

THE INTERNATIONAL EPD COOPERATION (IEC)



## **PCR BASIC MODULE**

CPC Division 65:  
Freight transport services

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## HOW TO USE PCR BASIC MODULES BASED ON THE UN CPC STRUCTURE

CPC is a complete product classification scheme covering goods and services. It is based on the physical characteristics of goods or on the nature of the services rendered. Each type of good or service distinguished in the CPC is defined in such a way that it is normally produced by only one activity as defined in the International Standard Industrial Classification of all economic activities (ISIC Rev. 3).

The use of the CPC system leads to a structure for PCR documents in two dimensions:

- a “horizontal” dimension describing the product’s value chain divided according to business sectors, i.e. building on CPC-coded information modules, and
- a “vertical” dimension defining each information module (with a further delineation of each such section into subclasses).

The CPC concept forms the basis for a PCR structure to:

- provide a structure for industry specific PCR core modules, or rather the PCR core module and up-streams modules as well as down-streams modules within the product group system boundary, and
- open up for differentiated, but defined levels of requirements in the PCR document, i.e. part of the requirements may be applicable on a generic product group level, part of the requirements may be limited to selected individual products.

PCR Basic Modules make use of this option provided by the CPC concept, and are close to ready-made draft PCR documents with some information still lacking, but the lacking information is identified in the document.

The PCR Basic Module document includes:

1. Text which is common for all full PCR documents regardless of product group, e.g. the introduction section
2. Text including requirements which are common for all products which belong to the specified product group on UN CPC code two digit level, e.g. CPC Division 65: Freight transport services. PCR requirements valid on two digit level are specified (marked with CPC XX).
3. Identified specific requirements or information, written in *italic*, which must be decided upon on a more detailed level than the CPC Division level. In the final PCR document this detailed level could be anything from CPC three digit level to five digit level dependent on the level of the final PCR document. Thus, the information requested in *italic* shall be replaced by the relevant text, e.g. instead of the text “product group” in the PCR Basic Module document the final PCR document may read “transformers” in a PCR for transformers

The PCR Basic Module document provides a close to ready-made PCR document. Just decide upon and add the relevant information requested in *italic*

## DIVISION: 65 – FREIGHT TRANSPORT SERVICES

### 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 and office furniture and other goods
- 65116 – Road transport services of letters and parcels
- 65117 – Road transport services of dry bulk
- 65118 – Road transport services of live animals
- 65119 – Other road transport services of freight

#### 6512 – Rail transport services of freight

- 65121 – Railway transport services of freight by refrigerator cars
- 65122 – Railway transport services of freight by tanker cars
- 65123 – Railway transport services of intermodal containers
- 65124 – Railway transport services of letters and parcels
- 65125 – Railway transport services of dry bulk goods
- 65126 – Railway transport services of live animals
- 65129 – Other railway transport services of freight

#### 6513 – Transport services via pipeline

- 65131 - Transport services via pipeline of petroleum and natural gas
- 65139 - Transport services via pipeline of other goods

### 652 – Water transport services of freight

#### 6521 – Coastal and transoceanic water transport services of freight

- 65211 – Coastal and transoceanic water transport services of freight by refrigerator vessels

- 65212 – Coastal and transoceanic water transport services of freight by tankers
- 65213 – Coastal and transoceanic water transport services of intermodal containers by container ships
- 65219 – Other coastal and transoceanic water transport services of other freight

6522 – Inland water transport services of freight

- 65221 – Inland water transport services of freight by refrigerator vessels
- 65222 – Inland water transport services of freight by tankers
- 65229 – Other inland water transport services of freight

653 – Air and space transport services of freight

6531 – Air transport services of freight

- 65311 – Air transport services of letters and parcels
- 65319 – Air transport services of other freight

6532 – Space transport services of freight

- 65320 - Space transport services of freight

## GENERAL INTRODUCTION

*(This section shall be included in all PCR- documents)*

The international EPD® system is based on a hierarchic approach following the international standards ISO 9001 (**Quality management systems**), ISO 14001 (**Environmental management systems**), ISO 14040 (**LCA - Principles and procedures**), ISO 14044 (**LCA - Requirements and guidelines**), ISO 14025 (**Type III environmental declarations**) and ISO 21930 (**Environmental declaration of building products**) upon which the General Programme Instructions are based, as well as instructions for developing Product Category Rules (PCR).

