EU initiatives on inert & inorganic waste with a focus on CDW

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INERTWASTE | 14 November 2023

Introduction

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Inert/inorganic waste & CDW

- Article 2(e) of the **Landfill Directive** defines 'inert waste' and Article 4 classifies it

  "waste that does not undergo any significant physical, chemical or biological transformations. Inert waste will not dissolve, burn or otherwise physically or chemically react, biodegrade or adversely affect other matter with which it comes into contact in a way likely to give rise to environmental pollution or harm human health. The total leachability and pollutant content of the waste and the ecotoxicity of the leachate must be insignificant, and in particular not endanger the quality of surface water and/or groundwater."

- The **Waste Framework Directive** Annex II sets out recovery operations for inorganic waste and the **List of Waste** contains some inorganic waste (sub-)chapters

  "R 5 Recycling/reclamation of other inorganic materials (****)
  (****) This includes preparing for re-use, recycling of inorganic construction materials, recovery of inorganic materials in the form of backfilling, and soil cleaning resulting in recovery of the soil."

- **The vast majority of CDW is inert waste and inorganic waste (98%)**

- **Disclaimer**: There are also waste streams other than CDW which can be considered inert/inorganic (e.g. certain mining waste, certain industrial waste)

EU Construction & demolition waste (CDW)

Total CDW generation excluding soil, track ballast, dredging spoils and asphalt

Mineral waste	**77.0%**
Concrete	*24.0%*
Bricks	*5.0%*
Tiles and ceramics	*1.2%*
Mixed/other mineral/inert waste	*46.9%*
Plastic	**0.2%**
Metal	**4.3%**
Mixed metals	*0.5%*
Ferrous	*3.4%*
Non-ferrous	*0.4%*
Glass	**0.2%**
Wood	**2.3%**
Gypsum	**1.4%**
Insulation	**0.3%**
Paper and cardboard	**0.2%**
Mixed waste, generic	**12.3%**
Hazardous waste (total, excluding hazardous soil and dredging spoil)	**1.8%**
Soil (hazardous and non-hazardous)	**-**
Dredging spoil (hazardous and non-hazardous)	**-**
Track ballast and asphalt	**-**
TOTAL	**100%**
TOTAL inert/inorganic waste	**97.5%**

Source: JRC (forthcoming). Techno-economic and environmental assessment of construction and demolition waste management in the EU

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Policy context

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Circular Economy Action Plan

- **Construction & buildings considered a key value chain due to circular and environmental potential**
  - ~50% of all extracted materials
  - ~40% of the EU's total waste generation
  - 5-12% of national GHG emissions, of which 80% could be saved through material efficiency
- **Key initiatives**
  - Considering setting preparing for re-use and recycling targets for CDW and its material-specific fractions
  - Integrate life cycle assessment of Level(s) in public procurement and the EU Taxonomy
  - Revising the Construction Product Regulation
  - Promoting measures to improve the durability and adaptability of built assets in line with the circular economy principles for buildings design and developing digital logbooks for buildings
  - Promoting initiatives to reduce soil sealing, rehabilitate abandoned or contaminated brownfields and increase the safe, sustainable and circular use of excavated soils

