STAGE

Below are further data quality requirement per life-cycle stage. Exceptions to the requirements may be accepted, if justified in the EPD; such exceptions are subject to the approval by the verifier on a case-to-case basis.

4.7.3.1. Upstream processes

Data referring to processes and activities upstream in a supply chain over which the EPD owner direct management control shall be specific and collected on site.

Data referring to contractors that supply main parts, packaging, or main auxiliaries should be requested from the contractor as specific data, as well as infrastructure, where relevant.

Data on transport of main parts and components along the supply chain to a distribution point (e.g. a stockroom or warehouse) where the final delivery to the manufacturer can take place, should be specific and based on the actual transportation mode, distance from the supplier, and vehicle load.

In case specific data is lacking, selected generic data may be used. If this is also lacking, proxy data may be used (see Section 4.7).

For upstream processes modelled with specific data, generation of electricity used shall be accounted for in this priority:

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

The residual electricity mix is the mix when all contract-specific electricity that has been sold to other customers has been subtracted from the total consumption mix.

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

The mix of electricity used in upstream processes shall be documented in the EPD, where relevant.

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

4.7.3.2. Core processes

Transport from the final delivery point of raw materials, chemicals, main parts, and components (see above regarding upstream processes) to the manufacturing plant/place of service provision should be based on the actual transportation mode, distance from the supplier, and vehicle load, if available.

Services: Specific data shall be used for the consumption of materials, chemicals, steam, heat, electricity, etc., necessary for execution of the service

For electricity used in the core processes, generation of electricity used shall be accounted for in this priority:

[3] The composition of the residual grid mixes on the market are available for all EU countries and a few additional European countries through the Association for Issuing Bodies (AIB) at https://www.aib-net.org/facts/european-residual-mix.

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

1. Specific electricity mix as generated, or purchased from an electricity supplier, demonstrated by a Guarantee of Origin or similar as provided by the electricity supplier.
2. Residual electricity mix of the electricity supplier on the market.
3. Residual electricity mix on the market[5].
4. Electricity consumption mix on the market[6]. This option shall not be used for electricity used in processes over which the manufacturer (EPD owner) has direct control, as long as the composition of the residual grid mix has been publicly disclosed[7].

The residual electricity mix is the mix when all contract-specific electricity that has been sold to other customers has been subtracted from the total consumption mix.

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

The mix of electricity used in the core processes shall be documented in the EPD, where relevant.

If specific data are not available other data may be used, e.g. data used in generic datasets for transport or statistical data related to the distribution of vehicle homologation, according to European Directives limits, considering the different kinds of vehicles used during the service.

The European Directives limits and the emissions standards in Table 3 are based on the following directives:

- Euro 1 standards (also known as EC 93): Directives 91/441/EEC (passenger cars only) or 93/59/EEC (passenger cars and light trucks)
- Euro 2 standards (EC 96): Directives 94/12/EC or 96/69/EC
- Euro 3/4 standards (2000/2005): Directive 98/69/EC, further amendments in 2002/80/EC
- Euro 5/6 standards (2009/2014): Regulation 715/2007 (political” legislation) and several comitology regulations
- Regulation 692/2008—the main implementing legislation
- Regulation 459/2012—PN limits for gasoline vehicles and final Euro 6 OBD
- Regulation 630/2012—provisions for hydrogen, hydrogen/natural gas (H2NG) and hybrid and electric vehicles
- Real Driving Emissions (RDE): Regulation 2016/427, Regulation 2016/646, Regulation 2017/1154, Regulation 2018/1832
- WLTP/WLTC testing: Regulation 2017/1151, Regulation 2017/1347

Table 3 shows data that may be used for light commercial vehicles.

Table 3 EU emission standards for light commercial vehicles.

Category	Stage	Date	CO	HC	HC+NOx	NOx	PM	PN
			g/km					*#/km*
Positive Ignition (Gasoline)								
N_1, Class I ≤1305 kg	Euro 1	1994.10	2.72	-	0.97	-	-	-
	Euro 2	1997.01	2.2	-	0.50	-	-	-
	Euro 3	2000.01	2.3	0.20	-	0.15	-	-
	Euro 4	2005.01	1.0	0.10	-	0.08	-	-
	Euro 5	2009.09[b]	1.0	0.10[g]	-	0.06	0.005[e,f]	-
	Euro 6	2014.09	1.0	0.10[g]	-	0.06	0.005[e,f]	6.0×10^{11} [e,j]

[5] The composition of the residual grid mixes on the market are available for all EU countries and a few additional European countries through the Association for Issuing Bodies (AIB) at https://www.aib-net.org/facts/european-residual-mix.