The documentation to the International EPD® system includes three separate parts ([www.environdec.com](http://www.environdec.com)):

**Introduction, intended uses and key programme elements**  
**General Programme Instructions**  
**Supporting annexes**

This PCR-document specifies further and additional minimum requirements on EPDs of the product group defined below complementary to the above mentioned general requirement documents.

Principle programme elements concerning the Product Category Rules (PCR) included in International EPD® system are presented below.

Purpose	Element identification and principal approach
Complying with principles set in ISO 14025 on modularity and comparability	1. "Book-keeping LCA approach" 2. A Polluter-Pays (PP) allocation method
Simplifying work to develop Product Category Rules (PCR)	3. PCR Module Initiative (PMI) in order to structure PCR in modules according to international classification 4. PCR moderator for leadership and support of the PCR work
Secure international participation in PCR work	5. Global PCR Forum for open and transparent EPD stakeholder consultation
Facilitating, identification and collection of LCA-based information	6. Selective data quality approach for specific and generic data

Product Category Rules (PCR) are specified for specified information modules "gate-to-gate", so called core modules. The structure and aggregation level of the core modules is defined by the United Nation Statistics Division - Classification Registry CPC codes (<http://unstats.un.org>). The PCR also provides rules for which methodology and data to use in the full LCA, i.e. life cycle parts up-streams and down-streams the core module. The PCR

also has requirements on the information given in the EPD, e.g. additional environmental information. A general requirement on the information in the EPD is that all information given in the EPD, mandatory and voluntary, shall be verifiable.

In the EPD, the environmental performance associated with each of the three life-cycle stages mentioned above are reported separately:

## 1 GENERAL INFORMATION

*(This section shall after editing be included in all PCR document)*

This document provides Product Category Rules (PCR) for the assessment of the environmental performance of UN CPC 65 Freight transport services and the declaration of this performance by an EPD.

This PCR document was developed by NTM, Network for Transport and Environment, and IVL Swedish Environmental Research Institute.

The appointed PCR moderator is Magnus Swahn, [magnus.swahn@conlogic.se](mailto:magnus.swahn@conlogic.se).

The PCR document was subject to an open consultation on the Global PCR Forum ([www.environdec.com](http://www.environdec.com)) from month, 2009 until month, 2009.

*Date of approval and version number of the PCR shall be documented on the front page*

This PCR document is valid for *geographical representativeness* until *date*. Any comments to this PCR document may be given on the Global PCR Forum or directly to the PCR moderator during the period of validity.

The PCR document is a living document. If relevant changes in the LCA methodology or in the technology for the product category occur, the document will be revised and any changes will be published on the international website: [www.environdec.com](http://www.environdec.com).

The EPD shall refer to a specific PCR version number. The production of new PCR versions does not affect the EPD certification period.

## 2 DEFINITION OF THE PRODUCT GROUP

*The services included in the product group shall be described. Examples on services included and not included may be given for assistance to the EPD developer.*

The purpose of this PCR is to provide necessary rules to enable development of an EPD for a specific type of freight transport service or for assessment of freight transport data as input for a product supply chain assessment. Both approaches include the environmental load from the transport work including defined indirect environmental load from supporting systems.

This PCR document may also be used to develop data for comparison of different system solutions for transport services or supply chain solutions. It may also be used to develop

data for a specific part of a system in order to assess and optimize the environmental performance.