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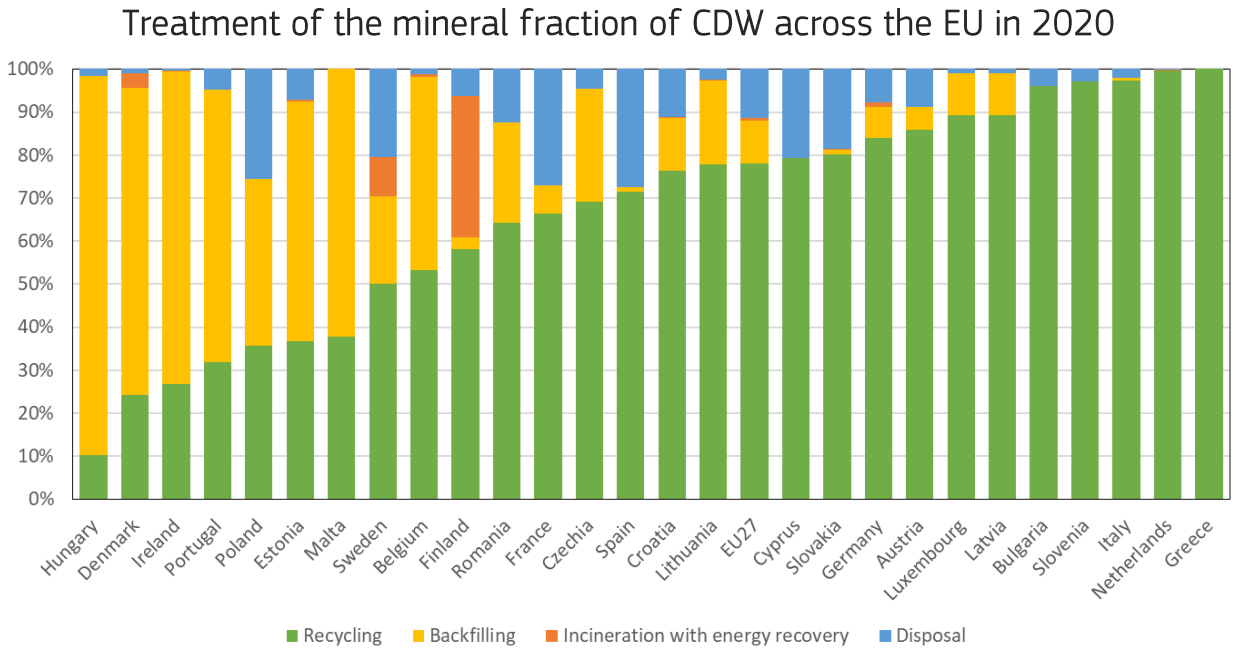
Waste Framework Directive

- **Waste prevention**: Requires Member States to "*encourage the re-use of products and the setting up of systems promoting repair and re-use activities*" and "*reduce waste generation*"
- **Preparing for re-use & recycling**: "*Member States shall take measures to promote selective demolition [...], and to ensure the establishment of sorting systems for construction and demolition waste at least for wood, mineral fractions (concrete, bricks, tiles and ceramics, stones), metal, glass, plastic and plaster*"
- **2020 target**: At least 70% by weight of non-hazardous construction & demolition waste (CDW) is prepared for re-use, recycling and other material recovery, including backfilling operations



Source: JRC (forthcoming). Techno-economic and environmental assessment of construction and demolition waste management in the EU

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Upcoming and ongoing initiatives on CDW

- **Review clause – Article 11(6) WFD**: "*The Commission shall consider the setting of preparing for re-use and recycling targets for CDW and its material-specific fractions*"
  - **JRC report I:** Overview of current situation by Member State and subset of material fractions (covering data gaps), 2050 projections, existing waste management technologies, life cycle analysis and costing (https://data.europa.eu/doi/10.2760/772724)
  - **JRC report II**: Forthcoming JRC work on remaining material fractions, but not on proposing targets
- **Ongoing background analysis on EU-wide end-of-waste criteria for CDW**
- **Ongoing update of guidance documents**: *EU Construction & Demolition Waste Management Protocol* and *Guidelines for the waste audits before demolition and renovation works of buildings*

