

EU's sustainability policy for the construction sector

Direction to travel

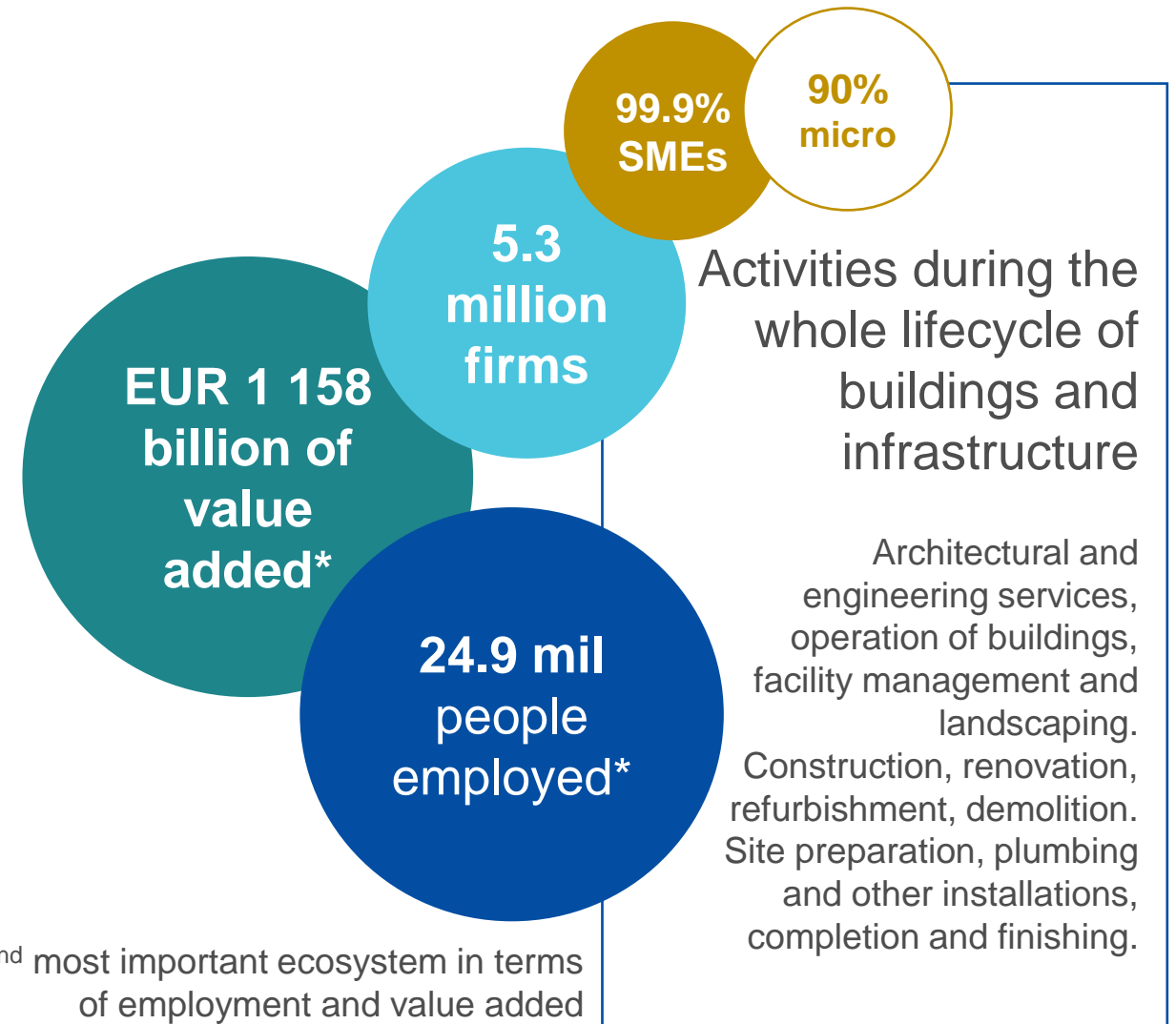
15.09.2023

DG GROW unit H.1

Transition pathways



Construction Ecosystem

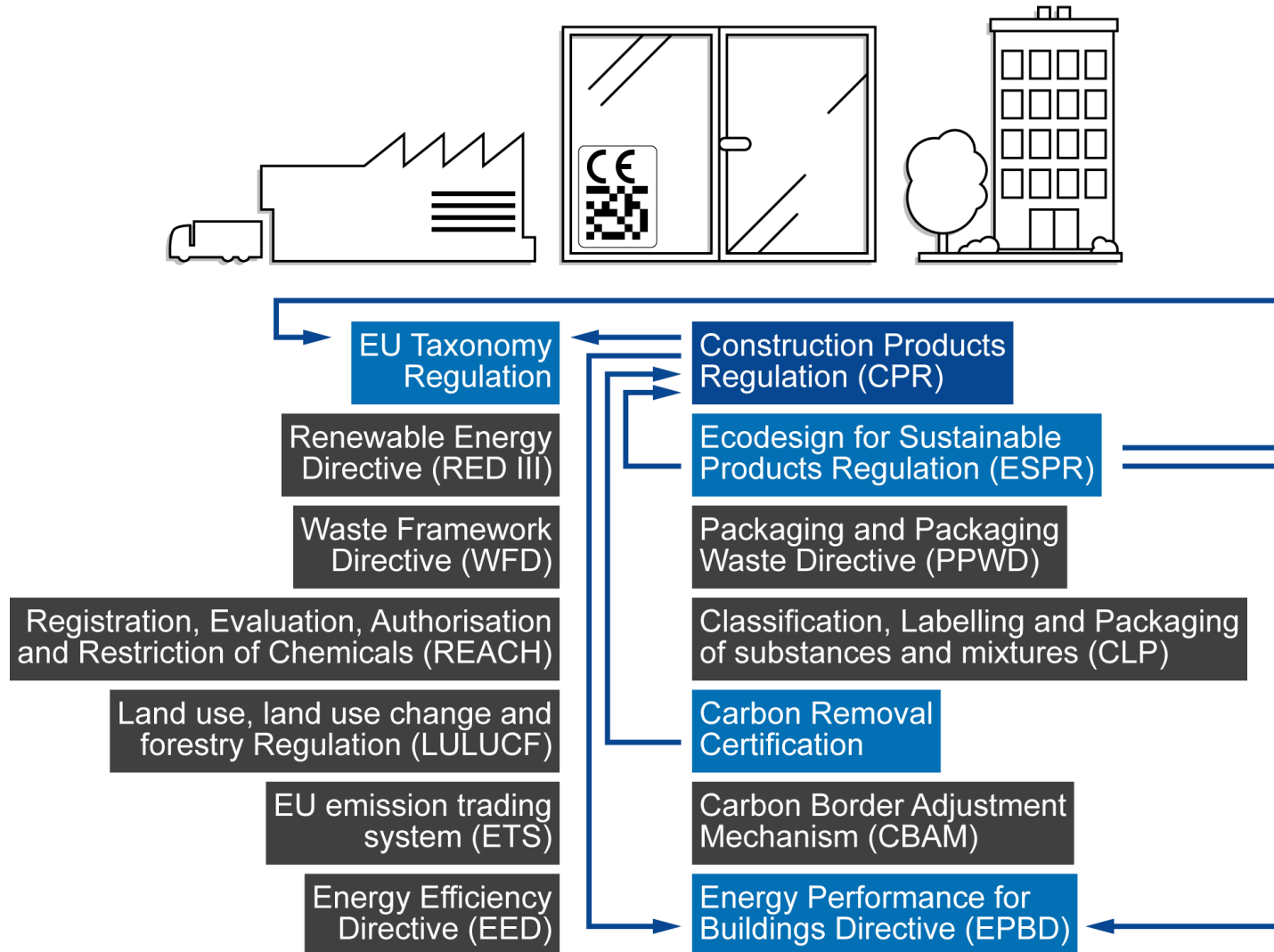


A decorative graphic on the left side of the slide consists of a grid of hexagons. Some hexagons contain photographs: two construction workers in hard hats, a hand holding a yellow hard hat, a person working on a laptop, a hand holding a blue hard hat, a person in a yellow safety vest, a person in an orange shirt, a person in a white hard hat, and a modern building. Other hexagons contain icons: a smartphone with a gear, a construction crane, a house being held by a hand, interlocking gears, a circuit board with a house, a snowflake, and a gear. The background of the slide is a solid blue color with a subtle pattern of concentric circles.

Transition pathway for Construction

- Introduction
 1. Competitiveness
 2. Skills and talent
 3. Enabling framework
 4. Research, Innovation, Technology
 5. Funding
 6. Towards a fair and safe built environment
- Annexes

EU initiatives



Renovation wave

Renovation for climate neutrality & recovery

The building sector is one of the **largest energy consumers** in Europe, responsible for more than one third of the EU's energy-related emissions.

Effective actions are crucial to make Europe climate-neutral as:

- Only 1% of buildings undergo energy efficient renovation every year
- Roughly 75% of the building stock is energy inefficient
- Almost 85-95% of today's buildings will still be in use in 2050

A tall building is shown under renovation, completely covered in scaffolding. A large red and white tower crane is positioned next to the building, extending upwards. The sky is clear and blue.

Renovation wave

On 14 October 2020, the European Commission presented its Renovation Wave Strategy. The Commission aims to, at least:

***double renovation rates** in the next ten years*

*make sure renovations lead to **higher energy and resource efficiency***

Making Europe's buildings remarkably different

Decarbonisation
of heating and
cooling



Life-cycle
thinking and
circularity



Tackling energy
poverty and
worst-performing
buildings



Renovation of
public buildings
and social
infrastructure



Fit for 55

Fit for 55 – key proposals for buildings

The new **Effort Sharing Regulation** sets emission reduction targets for all Member States by 2030 for sectors including buildings

The new **Social Climate Fund**, funded by revenues from emissions trading in road transport and buildings, will provide **financial support to citizens**, in particular the vulnerable households, to invest in renovation or heating systems and ensure a fair transition

Emissions Trading for building fuels will speed up emissions reductions and stimulate investments in renewables and energy efficiency

The revised **Energy Efficiency Directive** and **Renewable Energy Directive** will make buildings more energy efficient and boost the use of renewable energy in buildings