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

[7] If the composition of the residual grid mix has not been publicly disclosed, the second or third options in the above hierarchy are not feasible and thus the fourth option is the only remaining option (if the first option is not chosen).

Category	Stage	Date	CO	HC	HC+NOx	NOx	PM	PN
			g/km					*#/km*
N_1, Class II 1305-1760 kg	Euro 1	1994.10	5.17	-	1.40	-	-	-
	Euro 2	1998.01	4.0	-	0.65	-	-	-
	Euro 3	2001.01	4.17	0.25	-	0.18	-	-
	Euro 4	2006.01	1.81	0.13	-	0.10	-	-
	Euro 5	2010.09[c]	1.81	0.13[h]	-	0.075	0.005[e,f]	-
	Euro 6	2015.09	1.81	0.13[h]	-	0.075	0.005[e,f]	6.0×10^{11} [e,j]
N_1, Class III >1760 kg	Euro 1	1994.10	6.90	-	1.70	-	-	-
	Euro 2	1998.01	5.0	-	0.80	-	-	-
	Euro 3	2001.01	5.22	0.29	-	0.21	-	-
	Euro 4	2006.01	2.27	0.16	-	0.11	-	-
	Euro 5	2010.09[c]	2.27	0.16[i]	-	0.082	0.005[e,f]	-
	Euro 6	2015.09	2.27	0.16[i]	-	0.082	0.005[e,f]	6.0×10^{11} [e,j]
N_2	Euro 5	2010.09[c]	2.27	0.16[i]	-	0.082	0.005[e,f]	-
	Euro 6	2015.09	2.27	0.16[i]	-	0.082	0.005[e,f]	6.0×10^{11} [e,j]
Compression Ignition (Diesel)								
N_1, Class I ≤1305 kg	Euro 1	1994.10	2.72	-	0.97	-	0.14	-
	Euro 2 IDI	1997.01	1.0	-	0.70	-	0.08	-
	Euro 2 DI	1997.01[a]	1.0	-	0.90	-	0.10	-
	Euro 3	2000.01	0.64	-	0.56	0.50	0.05	-
	Euro 4	2005.01	0.50	-	0.30	0.25	0.025	-
	Euro 5a	2009.09[b]	0.50	-	0.23	0.18	0.005[f]	-
	Euro 5b	2011.09[d]	0.50	-	0.23	0.18	0.005[f]	6.0×10^{11}
	Euro 6	2014.09	0.50	-	0.17	0.08	0.005[f]	6.0×10^{11}
N_1, Class II 1305-1760 kg	Euro 1	1994.10	5.17	-	1.40	-	0.19	-
	Euro 2 IDI	1998.01	1.25	-	1.0	-	0.12	-
	Euro 2 DI	1998.01[a]	1.25	-	1.30	-	0.14	-
	Euro 3	2001.01	0.80	-	0.72	0.65	0.07	-
	Euro 4	2006.01	0.63	-	0.39	0.33	0.04	-
	Euro 5a	2010.09[c]	0.63	-	0.295	0.235	0.005[f]	-
	Euro 5b	2011.09[d]	0.63	-	0.295	0.235	0.005[f]	6.0×10^{11}
	Euro 6	2015.09	0.63	-	0.195	0.105	0.005[f]	6.0×10^{11}
N_1, Class III >1760 kg	Euro 1	1994.10	6.90	-	1.70	-	0.25	-
	Euro 2 IDI	1998.01	1.5	-	1.20	-	0.17	-
	Euro 2 DI	1998.01[a]	1.5	-	1.60	-	0.20	-
	Euro 3	2001.01	0.95	-	0.86	0.78	0.10	-
	Euro 4	2006.01	0.74	-	0.46	0.39	0.06	-
	Euro 5a	2010.09[c]	0.74	-	0.350	0.280	0.005[f]	-
	Euro 5b	2011.09[d]	0.74	-	0.350	0.280	0.005[f]	6.0×10^{11}
	Euro 6	2015.09	0.74	-	0.215	0.125	0.005[f]	6.0×10^{11}

