

Webinar: Green Transition Denmark

Experiences from Denmark

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National Strategy for Sustainable Construction



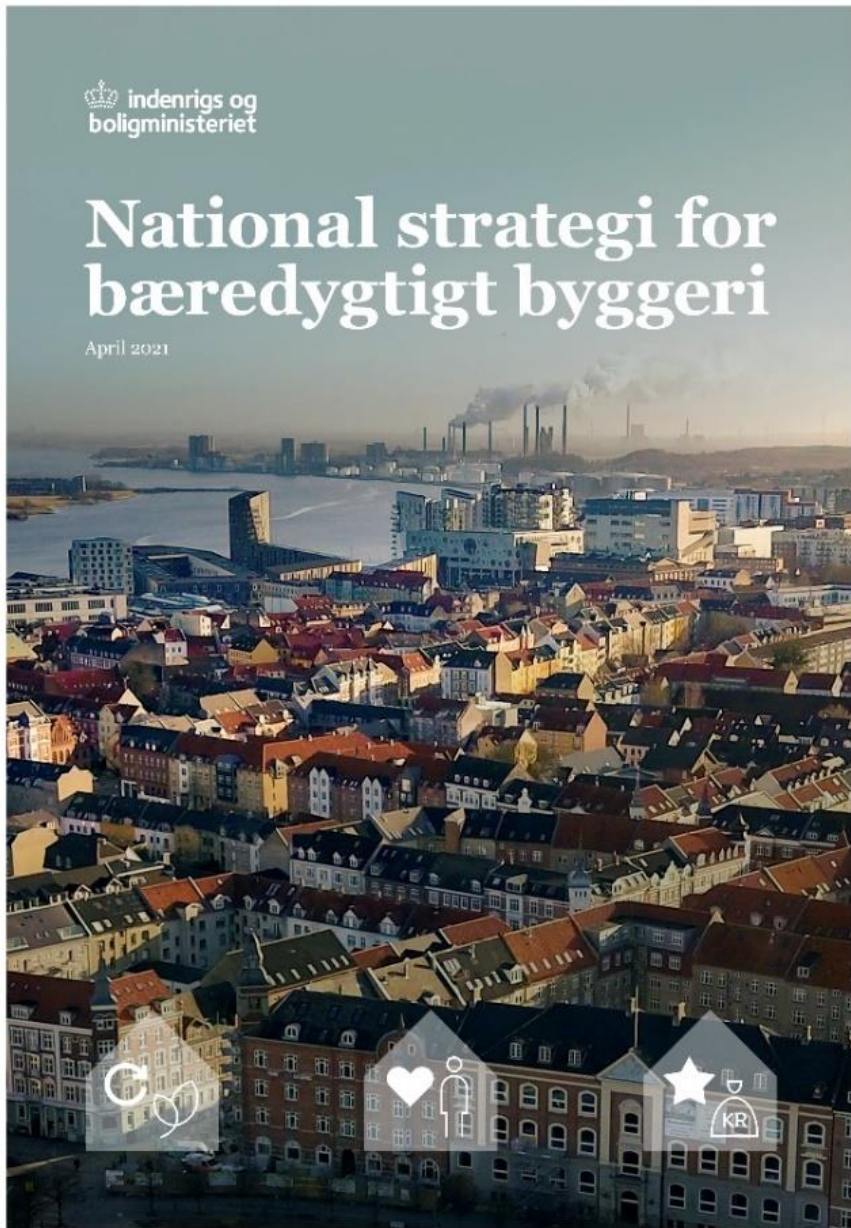
Based on broad political agreement to reduce the WLC footprint of buildings

Original political agreement from March 2021

- WLC requirements and CO2e limit values from 1st januar 2023
- A limit value of 12 kg CO2e/m²/year for buildings >1000 m²
- App. 10 pct. of new buildings were required to perform better
- Introducing a national roadmap detailing new limit values following a progressive downward trend.
- The limit values were to be revisited in the years: 2025 2027, 2029

