

Status in Denmark

Status on LCA and digitalization
Status on better use of existing building stock

28.10.2025 – Nana Weien Okholm & Mads Simonsen

Viden til gavn

Political agreements for sustainable construction

National Strategy for Sustainable Construction
March 2021

Supplementary agreement about reuse
May 2023

Supplementary agreement on National Strategy for Sustainable Construction
May 2024

Strategy for revision of the building regulations
June 2024

2021

2022

2023

2024

2025



Services and Housing

**Supplementary
agreement on National
Strategy for
Sustainable
Construction
May 2024**

[illegible]

- Tighten the CO₂e limit value for the climate impact of buildings.
- The limit value is differentiated based on building types.
- Expand the scope of new construction covered by the CO₂e limit value.
- Exempt particularly socially critical buildings and unheated buildings under 50 m² from the CO₂e limit value.
- Emissions from the construction process are covered by the CO₂e limit value.

- Easing energy requirements for the conversion of existing buildings.
- Focus on the transformation of existing buildings in city centers.
- Fewer demolitions.
- New rules for existing buildings.

- Carry out a fundamental revision of the building regulations.

Introduction to Danish climate regulation

Construction covered by both declaration and limit values:

- All heated buildings
- All unheated buildings $\geq 50 \text{ m}^2$
- Some extensions to existing buildings*

Construction covered by declaration but no limit values:

