

The new CPR and environmental sustainability

Information for DOP sheets
based on
Environmental Product Declarations (EPD) as per EN 15804 and ISO 14025

Status and future outlook:

CPR coming out in 2024

New tasks for (future) notified bodies

Harmonized EN Standards for different product groups

LCA-Standards

Challenges and open issues for circularity and biobased materials

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Quellen für Bildmaterial: [freepik.com](https://www.freepik.com); pixabay.com; Sarah Richter





DI (FH) DI DI Sarah Richter

civil engineer, construction manager,
quality manager (the latter with passion)

managing director of Bau EPD GmbH
(= accredited body for product life cycle assessments)

environmental activist with a sense of humour

culinary enthusiast

member of various standardisation committees and expert groups

pragmatic and direct

fostering mother

networker

cynic

incorruptible and neutral



Global and local ecological footprint of wars

Quantification and chain reactions are researched in real time



— António Guterres

Construction companies winning the war?
Raw materials are becoming scarce and expensive for reconstruction in Ukraine. No idea whether Gaza can/will be rebuilt...

Resources

Documents

- [Resolution A/RES/56/4](#) declaring the Day
- [Protection of the environment in areas affected by armed conflict](#) (UNEP/EA.2/Res.15)
- [UN Resolution on Environmental Sustainability in Mali Peacekeeping Operations](#) [S/RES/2100 (2013)]
- [Environment and Security: a Global Agenda for UNEP](#) [UNEP/GC.23/INF/21]
- [Publications on Environmental Peacebuilding](#)
- [Policy Briefs](#)

Welcome to the United Nations



United Nations

International Day for Preventing the
Exploitation of the Environment in War and
Armed Conflict
6 November

[Home](#) [Messages](#) [UN Observances](#)



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source: <https://www.un.org/en/observances/environment-in-war-protection-day>



Agenda Topics Dec 14 nature plus event series 2023:

1. Status of the new CPR: Draft 2022, BR 7 and 8, focus on BR 8 Global Environmental Impacts
2. CPR-Acquis-Process
3. Notified Bodies, GNB-CPR, SH03 Environment
4. Standards and guidelines: examples for first hEN standards, EN 15804 and EPD-content, modular approach, c-PCR
5. Biobased products: Storage: CO2 uptake in modul A, emissions in module C – how long do buildings/building components last?
6. Challenges Circularity - EN 15804 needs revision
7. Connection with the building level

ESPR ... Ecodesign for Sustainable Products Regulation
EPBD ... Energy Performance of Buildings Directive
EPD ... Environmental Product Declaration
CPR ... Construction Products Regulation
PEF ... Product Environmental Footprint
EED ... European Ecolabel Directive
LC ... Life Cycle

1. Status of the new CPR Nov-Dec 2023

Status CPR November 2023:

Trilogue Process ongoing:

- Seek agreement between institutions after:
 - Commission Proposal;
 - Parliament Report
 - Council General Approach
- Technical meetings (where policy experts discuss issues in detail) will take place until 6 December;
- **Policymakers aim to reach an agreement on CPR by February 2024.**

Best unofficial info available in Nov 23:

“We have access to the comments of the parliament because they have been openly voted before the summer but at this stage, we don’t have a document to show the consolidated version of what they have agreed these three entities. We know that when it comes to indicators, they probably suggest to immediately move ahead with GWP and gradually introduce more indicators till the full list but as rumours, not as part of documents.

*The best guess for the whole procedure to finalize is around February – March 24. **They definitely want to finalize before the campaigns of the EP parliamentarians start.**”*

Comment November 23 from OIB (Austrian Institute of Construction Engineering) and representative organization for Austria in the Council: “No comments on drafts possible...”



So, what DO we know in December 23 about
CPR?

Draft Construction Products Regulation New according to
press release dated 30 March 2022:

https://ec.europa.eu/commission/presscorner/detail/en/ip_22_2013

<https://ec.europa.eu/docsroom/documents/49315>

[German version on request: email sarah.richter@bau-epd.at](mailto:sarah.richter@bau-epd.at)

1. Status of the new CPR Nov-Dec 2023

European Construction Products Regulation 305/2011 | Essential properties and multifunction

CURRENT STATUS: 7 Basic Requirements for construction products:

1) STATICS (MECHANICAL STRENGTH AND STABILITY)

2) FIRE PROTECTION

3) HYGIENE, HEALTH AND ENVIRONMENT

4) SAFETY OF USE AND ACCESSIBILITY

5) SOUND INSULATION

6) ENERGY SAVING AND THERMAL INSULATION

7) SUSTAINABILITY (SUSTAINABLE USE OF NATURAL RESOURCES)



New Commission Sustainable Products Package



Last week on 30 March 2022, the European Commission has adopted its awaited circular economy [package](#) of European Green Deal proposals to make sustainable products the norm in the EU boost circular business models and empower consumers for the green transition.

This Circular Economy Package I consists of the following:

1. Proposal for a Regulation on Ecodesign for Sustainable Products.
2. Proposal to review the Construction Products Regulation (CPR)
3. Proposal on new rules to empower consumers in the green transition and fight greenwashing.
4. New EU Strategy for Sustainable Textiles.



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The Commission is presenting today a package of [European Green Deal](#) proposals to **make sustainable products the norm in the EU**, boost circular business models and empower consumers for the green transition. As announced in the [Circular Economy Action Plan](#), the Commission is proposing new rules to make **almost all physical goods** on the EU market **more friendly to the environment, circular, and energy efficient throughout their whole lifecycle** from the design phase through to daily use, repurposing and end-of-life.



ESPR vs CPR

Making sustainable products the norm in a more resilient Single Market



ESPR:

- “Sustainable Product Umbrella”
- Focus on “Sustainability” / Circularity

CPR:

- Internal Market Construction Products, essential characteristics, Declaration of Performance
- Delivering the Green Deal
- “Including Sustainability” but broader

Overview of initiatives in the Circular Economy package



2. Revision of the Construction Products Regulation (CPR)



**NEW, BUT: Many manufacturers have not yet heard the word „LCA“...
BR 7 up to now...toothless**

Some used it for
Greenwashing...



European Construction Products Regulation 305/2011 | Essential properties and multifunction

WHERE IS THE GREEN DEAL?

1) STATICS (MECHANICAL STRENGTH AND STABILITY)

2) FIRE PROTECTION

3) HYGIENE, HEALTH AND ENVIRONMENT

4) SAFETY OF USE AND ACCESSIBILITY

5) SOUND INSULATION

6) ENERGY SAVING AND THERMAL INSULATION

7) SUSTAINABILITY (SUSTAINABLE USE OF NATURAL RESOURCES)



1. Status of the new CPR Nov-Dec 2023

Basic requirement 7 is split and BR 8 deals with LCA data on a global level:

European Construction Products Regulation 305/2011 | Essential properties and multifunction

SOON

- 1) STATICS (MECHANICAL STRENGTH AND STABILITY)
- 2) FIRE PROTECTION
- 3) HYGIENE, HEALTH AND ENVIRONMENT
- 4) SAFETY OF USE AND ACCESSIBILITY
- 5) SOUND INSULATION
- 6) ENERGY SAVING AND THERMAL INSULATION
- 7) POISONOUS OR/AND HAZARDOUS SUBSTANCES
- 8) SUSTAINABILITY (SUSTAINABLE USE OF NATURAL RESOURCES)

Declaration will be mandatory, benchmarks will come later....



7) POISONOUS OR/AND HAZARDOUS SUBSTANCES

BR 7: Experts at www.natureplus.org and www.ibo.at

Not in the focus of this workshop.

Why? -Not yet touched in the CPR Acquis Process and Sarah points to other Conformity assessment bodies, type-I-label and certification bodies who know much more about limit values etc....