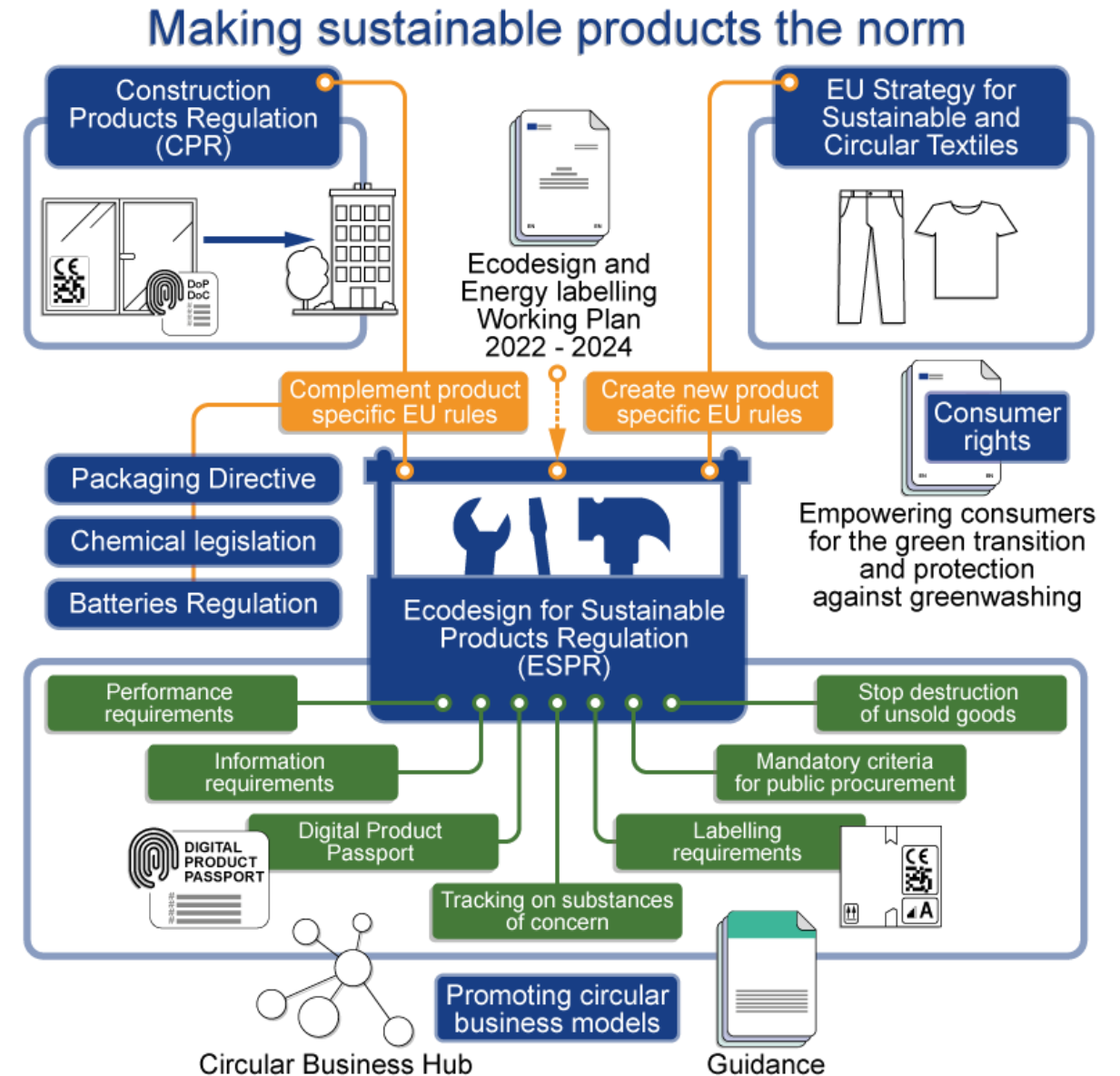
ESPR and CPR

Circular Economy Spring Package

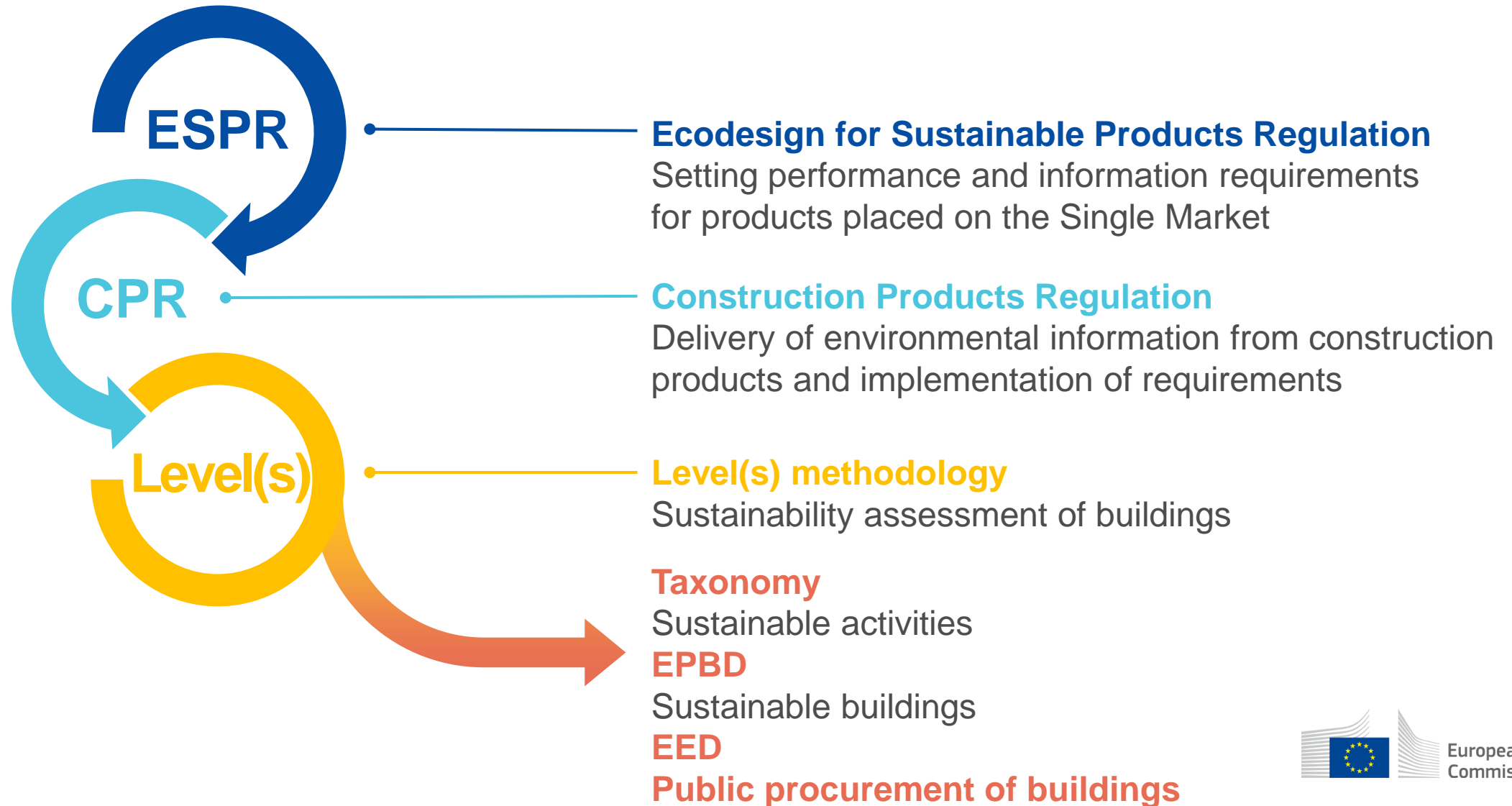
Package providing the necessary tools to address environmental challenges