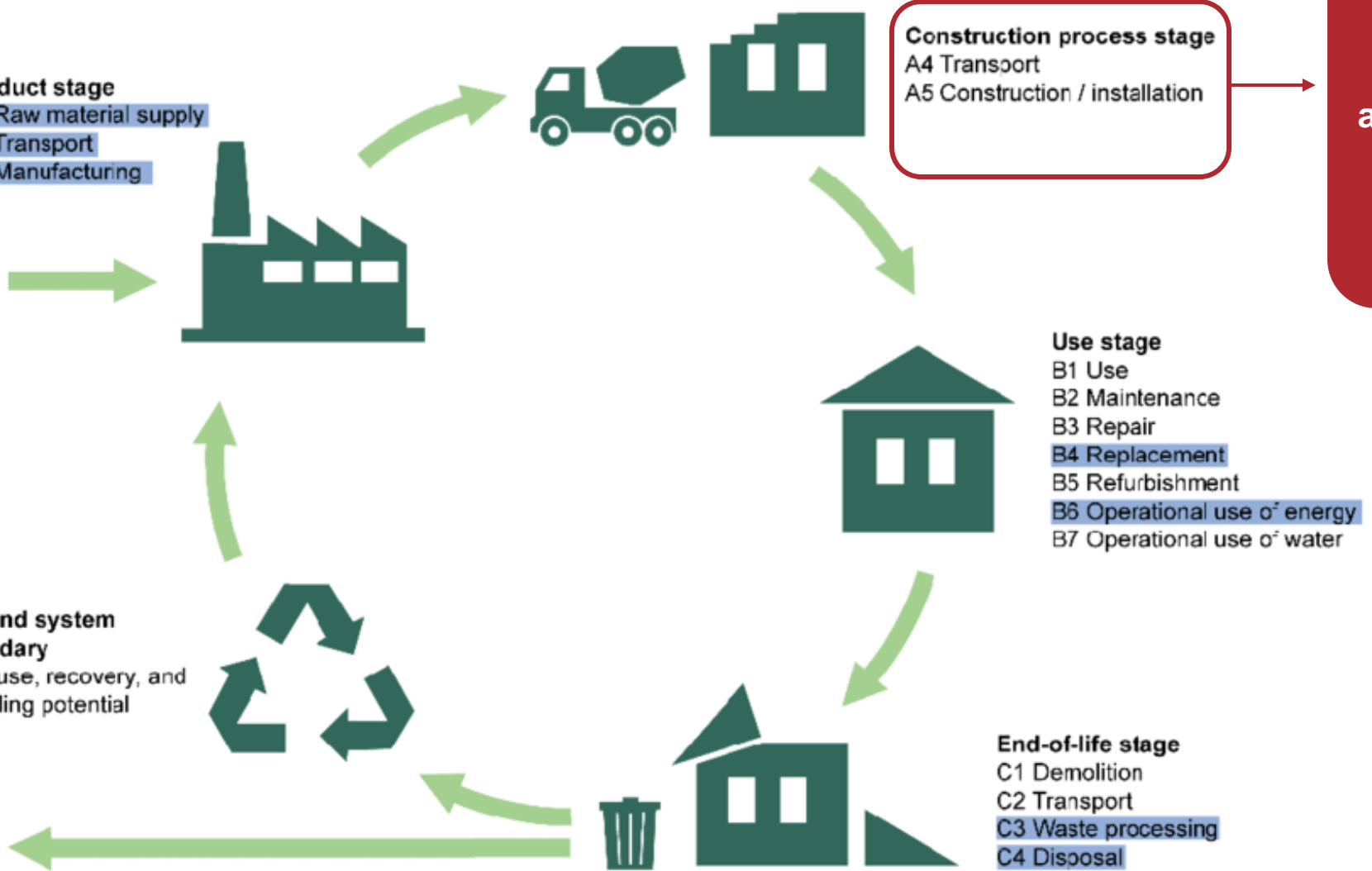
The strategy included 21 initiatives to stimulate a green transition of the building sector

- As part of the strategy a committee with members of the Danish constructionsector were established. Som led i strategien nedsættes et koordinerende udvalg med deltagere fra den danske bygge- og anlægssektor.



Phases and modules

Product stage
A1 Raw material supply
A2 Transport
A3 Manufacturing



Included
within the
political
agreement of
2025

Calculation principle for recycled materials:

A political decision to promote recycled products positively

0 kg CO2e for all modules within the LCA calculation

The CO₂e-limit value is tightened

- Average limit value at 7,1 kg CO₂e/m²/year.
- Approx. 85 pct. of the new construction included in the agreement needs to perform better compared to 2021 – the previous agreement was 33 pct.
- The limit value will be differentiated