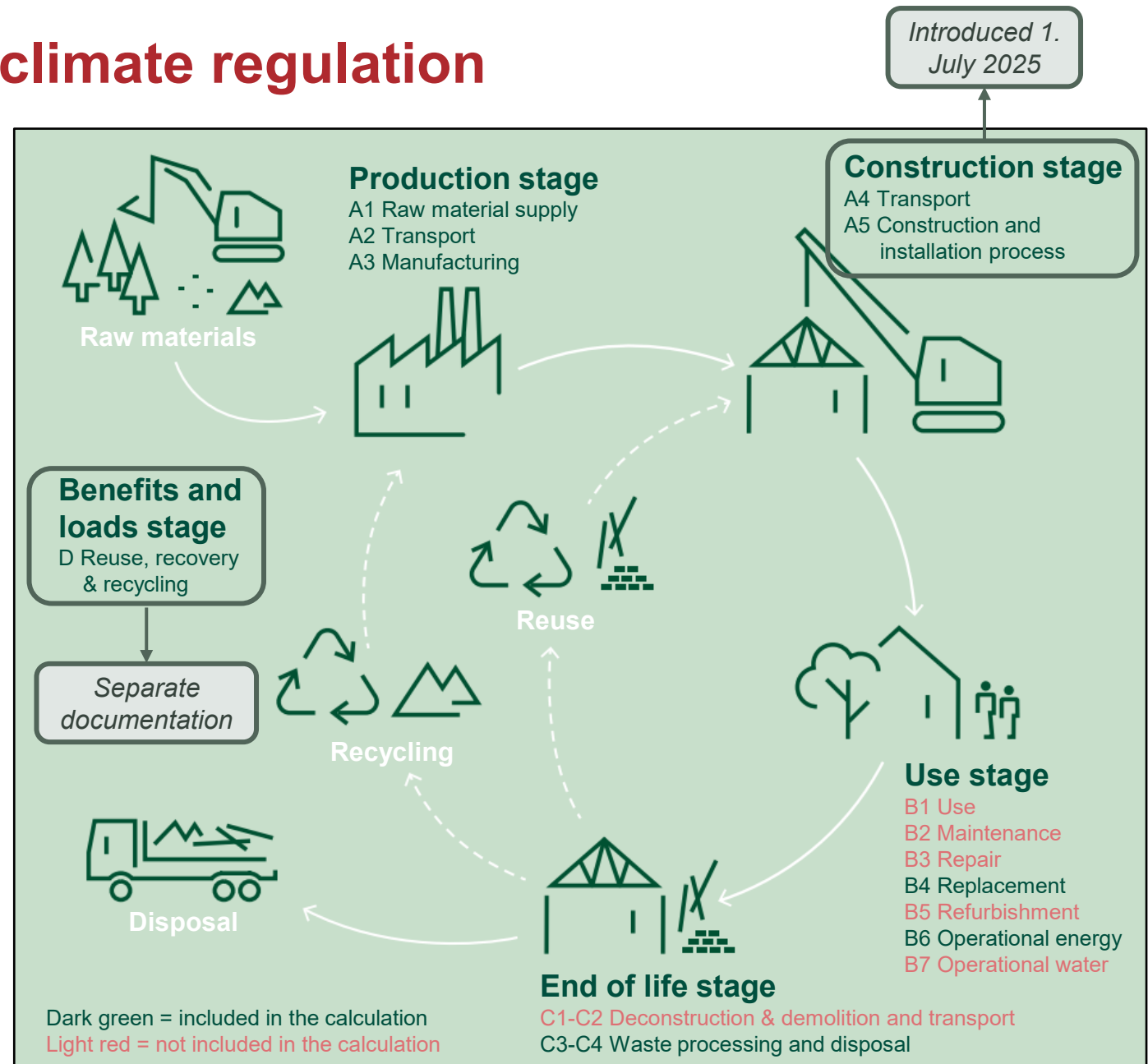
- Socially critical construction

Construction exempt from both declaration and limit values:

- The defense's operational buildings

Construction not covered by the climate regulation:

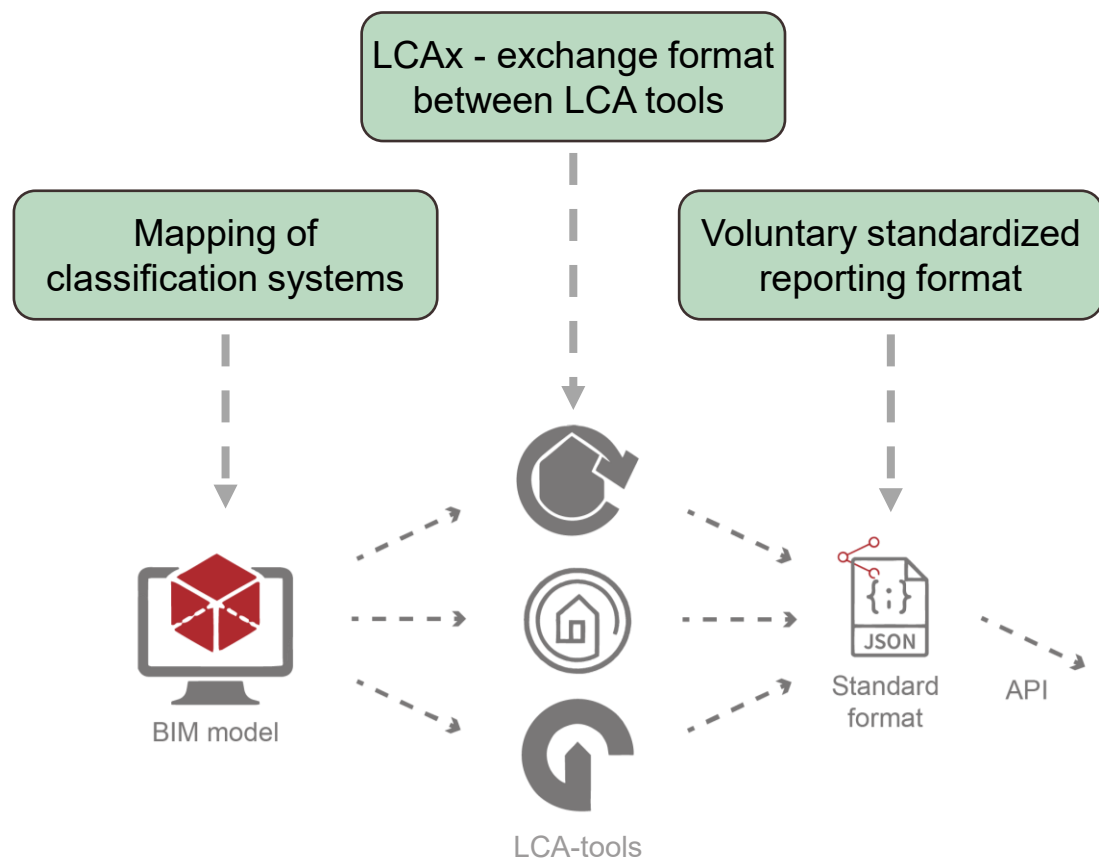
- Agricultural- and farming buildings
- Unheated buildings $< 50 \text{ m}^2$