Category	Stage	Date	CO	HC	HC+NOx	NOx	PM	PN
			g/km					*#/km*
N_2	Euro 5a	2010.09[c]	0.74	-	0.350	0.280	0.005[f]	-
	Euro 5b	2011.09[d]	0.74	-	0.350	0.280	0.005[f]	6.0×10^{11}
	Euro 6	2015.09	0.74	-	0.215	0.125	0.005[f]	6.0×10^{11}

† For Euro 1/2 the Category N_1 reference mass classes were Class I ≤ 1250 kg, Class II 1250-1700 kg, Class III > 1700 kg
a. until 1999.09.30 (after that date DI engines must meet the IDI limits)
b. 2011.01 for all models
c. 2012.01 for all models
d. 2013.01 for all models
e. applicable only to vehicles using DI engines
f. 0.0045 g/km using the PMP measurement procedure
g. and NMHC = 0.068 g/km
h. and NMHC = 0.090 g/km
i. and NMHC = 0.108 g/km
j. 6.0×10^{12} 1/km within first three years from Euro 6 effective dates

Table 4 and Table 5 show data that may be used for trucks. There are two sets of emission standards, with different type of testing requirements. Table 4 lists emission standards applicable to diesel (compression ignition, CI) engines only, with steady-state emission testing requirements. Table 5 lists standards applicable to both diesel and positive ignition (PI) engines, with transient testing requirements.

Table 4 Emission standards applicable to diesel (compression ignition, CI) engines only, with steady-state emission testing requirements.

Stage	Date	Test	CO	HC	NOx	PM	PN	Smoke
			g/kWh				***1/kWh***	***1/m***
Euro I	1992, ≤ 85 kW	ECE R-49	4.5	1.1	8.0	0.612		
	1992, > 85 kW		4.5	1.1	8.0	0.36		
Euro II	1996.10		4.0	1.1	7.0	0.25		
	1998.10		4.0	1.1	7.0	0.15		
Euro III	*1999.10 EEV only*	ESC & ELR	*1.5*	*0.25*	*2.0*	*0.02*		*0.15*
	2000.10		2.1	0.66	5.0	0.10[a]		0.8
Euro IV	2005.10		1.5	0.46	3.5	0.02		0.5
Euro V	2008.10		1.5	0.46	2.0	0.02		0.5
Euro VI	2013.01	WHSC	1.5	0.13	0.40	0.01	8.0×10^{11}	

[a] PM = 0.13 g/kWh for engines < 0.75 dm^3 swept volume per cylinder and a rated power speed > 3000 min^{-1}

Table I lists emission standards applicable to diesel (compression ignition, CI)

1. **Transient Testing:** Table 2 list standards applicable to both diesel and positive ignition (PI) engines, with transient testing requirements

Table 5 Emission standards applicable to both diesel and positive ignition (PI) engines, with transient testing requirements

Stage	Date	Test	CO	NMHC	CH_4[a]	NOx	PM[b]	PN
			g/kWh					*1/kWh*
Euro III	*1999.10 EEV only*	ETC	*3.0*	*0.40*	*0.65*	*2.0*	*0.02*	
	2000.10		5.45	0.78	1.6	5.0	0.16[c]	
Euro IV	2005.10		4.0	0.55	1.1	3.5	0.03	
Euro V	2008.10		4.0	0.55	1.1	2.0	0.03	
Euro VI	2013.01	WHTC	4.0	0.16[d]	0.5	0.46	0.01	6.0×10^{11}[e]

[a] for gas engines only (Euro III-V: NG only; Euro VI: NG + LPG)
[b] not applicable for gas fueled engines at the Euro III-IV stages
[c] PM = 0.21 g/kWh for engines < 0.75 dm^3 swept volume per cylinder and a rated power speed > 3000 min^{-1}
[d] THC for diesel (CI) engines
[e] PN limit for PI engines applies for Euro VI-B and later

4.7.3.3. Downstream processes

It shall be clearly defined in the EPD:

- End-of-life treatment of materials related to use and maintenance
- End-of-life treatment of the packaging as well as materials used in use, which are added by the transport operator

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

The generation of electricity used in the downstream processes shall be modelled according to the same hierarchy as presented above for the upstream and core processes.

