

Circular Economy in the build environment

Nordic Green Building Councils Webinar



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DGNB

Multiple great crises



Climate change

Finite resources



Degradation of biological systems



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CIRCULAR ECONOMY

1. Value **finite resources** and control their stocks and material flows.
2. Improve raw material yields by **closing cycles** while always maintaining the highest possible value of the raw materials.
3. Ensure the **effectiveness** of the system through consistent consideration of externalities.

Ellen MacArthur Foundation



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Material flow

Extraction



Produce



Use

Ideal



Reuse



Recycle



Dispose



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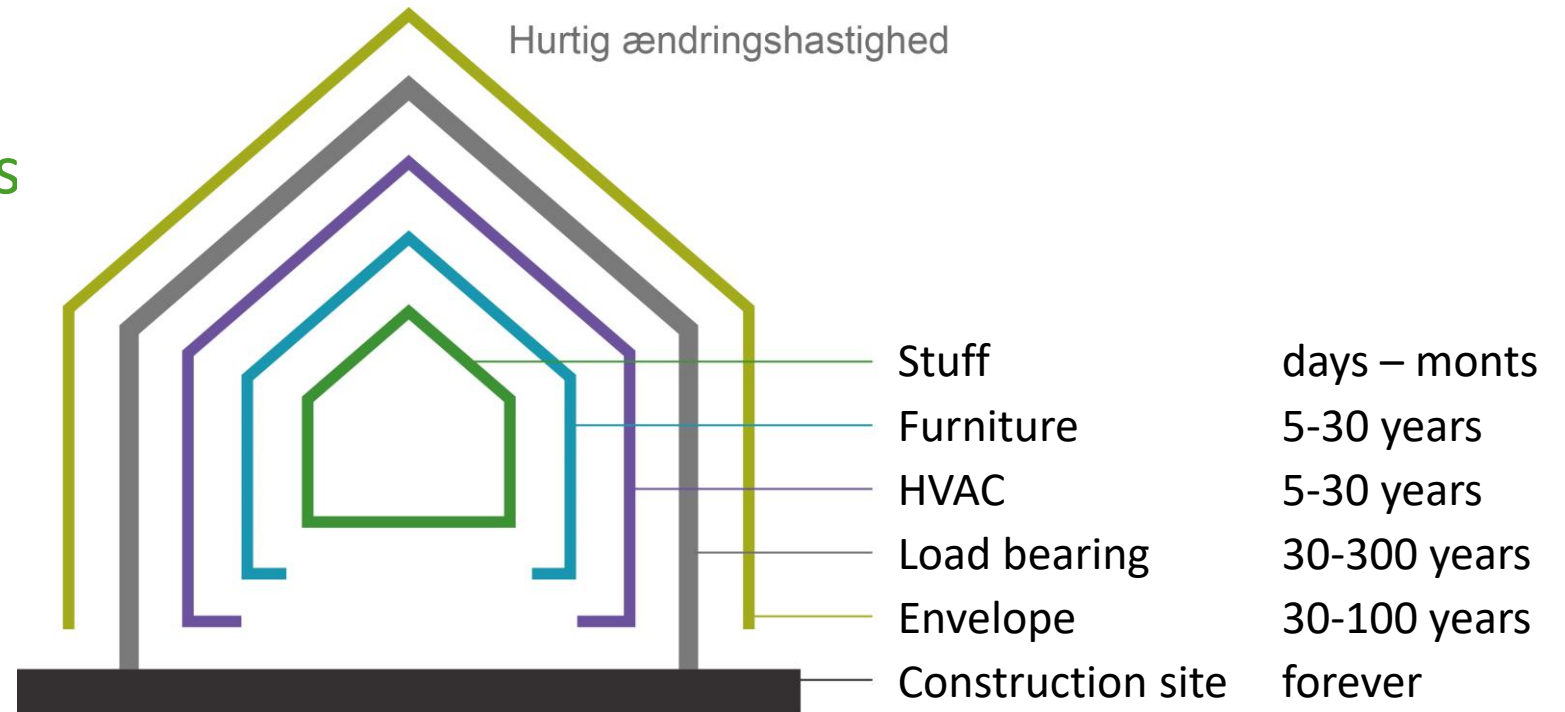


Buildings are a special product

Very Long Lifetime

Effective C.E. strategies

- Refurbishment
- Transformation



Circular Economy and Climate change ?

Reusable building products

E.g. Bricks



- Low embedded CO2
- Closed loop

Recyclable building materials

E.g. Concrete as aggregate



- High embedded CO2
- Closed loop



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Challenges to closing the loop

Mineral resource extraction 40 mil m³

Total construction waste 4,5 mil m³

- 5% landfill
- 7% waste incineration

Pollutants from past mistakes

Asbestos, PCB, Lead ...

- Prevents circular material flow
- Unclear risk and responsibility