The GWP limit values from 1. July 2025

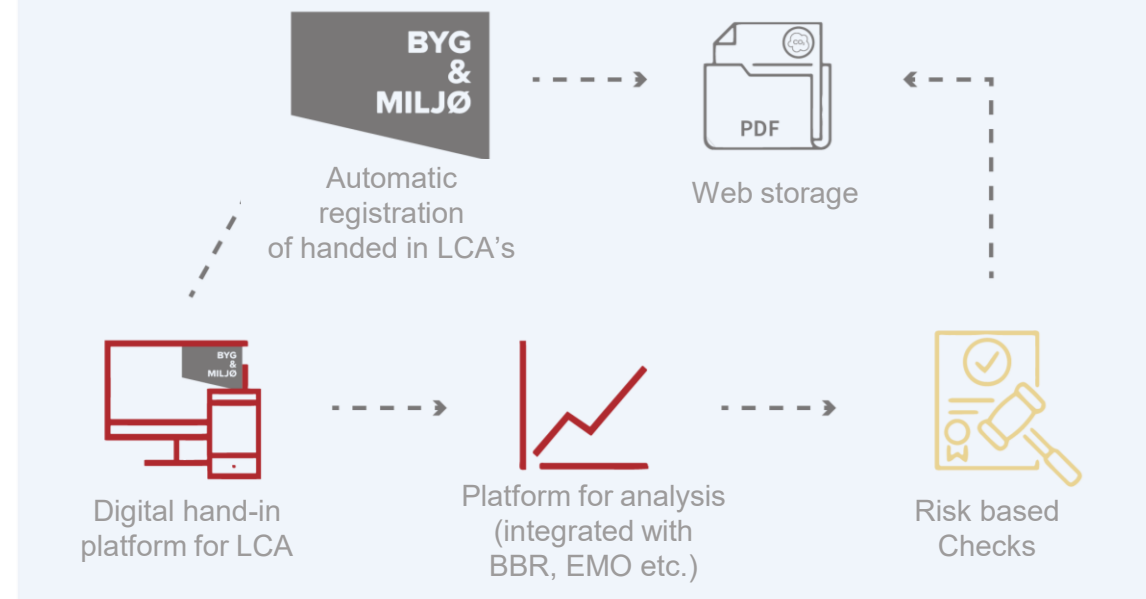
CO ₂ e limit values for new construction divided into building typologies [kg CO ₂ e/m ² /year]	2025	2027	2029
Average limit value	7,1	6,4	5,8
Holiday homes <150 m ²	4,0	3,6	3,2
Holiday homes ≥150 m ² , single family- and row houses	6,7	6,0	5,4
Apartment- and office buildings	7,5	6,8	6,1
Institutions and other building typologies	8,0	7,2	6,4
Individual limit value for construction process	1,5	1,3	1,1
Average limit value including construction process	8,6	7,7	6,9