4.7.4 DATA QUALITY DECLARATION

EPDs may include a declaration of the quality of data used in the LCA calculations.

4.8 ENVIROMETAL PERFORMANCE INDICATORS

The EPD shall declare the default environmental performance indicators and their methods as described at the website (www.environdec.com/indicators), which includes both inventory indicators and indicators of potential environmental impact. The source and version of the impact assessment methods and characterisations factors used shall be reported in the EPD. Also other indicators may be declared, if justified, see Section 5.4.5.

If the default list of environmental performance indicators and methods at the www.environdec.com/indicators is updated, the previous version of the list is valid in parallel to the new version during a transition period of at least 90 days, as described at the website.

Apart from inventory indicators (such as the required and optional inventory indicators listed at www.environdec.com/indicators), other inventory data may also be declared in the EPD, if relevant and useful for EPD users. Such data shall not be declared in the main body of the EPD, but in an annex.

4.9 INCLUDING MULTIPLE PRODUCTS IN THE SAME EPD

4.9.1 MULTIPLE PRODUCTS FROM THE SAME COMPANY

Several sets of results, reflecting different products, are not allowed to be declared in the same EPD. However, similar products from a single or several manufacturing sites covered by the same PCR and manufactured by the same company with the same major steps in the core processes may be grouped and thereby included in the same EPD. For such an EPD, there are three options:

- For each indicator, declare the average results of the included products. This average shall be weighted according to the production volumes of the included products, if relevant. In this option, the average content shall be declared in the content declaration.
- Declare the results of one of the included products – a representative product. The choice of the representative product shall be justified in the EPD, using, where applicable, statistical parameters. For example, the choice may be based on production volumes. In this option, the content of the representative product shall be declared in the content declaration.
- For each indicator, declare the highest result of the included products (i.e., the results of a “worst-case product”, which may be the results of one or several of the included products). In this option, the content declaration shall include the lowest amounts of recycled and biogenic content of the included products and their packaging, respectively, and the information on environmental and hazardous properties of substances shall reflect the highest share and most hazardous such substances contained in the any of the included products.

The first two options are only possible if none of the declared environmental impact indicator results differ by more than 10% between any of the included products. The third option is possible also if variations are larger than 10%.

4.9.2 THE OPTION CHOSEN SHALL BE CLEARLY DESCRIBED IN THE EPD.SECTOR EPDS

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

Any communication of the results from a Sector EPD should contain the information that the results are based on averages obtained from the sector as defined in the EPD. The communication shall not claim that the sector EPD results are representative for a certain manufacturer or its product.

The following information shall also be included a Sector EPD:

- a list of the contributing manufacturers that the Sector EPD covers,
- a description of how the selection of the sites/products has been done and how the average has been determined, and
- a statement that the document covers average values for an entire or partial product category (specifying the percentage of representativeness) and, hence, the declared product is an average that is not available for purchase on the market.

5 CONTENT AND FORMAT OF EPD

EPDs based on this PCR shall contain the information described in this section. Flexibility is allowed in the formatting and layout provided that the EPD still includes the prescribed information. A generic template for EPDs is available at www.environdec.com.

The EPD content shall:

- be in line with the requirements and guidelines in ISO 14020 (Environmental labels and declarations – General principles),
- be verifiable, accurate, relevant and not misleading, and
- not include rating, judgements or direct comparison with other products[8].

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

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

5.1 EPD LANGUAGES

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

5.2 UNITS AND QUANTITIES

The following requirements apply for units and quantities:

- The International System of Units (SI units) shall be used where available, e.g., kilograms (kg), Joules (J) and metres (m). Reasonable multiples of SI units may be decided in the PCR to improve readability, e.g., grams (g) or megajoules (MJ). The following exceptions apply:
  - Resources used for energy input (primary energy) should be expressed as kilowatt-hours (kWh) or megajoules (MJ), including renewable energy sources, e.g., hydropower, wind power and geothermal power.
  - Water use should be expressed in cubic metres (m^3)
  - Temperature should be expressed in degrees Celsius (°C),
  - Time should be expressed in the units most practical, e.g., seconds, minutes, hours, days or years.
  - Results of the environmental performance indicators shall be expressed in the units prescribed by the impact assessment methods, e.g. kg CO_2 equivalents.
- Three significant figures[9] should be adopted for all results. The number of significant digits shall be appropriate and consistent.
- Scientific notation may be used, e.g. 1.2E+2 for 120, or 1.2E-2 for 0.012.
- The thousand separator and decimal mark in the EPD shall follow one of the following styles (a number with six significant figures shown for illustration):
  - SI style (French version): 1 234,56
  - SI style (English version): 1 234.56

  In case of potential confusion or intended use of the EPD in markets where different symbols are used, the EPD shall state what symbols are used for thousand separator and decimal mark.