## 2.1 SPECIFICATION OF SERVICE COMPANY

*The PCR shall specify the information on the company that is required in the EPD, separated into mandatory and voluntary information.*

Example:

Mandatory information	Example of voluntary information
Name of the company	Specific aspects regarding the production
Production site(s)	Environmental policy
Issuer and Contacts	
Information on environmental management system	

## 2.2 SPECIFICATION OF THE SERVICE

The PCR specifies rules for freight transport services and freight transport data as input for a product supply chain assessment. The specified rules for freight transport services enables development of an EPD for e.g.

- a specific shipment, transported by a specified mode of transport,
- a specific shipment, transported by a specified multimodal transport chain,
- a specific shipment, transported by a specified integrated multimodal transport chain

An integrated transport system includes a geographical rigid network consisting of goods terminals (nodes) and transport legs (links) providing sufficient transport services, by utilizing the total production resources as efficient as possible.

The product group 'freight transport services' comprises transport of a certain amount of goods over a certain distance on a transport route. A full EPD for freight transport services must therefore include the environmental load from energy providing systems, production and maintenance of vehicles/ vessels etc., handling in terminals and the transportation, including the environmental load from positioning. A more detailed description of system boundaries can be found in section 5.

The product group and CPC code shall be specified in the EPD. (CPC 65)



### 3 FUNCTIONAL UNIT

The functional unit shall either be transport of one average ton of goods over one kilometre [1tkm] with the specified freight transport service or transport of one average ton of goods [t] or one average kg of goods [kg] with the specified freight transport service. (CPC 65)

*If relevant the functional unit shall be defined at a more detailed CPC level.*

The functional unit shall be declared in the EPD. The environmental impact shall be given per functional unit.

### 4 UNITS AND QUANTITIES

Following units shall be used (CPC 65):

- Kilometre (km) for traffic
- Ton kilometre (tkm) for transport work
- Gram or kilogram (g; kg) for emissions
- Preferred power and energy units
  - kW (MW) for power
  - kWh (MWh) for electricity
  - Joule for energy