Digitalization of LCA



Soon a first step analysis about IT-architecture

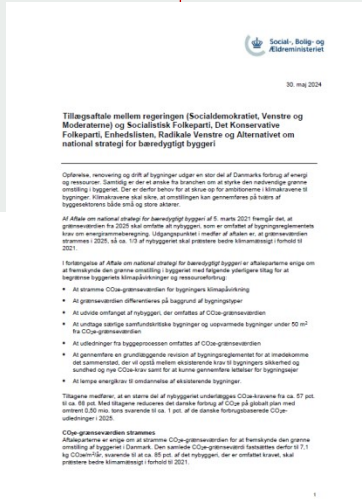
Fully digitalized hand-in of LCA documentation



Purpose: Acceleration of the green transition in construction

Supplementary agreement on National Strategy for Sustainable Construction
May 2024

2024



Initiatives for new construction

- Tighten the CO₂e limit value for the climate impact of buildings.
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Initiatives for existing buildings

- Easing energy requirements for the conversion of existing buildings.
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- Fewer demolitions.
- New rules for existing buildings.

Parallel

- Carry out a fundamental revision of the building regulations.



Fewer demolitions?

As part of the supplementary agreement, the Danish Authority of Social Services and Housing must investigate:

1. Whether it is possible to establish a new system where the municipality can reject an application for demolition of a building when objective considerations make it appropriate to preserve the building
2. Whether it is possible to introduce a demolition fee corresponding to the environmental and climate impact that demolition will cause

Proposals are to be presented to the political agreement group in mid-2026





More renovation!

Step 1 → Clarification of applicable rules

It is assessed that a number of barriers to renovation can be addressed by clarifying current rules. A proposal for clarification will be presented to the political agreement group at the end of 2025

Step 2 → Easing Requirement Levels

Proposals for relaxation of requirement levels for renovation will be presented to the political agreement group in mid-2026





Danish Authority of
Social Services and Housing

***“Stepwise tightening of
GWP limit values.”***

***“Fewer demolitions
→ More renovation!”***

Viden til gavn

Nordic Climate Forum for Construction

Housing and Construction Authority Iceland

Elín Þórólfsdóttir - HMS

MSc in Environment & Natural Resources • Architect, MAA

Current status

LCA Regulation

LCA regulation entered into force
1st of September 2025

LCA required with the building-permit
application for new buildings





LCA Regulation

Mandatory

Design stage (Building permit)

