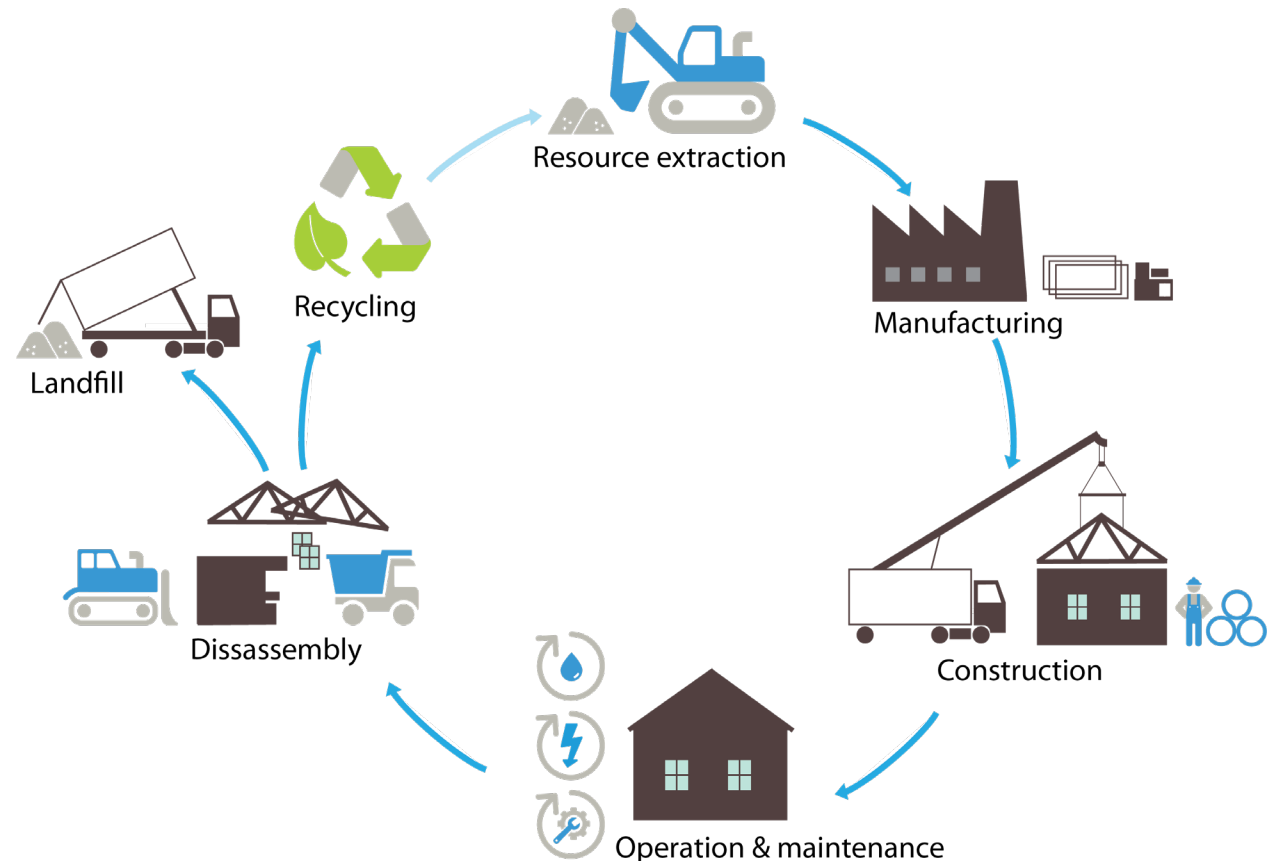


STATUS AND CURRENT ISSUES FROM THE INDUSTRY

RAMBØLL





Christine Collin

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Background:

- 2020 LCE Business Development Manager
- 2019 Senior Sustainability Engineer, Buildings, Ramboll
- 2018 DGNB consultant
- 2017 Sustainability Engineer, Buildings, Ramboll
- 2016 Structural Engineer, JPM ApS

Educational Background

- 2016 M.Sc. Building Design - DTU & TU Wien
- 2014 B.Sc. Civil Engineering - DTU & TU Munich

What I do:

Sustainable Buildings, DGNB, LEED, BREEAM

Life Cycle Assessments (LCA)

Life Cycle Costing (LCC)

Digitalisation and development

Technical and strategic reports

Research

Reference projects/articles:

- [Bringing Embodied Carbon Upfront, WGBC](#)
- [LCE from the perspective of an engineering consultancy, 2018](#)
- [A case-based study on the use of life cycle assessment and life cycle costing in the building industry, 2019](#)