A maximum of three value numbers shall be used when reporting LCA results

*Other units may be regulated on a more detailed CPC level, if relevant.*

## 5 GENERAL SYSTEM BOUNDARIES

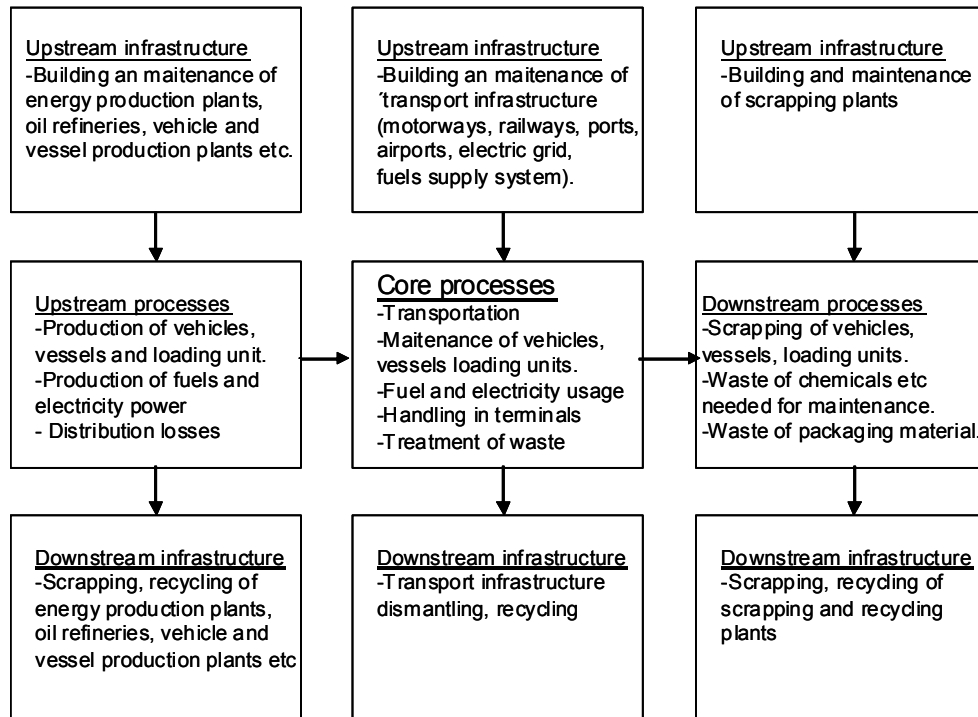


Figure 1. Presentation of Core Module (core process) and upstream and downstream processes.

Upstream infrastructure shall not be included. Core processes shall be included. Depending on calculation objective, upstream processes or parts of upstream processes should be included. Downstream processes may be included.

Transport processes are dependent on several subsystems, supporting the transport system. The system boundaries for transport are more closely defined according to Figure 1. Sub-systems or parts of sub-systems that are included in Figure 1 may be omitted according to the “1%-rule”, as defined in section 6.2. All exclusions of sub-systems or other modifications of system boundaries must be justified.

The flowchart in Figure 1, or similar, should be presented in the EPD to graphically show which sub-systems that have been included and excluded.

If approved PCR’s exist for parts of the system in Figure 1, the system boundaries specified in PCR for the subsystem shall be used. In case of conflicts between PCR for the subsystem and this PCR, system boundaries specified in PCR for the subsystem shall be used.

## 5.1 UPSTREAM PROCESSES

The upstream processes include:

- Production of transport vehicles, vessels, loading units
- Production of fuels and electricity supply
- Distribution losses of fuels and electricity

## 5.2 CORE PROCESSES

The core processes include:

- Transportation
- Maintenance of vehicles, vessels, loading units
- Fuel and electricity usage
- Handling in terminals
- Treatment of waste generated during the core process e. g. tyres
- Operation of warehouses may be included as well.

## 5.3 DOWNSTREAM PROCESSES

The following downstream processes are voluntary to include:

- Scrapping of vehicles, vessels, loading units
- Waste management of chemicals and other auxiliary substances needed for the maintenance
- Waste management of the packaging material

In the EPD, the environmental performance associated with each of the life cycle stages: upstream, core and if included downstream processes, shall be reported separately.

# 6 CORE MODULE

## 6.1 SYSTEM BOUNDARIES

### 6.1.1 TECHNICAL SYSTEM

The processes listed below for the freight transport service shall be included.

**Processes which are mandatory to include:**

Fuel and electricity usage

Vehicle/ vessel /loading unit performance and maintenance

Handling of goods in terminals

Transportation of goods

The maintenance of vehicles/vessels shall be included

Waste that is deposited in landfill shall not be included in the system boundaries. (CPC 65)

Waste that is deposited in landfill shall be declared as kg of waste (and kg of hazardous waste). (CPC 65)

The manufacturing of equipment with an expected lifetime over three years, buildings and infrastructure shall not be included (CPC 65).

Business travel of personnel may be included (CPC 65). Travel to and from work by personnel shall not be included (CPC 65).

*Research and development activities may be included if relevant. This should be regulated on more detailed CPC levels.*

#### 6.1.2 GEOGRAPHICAL BOUNDARIES

The data for the core module shall be representative for all regions where the respective process is taking place. (CPC 65)

#### 6.1.3 TIME BOUNDARIES

The data shall be representative for the year/time frame for which the EPD is valid. (CPC 65)

#### 6.1.4 BOUNDARIES TO 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. (CPC 65)

#### 6.1.5 BOUNDARIES TO OTHER PRODUCT LIFE CYCLES

If there is an inflow of recycled material to the production system in the production/ manufacturing phase, the recycling process and the transportation from the recycling process to where the material is used shall be included. If there is an outflow of material to recycling, the transportation of the material to the recycling process shall be included. The material going to recycling is then an outflow from the production system. (CPC 65)

### 6.2 CUT OFF RULES

Processes and/or activities that altogether do not contribute to more than 1% of the total environmental impact for any impact category are allowed to be omitted from the inventory analysis. The "1%-rule" should be based on the inflow of materials to the system provided no exceptional environmental concerns exist. The potential contribution to environmental impact from the excluded processes can, as a maximum, constitute 10% of the total

environmental impact for each environmental impact category including loss due to lack of data. Parts and materials not included in the LCA shall be documented.

