



Circular economy in the built environment

& seven essential objectives

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A CIRCULAR ECONOMY cannot be achieved in the built environment without a circular economy of materials. The goal is for Finland to build its competitiveness by means of sustainable material use. The demand for virgin materials will be minimised, the length of material and product life cycles maximised and products designed so that they can be maintained and reused at the end of their first useful life.

IN THE BUILT ENVIRONMENT, the circular economy refers to an operating model adopted by the industry and policies supporting the model. Together, these two aspects drive a transition towards a sustainably built environment. The built environment plays a key role in the circular economy, particularly in optimising material and energy cycles, returning resources into these cycles and producing new resources.

THE CONCEPT OF A CIRCULAR ECONOMY will steer us to design our environment in a way that the changing needs of users can be met and new forms of use adopted. Thus, we will be able to support a sharing economy. When designing environments in accordance with the principles of a circular

economy, existing environments can be used by reforming their life cycles and extending their useful life. Once materials and products have reached the end of their present life, new opportunities for their use will be sought to maintain their financial and service value in the cycle. In a circular economy, the built environment forms a part of the energy system, playing a key role in the production of renewable energy. A circular economy will reform the business models in the industry and force end users to rethink their wishes and expectations, both as consumers and owners.

ACCORDING TO EXPERTS, the real estate and construction industry has a downright obligation to move towards a circular economy to ensure that the built environment – as a major consumer of energy and resources – will not exceed the carrying capacity of nature. A circular economy provides the industry with great potential for development and change. The principles of a circular economy should be embedded in the entire value chain, and the industry will create system-level innovations that challenge current practices and business models.

The activities in line with the circular economy can be divided into three principles:

1. Developing the industrial system, incl. material development, product design, energy production and business model planning, to minimise waste and harmful environmental impacts. Following the order of priority in material use.
2. Keeping materials and products in use. Maximising the circulation of products, components and materials and the value bound to them as much as possible in the economy.
3. The operating approaches aim at increasing well-being in a manner that conserves the environment and natural values.

THE PLAYERS within the real estate and construction industry have identified ten key elements of change required by the circular economy:

1. Unlearning
2. Expertise
3. Foresight
4. Planning, development and design
5. Procurement
6. Open and shared information
7. Innovation
8. Ownership models
9. Value of materials and labour
10. Life cycle knowledge.



Seven essential objectives

1. Pursuing a common goal to promote a circular economy in the real estate and construction industry

- The real estate and construction industry has defined a common goal and targets for a circular economy. All operators are aware of the goal and committed to reaching it.
- The industry has defined generally accepted circular economy criteria to support planning and decision-making. Criteria have been set, among others, for the following sectors:
 - Planning
 - Construction products
 - Land use planning
 - Architecture
 - Procurement
 - Infrastructure
 - Use of space (affects construction demand and methods).
- Based on these criteria, a list has been drawn up of measures required to promote the circular economy. The implementation of these measures has started, and progress will be monitored.

2. Policy instruments and legislation efficiently promote the circular economy

- The state and cities have recognised their role in promoting the circular economy in the property and construction industry. This is reflected in concrete actions.
- The Ministry of Economic Affairs and Employment, the Ministry of the Environment, the Ministry of Agriculture and Forestry, the Ministry of Education and Culture, the Ministry of Finance and other administrative organisations have set common objectives for promoting the circular economy in the property and construction industry and agreed on measures to achieve the objectives. These objectives should be maintained across electoral terms.
- Political parties have recognised their role as drivers of a circular economy, and their own government programme objectives include the promotion of a circular economy in the real estate and construction industry.
- A circular economy is strongly featured in the Land Use and Building Act that is currently under preparation.

3. New practices in the industry promote the circular economy

- Synergies between projects and the overall optimisation of life cycles will be ensured through efficient exchange of information within and between projects.
- New circular economy companies are being created in the building and construction industry.
- Best practices are promoted through international co-operation.
- Each organisation will be appointing a circular economy expert, and these experts collaborate via a shared forum for the industry.
- Activities to promote the circular economy will be rewarded (e.g. industry awards).
- An operating model for increasing social capital has been created and taken in use (more open and transparent urban planning and development).

4. Life-cycle thinking guides planning in infrastructure and building construction

- We have common calculation rules that cover the whole life cycle, a common, open and up-to-date database as well as scenarios for realising end-of-life recycling and reuse.
- Key opportunities for promoting the circular economy are being identified at each stage of planning.
- Life-cycle costing directs procurement and decision-making, and operators are moving away from partial optimisation.
- Each structural design includes a plan for recovery and recycling.

5. Land use planning and zoning promote the circular economy

- Urban circular economy is supported with a versatile urban structure.
- Processes to change the purpose of use of a property are smooth.
- Land mass logistics in earthworks are locally coordinated and appropriate.
- There is efficient information exchange and co-operation between land use planning, infrastructure construction and building construction: synergies are identified and utilised.

6. Procurement processes and purchasing expertise are developed to support the circular economy

- Municipalities are using the upcoming Ministry of the Environment's guidance on public construction projects.
- Purchasing organisations are aware of their own opportunities to promote the circular economy and include the circular economy in their procurement criteria.
- The property and construction industry has developed common circular economy criteria for purchasing organisations and procurement in different sectors:
 - Infrastructure construction
 - Regional planning
 - Building construction

7. Use of space is efficient

- Operators managing spaces (private and public buildings and other spaces) are providing a wide range of usage opportunities through different interfaces.
- Design of spaces is taking into account and enabling multiple and shared use.
- Use of spaces is as efficient as possible and target levels have been set. New ways of using spaces will be developed, alongside with means of continuous improvement (measuring, monitoring and setting new targets).
- Restrictive legislation and operating models have been identified and abolished.