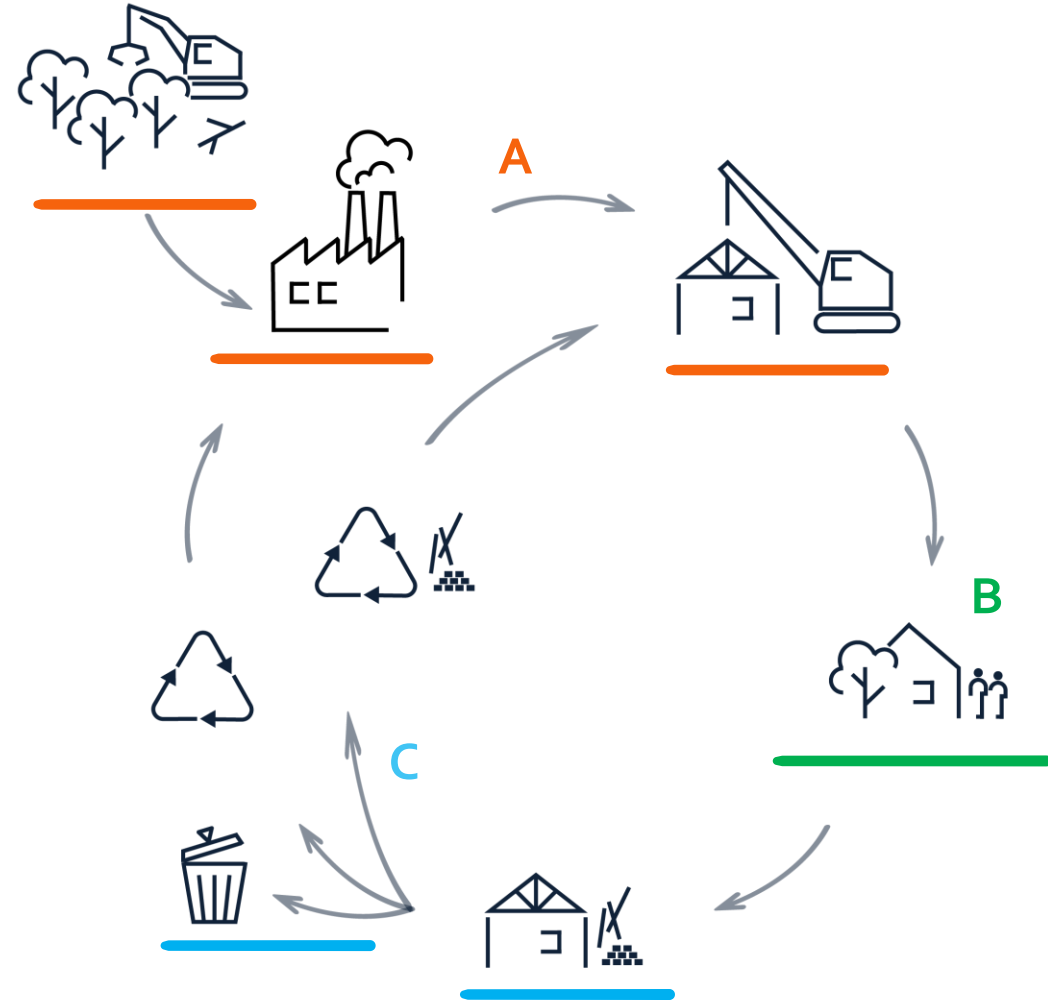
Optional

Post-Construction (As built)

Next: Prepare benchmarks & limit values

LCA – What to assess

A1-A3	Product Stage
A4	Transport to construction site
A5	Construction installation process
B1	
B2	
B3	
B4	Refurbishment
B5	
B6	Operational energy use
B7	
C1	Deconstruction / Demolition
C2	Transport to waste processing
C3	Waste processing
C4	Disposal
D	Beyond the system boundary