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

[9] Significant figures are those digits that carry meaning contributing to its precision. For example with two significant digits, the result of 123.45 shall be displayed as 120, and 0.12345 shall be displayed as 0.12. In scientific notation, these two examples would be displayed as $1.2*10^2$ and $1.2*10^{-2}$.

- Dates and times presented in the EPD should follow the format in ISO 8601. For years, the prescribed format is YYYY-MM-DD, e.g., 2017-03-26 for March 26th, 2017.
- The result tables shall:
  - Only contain values or the letters “ND” (Not Declared). It is not possible to specify ND for mandatory indicators. ND shall only be used for voluntary parameters that are not quantified because no data is available.[10]
  - Contain no blank cells, hyphens, less than or greater than signs or letters (except “ND”).
  - Use the value “0” only for parameters that have been calculated to be zero.
  - Footnotes shall be used to explain any limitation to the result value.

5.3 USE OF IMAGES IN EPD

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

5.4 EPD REPORTING FORMAT

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

- Cover page (see Section 5.4.1)
- Programme information (see Section 5.4.2)
- Product information (see Section 5.4.3)
- Content declaration (see Section □)
- Environmental performance (see Section 5.4.5)
- Additional environmental information (see Section 5.4.6)
- Additional social and economic information (see Section 5.4.7)
- References (see Section 5.4.9)

The following sections shall be included, if relevant:

- Differences versus previous versions (see Section 5.4.8)
- Executive summary in English (see Section 5.4.10)

5.4.1 COVER PAGE

The cover page shall include:

- Product name and image
- Name and logotype of EPD owner
- The text “Environmental Product Declaration” and/or “EPD”
- Programme: The International EPD® System, www.environdec.com
- Programme operator: EPD International AB
- Logotype of the International EPD® System

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

- EPD registration number as issued by the programme operator[11]
- Date of publication (issue): 20XX-YY-ZZ
- Date of revision: 20XX-YY-ZZ, when applicable
- Date of validity; 20XX-YY-ZZ
- A note that *"An EPD should provide current information and may be updated if conditions change. The stated validity is therefore subject to the continued registration and publication at www.environdec.com."*
- A statement of conformity with ISO 14025.
- For EPDs covering multiple products: a statement that the EPD covers multiple products and a list of all products covered by the EPD.
- For Sector EPDs: a statement that the EPD is a Sector EPD.
- For construction product EPDs:

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

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

- Information about dual registration of EPD in another programme, such as registration number and logotype.
- A statement of conformity with other standards and methodological guides.

5.4.2 PROGRAMME INFORMATION

The programme information section of the EPD shall include:

- Address of programme operator: *EPD International AB, Box 210 60, SE-100 31 Stockholm, Sweden, E-mail: info@environdec.com*
- The following statement on the requirements for comparability of EPDs, adapted from ISO 14025: *"EPDs within the same product category but from different programmes may not be comparable. For two EPDs to be comparable, they must be based on the same PCR (including the same version number) or be based on fully aligned PCRs or versions of PCRs; cover products with identical functions, technical performances and use (e.g. identical declared/functional units); have equivalent system boundaries and descriptions of data; apply equivalent data quality requirements, methods of data collection, and allocation methods; apply identical cut-off rules and impact assessment methods (including the same version of characterisation factors); have equivalent content declarations; and be valid at the time of comparison."*
- A statement that the EPD owner has the sole ownership, liability and responsibility of the EPD
- Information about verification[12] and the PCR in a table with the following format and contents:

Accountabilities for PCR, LCA and independent, third-party verification
Product Category Rules (PCR)
PCR: *<name, registration number, version and UN CPC code(s)>*
PCR review was conducted by: *<name and organisation of the review chair, and information on how to contact the chair through the programme operator>*

[11] The EPD shall not include a "registration number" if such is provided by the certification body, as this may be confused with the registration number issued by the programme operator.

