

# **Product Category Rules (PCR) for Construction Products**

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# **IVL Swedish Environmental Research Institute**

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## **Thematic areas:**

Climate and energy

Air and transport

Water

Sustainable building

Sustainable production

Resource-efficient products and waste

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# **The product category includes all construction products and (CPC Division 54) construction services for buildings and other construction works.**

Some significant aspects for construction products

1. Used as elements for constructions works (buildings, civil engineering works)
2. The function and the comparison is only valid when the intended use is known
3. Many products have several intended use, i.e. it can be hard to include all application fields in one EPD (cement, sawn timber)

# Basis for modularity

The same LCA method is used e.g.

- the same allocation method/principle/procedure
- the same impact indicators (characterisation factors)
- system perspective → attributional LCA
- the cradle-to-gate result are reported for separately
- when exceptions exist, data quality has to be reported

# Different EPD scope according to ISO 21930 and EN 15804

'Mandatory' cradle-to-gate (C-G) EPD (declared unit, e.g. kg):



'C-G with option EPD' (declared unit):



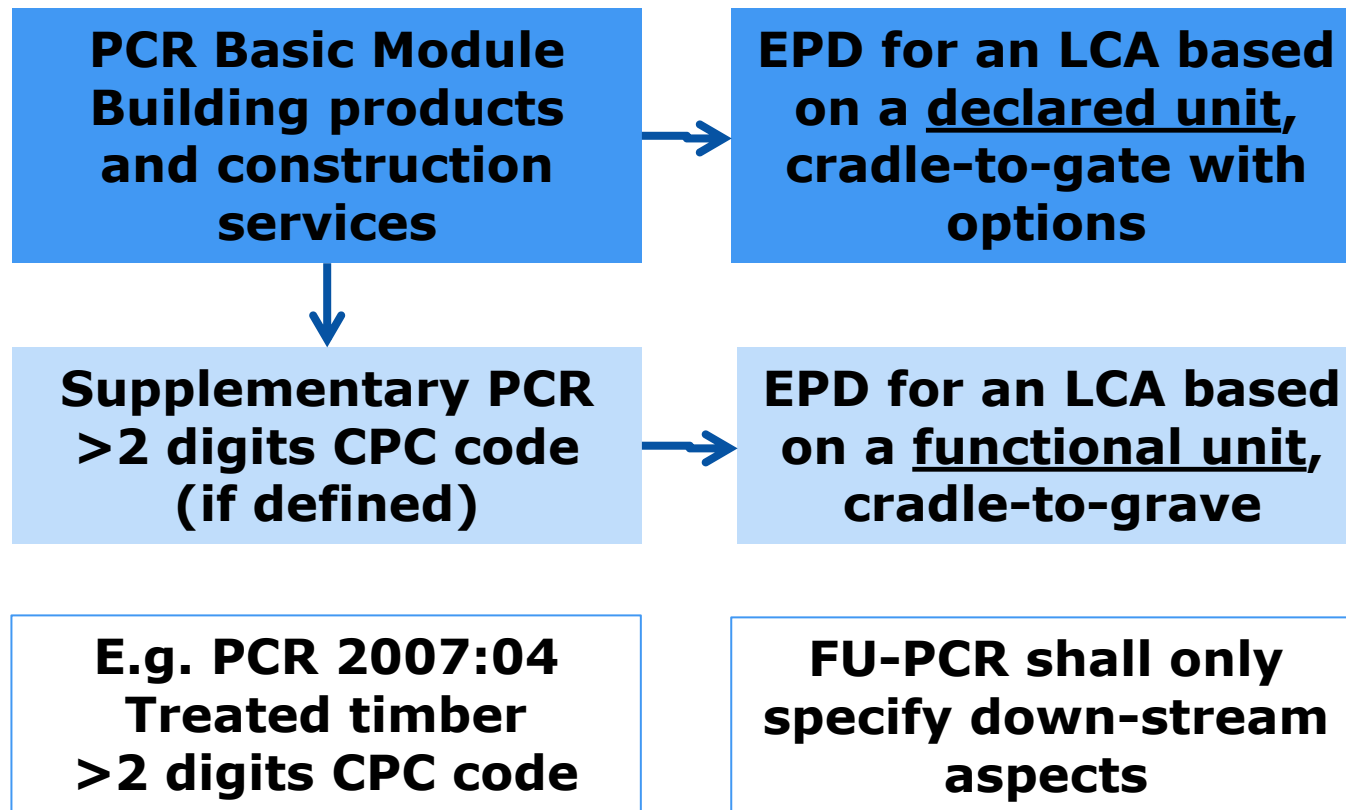
'C-G' EPD/Comparative product LCA  
(functional unit, e.g. U-value and m<sup>2</sup>a):