AGENDA

Status and current issues from the industry

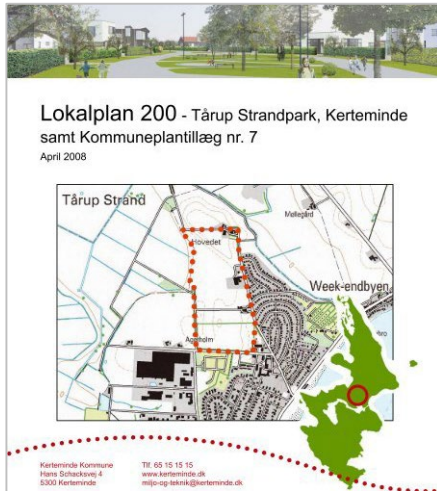
- Introduction – market tendencies in the industry
 - Nordic LCA collaboration in Ramboll
 - Coupling to 3D modelling
 - Improvement of processes
 - Common benchmark database
 - Barriers
 - Final remarks
-



MARKET TENDENCIES

THE DECADE OF LCA?

LOCALLY

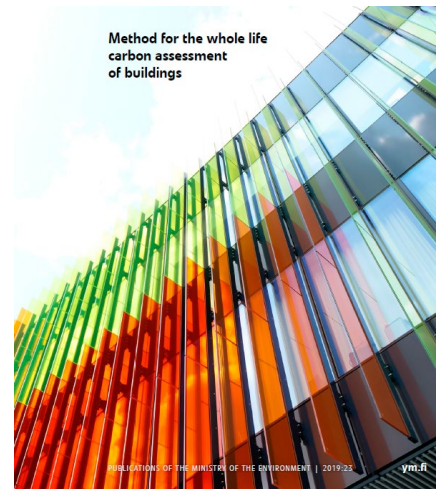


Local city plans and building owners

Building owners and local authorities start to implement LCA requirements for new buildings and large retrofits

RAMBOLL

NATIONALLY

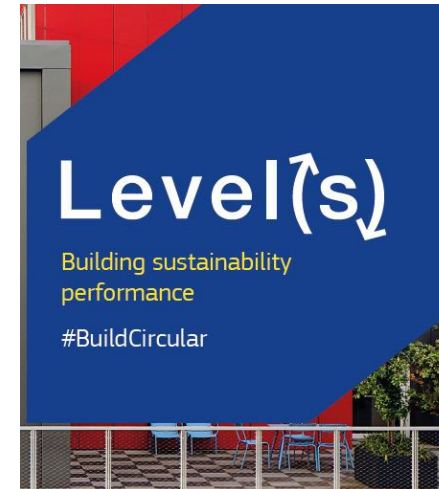


Building Codes

Countries start to require LCAs for new buildings through national building regulation. Norway & Sweden by 2022, Denmark by 2023, Finland at latest by 2025.



EUROPEAN LEVEL



Level(s)

Level(s) is a voluntary reporting framework to improve the sustainability of buildings, which includes LCA as a corner stone.

GLOBALLY



World Green Building Council

'2020: The Year of LCA'

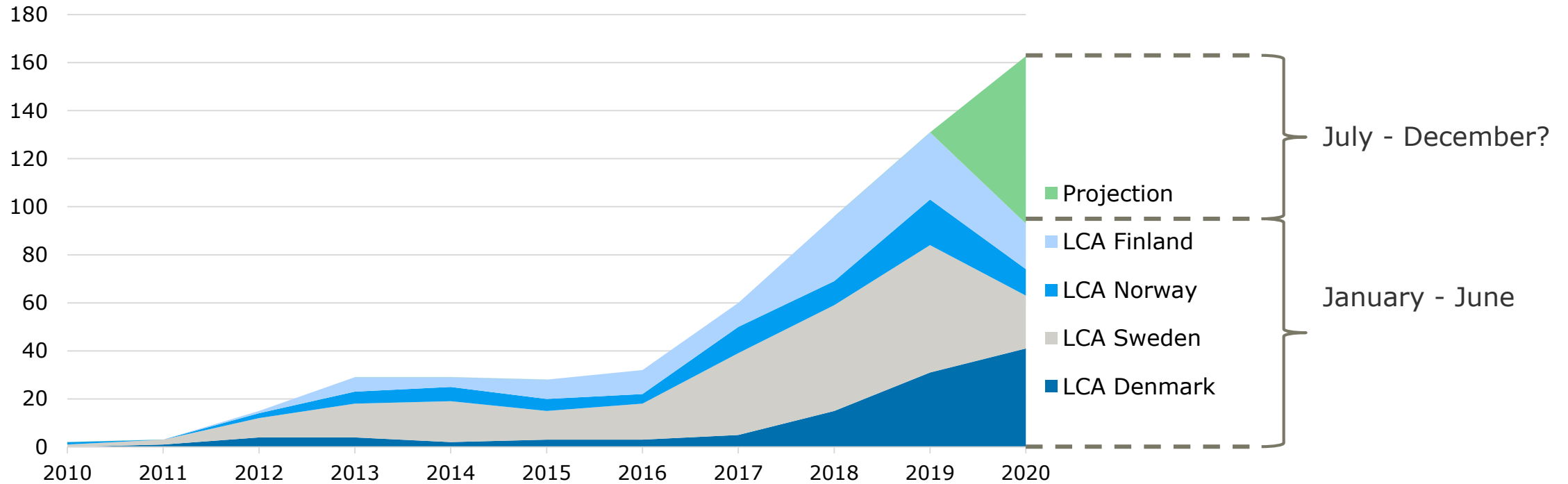
The WGBCs pioneering report demands radical **cross-sector** coordination to move the building sector towards a net zero future, and tackle embodied carbon emissions.