The general cut off criteria applies, why Life Cycle Inventory data for a minimum of 99 % of the respective environmental category impact of the core module shall be included. Processes/ activities not included in the LCA shall be documented in the EPD. (CPC 65)

### 6.3 ALLOCATION RULES

*Allocation rules will be given at a more detailed CPC level.*

All vehicle/vessel emissions shall be allocated to the transported cargo (and passenger if a combined solution) by its relative share contributing to the total emissions, including emissions from positioning empty transport units. The allocation is based on relevant factors dependent on transport mode and system defined by each CPC level.

Generic data should be used in cases where they are representative for the purpose of the study.

If an approved EPD exist for a product or service that is similar to a product or service within the system under study, data from that EPD can be used as specific data under the condition that all critical system boundaries are similar.

*The choice of functional unit may provide guidance.*

### 6.4 DATA QUALITY RULES

Assessing environmental performance is often based on various levels of details for the input data. This leads to a need to specify the accuracy level of assessed performance. It is crucial for further use of results to state at what level the calculation was carried out.

#### 6.4.1 GENERAL PERFORMANCE – ACCURACY LEVEL 1

Based on estimated vehicles/vessels

Objectives: Average estimations typically carried out by the layman. Data is accessible for public use. Estimation carried out in order to evaluate general logistics changes.

Input data:

1. Estimated vehicle/vessel (based on the market use/share and common production)
  - load capacity
  - load factors
  - link distances
  - cargo weight/volume

Output: Energy and emissions per tonne km and total figures.

#### 6.4.2 DEFINED PERFORMANCE – ACCURACY LEVEL 2

Based on specified vehicle/vessel

Objectives: Estimation carried out by the informed user in order to evaluate logistics changes including minor technical improvements or excluding technical improvements all together.

Input data:

1. Specified vehicle/vessel

- Load capacity
- Engine type including after treatment of fumes
- Average fuel quality (regarding sulphur, alternative fuels and electricity origin mix)
- Average fuel consumption

Calculated utilization

- Average load factors

Calculated link distances

Calculated cargo

- Weight and volume

Output: Energy and emissions per tonne km and total figures.

#### 6.4.3 DETAILED PERFORMANCE – ACCURACY LEVEL 3

Based on real vehicle/vessel used

Objectives: Estimation carried out by the informed user in order to evaluate logistics changes including technical improvements. The analysis can also serve as supportive to supplier evaluation regarding performance differences.

Input data:

- Load capacity
- Engine type per transport leg and transport leg
- Fuel type per vehicle/vessel and transport leg (regarding sulphur, alternative fuels and electricity origin mix)
- Fuel consumption per vehicle/vessel and transport leg

Real load factor

- Load factor per vehicle/vessel and transport leg

Real production link distances

Real cargo

- Measured weight and volume

Output: Arbitrary regarding energy and emissions depending on own choice (above)

- per ton goods

- per tonne km
- vehicle/ vessel km
- Lane meters/ containers/ pallets, other (defined by user)
- total figures

Data should represent annual average values for a specific year, taken e.g. from annual reports to authorities.

If transport modes distances are not known, assumed distances should be documented and calculated as transports based on average data.

#### 6.4.4 ROAD

Road transport services are carried out with vehicles spanning from small distribution vans to long road trains. The loading capacity is either fixed on the vehicle or a swap body that can be transferred to another mode of transport, typically rail or sea.