CPR to implement ESPR measures to construction products

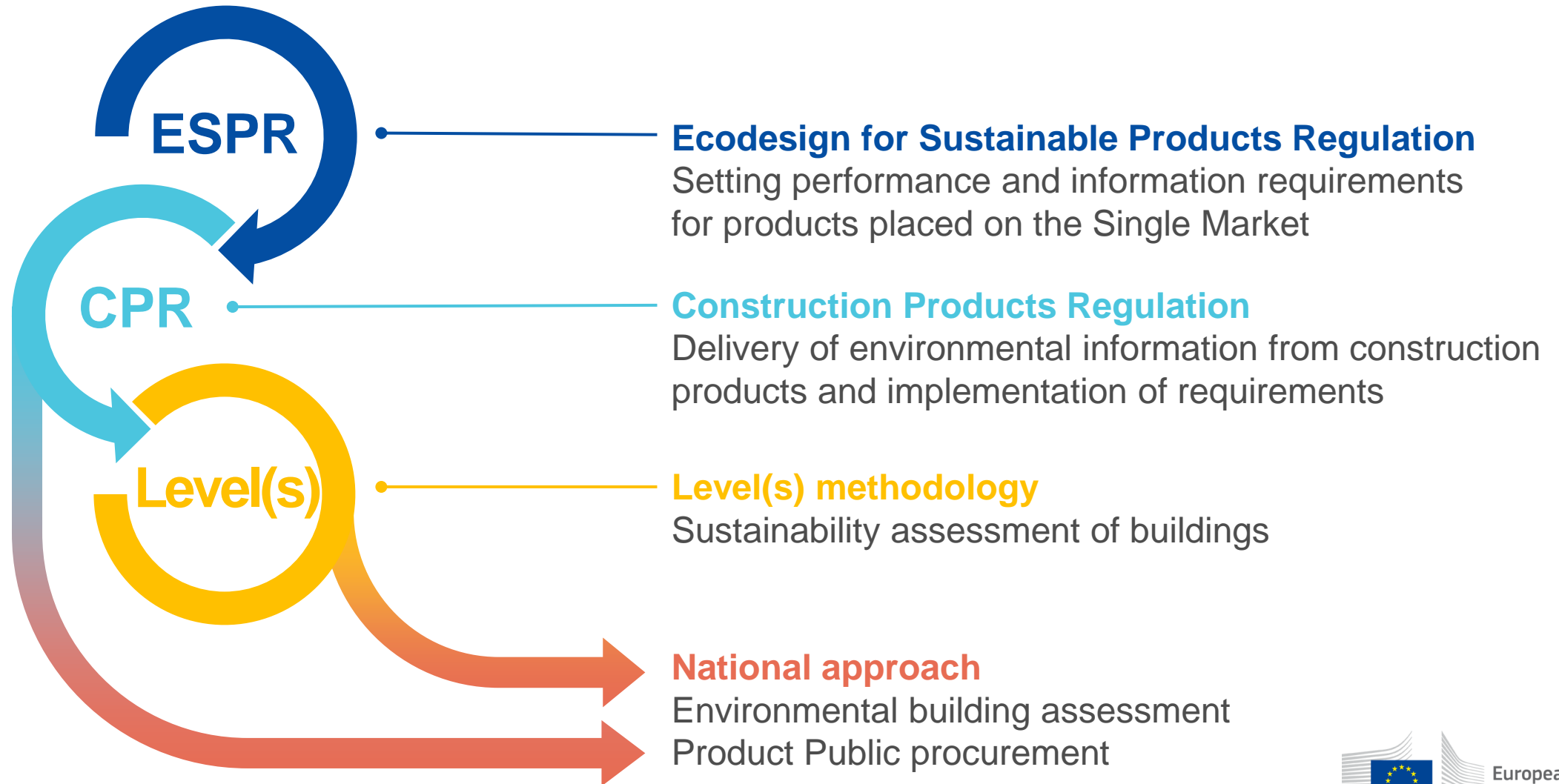
ESPR also as safety net in case sectoral legislation does not sufficiently address environmental sustainability goals



