

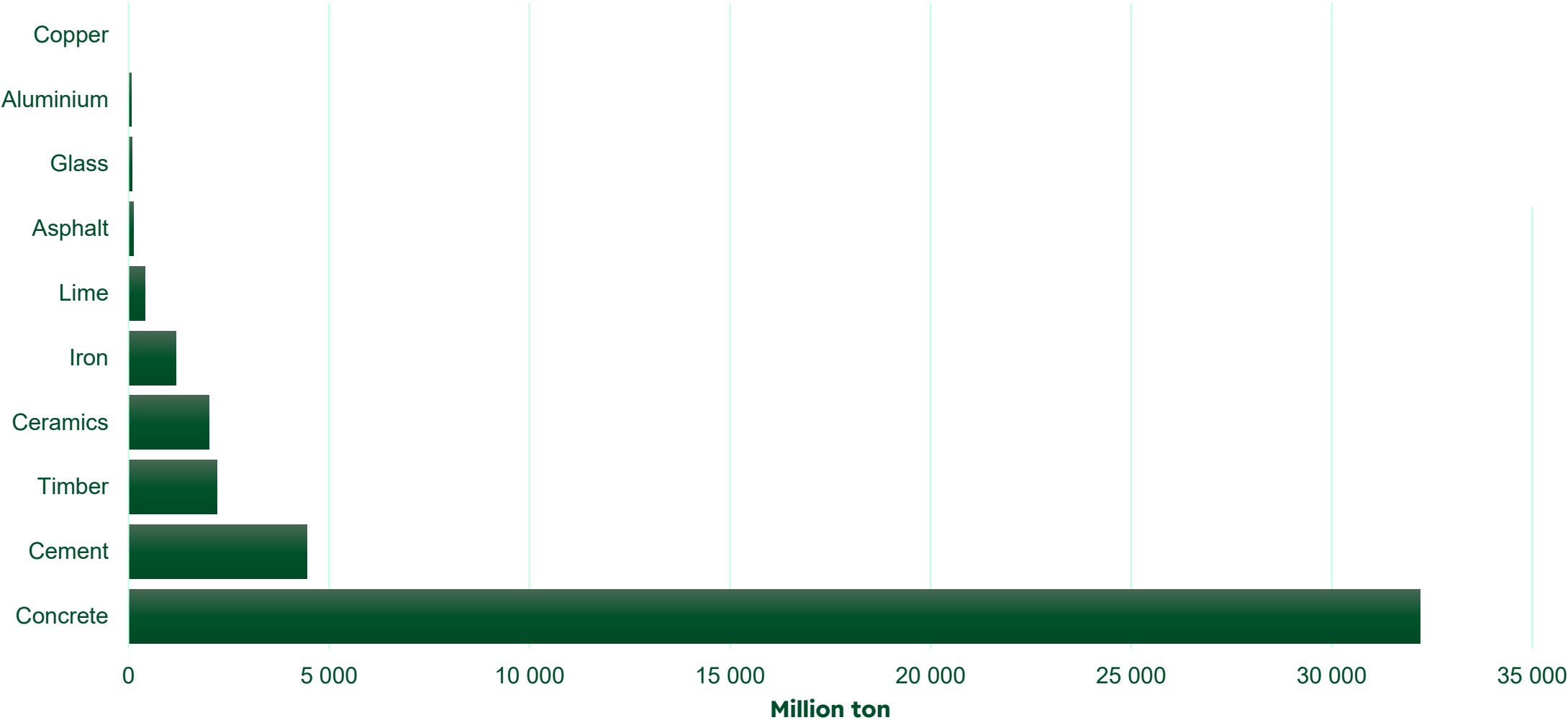
The world's first carbon capture plant in the cement industry