Short interpretation:

Hazardous emissions into the outdoor environment of construction works:

= LOCAL Environment above, next to and under the building/engineering work
(LOCAL can be defined as the nearest neighbourhood and/or region)

7) POISONOUS OR/AND HAZARDOUS SUBSTANCES

Anyway: the full extract from Annex I Draft CPR 2022 is not much longer.....

1.7. Hazardous emissions into the outdoor environment of construction works

The construction works and any part of them shall be designed, constructed, used, maintained and demolished in such a way that, throughout their life cycle, they are not a threat to the outdoor environment, as a result of any of the following:

- (a) the release of hazardous substances or radiation into ground water, marine or surface waters or soil;
- (b) faulty discharge of waste water, emission of flue gases or faulty disposal of solid or liquid waste to the outdoor environment;
- (c) damage to the building, including damage through the transport of water-borne contaminants to the foundations of the building;
- (d) the release of net greenhouse gas emissions into the atmosphere.

Some consider (d) as redundancy to BR 8. We know better and reduce (d) to cooling liquids in building services installations and similar local situations...

8) SUSTAINABILITY (SUSTAINABLE USE OF NATURAL RESOURCES)

The full extract from Annex I Draft CPR 2022 is also not very detailed:

1.8. Sustainable use of natural resources of construction works

The construction works and any part of them shall be designed, constructed, used, maintained and demolished in such a way that, throughout their life cycle, the use of natural resources is sustainable and ensures the following:

- (a) use of raw and secondary materials of high environmental sustainability and thus with a low environmental footprint;
- (b) minimizing the overall amount of raw materials used;
- (c) minimizing the overall amount of embodied energy;
- (d) minimizing the overall use of drinking and brown water;
- (e) reuse or recyclability of the construction works, parts of them and their materials after demolition.

GLOBAL environmental impacts, from cradle to grave, supply chain included



1. Status of the new CPR Nov-Dec 2023

Annex 1 point 2 contains the EPD indicators that should be included in the declaration of performance:

2. Essential characteristics to be covered

Harmonised technical specifications shall to the extent possible cover the following essential characteristics related to life cycle assessment:

- (a) climate change effects (mandatory);
- (b) ozone depletion;
- (c) acidification potential;
- (d) eutrophication aquatic freshwater;
- (e) eutrophication aquatic marine;
- (f) eutrophication terrestrial;
- (g) photochemical ozone;
- (h) abiotic depletion – minerals, metals;
- (i) abiotic depletion – fossil fuels;
- (j) water use;
- (k) particulate matter;
- (l) ionizing radiation, human health;
- (m) eco-toxicity, freshwater;
- (n) human toxicity, cancer;
- (o) human toxicity, non-cancer;
- (p) land use related impacts.

Harmonised technical specifications shall indicate that for the essential characteristic of climate change effects under point (a) it is mandatory for the manufacturer to declare the performance of the product as set out in Articles 11(2) and 22(1).

Harmonised technical specifications shall also cover to the extent possible the essential characteristic of capability to temporarily bind carbon and of other carbon removals.

Single market: CE marking meaning



Economic operator takes responsibility for the conformity of the product with:

- The declared performance included in the Declaration of Performance (DoP)
- The applicable requirements included in the Declaration of Conformity (DoC)



Single market: CE marking meaning



Only marking which attests the conformity with the declared performance and requirements

Member States to regulate construction products only on the basis of the DoP and DoC

Member States not allowed to use an alternative approach (unless authorized in the context of the CPR)



Solutions proposed by the EU Commission:

Simplified provisions (reduced burden)

Cascading

Collaboration by companies performing different activities in the manufacturing process is granted

Relevant for composite products

Art. 64(1)(b)

Declaration without assessment

Performance can be subject to the legal procedure (delegated act) and technical validation to be declared without assessment

Relevant for product families with minimum variation in their performance

Art 64(1)(a)

Software validation

Assessment simplified by using validated IT tools compliant with the technical and regulatory provisions

Relevant for SMEs and manufacturers with a very long catalogue of products

Art. 22(1)

Digitalisation of information – Art. 78 & Art 89

Provide (sustainability) information to costumers,
downstream economic operators and users

Product Database

Digital Product Passport = DoP, DoC, Instructions for use

- Allows choice between products based on sustainability performance
- Link to Digital Building Logbooks
- Information available for decades



Product labelling requirements – Art. 22(5)

Required for alignment to ESPR

To be implemented only when relevant
and required through a delegated act

Benchmarking required (only applicable to
some products)

Based on the environmental provisions
already presented:

Art. 4, Art 5 and Annex I Part A and C



The CPR-Acquis Process or „learning by doing“

The requirements should be able to supplement the existing Construction Products Regulation as soon as possible with "delegated acts" (from 2024) and then be incorporated into the final revision = BauPVnew (2045).

“CPR old + interim results CPR Aquis Prozess = CPR New”

Continuous cycle of improvement

Environmental information

today

Voluntary declaration

- Already available in the market as Environmental Product Declarations (EPD)
- To remain valid as a reference during the design phase

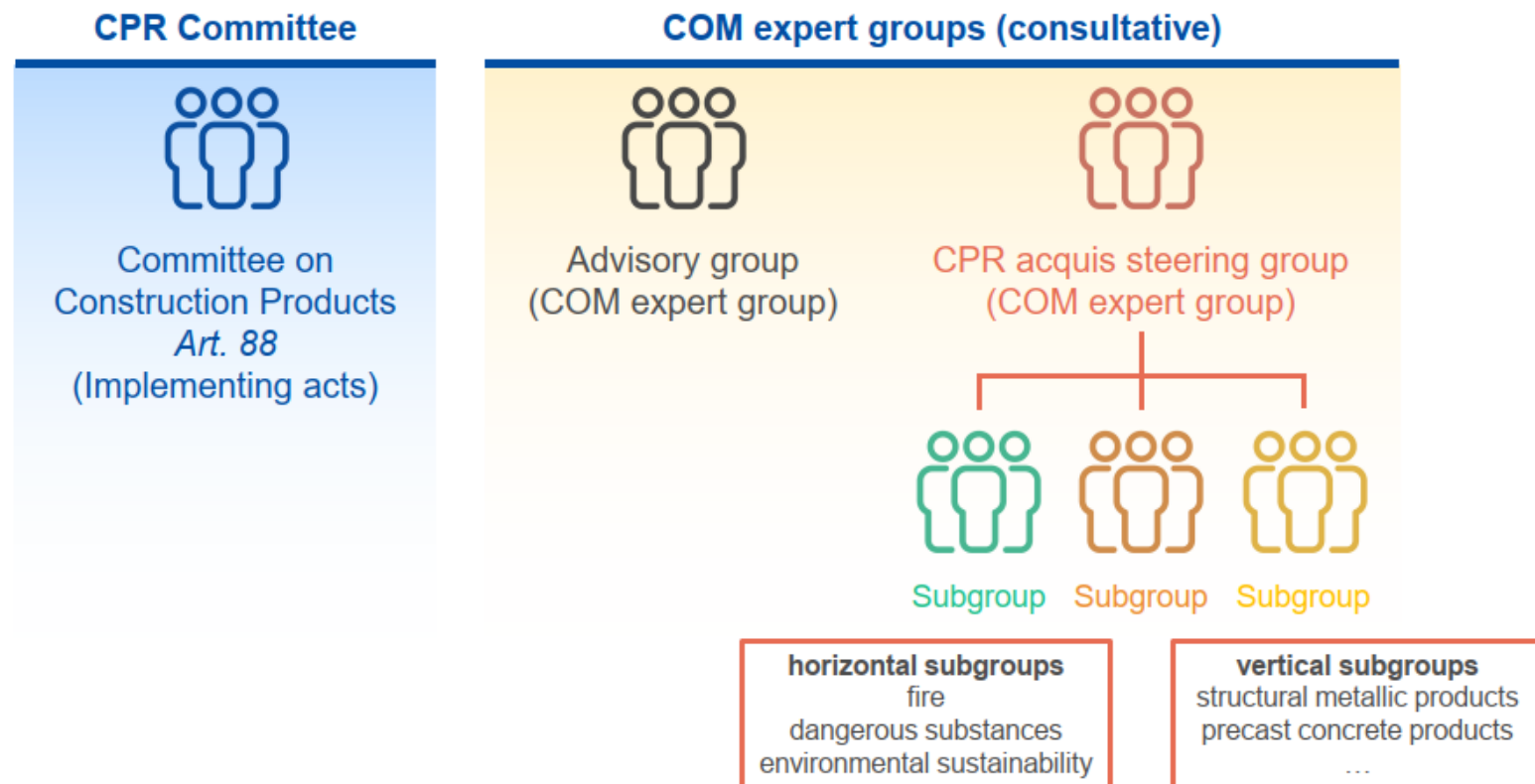
New CPR

Mandatory declaration

- Implemented progressively by construction product family
- Integrated in the regulatory framework of the CPR
- Linked to the product placing on the market
- Third party validation by notified bodies