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

Life cycle assessment (LCA)
LCA accountability: *<name, organization>*
Third-party verification
Independent third-party verification of the declaration and data, according to ISO 14025:2006, via: ☐ EPD verification by individual verifier Third-party verifier: *<name, organisation, and signature of the third-party verifier>* Approved by: The International EPD® System
OR
Independent third-party verification of the declaration and data, according to ISO 14025:2006, via: ☐ EPD verification by accredited certification body Third-party verification: *<name, organisation>* is an approved certification body accountable for the third-party verification The certification body is accredited by: *<name of accreditation body & accreditation number, where applicable>*
OR
Independent third-party verification of the declaration and data, according to ISO 14025:2006 via: ☐ EPD verification by EPD Process Certification* Internal auditor: *<name, organisation>* Third-party verification: *<name, organisation>* is an approved certification body accountable for third-party verification Third-party verifier is accredited by: *<name of accreditation body & accreditation number, where applicable>* *For EPD Process Certification, an accredited certification body certifies and reviews the management process and verifies EPDs published on a regular basis. For details about third-party verification procedure[13] of the EPDs, see GPI v4, Section 7.5.
Procedure for follow-up of data during EPD validity involves third-party verifier: ☐ Yes ☐ No

5.4.3 PRODUCT INFORMATION

The product information section of the EPD shall include:

- address and contact information to EPD owner,

[13] Procedure for follow-up the validity of the EPD is at minimum required once a year with the aim of confirming whether the information in the EPD remains valid or if the EPD needs to be updated during its validity period (see Sections 7.3.2 and 7.4.9 of the GPI). The follow-up can be organized entirely by the EPD owner or together with the original verifier via an agreement between the two parties. In both approaches, the EPD owner is responsible for the procedure being carried out. If a change that requires an update (see Section 6.5 of the GPI) is identified, the EPD shall be re-verified by a verifier.

- description of the organisation. This may include information on products- or management system-related certifications (e.g. ISO 14024 Type I environmental labels, ISO 9001- and 14001-certificates and EMAS-registrations) and other relevant work the organisation wants to communicate (e.g. SA 8000, supply-chain management and social responsibility),
- name and location of the site(s) at which the service is provided,
- service identification by name, and an unambiguous identification of the service by standards, concessions or other means,
- identification of the service according to the UN CPC scheme system. Other relevant codes for product classification may also be included, e.g.
    - Common Procurement Vocabulary (CPV),
    - United Nations Standard Products and Services Code® (UNSPSC),
    - Classification of Products by Activity (NACE/CPA),
    - Australian and New Zealand Standard Industrial Classification (ANZSIC), or
    - Global Trade Item Number (GTIN).
- a description of the service,
- a description of the technical purpose of the service, including its application/intended use,
- a description of the background system, including the main technological aspects,
- for EPDs covering multiple services: a description of the selection of services/sites, a list of contributing service providers (if Sector EPD), etc.
- geographical scope of the EPD, i.e., for which geographical location(s) of use and end-of-life the services's performance has been calculated,
- functional unit,
- declaration of the year(s) covered by the data used for the LCA calculation and other relevant reference years,
- reference to the main database(s) for generic data and LCA software used, if relevant,
- system diagram of the processes included in the LCA, divided into the life cycle stages,
- description that EPD system boundary is "cradle to grave",
- information on which life-cycle stages are not considered (if any), with a justification of the omission, and
- references to any relevant websites for more information or explanatory materials.

This section may also include:

- name and contact information of organisation carrying out the underlying LCA study,
- any additional information about the underlying LCA-based information, such as cut-off rules, data quality, allocation methods, and other methodological choices and assumptions,
- if end-of-life treatment is not included, the EPD shall contain a statement that it shall not be used for communicating environmental information to consumers/end users of the product.

5.4.4 CONTENT DECLARATION

Not applicable for this product category.