*More on road transport will be given at a more detailed CPC level.*

##### Road engine data

Heavy duty vehicle engine regulation	Geographical use	Relevant emissions sources
Euro class	Europe, Russia	ARTEMIS & traffic data
US EPA	North America	EPA & traffic data
Euro class, US EPA	South America, Australia	ARTEMIS, EPA& traffic data
JP norms, Euro class	Asia Pacific	ARTEMIS and others& traffic data
To be developed	Africa	To be developed

##### Road fuel data

With regard to geographical legislation, fuel quality includes content of sulphur and other harmful substances. GHG emissions from combustion and fuel production/distribution is included as CO<sub>2</sub>e

*Fuel qualities will be given at a more detailed CPC level.*

#### 6.4.5 RAIL

Rail transport services are carried out with electric or diesel locomotives pulling wagons. The loading capacity is most often fixed in terms of a special waggon or a swap body that can be transferred to another mode of transport, typically road or sea.

*More on rail transport will be given at a more detailed CPC level.*

##### Rail electric motors

Rail data are primarily from the main European rail operators working in Ecotransit

### Rail diesel engines data

Diesel locomotive engine regulation	Geographical use	Relevant emissions sources
III A, III B, IV	Europé	ARTEMIS & traffic data
US EPA	North America	EPA
To be developed	South America, Australia	To be developed
To be developed	Asia Pacific	To be developed
To be developed	Africa	To be developed

### Rail electricity

GHG emissions from primary energy power generation and distribution losses is included as CO<sub>2</sub>e. With regard to power generation based on fossil fuels emissions includes content of sulphur and other harmful substances.

*Electric mix will be given at a more detailed CPC level.*

### Fuels

With regard to geographical legislation, fuel quality is includes content of sulphur and other harmful substances. GHG emissions from combustion and fuel production/distribution is included as CO<sub>2</sub>e

*Fuel qualities will be given at a more detailed CPC level.*

### 6.4.6 SEA

Sea transport services are carried with vessels of different sizes, from small ferries to large container or bulk vessels. The loading capacity is either cargo space for bulk goods (e.g. tanks for liquids, holds for grain, or, coal et.c.) or space for various standardized cargo units, e.g. containers, vehicles, trailers. The fixed loading bodies can be transferred to other modes of transport, typically rail or road.

Category	Ship sizes			
	Inland WW	Product/Chem	Large (VLCC)	
Tanker (e.g. liquid cargo)	Inland WW	Product/Chem	Large (VLCC)	
Bulk Dry (e.g. ore, coal, cereals)	Inland WW	Costal	Handy Size	Ocean
General Cargo	Inland WW	Costal	Handy Size	Ocean
Container	Inland WW	Feeder	Panamax	Post-Panamax
Refrigerated cargo (e.g. meat, produce)			Bulk-Ocean	
Ro-Ro Cargo (e.g. lorries, trailers, cars, containers)		Ro-Ro 'small and slow'	Ro-Ro 'modern'	Car Carrier
Ferry (e.g. trailers, lorries, cars)		Fast Ferry	RoPax	

*More on sea transport will be given at a more detailed CPC level.*



## Marine engines

Engine	Type	Geographical use
<b>SSD</b>	Slow Speed Diesel engine	Global
<b>MSD</b>	Medium Speed Diesel engine	Global
<b>HSD</b>	High Speed Diesel engine	Global
<b>ST</b>	Steam Turbine	Global

## Marine fuels

With regard to geographical legislation, fuel quality includes content of sulphur and other harmful substances. Definition on next GHG emissions from combustion and fuel production/distribution is included as CO<sub>2</sub>e

*Fuel qualities will be given at a more detailed CPC level.*

### 6.4.7 AIR

Air transport services are carried out with jet and propeller aircraft running on high standard fuels. Air transport can be carried out in dedicated air cargo freighters or in the cargo hold of passenger aircrafts ('belly freight'). For shorter distances the transport may actually be carried out using a truck ('trucking'). For intra-continental express parcels and on intercontinental routes, dedicated freighter aircrafts are more common.