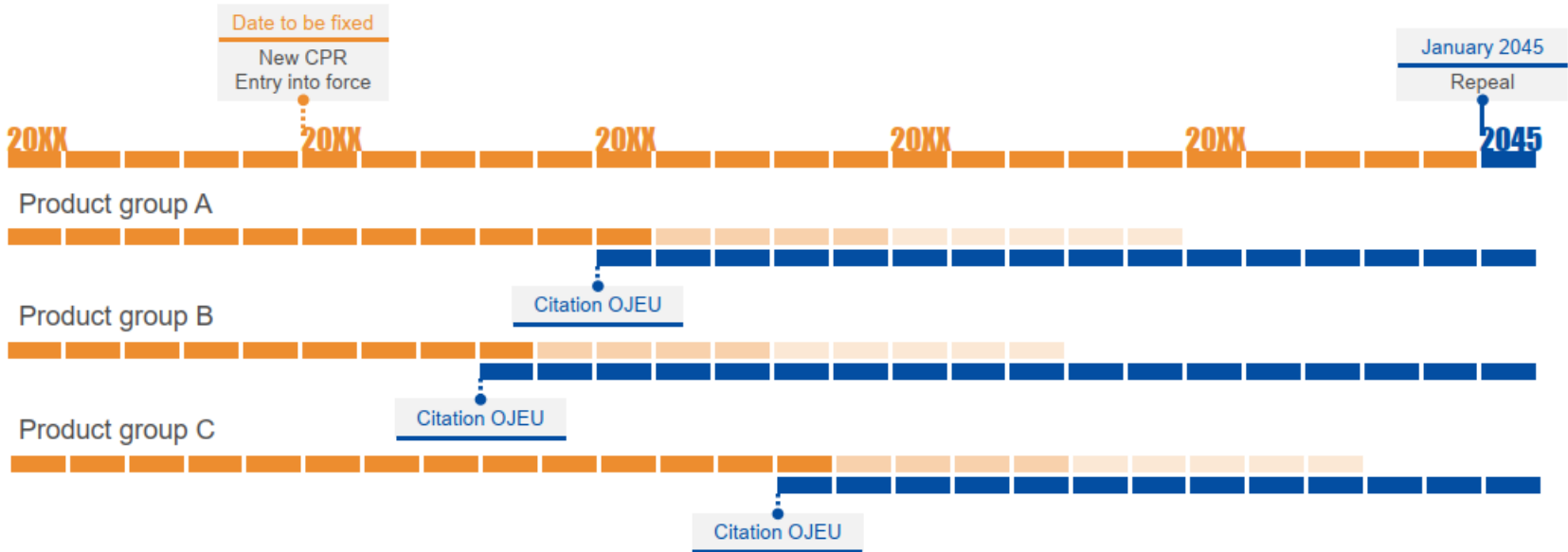


Committee & Expert Groups



Timeline transition process

Current CPR
New CPR – harmonised zone

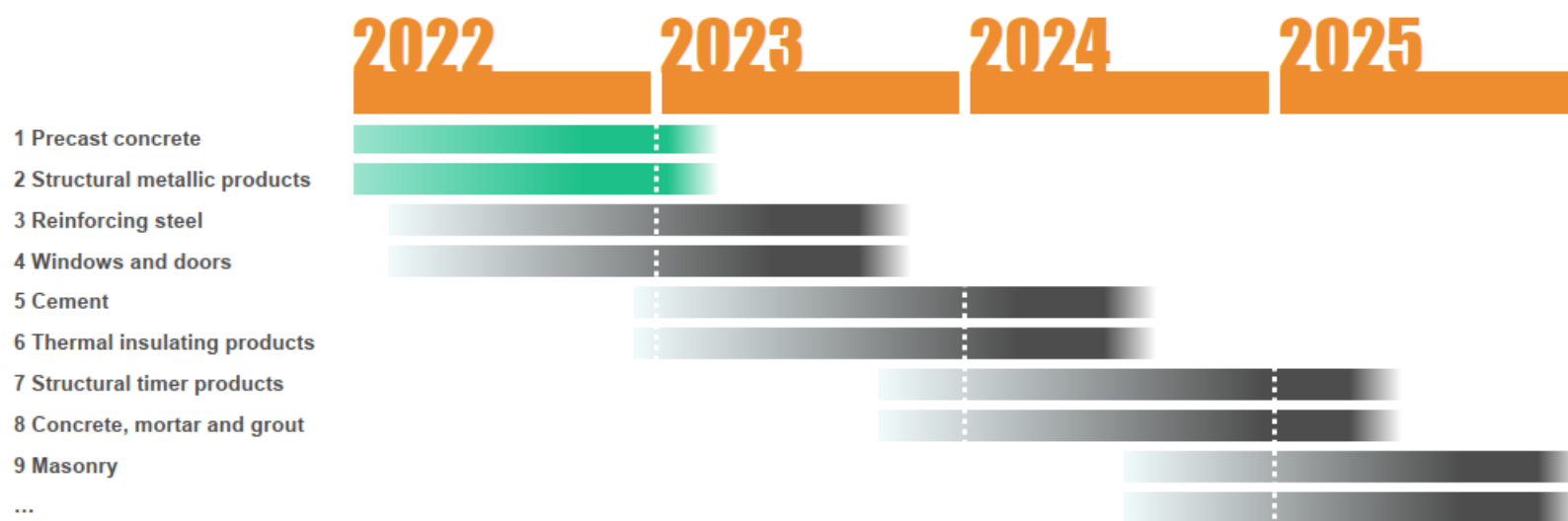


Different product groups will have different timeframes



Mass intensive/impact intensive products first:

CPR acquis preparatory work



Steering group

Fire

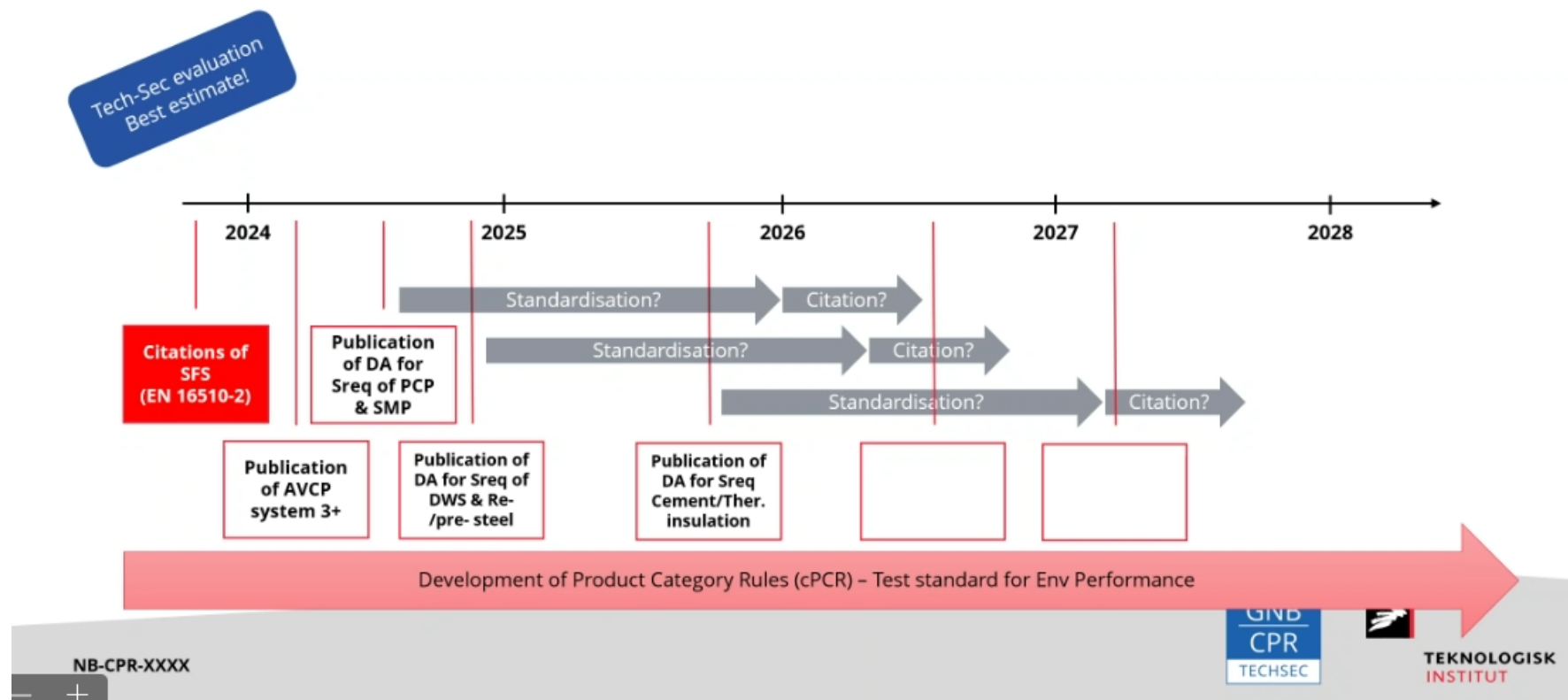
Dangerous substances

Environmental sustainability

2021	1	Precast concrete products	13	Floorings	25	Gypsum
2021	2	Structural metallic products	14	ETICs	26	Anchors and fasteners
2022	3	Reinforcing prestressing steel	15	Curtain walling	27	Membranes
2022	4	Doors, windows and shutters	16	Wood based panels	28	Glass
2023	5	Cement	17	Structural bearings	29	Geotextiles
2023	6	Thermal insulating products	18	Kits and assemblies	30	Sanitary appliances
...	7	Structural timber products	19	Wall and ceiling finishes	31	Pipes and tanks
	8	Concrete, mortar and grout	20	Space heating appliances	32	Cables
	9	Masonry	21	Roof coverings	33	Chimneys
	10	Aggregates	22	Circulation fixtures	34	Sealants
	11	Fixed firefighting equipment	23	Waste water disposal		
	12	Road construction products	24	Adhesives		



EXPECTED TIMELINE



SFS = solid fuel stoves, EN 16510 not in all aspects in line with EN 15804 yet

2. The CPR-Acquis Process

Work Plan horizontal Sub TG sustainability of construction products

CPR Acquis process – Sub-Group on Environmental Sustainability
SGEnv Work programme rev.01

Annex 2 – Gantt chart

Task Name	2022			2023												2024			
	10	11	12	01	02	03	04	05	06	07	08	09	10	11	12	01	02	03	04
Milestone A: Essential characteristics																			
1 Life cycle assessment indicators																			
2 Resource use indicators																			
3 Waste indicators																			
4 Output flows indicators																			
5 Biogenic carbon indicators																			
6 Carbon removals																			
7 Other indicators, if required																			
Milestone B: Assessment methods																			
1 Methodology for the assessment																			
2 Declaration of the performance																			
3 Modularity																			
4 Scenarios																			
5 Reference service life																			
6 Simplification																			
7 Benchmarking																			
8 Modelling rules																			
9 Allocation, if required																			
10 Other issues, if required																			
Milestone C: Verification																			
1 Third party verification delegated acts																			
2 Third party verification new CPR																			
Milestone D: Datasets and data quality																			
1 Background datasets potential problems																			
2 Endorsed background datasets																			
3 Data quality requirements																			
Milestone E: Compulsory declaration																			
1 Compulsory declaration current CPR																			
Milestone F: Guidance dossiers																			
1 Develop guidance for the dossiers																			

The acquis: Sub-group on Environmental Sustainability

• The Milestones

- A: Essential characteristics and environmental indicators
- B: Assessment methods and declaration – Horizontal approach
- C: Verification
 - Scenario 1: Environmental performance declared within the current regulatory frame work (needs adoption of 2 delegated acts)
 - Scenario 2: Environmental performance declared according to the new regulatory frame work.

Progress in the Acquis group

- **Milestone A: Essential characteristics and environmental indicators task 2 to 5**

EN 15804 is confirmed as the source of indicators

The EC requested expert to provide comments and proposal for the list of indicators keeping in mind that this should not be a wish list but it should have an added value for the user for the product (it has to be helpful for clear transparent and simple tool). It shall be considered as a first step and improvement can be made later if necessary.

- **Milestone A: Essential characteristics and environmental indicators tasks 6**

- This shall be considered as initial discussions. A presentation from DG Clima was made regarding a proposal for regulation on Carbon removals. The EC informed of the ambition for the alignment between the acquis work and the DG Clima initiative: the objective is not to replace the methodology laid out in EN 15804.
- Questions were raised on the recognition of the scheme: the EC confirmed that this is a voluntary system and some MS already apply similar systems.

Progress in the Acquis group

- **Milestone B: Assessment methods and declaration tasks 1 to 6**

The comments received by EC following the previous meeting were considered and introduced in the revision of the document: clarification of the hierarchy of documents, need of harmonized scenarios to guaranty the single market.

- **Milestone C: Verification rev.1**

The revised document is based on the feedback from the AG meeting. EC clarified that for any new or updated assessment the NB shall decide the full set of actions including initial remote inspection.

- **Milestone D: Datasets and data quality**

The Data quality standard prEN 15941 (under development in TC350) should be considered for Milestone D.

No EU database for generic data is foreseen in the short term and feedback from members is requested on a possible EU system, as different databases are available (including manufacturer databases).

3. Notified bodies and Environmental performance

CPR new:

Third party validation

(Accredited) conformity assessment bodies for product LCA and EPD must turn into **notified bodies**

New AVS system 3+ *Annex V Point 4 and Point (7)(e)*

Notified Body to:

- verify the manufacturer's initial and updated assessment;
- validate the process applied to generate that assessment.
- verify the modelling used
- verify the correct use of IT tools

Same as with fire resistance: The CO₂ is verified and approved after harmonized procedures and rules.



Panic 1: „Zero tolerance for incorrectness“ also for LCA?

Panic 2: Verifiers to control manufacturers physically on each site?

Role of Notified Bodies as per CPR:

So, because.....