5.4.5 ENVIRONMENTAL PERFORMANCE

Below subsections list the mandatory environmental performance indicators to declare in the EPD. LCA results based on additional indicators may be declared, if they are relevant for the product category, their inclusion is justified in the EPD, appropriate methods are used, and the results are verifiable. If the additional indicators appear to the reader to display duplicate information, the EPD shall contain an explanation of the differences between the declared indicators.

5.4.5.1. Environmental impacts

The EPD shall declare the environmental impact indicators, per functional unit, per life-cycle stage and in aggregated form, using the default impact categories, impact assessments methods and characterisation factors available at www.environdec.com/indicators and, if applicable, the indicator for noise emissions (see below). The source and version of the impact assessment methods and characterisation factors used shall be reported in the EPD.

Alternative regional life cycle impact assessment methods and characterisation factors may be calculated and displayed in addition to the default list. If so, the EPD shall contain an explanation of the difference between the different sets of indicators, as they may appear to the reader to display duplicate information.

5.4.5.2. Use of resources

The EPD shall declare the indicators for resource use listed at www.environdec.com/indicators per functional unit, per life-cycle stage and in aggregated form.

5.4.5.3. Waste production and output flows

Waste generated along the whole life cycle production chains shall be treated following the technical specifications described in the GPI. The EPD shall declare the indicators for waste production and output flows as listed at www.environdec.com/indicators per functional unit, per life-cycle stage and in aggregated form.

5.4.6 ADDITIONAL ENVIRONMENTAL INFORMATION

An EPD may declare additional environmentally relevant information, in addition to the LCA results of the section on environmental performance results. The additional environmental information may cover various aspects of specific relevance for the product, for example:

- the release of dangerous substances into indoor air, soil, and water during the use stage,
- instructions for proper use of the vehicle and infrastructure, e.g. to minimise energy or water consumption or to improve the durability,
- instructions for proper maintenance and service of the vehicle, e.g. to minimise energy or water consumption or to improve the durability,
- information on key parts of the vehicle and infrastructure that determine its durability,
- information on recycling including, e.g. suitable procedures for recycling the entire vehicle and infrastructure or selected parts and the potential environmental benefits gained,
- information on a suitable method of reuse of the vehicle (or parts of it) and procedures for disposal as waste at the end of its life cycle,
- information regarding disposal of the vehicle, or inherent materials, and any other information considered necessary to minimise the vehicle's end-of-life impacts, and
- a more detailed description of an organisation's overall environmental work, in addition to the information listed under Section 5.4.3, such as:
    - the existence of any type of organised environmental activity, and
    - information on where interested parties may find more details about the organisation's environmental work.

If the transport service involved airplanes, the additional environmental information section shall declare the noise emissions of the aeroplane in accordance with ICAO, Annex 16, Volume I [12] at the three following points: flyover; lateral and approach. Noise emissions shall be reported in EPNdB and shall be declared against the relevant noise limit as per certification document. The limit used shall be stated in the EPD. A database compiling all noise certification data can be found at http://noisedb.stac.aviation-civile.gouv.fr/.

Any additional environmental information declared shall be substantiated and verifiable, and be derived using appropriate methods and be specific, accurate, not misleading, and relevant to the specific product. Quantitative information is preferred over qualitative information.

The additional environmental information shall not include LCA results, unless If the EPD owner wants to display results of several scenarios for use or end-of-life stages, the most representative scenario (for the geographical scope of the EPD) shall be declared in the section on environmental performance results, and the other scenarios shall be declared in the section on additional environmental information.

5.4.7 ADDITIONAL SOCIAL AND ECONOMIC INFORMATION

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

Any additional social and economic information declared shall be substantiated and verifiable, and be derived using appropriate methods and be specific, accurate, not misleading, and relevant to the specific product. Quantitative information is preferred over qualitative information.

5.4.8 DIFFERENCES VERSUS PREVIOUS VERSIONS

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

- a description of the differences versus previously published versions, and
- a revision date on the cover page.

5.4.9 REFERENCES

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

5.4.10 EXECUTIVE SUMMARY IN ENGLISH

The executive summary, if included (see Section 5.1), shall contain relevant summarised information related to the programme, product, environmental performance, information related to pre-certified EPDs, and information related to sector EPDs. Besides this, further information may be added such as additional environmental, social or economic information, references as well as differences versus previous EPD versions.