<https://www.worldgbc.org/bringing-embodied-carbon-upfront-report-webform>

SERVICES RELATED TO LCA - RAMBOLL

No. Of projects

Development in LCA services



NORDIC LCA COLLABORATION IN RAMBOLL

2018-2020

Sustainability and
digitisation development
project with focus on LCA

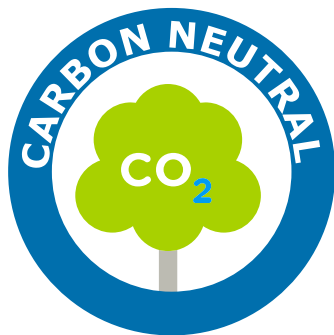


2020-2021

Taskforce in Ramboll
Buildings Division on Carbon
Neutral buildings.

Sub groups:

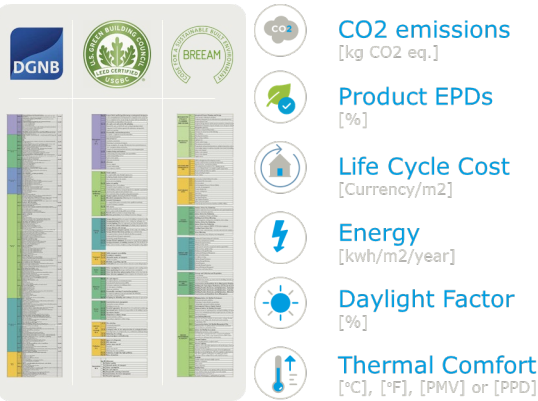
Embodied carbon
Operational carbon



INTERNAL DEVELOPMENT PROJECT FOR SUSTAINABLE BUILDINGS

TIME LINE

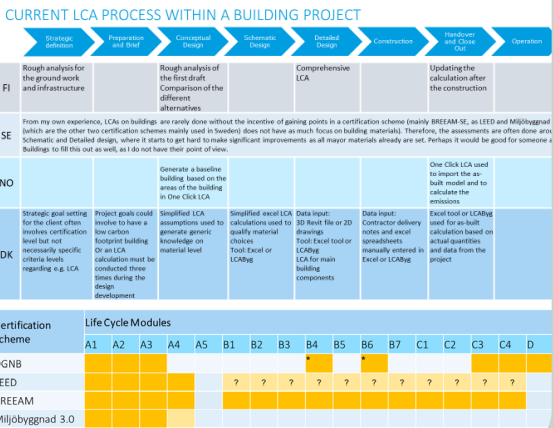
INITIAL RESEARCH



2018

Initial research on common sustainability aspects
Increasing focus on LCA

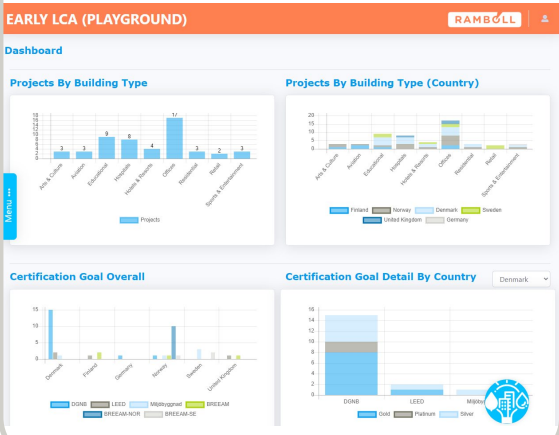
LCA RESEARCH



2019

LCA focus and research on methods, processes and service
Development of online LCA tool for early assessments