.....it is necessary to ensure - throughout the Union - a uniform level of performance of notified bodies

- The *Commission* has provided for the Group of Notified Bodies to be established (CPR Art. 55)
- *Notified Bodies* shall participate in work of GNB-CPR and apply guidance (CPR Art. 43(11))
- *Member States* shall assess and monitor notified bodies – including their obligation to participate and apply guidance (CPR Art. 40)

NOTE: The CPR does NOT require accreditation



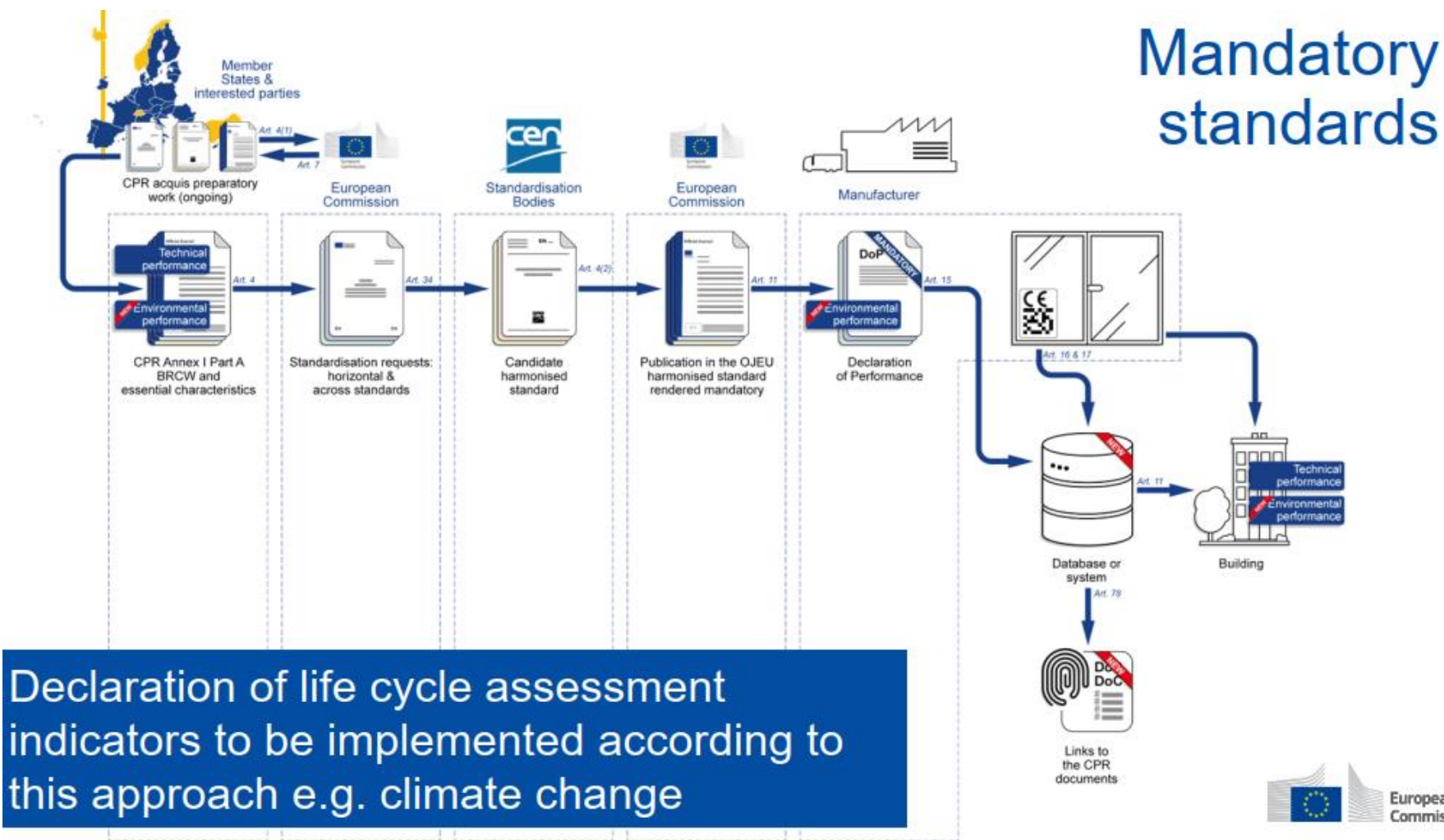
STATUS DRAFT DA ON AVCP 3+

- Expected for public consultation ultimo 2023
- Expected for citation primo Q2 2024

*The challenge in Europe could be:
Not enough skilled verification personnel for
all manufacturers to be served „quickly“
within the next few years... (personnel, that
is willing to travel the world for global
enviromental performance checks of
construction products.....)*



4. hEN standards, EN 15804 and EPD-content, modular approach, c-PCR



Hell, what regulative/standardizing pieces supercede the others?

So, for clarification, here is the ranking:

1. CPR and its delegated acts
2. hEN standards for product groups (to be developed)
3. EN 15804 as supporting standard (to be revised soon to meet EU circularity goals) and EN 15941
4. c-PCR for product groups as supporting standards (some published, others to be developed)
5. Position papers from the Group of Notified Bodies (GNB-CPR SH03)
6. ECO Platform Guidelines for EPD
7. *Guidelines and programme-specific PCR from Notified bodies*
8. *(justified) interpretations of experts and verifiers*

4. hEN standards, EN 15804 and EPD-content, modular approach, c-PCR

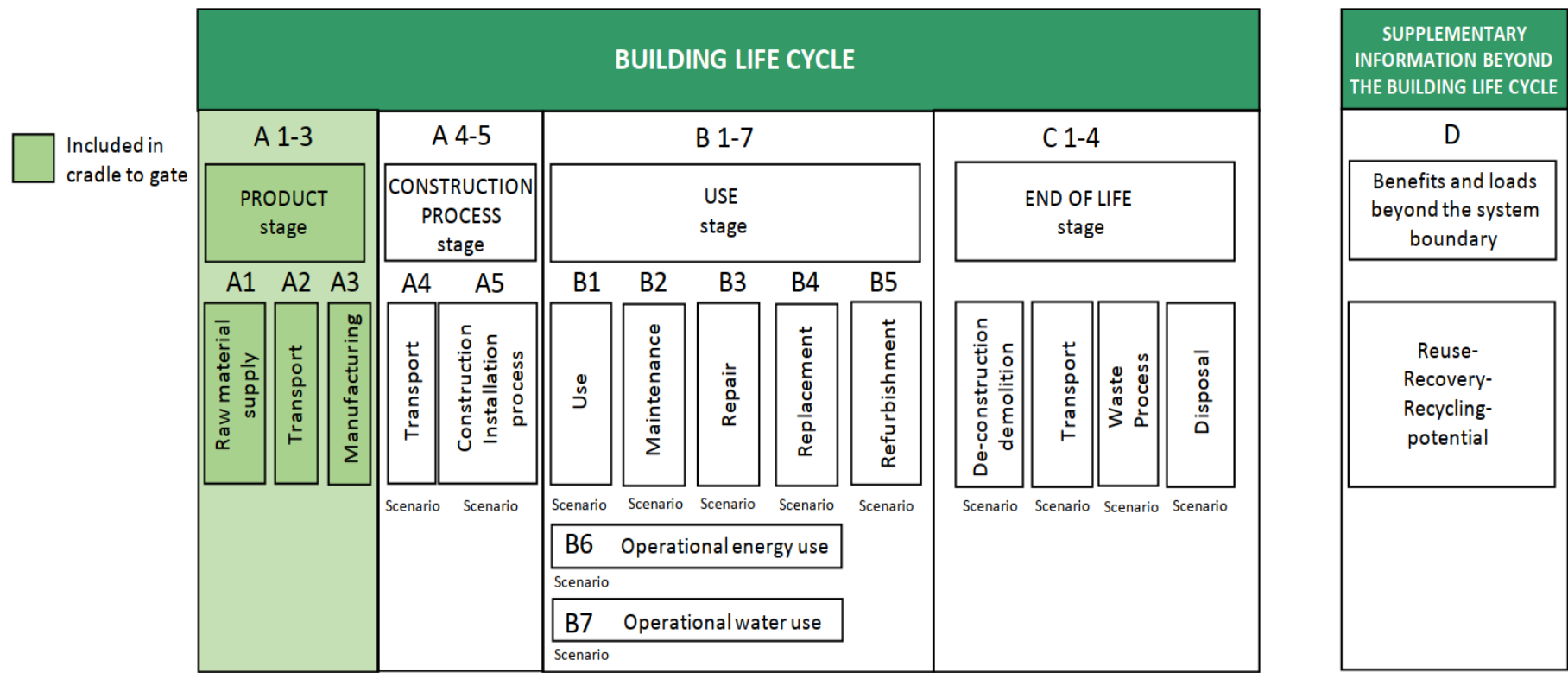


Fig. 1. Life cycle stages and modules for the building assessment according to EN 15804.