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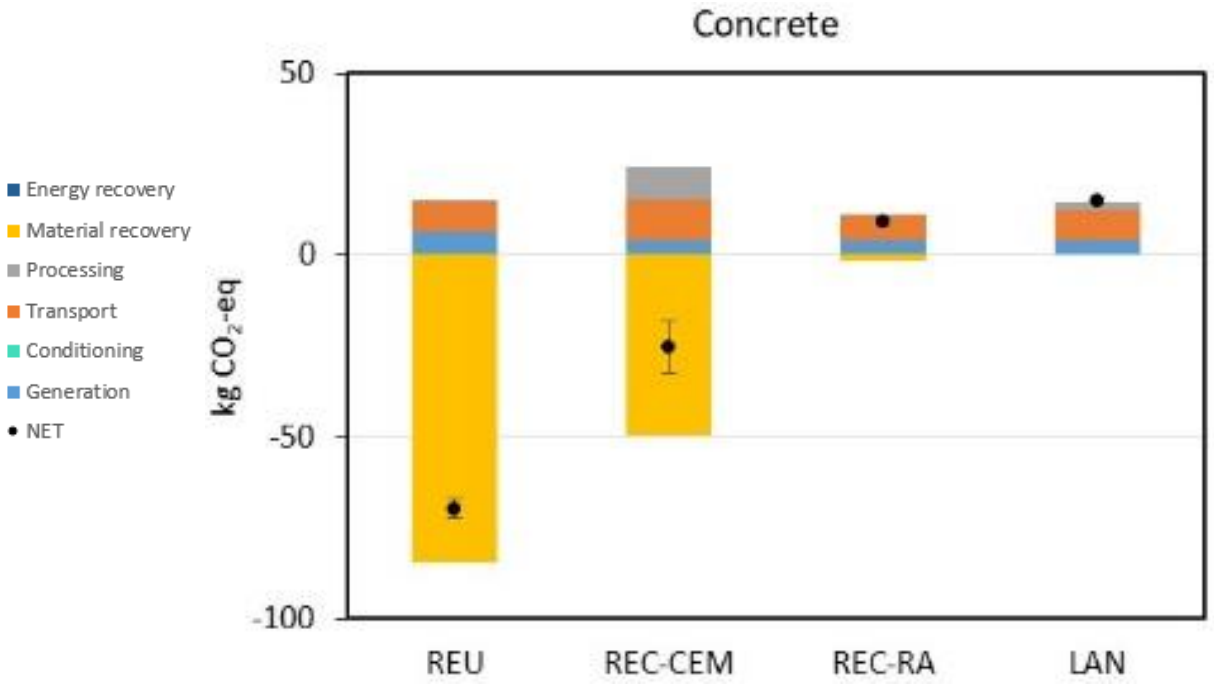
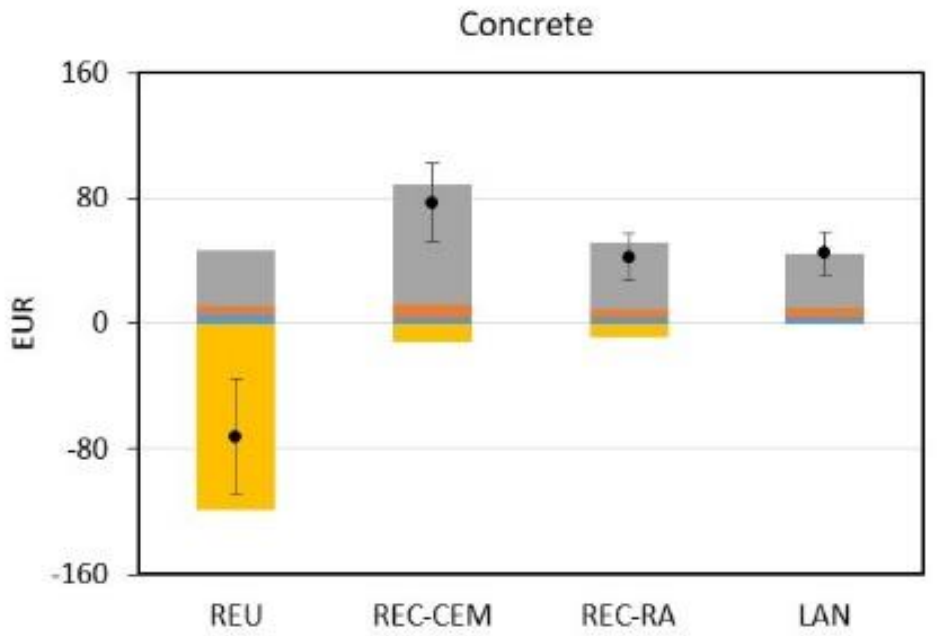
Life cycle analysis & costing | concrete