\* including construction stage

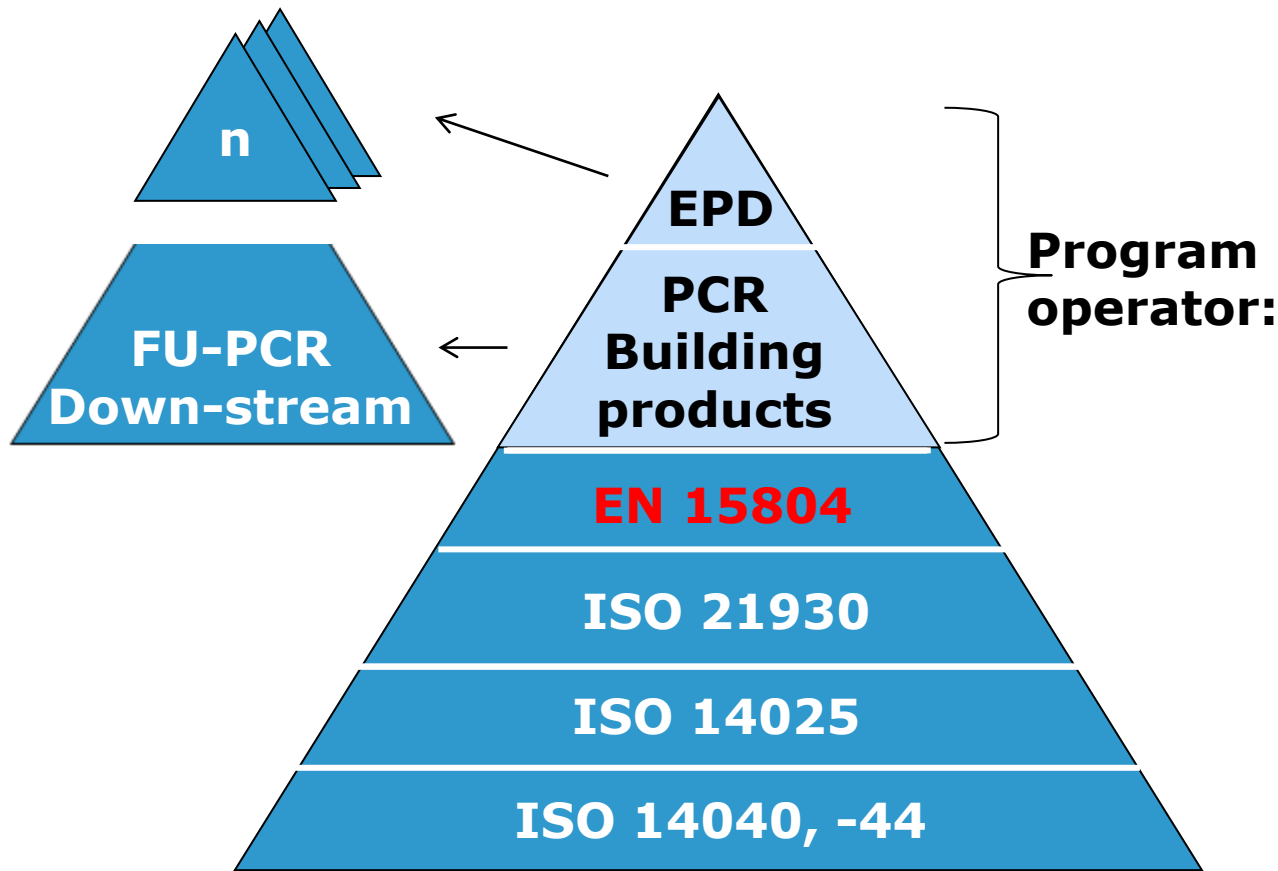
Sub-oriented PCR

# Unique PCR Basic Module and FU-PCR



# PCR

All these standards:



- 1) PCR Building products – Program operator
- 2) (General PCR – Program operator)
- 3) **EN 15804 Sustainability of construction works – Core PCR related to Construction Product Regulation (CPR)**
- 4) ISO 21930 Environmental product declaration of building products
- 5) ISO 14025. Environmental labels and declarations - Type III environmental declarations - Principles and procedures
- 6) ISO 14040, -44. Environmental management - Life cycle assessment
  - /Principles and framework
  - /Requirements and guidelines

# Reporting data according to the modular structure

- An optional information module "D" is included
- The typical waste LCA methodology for module "D" makes use of system expansion (avoided impacts) – not allowed here!

Module	<b>A1-3</b>	<b>A4-5</b>	<b>B1-7</b>	<b>C1-4</b>	<b>D</b>
	Product	Construction	Usage	End of life	Recycling
DU	Mandatory	Voluntary	Voluntary	Voluntary	Voluntary
FU	Mandatory	Mandatory	Mandatory	Mandatory	Voluntary



# Intended use: Application areas

Supplementary information

**Buildings  
EN 15978**



**Product  
EN 15804**

FU – C2G



FU – C2G  
with opt.