source:
<https://www.sciencedirect.com>

Product Declaration of performance

			Climate change total	Climate change fossil	Climate change biogenic	Climate land use and land use change	Ozone Depletion	Acidification	...
			[kg CO ₂ eq.]	[kg CO ₂ eq.]	[kg CO ₂ eq.]	[kg CO ₂ eq.]	[kg CFC11 eq.]	[mol H ⁺ eq.]	
Product stage	Raw material supply	A1							
	Transport	A2							
	Manufacturing	A3							
Construction process stage	Transport	A4							
	Construction – installation process	A5							
Use stage	Use	B1							
	Maintenance	B2							
	Repair	B3							
	Replacement	B4							
	Refurbishment	B5							
	Operational energy use	B6							
	Operational water use	B7							
End of life stage	Deconstruction demolition	C1							
	Transport	C2							
	Waste processing	C3							
	Disposal	C4							
Benefits and loads beyond the system boundary			D						

Mandatory declaration

Mandatory declaration if required by the regulatory framework of the Member State market in which the product is placed

Expected indicators Austria: GWP, AP, PE
Expected indicators Germany: ODP, EP, POCP

Note:

Difference EN 15804 A1 bzw. A2 und Module A1 und A2...

In many EPD discussions EN 15804 + A1 or EN 15804 + A2 are referenced:

This means versions of the standard:

A....stands for „amendment“ and we have now:

EN 15804:2012+A1:2014+A2:2019+corr:2021

„EPD as per A1 „old standard“ **NOT comparable** to A2 „new standard“!!!!

whereas

In all versions of the standards modules A1 and A2 exist (followed by A3, A4, A5)

Take care, do not mix it up and confuse others!

CEN PCRs available and subject to revision (update June 2023):

EN 16578:2016 Ceramics sanitary appliances

EN 16485:2014 Round and sawn timber; wood/wood-based products **(Revision in progress)**

EN 16757:2022 Concrete and Concrete elements – **revised after EN 15804+A2**

EN 16783:2017 Thermal insulation products **(Revision in progress)**

EN 16810:2017 Resilient, textile and laminate floor coverings

EN 16908:2022 Cement and building lime – **revised after EN 15804+A2**

EN 17074:2019 Flat glass products

EN 17160:2019 Ceramic Tiles

EN 17213:2020 Windows and Doors **(Revision in progress)**

EN 17610:2022 Building hardware

CEN/TR 16928:2016 Wastewater engineering

EN 50693:2019 product category rules for EEPS (Electric and electronical product systems)

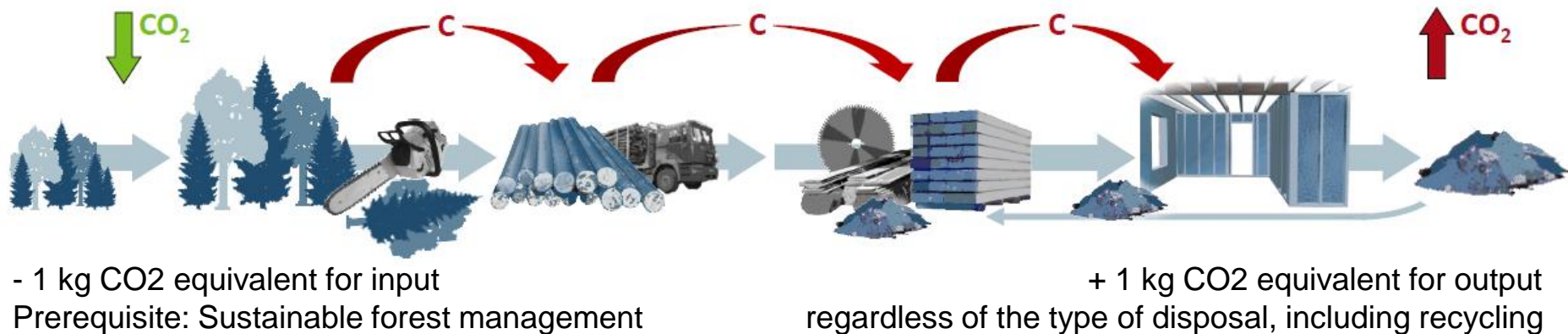
EN 16510-1/prA1 Residential solid fuel burning appliances (not yet fully in line with 15804)

Biobased products global effect in GWP figures?! BR 8:

The Storage Effect / Storage Sink:

Uptake of CO₂ in module A, emissions in module C –

how long do buildings/building components last?



Conclusion: buildings that will not be standing for at least 50-100 years, will not contribute much to the sink....

5. Biobased products – global effects and local challenges



www.debeste.de

To build

Or

Not to
build...

Anyway, the biogenic carbon content must be declared in an EPD as per EN 15804:

Table 9 — Information describing the biogenic carbon content at the factory gate

Biogenic carbon content	Unit (expressed per functional unit or per declared unit)
Biogenic carbon content in product	kg C
Biogenic carbon content in accompanying packaging	kg C
NOTE 1 kg biogenic carbon is equivalent to 44/12 kg of CO ₂ .	

Environmental declarations for global and local challenges / BR 7+8

Eco-Label – „classic certification label“

Environmental declaration Type I, EN ISO 14024

Independent third party verification: yes, Benchmark: yes



Self-Declaration

Environmental declaration Type II, EN ISO 14021

Independent third party verification : no, Benchmark: worthless?!

Green.



Environmental Product Declaration (EPD)

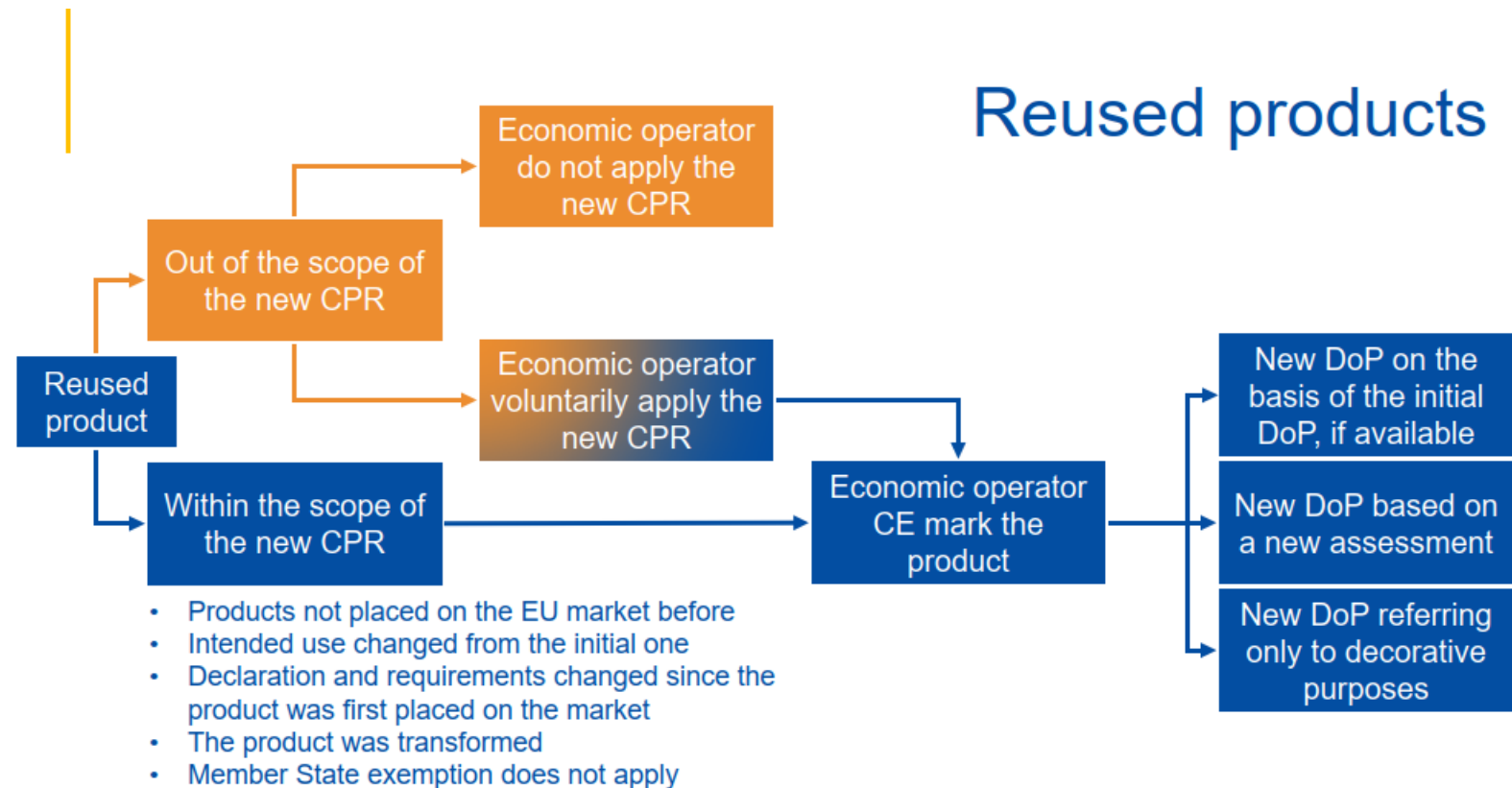
Environmental declaration Type III, EN ISO 14025