LCA climate impacts



LCC (conventional) financial impacts



Notes: REU: (preparing for) re-use; REC-CEM: recycling of cement; REC-RA: recycling of recycled aggregates; LAN: landfilling
Source: JRC (forthcoming). Techno-economic and environmental assessment of construction and demolition waste management in the EU

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EU Taxonomy

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Logic and objectives

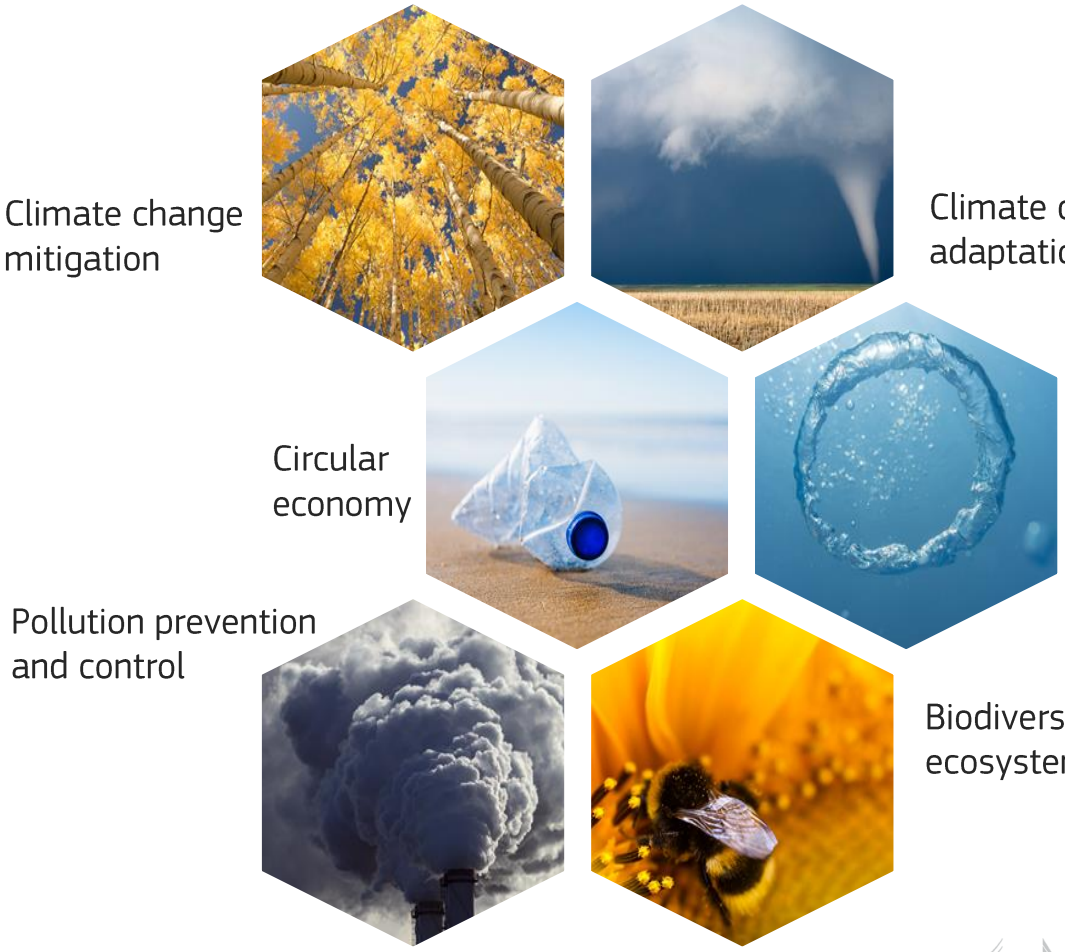
Make a substantial contribution
to at least one of the six environmental objectives