Reuse of building materials

Reused materials:
0 kgCO₂e/m²/year across phases

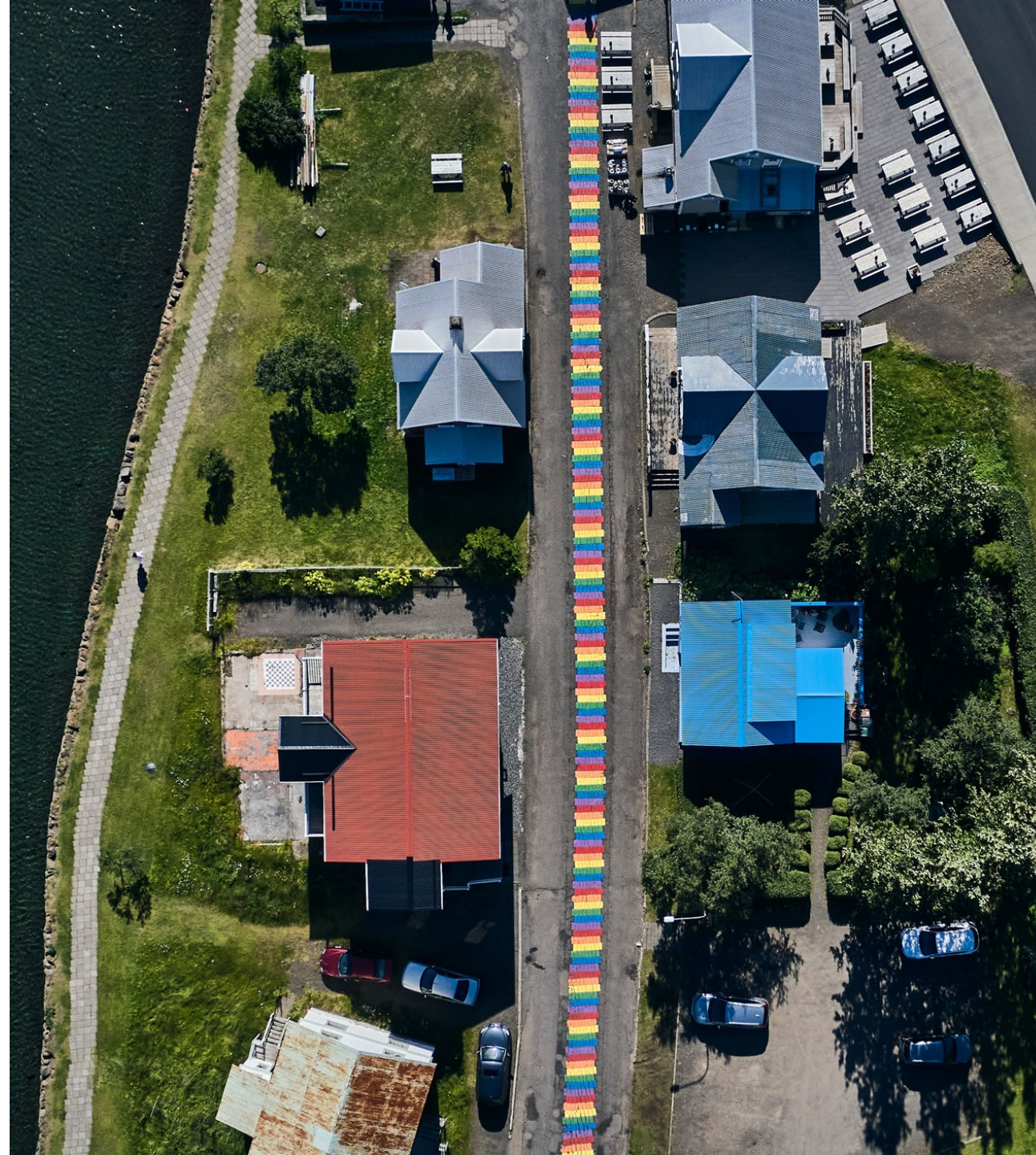


LCA Regulation

Default/Average data - when specific data is missing

Icelandic averages provided for:

- **A1-A3:** Technical systems like elevators, renewable energy, ventilation
- **A4:** Transport to site
- **A5:** Construction process
- **B6:** Icelandic emission factors for energy use
- **C1-C4:** End of life



Digitalisation

- **LCA Submission Portal** —
structured forms & validation
- Next steps to integrate with the
Building Register

LCA analysis results

A document containing the results of the life cycle assessment is uploaded in the final step of the application.

Below, the main results of the life cycle assessment of the building should be listed. Results should be broken down by phase where applicable. The unit of emissions should be expressed per square meter per year [kg CO₂-equivalent per m² per year], which should be based on the number of square meters per gross square meter.

A1-A3 *

A1-A3

A4 *

A4

A5 *

A5

B4 *

B4

B6 *

B6

C1-C4 *

C1-C4

Total kg CO₂-emissions in phase AC *

In total kg CO₂e/m²/year

D *

D - optional

Initiatives to optimize usage of existing m²

The Icelandic Sustainable Construction Roadmap

- Action 5.3.8 **Better use & upkeep of floor area**
- Enable **flexible design**
- **Efficient use** of space
- Support for **change-of-use**
- Municipal **guidance & checklists**





Initiatives to optimize usage of existing m²

- Re-using existing m²
- Reduce emissions by **prioritising reuse of existing buildings** before new build
- Convert underused **commercial/industrial** floor area to **housing** where suitable

Hnís



Housing and Construction Authority