*More on air transport will be given at a more detailed CPC level.*

Emission for air transport is based on various computations using different software. A recommended software is PIANO. The computations in PIANO includes relevant parameters regarding for example fuel capacity (volume or weight limited) in relation to cargo or passenger loading factors, thus enabling better estimation of flight distances. The computations are furthermore aligned with the Boeing data (payload-range diagrams). Data is benchmarked with data sources such as US EPA, Corinair databook from the EEA etc.

The fuel quality within air transport is globally equal and the aircrafts used are operating on a global market. Thus the air data is globally applicable.

## 7 UPSTREAM MODULE

### 7.1 SYSTEM BOUNDARIES

All elementary flows for construction and operation of infrastructure and energy carrier systems shall be included, except for the flows that fall under the general 1% cut off rule. Construction/ production of vehicles, vessels and loading units shall be included. The shipper's (cargo owner or person sending cargo on behalf of a cargo owner) development and production processes may be included (see also paragraph 5.1).

## 7.2 DATA QUALITY RULES

Selected generic data shall be used if specific data are unavailable, e. g. data from commonly available data sources such as commercial databases and free databases, describing specific raw materials or processes usually referring to the system under study or to other systems equivalent from a technical point of view.

For allowing the use of selected generic data, a number of pre-set characteristics must be fulfilled and demonstrated:

- *Representativeness of the geographical area* should adhere to “Data deriving from areas with the same legislative framework and the same energetic mix”,
- *Technological equivalence* adhere to “Data deriving from the same chemical and physical processes or at least the same technology coverage (nature of the technology mix, e.g. weighted average of the actual process mix, best available technology or worst operating unit)”,
- *Boundaries towards nature* adhere to “Data shall report all the quantitative information (resources, solid, liquid, gaseous emissions; etc.) necessary for the EPD”, and
- *Boundaries towards technical systems* adhere to “The boundaries of the considered life cycle stage shall be equivalent”.

*Recommendations for certain databases for selected generic data which describe material flows connected to a number of input materials may also be used. If recommendations are given to use such selected generic data, such data sources shall be listed in a table in the PCR document.*

## 7.3 RULES FOR GENERIC DATA

If these data sources do not supply the necessary data, other generic data may be used and documented. The environmental impact of the processes where the other generic data are used must not exceed 10% of the overall environmental impact from the product system. (CPC 65)

## 7.4 OTHER CALCULATION RULES

*Calculation specific rules for respective service shall be given at a more detailed CPC level.*

# 8 DOWNSTREAM MODULE

## 8.1 DISMANTLING AND RECYCLING

*Recommendations for dismantling and recycling of infrastructure, energy carrier systems, vehicles, vessels and loading units shall be given, as well as recommendations for consumption, recycling and waste treatment at the consignee shall be given if relevant. The*

*potential environmental impact and benefit of dismantling, recycling and waste treatment shall be presented in the EPD.*

## 9 ENVIRONMENTAL PERFORMANCE RELATED INFORMATION

### 9.1 USE OF RESOURCES

The consumption of natural resources and resources per functional unit shall be reported in the EPD, divided into core, upstream and, if relevant, downstream module.

Input parameters, extracted resources:

- Non-renewable resources
  - Material resources
  - Energy resources (used for energy conversion purposes)
  - with and without energy content
- Renewable resources
  - Material resources
  - Energy resources (used for energy conversion purposes)
  - with and without energy content
- Water use
- Electricity consumption (electricity consumption during manufacturing)
- Use of recycled resources

A complete report of resource use shall be provided in the LCA, while it is acceptable to present only selected, dominating resources in the EPD. Resources which contribute for 5% or more of the total shall be listed and detailed for each category.

Resources are reported as not aggregated inventory data and are specified in mass weight (or its multiples for better understanding), except for hydropower, wind power, solar power and geothermal power, which shall be reported in kWh of electricity.