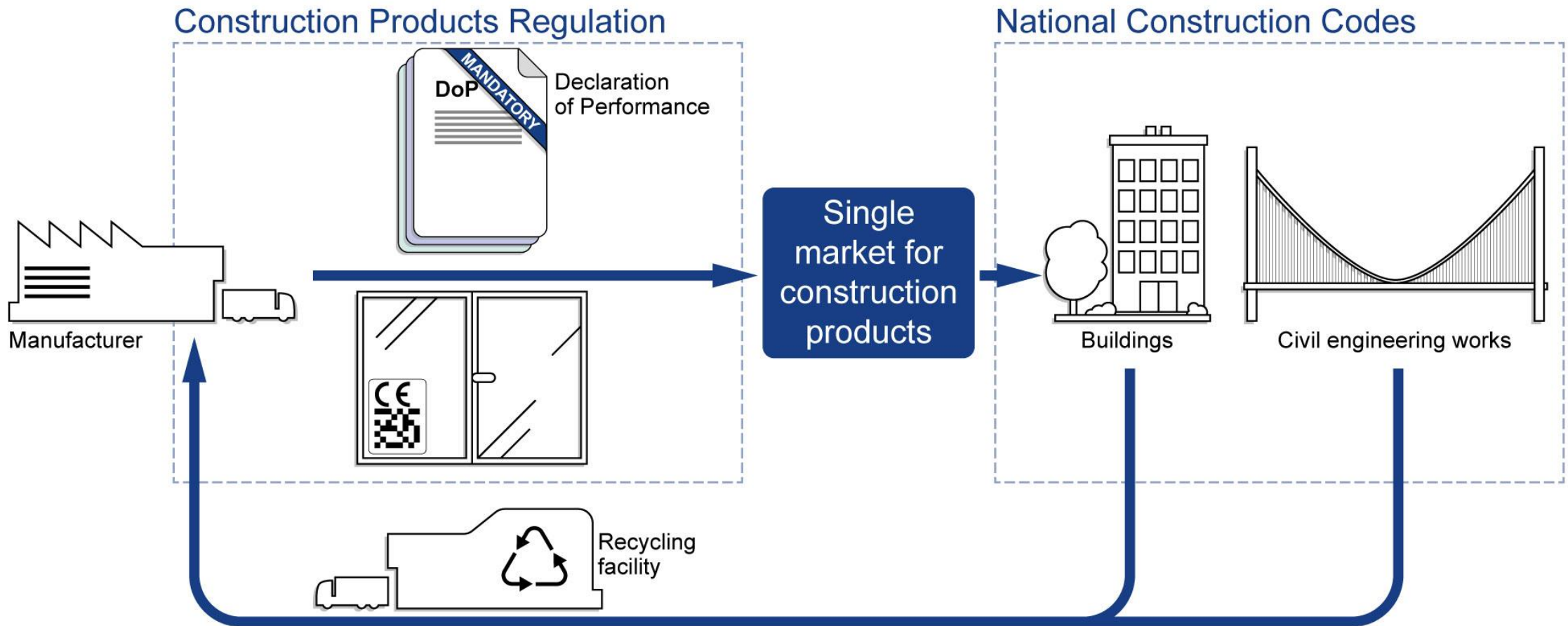
EU Regulatory framework



National Regulatory framework



Construction products regulation



Technical approach

Basic Requirements of Construction Works

Technical and environmental performance

Declaration of environmental indicators using LCA methodology including compulsory declaration of global warming potential (CO₂ eq.) when the applicable standards are cited

Information for use and safety information

Relevant for the customer, installer, user, deinstaller, recycler, etc. e.g. relevant information to extend service life, facilitate dismantling, reuse, recycling, etc.

Environmental requirements

Implementation of requirements on product and production processes through delegated acts and voluntary harmonised standards e.g. durability, reparability, recyclability, etc.

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

Essential characteristics *Annex I Part A point 2*

Core indicators

- Climate change – total / fossil / biogenic / land use and land use change
- Ozone Depletion
- Acidification
- Eutrophication aquatic freshwater
- Eutrophication aquatic marine
- Eutrophication terrestrial
- Photochemical ozone creation
- Depletion of abiotic resources – mineral and metals
- Depletion of abiotic resources – fossil fuels
- Water use

Additional indicators

- Particulate matter emissions
- Ionizing radiation, human health
- Ecotoxicity (freshwater)
- Human toxicity, cancer effects
- Human toxicity, non- cancer effects
- Land use related impacts / soil quality

Same indicators and modelling used in PEF
except for end of life calculation and GWP
biogenic

Other essential characteristics

Resource use indicators

- Use of renewable primary energy
- Total use of renewable primary energy resources
- Use of non-renewable primary energy
- Total use of non-renewable primary energy
- Use of secondary material
- Use of renewable secondary fuels
- Use of non-renewable secondary fuels
- Net use of fresh water

Waste related indicators

- Hazardous waste disposed
- Non-hazardous waste disposed
- Radioactive waste disposed

Output flows

- Components for re-use
- Materials for recycling
- Materials for energy recovery
- Exported energy

Biogenic carbon content

- Biogenic carbon content in product
- Biogenic carbon content in accompanying packaging

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
- Useful as input values from non harmonised products used as components of harmonised products