Kg CO ₂ e/m ² /year	2025	2027	2029
Limit value General Buildings	7.1	6.4	5.8
Holiday homes under 150 m ²	4.0	3.6	3.2
Single-family houses, row houses, tiny houses, and holiday homes at least 150 m ² *	6.7	6.0	5.4
Apartment buildings	7.5	6.8	6.1
Office buildings	7.5	6.8	6.1
Institutions (e.g., schools)	8.0	7.2	6.4
Other new constructions	8.0	7.2	6.4
Independent limit value for the construction process	1.5	1.3	1.1
Total limit including construction process	8.6	7.7	6.9

**The 150 m² limit only accounts for holiday homes*

<https://www.sm.dk/nyheder/nyhedsarkiv/2024/maj/ny-aftale-stiller-ambitioese-klimakrav-til-nyt-byggeri>

More new construction covered by WLC-requirement

The scope is expanded from 57 pct. to 68 pct. of the new construction by:

- Including holiday homes
- Including unheated building over 50 m².
e.g. parking garages and storage buildings.
- Including extensions to apartment buildings, office buildings, institutions and other construction (limit value as building type)
- For single-family houses, terraced houses, tiny houses and holiday homes, however, only extensions over 250 m² are included in the limit value

New exemptions from the limit value (must document climate impact):

- Special critical buildings such as water works, prisons, the Armed Forces' operational buildings and hospitals.

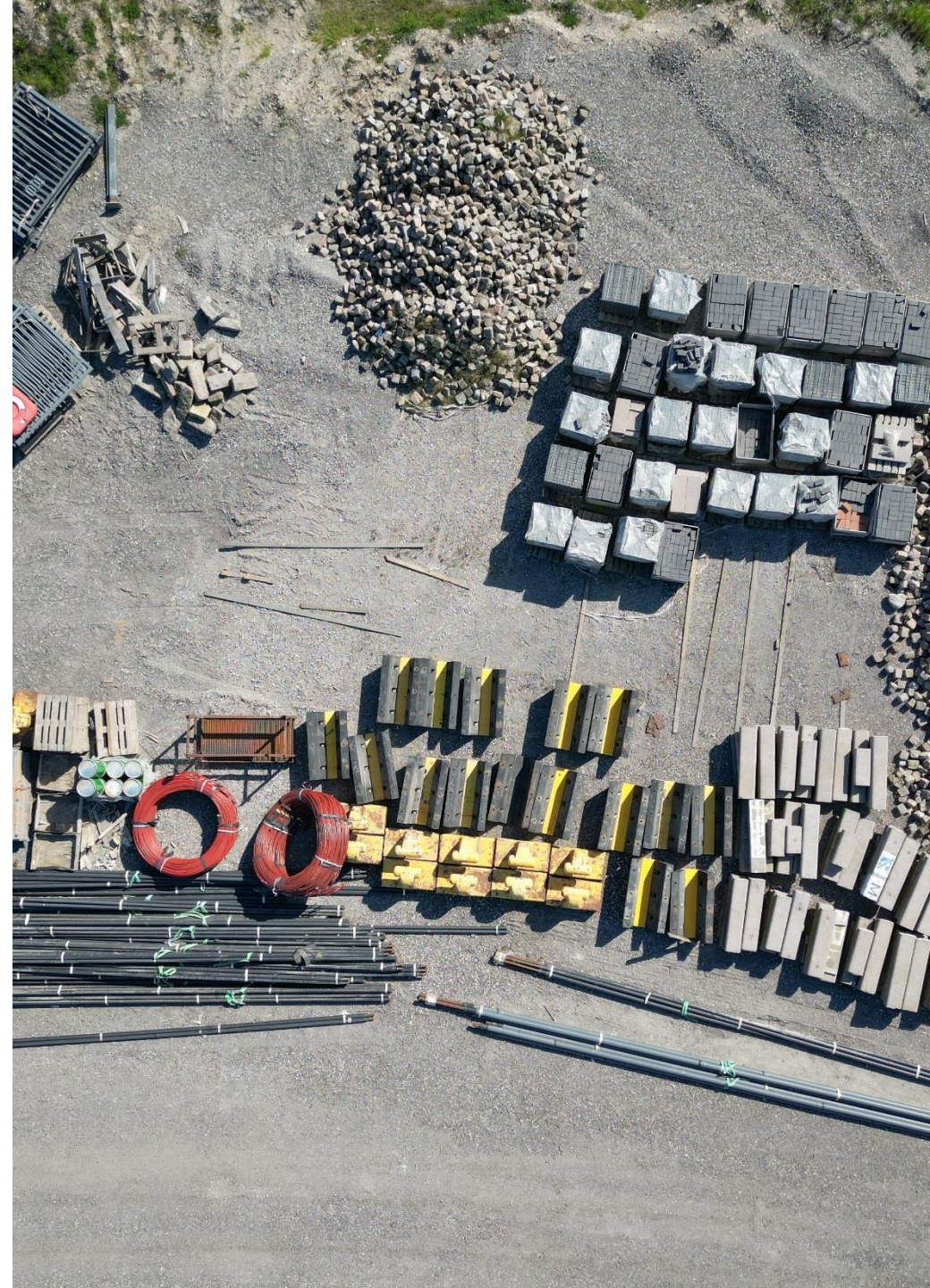
Continuation of exemptions from limit value and documentation:

- Unheated buildings under 50 m² and agricultural buildings



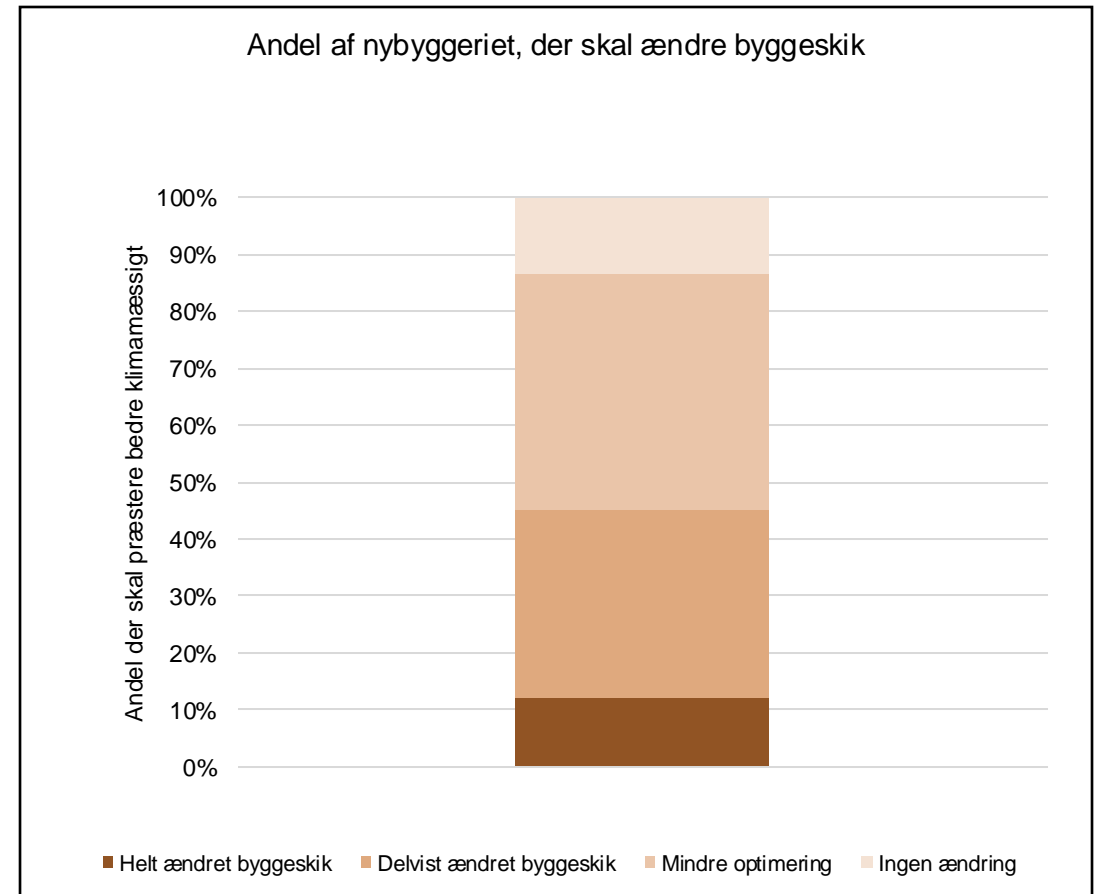
Including the construction process in the limit value