6 LIST OF ABBREVIATIONS

ANZSIC	Australian and New Zealand Standard Industrial Classification
CPC	Central product classification
CPV	Common procurement vocabulary
CO	Carbon monoxide
EPD	Environmental product declaration
ELR	European Load Response
ETC	European Transient Cycle
ESC	Emission Test Cycles
GHG	Greenhouse gas
GPI	General Programme Instructions
GTIN	Global trade item number
HC	Hydrocarbons
ISO	International Organization for Standardization
LCA	Life cycle assessment
LCI	Life cycle inventory
NACE/CPA	Classification of products by activity
ND	Not declared
NMHC	Nonmethane hydrocarbons
NOx	Nitrogen oxides
PCR	Product category rules
peqkm	passenger-equivalent kilometre
PM	Particulate matter
PN	Particle number
REACH	Restriction of chemicals
RSL	Reference service life
SI	The International System of Units
UN	United Nations
UNSPSC	United Nations standard products and services code
WHSC	World Harmonized Stationary Cycle
WHTC	World Harmonized Transient Cycle

7 REFERENCES

EPD International (2021) General Programme Instructions for the International EPD® System. Version 4.0, dated 2021-03-29. www.environdec.com.

ISO (2000) ISO 14020:2000, Environmental labels and declarations – General principles.

ISO (2004) ISO 8601:2004 Data elements and interchange formats – Information interchange – Representation of dates and times.

ISO (2006a) ISO 14025:2006, Environmental labels and declarations – Type III environmental declarations – Principles and procedures.

ISO (2006b) ISO 14040:2006, Environmental management – Life cycle assessment – Principles and framework.

ISO (2006c) ISO 14044: 2006, Environmental management – Life cycle assessment – Requirements and guidelines.

ISO (2013) ISO/TS 14067:2013, Greenhouse gases – Carbon footprint of products – Requirements and guidelines for quantification and communication.

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

ISO (2015a) ISO 14001:2015, Environmental management systems – Requirements with guidance for use.

ISO (2015b) ISO 9001:2015, Quality management systems – Requirements.

ISO (2016a) ISO 21067-1:2016, Packaging – Vocabulary – Part 1: General terms.

ISO (2016b) ISO 14021:2016, Environmental labels and declarations - Self-declared environmental claim (Type II environmental labelling).

ISO (2017) ISO 21930:2017, Sustainability in buildings and civil engineering works – Core rules for environmental product declarations of construction products and services.

ISO (2018) ISO 14024:2018, Environmental labels and declaration – Type I environmental labelling – Principles and procedures.

ISO (2021) ISO 14083:2023 Greenhouse gases – Quantification and reporting of greenhouse gas emissions from operations of transport chains – At February the draft is in FDIS stage

EN 16258:2012 Methodology for calculation and declaration of energy consumption and GHG emissions of transport services (freight and passengers)

Euro 1 standards (also known as EC 93): Directives 91/441/EEC (passenger cars only) or 93/59/EEC (passenger cars and light trucks)

Euro 2 standards (EC 96): Directives 94/12/EC or 96/69/EC

Euro 3/4 standards (2000/2005): Directive 98/69/EC, further amendments in 2002/80/EC

Euro 5/6 standards (2009/2014): Regulation 715/2007 (political" legislation) and several comitology regulations

Regulation 692/2008—the main implementing legislation

Regulation 459/2012—PN limits for gasoline vehicles and final Euro 6 OBD

Regulation 630/2012—provisions for hydrogen, hydrogen/natural gas (H2NG) and hybrid and electric vehicles

Real Driving Emissions (RDE): Regulation 2016/427, Regulation 2016/646, Regulation 2017/1154, Regulation 2018/1832

WLTP/WLTC testing: Regulation 2017/1151, Regulation 2017/1347

8 VERSION HISTORY OF PCR

VERSION 1.0.0, 2023-06-20

Original version of the PCR.

VERSION 1.0.1, 2024-04-10

Editorial change: addition of UN CPC 65111 (Road transport services of freight by refrigerator vehicles) in the listed UN CPC subclasses. It was erroneously excluded from the previously listed subclasses.

TRANSPORT SERVICES

PRODUCT CATEGORY CLASSIFICATION: UN CPC UN CPC 6421, 6422, 6423, 6424, 6511, 6512, 6521, 6512, 6521, 6531, 6532, 6801, 6802