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

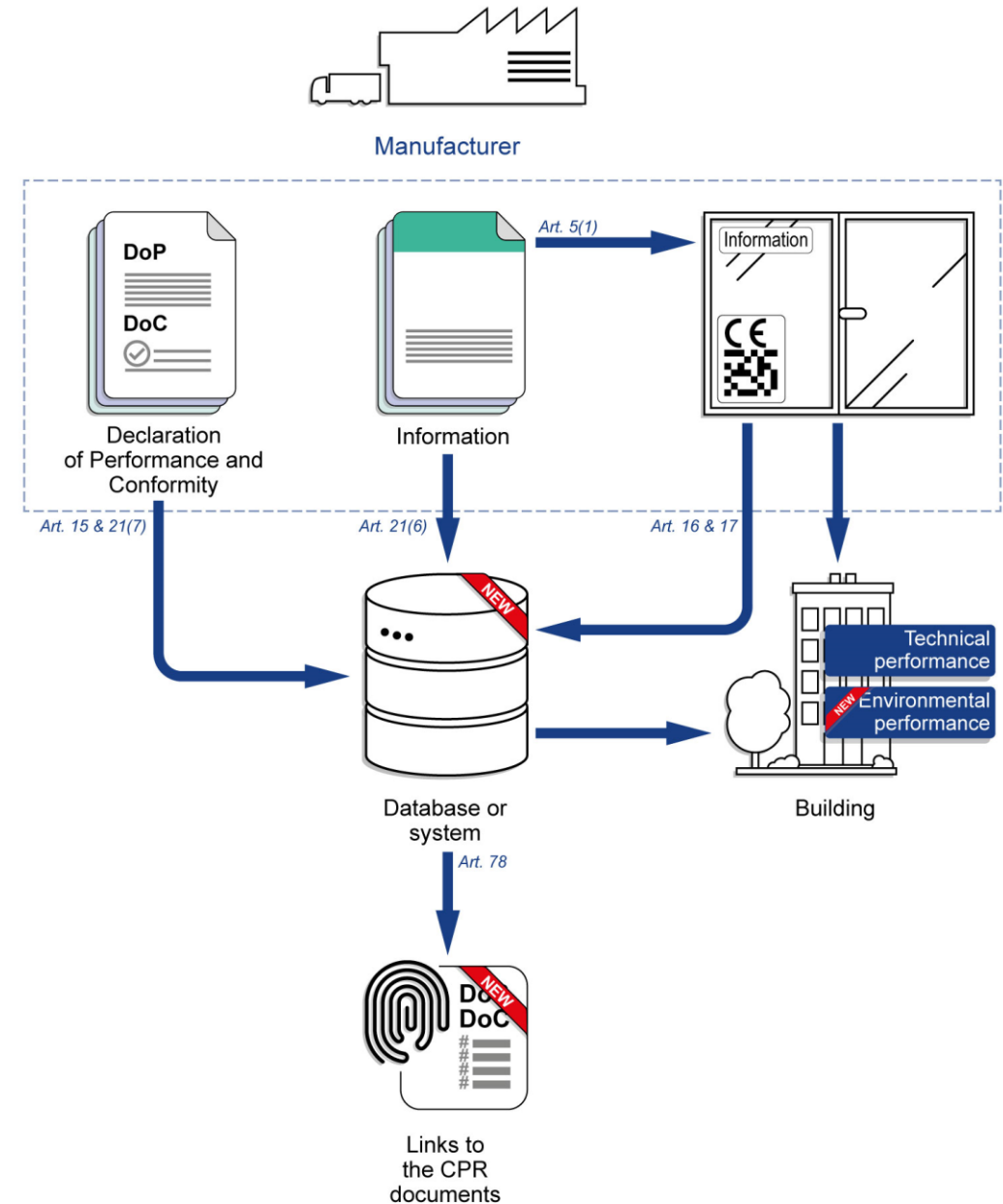
Database or system

The manufacturer shall upload the data of the DoP, DoC, the information and the technical documentation in the EU product database or system

Obligation applicable when the manufacturer makes the product available on the market

Every product type will be required to be linked to a DPP

Implementation will not start until the DPP registry is working



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		

Steering group

Fire

Dangerous substances

Environmental sustainability

Fast-track

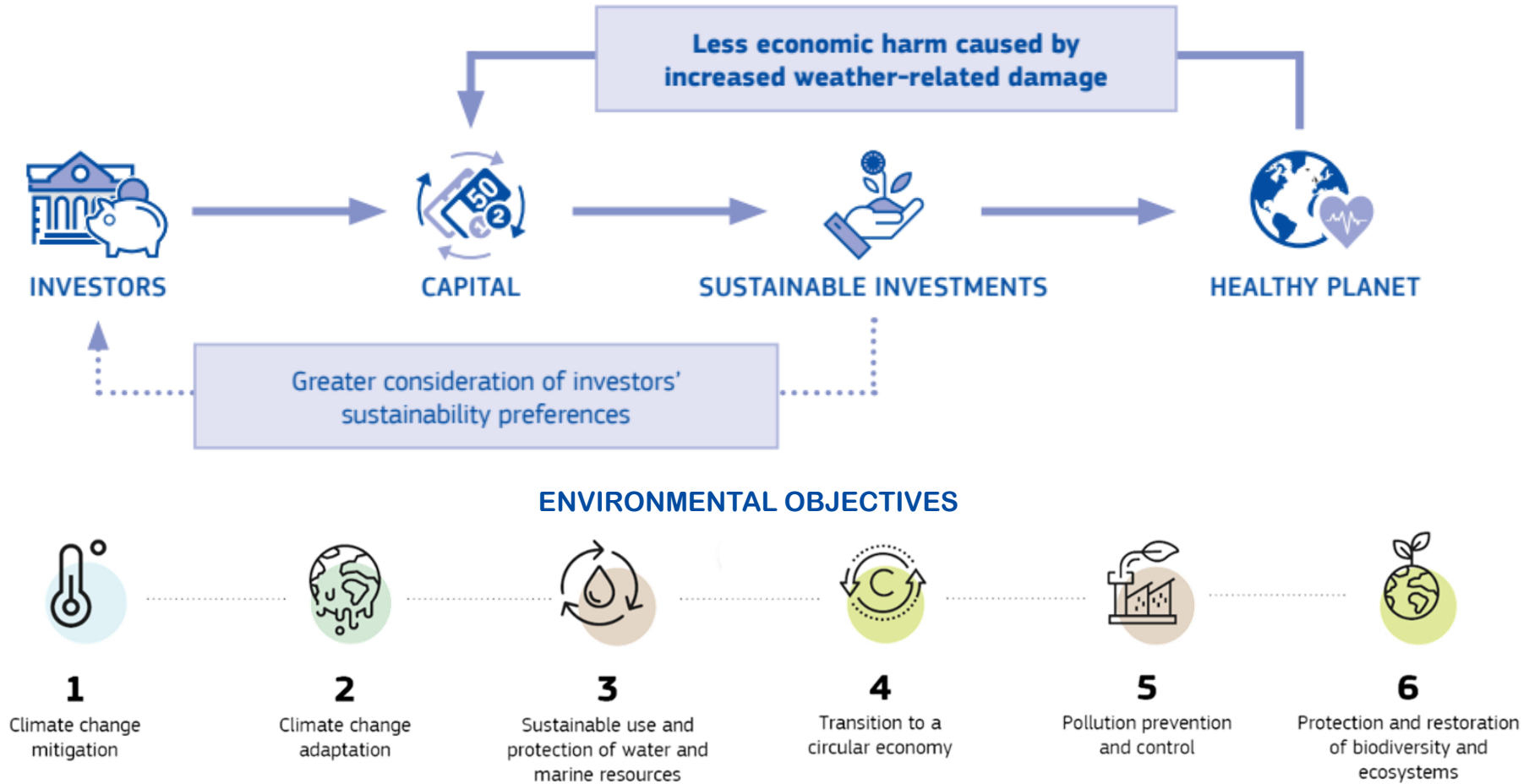
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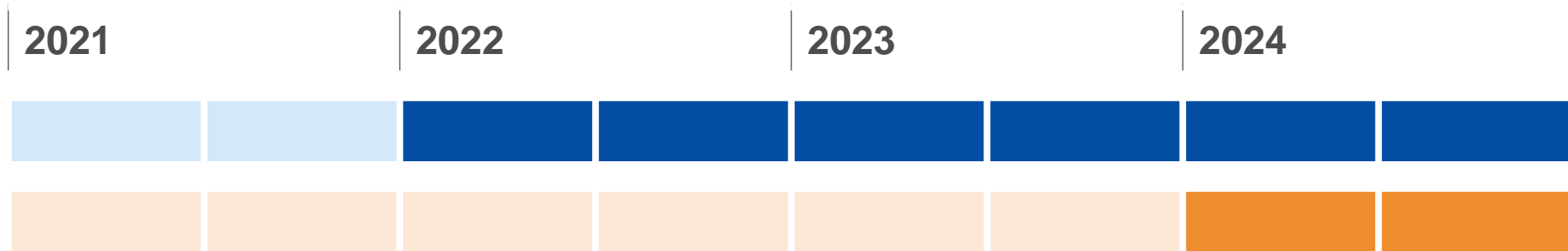
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Taxonomy