Independent third party verification: yes

Benchmark: no

Bau-EPD
Baustoffe mit Transparenz







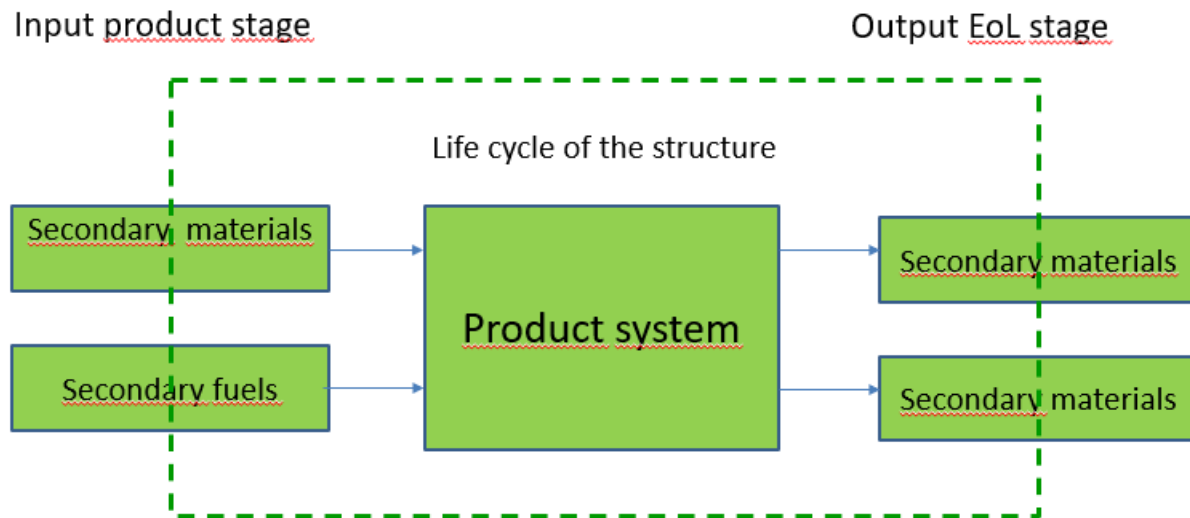
End of Life (EoL) system boundaries to be regulated

Currently, EN 15804 lacks a clear definition of the system boundaries of the product system under consideration to the upstream and downstream product systems.

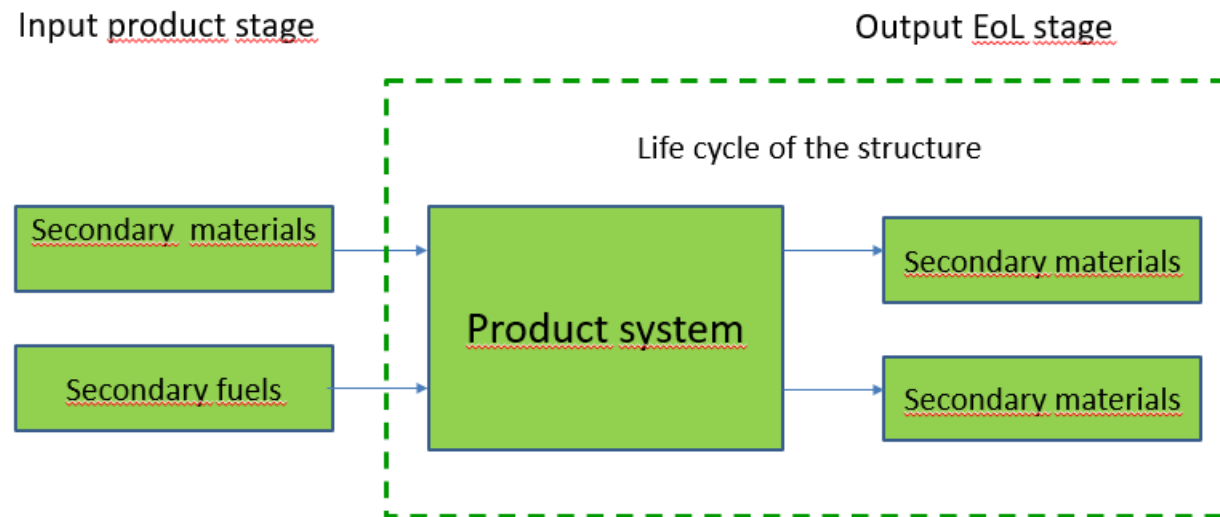
The criterion “end of waste status reached” comes from waste management. In the life cycle assessment of products, there are a variety of potential scenarios for the end of the waste status, which can be set up on the basis of a variety of framework conditions (regional, temporal, legal, economic, etc.).

The 3 principles possibilities to set system boundaries are pictured in the following figures – any of them may be seen as compliant to 15804 at the time being:

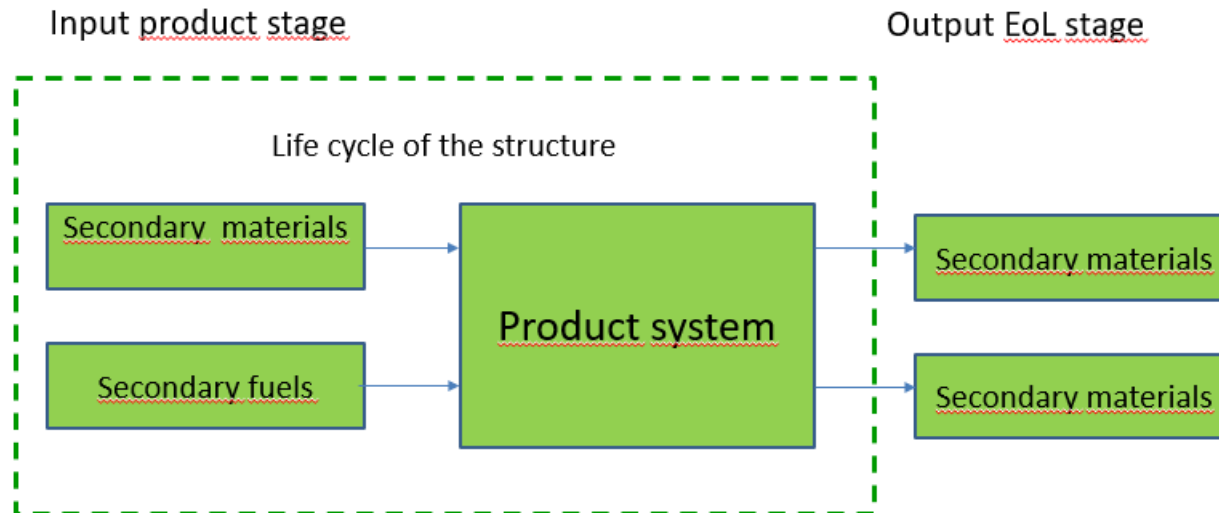
System boundaries according to EN 15804 – Option 1