Mandatory



Optional LCA information

**TC 351**

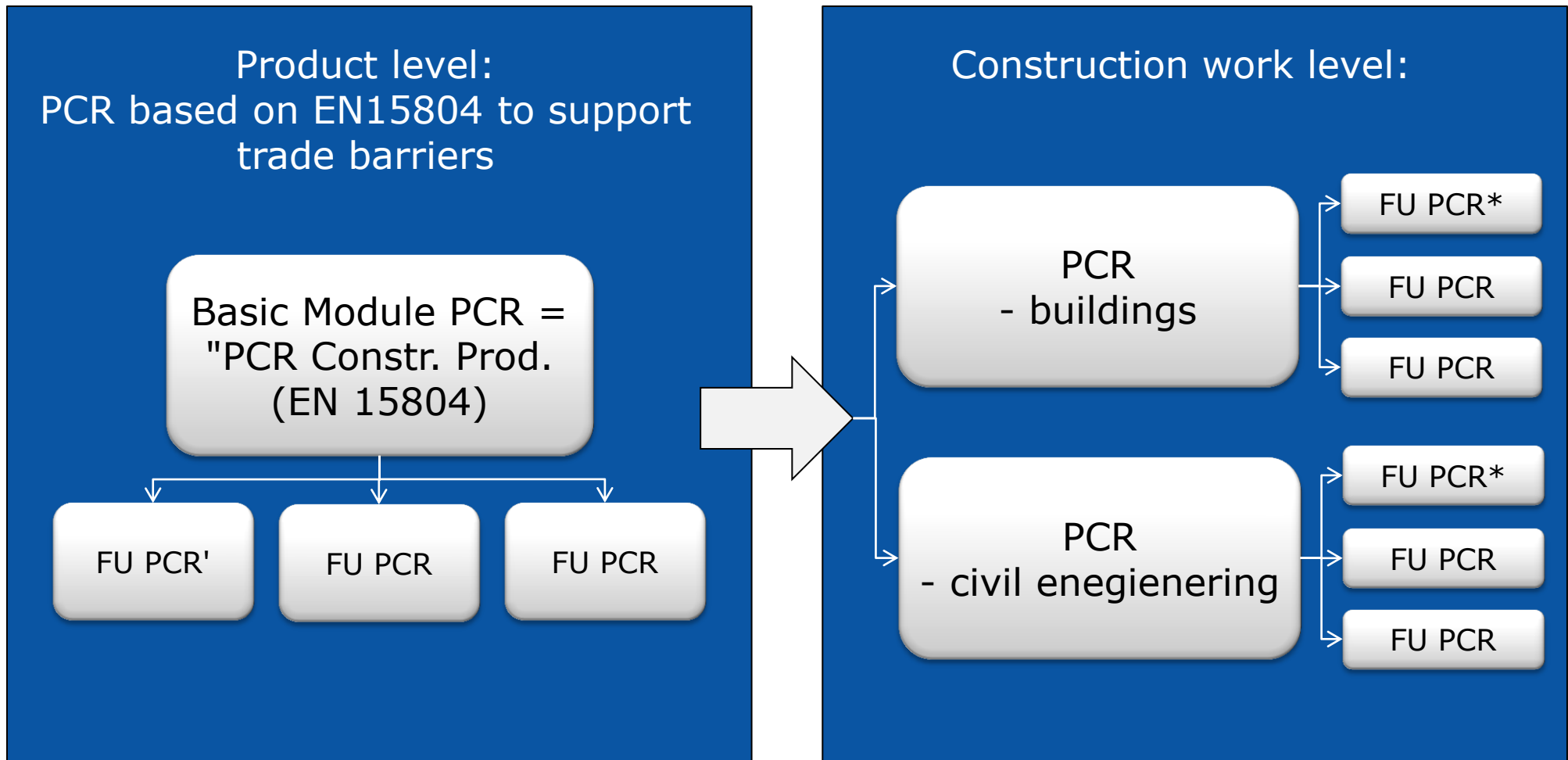




# A consequence of basis for modularity

- When an EPD/PCR are developed for construction works, the same LCA methodology shall be applied. Therefore, this PCR also are valid for energy wares etc
- Moreover, the same LCA methodology is valid for a PCR for construction works services
- Further development needed beyond the CPC-structure. A 'PCR family' or umbrella structure has to be elaborated to handle this aspect
- Please note that in the International EPD system different PCR exist related to construction works, why modularity across different EPD can not be guaranteed

# Suggested structure for the 'PCR family' on construction works



*\*Note that a FU PCR also includes services*

# Comparison with EN 15804 associated with Construction Product Directive

	Number of indicators	Allocation procedure	Cut off rules	Generic data, raw materials	Documentation of generic data	Sub-oriented PCR for FU EPD	Module D and system expansion
This PCR	19	Stepwise procedure according to ISO 14044	Max 1%, energy or GWP	Max 10% non-conservative data	Reported in the EPD if more than 30%, energy	Yes	No
EN15804	24	Modification of ISO 14044	Max 5%, weight or energy	No limits	No public reporting required	No	Yes

# Final comments

- The PCR for construction products developed here may be easily adopted to the 'Core' PCR EN15804 by adding the number of reported indicators etc
- To support the modularity structure within the International EPD system on construction works, all these related PCRs shall be based on this PCR
- These PCR should then constitute a 'PCR family' based on the same LCA methodology, adopted to the work performed by CEN TC350 and related to the Construction Product Regulation (CPR)
- Further work, EraCoBuild: Specifications to module D/OLR, leaching and assessment of chemicals and an indicator for energy resource efficiency

# I HANK YOU

## QUESTIONS?