Sustainable economic activities



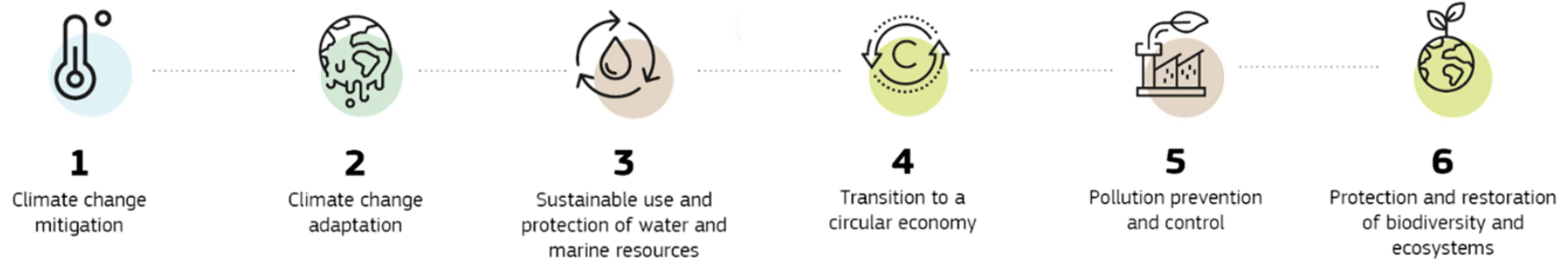
Sustainable economic activities



Climate Delegated Act

Environmental Delegated Act

ENVIRONMENTAL OBJECTIVES



Construction of new buildings

Climate Delegated act

Substantial contribution



Constructions of new buildings for which:

1. The Primary Energy Demand (PED) ⁽²⁸¹⁾, defining the energy performance of the building resulting from the construction, is at least 10 % lower than the threshold set for the nearly zero-energy building (NZEB) requirements in national measures implementing Directive 2010/31/EU of the European Parliament and of the Council ⁽²⁸²⁾. The energy performance is certified using an as built Energy Performance Certificate (EPC).
2. For buildings larger than 5 000 m² ⁽²⁸³⁾, upon completion, the building resulting from the construction undergoes testing for air-tightness and thermal integrity ⁽²⁸⁴⁾, and any deviation in the levels of performance set at the design stage or defects in the building envelope are disclosed to investors and clients. As an alternative; where robust and traceable quality control processes are in place during the construction process this is acceptable as an alternative to thermal integrity testing.
3. For buildings larger than 5 000 m² ⁽²⁸⁵⁾, the life-cycle Global Warming Potential (GWP) ⁽²⁸⁶⁾ of the building resulting from the construction has been calculated for each stage in the life cycle and is disclosed to investors and clients on demand.

⁽²⁸¹⁾ The calculated amount of energy needed to meet the energy demand associated with the typical uses of a building expressed by a numeric indicator of total primary energy use in kWh/m² per year and based on the relevant national calculation methodology and as displayed on the Energy Performance Certificate (EPC).

⁽²⁸²⁾ Directive 2010/31/EU of the European Parliament and of the Council of 19 May 2010 on the energy performance of buildings (OJ L 153, 18.6.2010, p. 13).

⁽²⁸³⁾ For residential buildings, the testing is made for a representative set of dwelling/apartment types.

⁽²⁸⁴⁾ The testing is carried out in accordance with EN13187 (Thermal Performance of Buildings - Qualitative Detection of Thermal Irregularities in Building Envelopes - Infrared Method) and EN 13829 (Thermal performance of buildings. Determination of air permeability of buildings. Fan pressurisation method) or equivalent standards accepted by the respective building control body where the building is located.

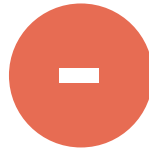
⁽²⁸⁵⁾ For residential buildings, the calculation and disclosure are made for a representative set of dwelling/apartment types.

⁽²⁸⁶⁾ The GWP is communicated as a numeric indicator for each life cycle stage expressed as kgCO₂e/m² (of useful internal floor area) averaged for one year of a reference study period of 50 years. The data selection, scenario definition and calculations are carried out in accordance with EN 15978 (BS EN 15978:2011. Sustainability of construction works. Assessment of environmental performance of buildings. Calculation method). The scope of building elements and technical equipment is as defined in the Level(s) common EU framework for indicator 1.2. Where a national calculation tool exists, or is required for making disclosures or for obtaining building permits, the respective tool may be used to provide the required disclosure. Other calculation tools may be used if they fulfil the minimum criteria laid down by the Level(s) common EU framework (version of 4.6.2021: <https://susproc.jrc.ec.europa.eu/product-bureau/product-groups/412/documents>), see indicator 1.2 user manual.

Construction of new buildings

Climate Delegated act

Do not
significant harm



Building components and materials used in the construction comply with the criteria set out in Appendix C to this Annex.

Building components and materials used in the construction that may come into contact with occupiers ⁽²⁸⁹⁾ emit less than 0,06 mg of formaldehyde per m³ of material or component upon testing in accordance with the conditions specified in Annex XVII to Regulation (EC) No 1907/2006 and less than 0,001 mg of other categories 1A and 1B carcinogenic volatile organic compounds per m³ of material or component, upon testing in accordance with CEN/EN 16516 ⁽²⁹⁰⁾ or ISO 16000-3:2011 ⁽²⁹¹⁾ or other equivalent standardised test conditions and determination methods ⁽²⁹²⁾.