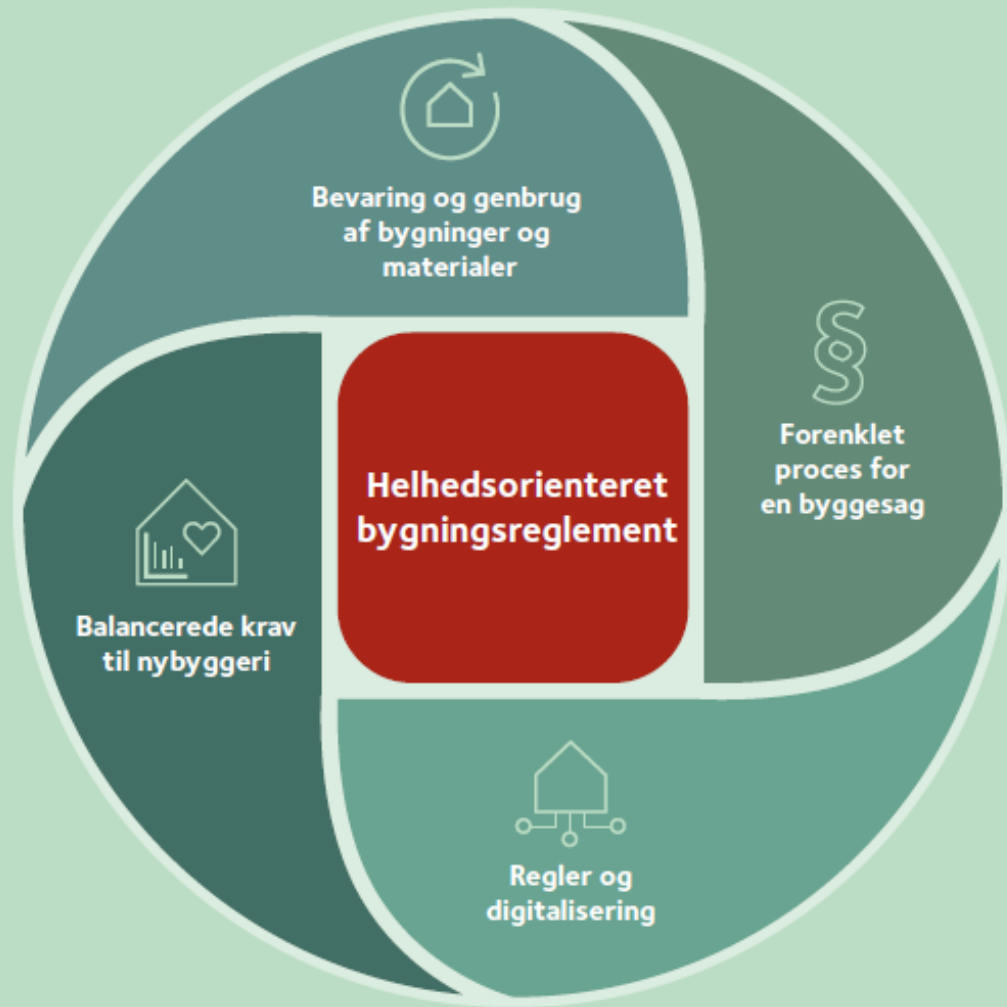
- A requirement expansion with the climate impacts from the construction process (module A4 and A5)
- The limit value for the construction process is set corresponding to a level, so approx. half of all construction sites must perform better compared to 2021.
- An independent limit value for the construction process corresponding to 1.5 kg CO₂e/m²/year.



Changes in the way of building

- Our way of categorize changes of construction practices;
 - *Under the limit value without changes*
 - *Small optimizations – a reduction of 0 to 2 kg CO₂e/m²/year.*
 - *Partly changed practices – a reduction of 2-4 kg CO₂e/m²/year.*
 - *Totally changed practices – a reduction of more than 4 kg CO₂e/m²/year.*





Four themes for basic revision of the Building Regulation

- 1:** Revision of technical requirements for new construction's (safety, health, energy consumption and climate impact)
- 2:** Adjusting technical requirements for renovation and changed use of a building
- 3:** Requirements for municipal construction case processing and the certification schemes must be coordinated so that the overall process for approving a construction case is simplified with an eye to the construction processes.
- 4:** The building regulations must increasingly support the industry and municipalities' use of digital processes and tools.

Lesson from Denmark

- The standard is very good – but not formulated to be national requirements
- Need for many clarifications
 - *Which stages and modules to include?*
 - *Simplification to certain modules*
 - *How to address floor area?*
 - *Introduction of a generic database for construction materials*
 - *Building model*
 - *Life time of products and constructions*
 - *How to address the changing energy system*



Setting of limit values

- How to set limit values
 - *Data for setting limit values – representativity and data collection*
 - *CO2e/m2/year*
 - *Differentiation between building types?*
 - *Mixed use buildings*
 - *How to adress special buildings with demand for certain CO2e-emitting solutions to fulfill their purpose*
 - *Revision of limit values*



Questions?