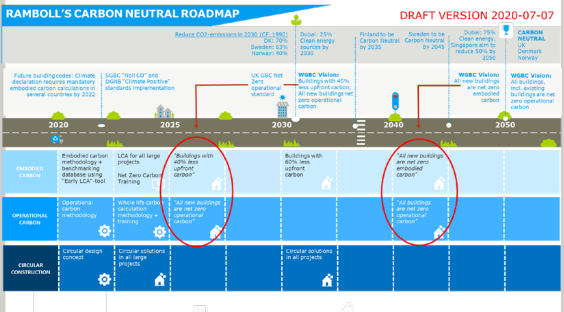
PILOT LCA TOOL



2020

Pilot Ramboll LCA tool and benchmark database

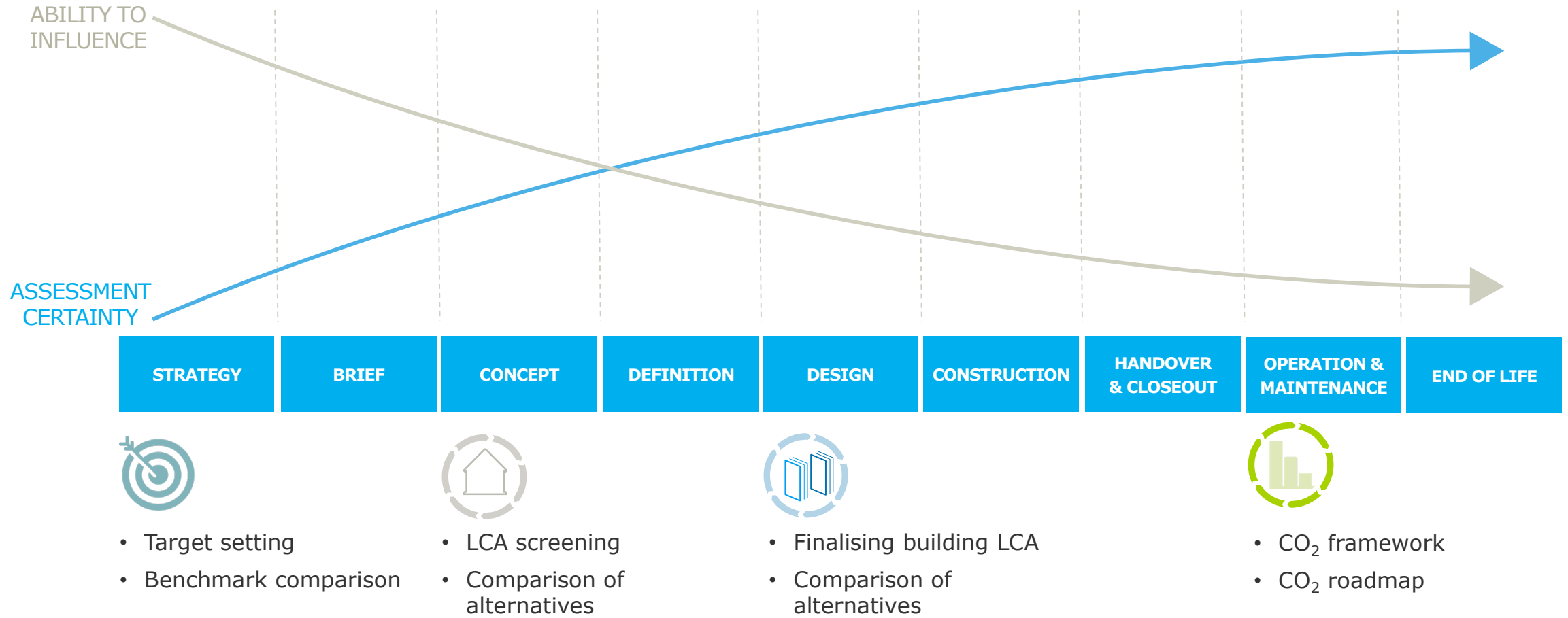
ROADMAP

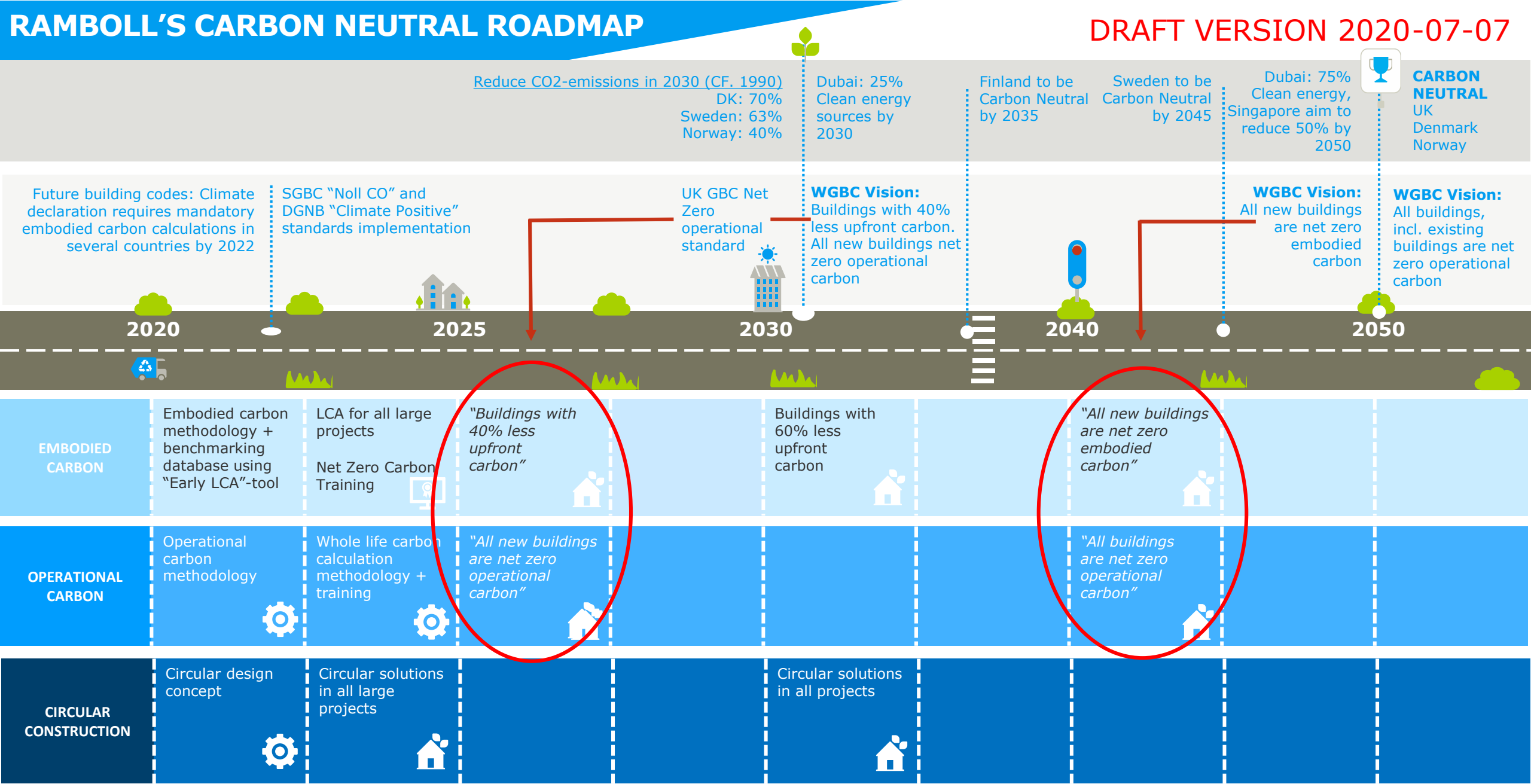


2020 →

Goalsetting for the future and development of internal standards and methods through the Carbon Neutral Buildings Taskforce

PROJECT WORKFLOW – RAMBOLL LCA AMBITION





CURRENT ISSUES



Lack of harmonised guidelines e.g. for early LCA scoping



Lack of guidelines for renovation



Different scopes across countries e.g. life cycle modules, life span of materials and components, level of detail



Different ways of measuring Gross Floor Area and different operational energy input e.g. some countries use projections for the national energy grid others don't

Difficult to compare
LCA data for buildings
across countries

FINAL REMARKS



Common database across the Nordic countries?



Harmonisation of regulation?



LCA tools allowing both brief and detailed assessments for early stage and final calculations



Focus on uncertainties through e.g. reporting data quality



Common guidelines for renovation and circular economy actions

QUESTIONS?



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Bright ideas. Sustainable change.