+

Do no significant harm
to any of the other environmental objectives

+

Meet minimum safeguards
comply with international minimum safeguards



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Defining environmental sustainability

What it is

Ultimately, it helps raise the needed investments to build a net zero, resilient and environmentally sustainable economy

A classification system

Provides clarity on what is an environmentally sustainable activity and under which circumstances.

A measurement tool

Measures the degree of sustainability of an investment and the degree of green activities of companies

A transition tool

Helps investors and companies to plan and report on the transition. It sets the objectives and the direction of travel for different economic activities

What it is not

- Not a **mandatory list** to invest in
- Not a rating of the **'greenness'** of companies
- It does not make any judgement on the **financial performance** of an investment
- What's not green is not necessarily **brown**

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Selected criteria | renovation of buildings

70%

of non-hazardous CDW prepared for re-use or recycled

1. Treating CDW in accordance with waste legislation and the full checklist of the EU CDW Management Protocol
2. Excludes backfilling and naturally occurring materials in category 17 05 04
3. Reporting using Level(s) indicator 2.2 and Level 2 reporting format

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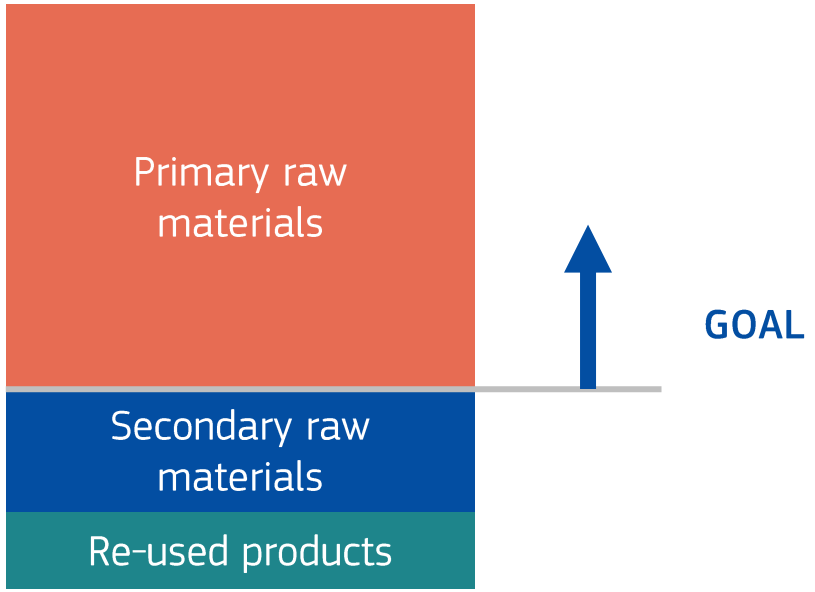
Selected criteria | renovation of buildings

The waste hierarchy favours prevention (e.g. re-use), preparing for re-use and recycling

Focus on primary raw materials raises awareness and incentivises re-use, preparing for re-use and recycling



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Selected criteria | renovation of buildings

Material categories	Maximum primary raw materials content
Concrete, natural or agglomerated stone	85%
Brick, tile, ceramic	85%
Bio-based materials	90%
Glass, mineral insulation	85%
Non-biobased plastic	75%
Metals	65%
Gypsum	83%

Applies to the **three heaviest** materials categories (in kg)

Thresholds are **lower** for the **construction of new buildings**, i.e. fewer primary raw materials are allowed

Source: European Environment Agency (2022), Modelling the Renovation of Buildings in Europe from a Circular Economy and Climate Perspective

Thank you

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