System boundaries according to EN 15804 – Option 2

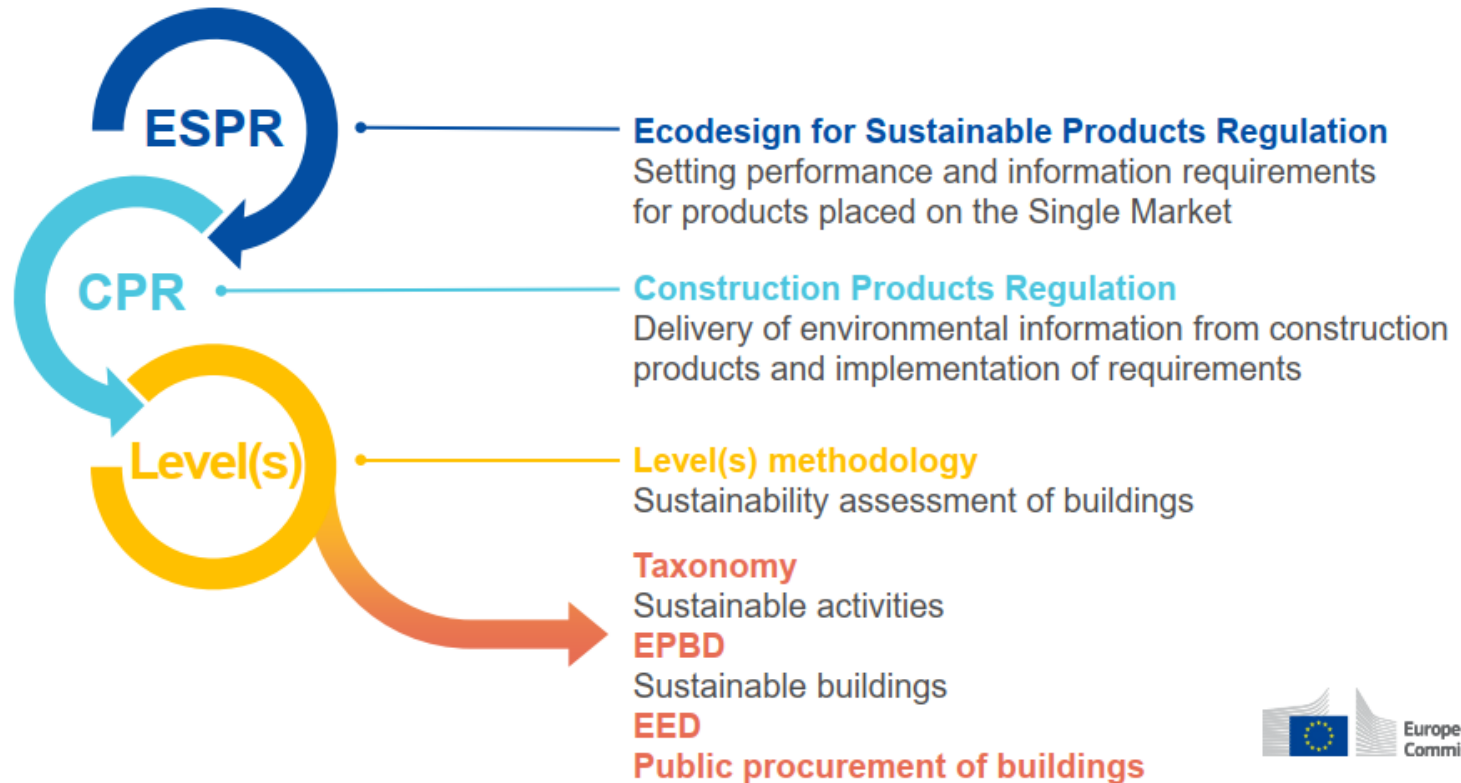


System boundaries according to EN 15804 – Option3

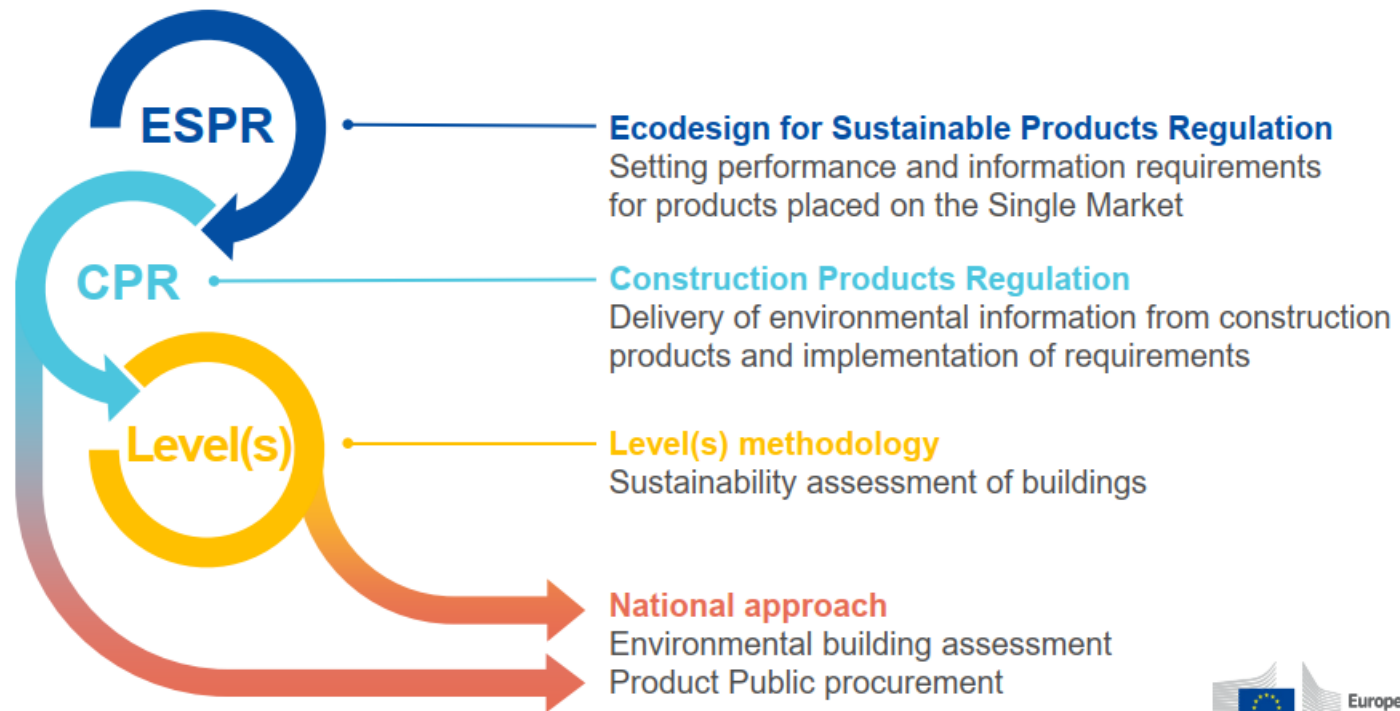


Comparisons of result figures show, that reuse and recycling is not always the most beneficial method, sometimes thermal treatment gets better figures....

EU Regulatory framework



National Regulatory framework



As always:

Don't bury your head in the sand! Look from the desert to the grasslands!