Where the new construction is located on a potentially contaminated site (brownfield site), the site has been subject to an investigation for potential contaminants, for example using standard ISO 18400 ⁽²⁹³⁾.

Measures are taken to reduce noise, dust and pollutant emissions during construction or maintenance works.

Construction of new buildings



Circularity Delegated act

Substantial contribution 

4. The use of primary raw material in the construction of the building is minimised through the use of secondary raw materials⁸². The operator of the activity ensures that the three heaviest material categories used to construct the building, measured by mass in kilograms, comply with the following maximum total amounts of primary raw material used:

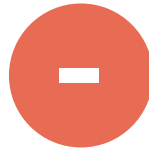
- (a) for the combined total of concrete⁸³, natural or agglomerated stone, a maximum of 70% of the material come from primary raw material;
- (b) for the combined total of brick, tile, ceramic, a maximum of 70% of the material come from primary raw material;
- (c) for bio-based materials⁸⁴, a maximum of 80% of the total material come from primary raw material;
- (d) for the combined total of glass, mineral insulation, a maximum of 70% of the total material come from primary raw material;
- (e) for non-biobased plastic, a maximum of 50% of the total material come from primary raw material;
- (f) for metals, a maximum of 30% of the total material come from primary raw material;
- (g) for gypsum, a maximum of 65% of the material come from primary raw material.

The thresholds are calculated by subtracting the secondary raw material from the total amount of each material category used in the works measured by mass in kilograms. Where the information on the recycled content of a construction product is not available, it is to be counted as comprising 100% primary raw material. In order to respect the Waste Hierarchy and thereby favour re-use over recycling, re-used construction products, including those containing non-waste materials reprocessed on site, are to be counted as comprising zero primary raw material. Compliance with this criterion is demonstrated by reporting in accordance with the Level(s) indicator 2.1⁸⁵.

Construction of new buildings

Climate Delegated act

Do not
significant harm



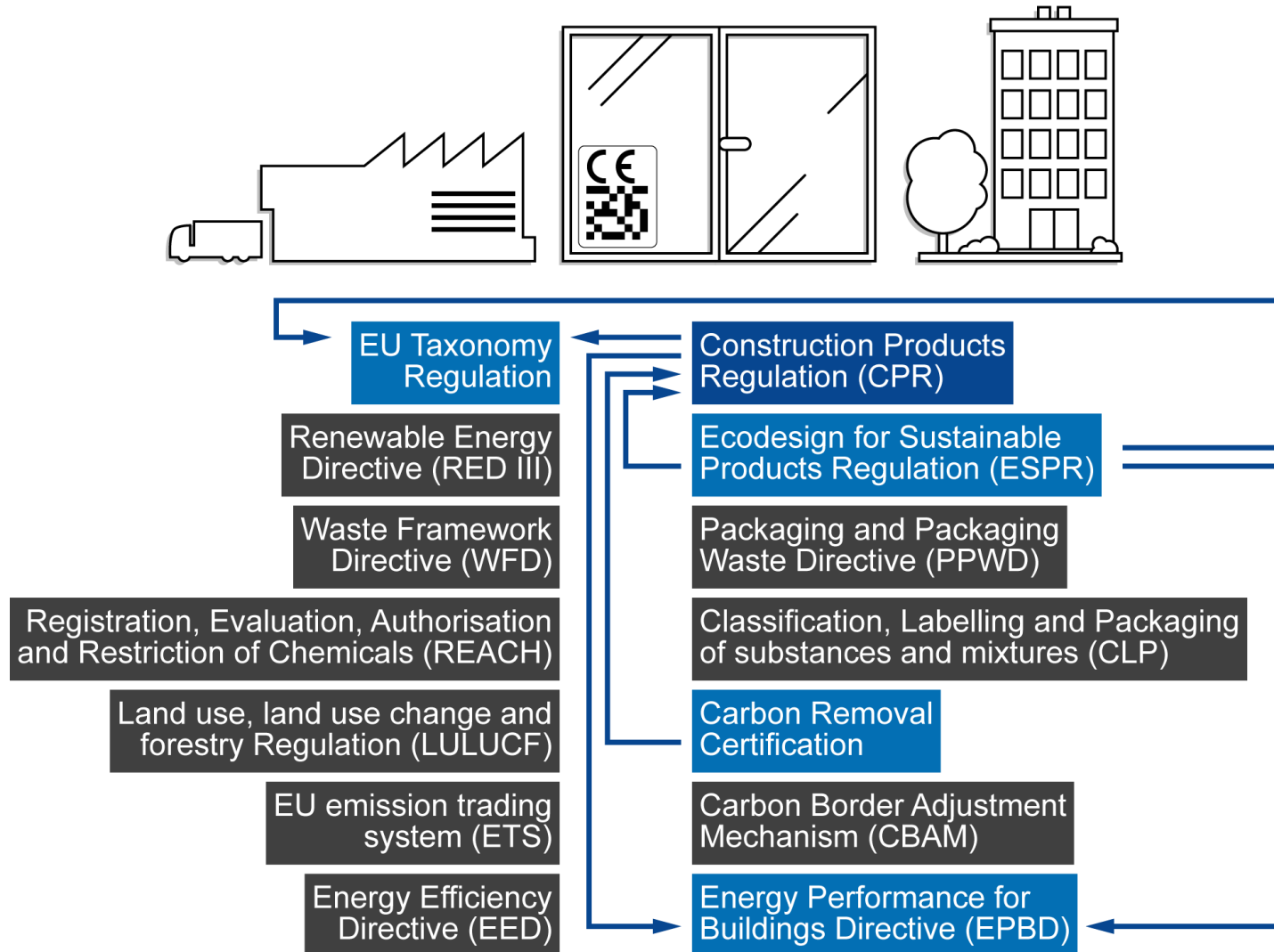
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EU initiatives



European Commission

Unit H.1



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