The sum of all input flows not followed from the cradle shall be given.

### 9.2 POTENTIAL ENVIRONMENTAL IMPACT

The environmental impact per functional unit for the following environmental impact categories shall be reported in the EPD, divided into core, upstream and, if relevant, downstream module:

- The emissions of greenhouse gases (expressed in global warming potential, GWP, in 100 year perspective)
- Emission of ozone-depleting gases (expressed as the sum of ozone-depleting potential in CFC 11-equivalents, 20 years)
- Emission of acidification gases (expressed as the sum of acidification potential expresses in SO<sub>2</sub>-eq.)

- Emissions of gases that contribute to the creation of ground level ozone (expressed as the sum of ozone-creating potential, ethene-equivalents)
- Emission of substances to water contributing to oxygen depletion (expressed as PO<sub>4</sub>-eq.).

### 9.3 OTHER INDICATORS

The following indicators shall be reported in the EPD, also per functional unit and divided into the two or three modules:

- Material subject for recycling
- (Hazardous waste, kg (as defined by regional directives))
- Other waste, kg
- (Toxic emissions: to be decided in more detailed PCRs)

### 9.4 OTHER ENVIRONMENTAL INFORMATION

*The other environmental information shall be specified at a more detailed CPC level. , e.g. field of application, impact on health, technical life length, maintenance, the final use of product, fire risks, risks at fire*

Information about biogenic CO<sub>2</sub> emissions is not necessary. If reported the biogenic CO<sub>2</sub> emissions shall be separated from the other greenhouse gases (expressed in global warming potential, GWP, in 100 year perspective)

## 10 CONTENT OF THE EPD (CPC 65)

### PROGRAMME RELATED INFORMATION

The programme related part of the EPD shall include:

- Name of the programme and programme operator
- The reference PCR document
- Registration number
- Date of publication and validity
- Geographical scope of application of EPD
- Information about the year or reference period of the underlying data to the EPD
- Reference to the homepage – [www.environdec.com](http://www.environdec.com) – for more information

### PRODUCT RELATED INFORMATION

Specification of the manufacturing company

See 2.1

Specification of the product

See 2.2

Functional unit

See 3

Content of materials and chemical substances

See 4

Comparisons of EPDs within this product category

*To be able to compare EPDs within this product category, they have to be based on this particular PCR. The user of the EPD information should be made aware of this by the inclusion of this statement in the EPD:*

“EPDs from different programmes may not be comparable”

VALIDITY OF THE EPD

The validity of the EPD shall be reported in the EPD.

## ENVIRONMENTAL PERFORMANCE-RELATED INFORMATION

### ENVIRONMENTAL PERFORMANCE DECLARATION - MINIMUM SET OF PARAMETERS FROM THE LCA STUDY, REPORTED PER FUNCTIONAL UNIT

Upstream module, Core module and downstream module shall be reported separately for the resource use, potential environmental impact and other indicators such as waste.

Use of Resources

In this category the consumption of natural resources and resources per functional unit shall be reported

See 10.1

Potential Environmental impact

In this category the potential environmental impact per functional unit shall be reported.

See 10.2

### Other indicators

In this category relevant indicators shall be reported per functional unit.

See 10.3

### OTHER ENVIRONMENTAL INFORMATION

See 10.4

### DIFFERENCES VERSUS PREVIOUS VERSIONS OF THE EPD

The main causes for changes in environmental performance in comparison with previous EPD versions shall be described shortly.

### REFERENCES

The EPD shall, if relevant, refer to (CPC 65):

- The underlying LCA
- The PCRs used
- Other documents that verify and complement the EPD
- Instruction for recycling
- Programme instructions

## 11 VALIDITY OF THE EPD

If changes in any of the environmental impacts are larger than  $\pm 5\%$ , the EPD shall be adjusted (CPC 65). Regardless, the EPD shall be reviewed every three years.