



CIRCULAR OPPORTUNITIES IN BUILDING AND INFRASTRUCTURE



OVERVIEW

Buildings and infrastructure provide basic structures, such as residential spaces, offices, roads and railways, and thus play a key role in the wellbeing, health and safety of human beings. However, the sector accounts for 50% of extracted resources and 40% of carbon emissions. To tackle these issues, Europe can use circular solutions that exist across the entire value chain, and, in this way, significantly contribute to a climate-neutral future. Moreover, these solutions can serve as an inspiration to other non-EU actors, as well as create opportunities for EU frontrunners.

The moderator (**Freek Van Eijk**, Circular Hotspot), the Commission (**Kestutis Sadauskas**, DG ENV) and experts (**Dr. Anna Braune**, German Sustainable Building Council, **Laura Cutaia**, ENEA, **Jessica Reis Leffers**, Rijkswaterstaat, **Johannes Kissner**, Alchemia nova, **Gonzalo Sanchez**, EEB, **Fernando Sigchos**, European Builders Confederation, and **Sabine Oberhuber**, Turntoo) have discussed topics such as the undervalued importance of infrastructure in tackling climate change, markets for secondary resources, the relevance of deconstruction design to enable the renovation wave, and value-chains collaboration. In addition, young professionals (**Dominik Campanella**, Concular/Restado, **Emanuel Falappa**, RiceHouse, and **Wies van Lieshout**, Waterweg) have presented their circular economy efforts in the construction sector.

The outcome document of the Leadership Group on Building and Infrastructures presents a set of reflections on new policies and contains inspirational examples and good practices.

NEW CHALLENGES

- Move from buildings of the past that consume resources and energy, cause emissions, and produce waste, to circular buildings of the future, which serve as urban mines, help close the loops, and preserve value.
- Need of a better integration between policies related to B&I sectors (e.g., circular economy, energy efficiency, waste regulations, at both EU and national levels)
- Traceability of waste streams and by-products is limited.
- There is limited awareness among clients and consumers of the economic viability and environmental benefits of designing, implementing and operating circular B&I.

- Asset managers need to be convinced to integrate sustainability in their buildings to retain their value. Markets want evidence of successful sustainable construction practices to be convinced to make longer-term investments.
- The right people/human resources with the right skills to be able to take advantage of innovation in circular construction.
- Suitable legislation and access to funding are needed to pave the way to invest in circular construction.
- Measuring circularity in buildings requires for many different indicators to be analysed and devise a common methodology on the basis thereof.

Building stock

- Preserve and upgrade the building stock and understand the building stock as a source of raw materials.

Deconstruction

- Deconstruction must be the starting point, where we need to close loops in deconstruction processes.

Renovation/New buildings

- Use and reuse recycled materials.
- Design for longevity and for deconstruction.

KEY MESSAGES

- Circular economy solutions at building level must be made assessable and measurable and accompanied by transparency, including the protection and preservation of existing elements, materials or building parts.
- Transfer of knowledge must be enabled into planning and decision-making processes.
- Solutions must be developed for regulatory developments at EU level with a strong focus on circular economy. Certification helps to accelerate the transformation.
- Within the energy policies for the building sector, especially in those on renovation, circularity and sustainability requirements should be integrated to promote a holistic, life cycle thinking approach.
- Plan demand & supply of materials in B&I considering and favouring the replacement of raw materials with secondary ones over time, for example through mandatory recycled/reused content.
- Promote the construction of a system for monitoring, data collection and assessment of the current level of resource efficiency and circularity in the B&I sector, so as to better calibrate policies, regulations and technical standards.
- Cooperation is needed in the following areas:
 - Knowledge and innovation development
 - Legislation, regulations and common market
 - Secondary and renewable raw materials
 - International tendering and sustainable finance conditions
 - Across the entire value chain.
- Circular construction calls for collaboration with producers of materials, and also a link between producers and contractors. Circular economy can be one of the vehicles for presenting circular infrastructure.