ISO/TC59 – Terje F. Rønning & Cecilie Nødtvedt
Oslo, 19.10.2026

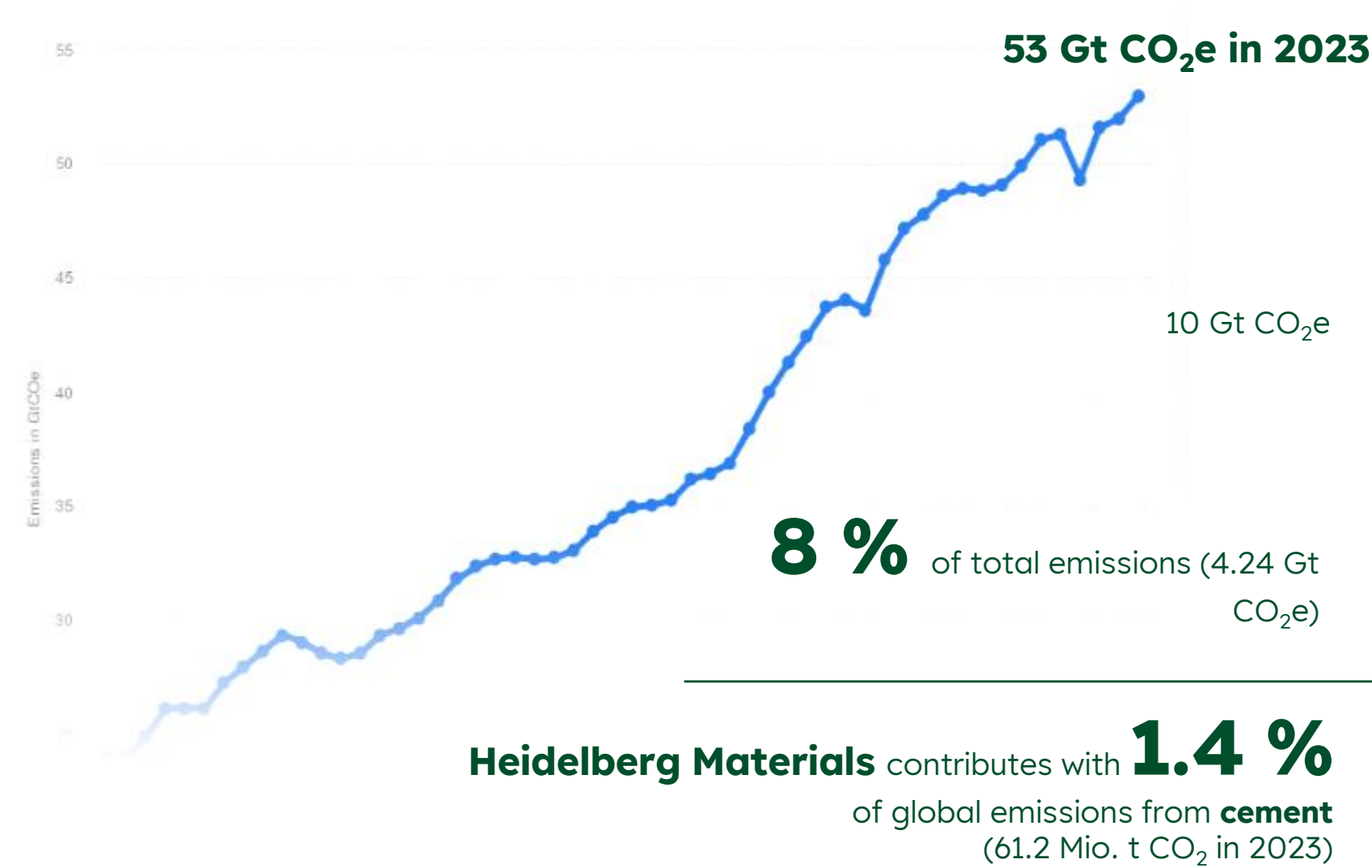
Heidelberg Materials



Concrete is – by far – the most produced material in the world



Our Contribution to Global Greenhouse Gas Emissions



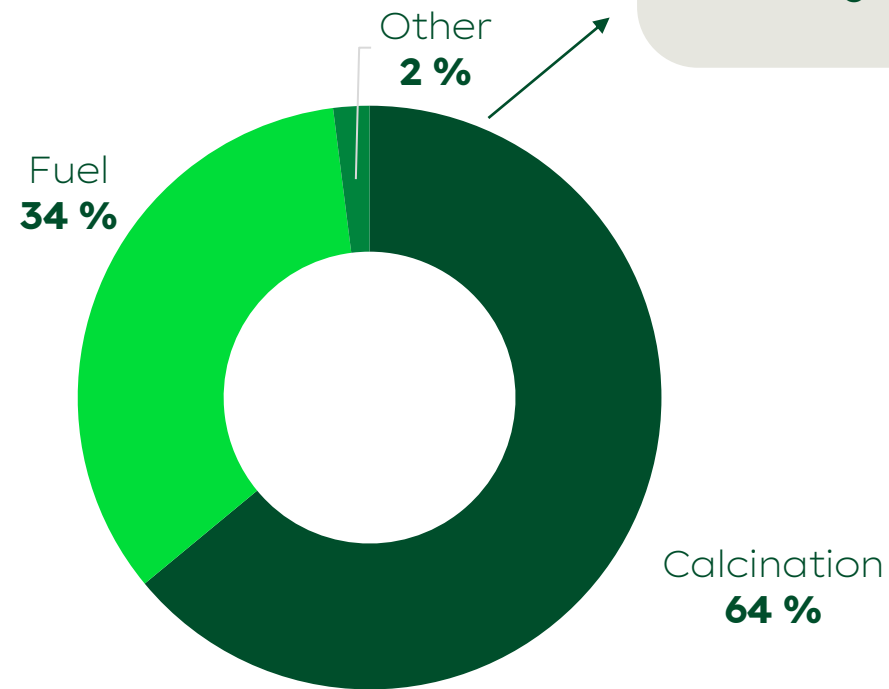
Global CO₂e

Construction Sector

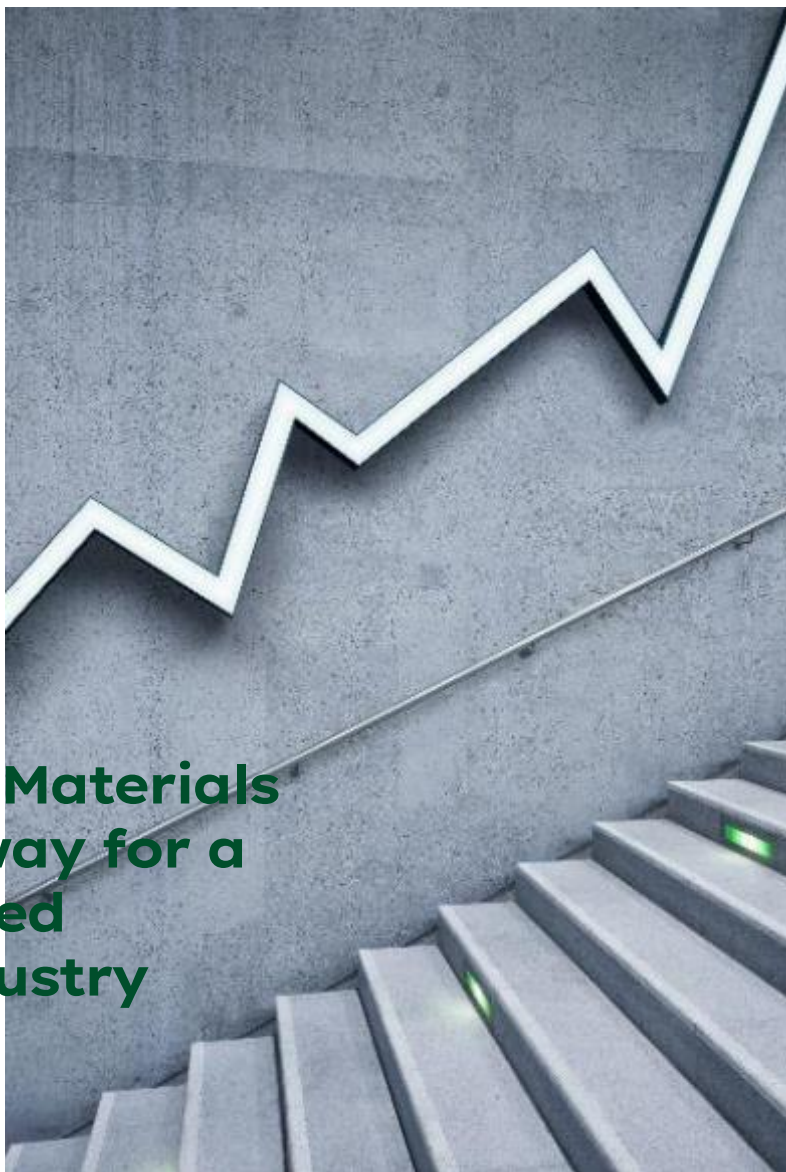
Cement Industry



Why cement production is CO₂ intense



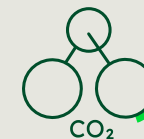
Heidelberg Materials paves the way for a decarbonized cement industry



Net-zero target



Heidelberg Materials
will reduce its global
carbon emissions to
net-zero by 2050



EU and IEA see
CCS as crucial
to reach net
zero targets



2030 carbon
footprint
reduction
target in line
with SBTi's 1.5°C
target



Longship

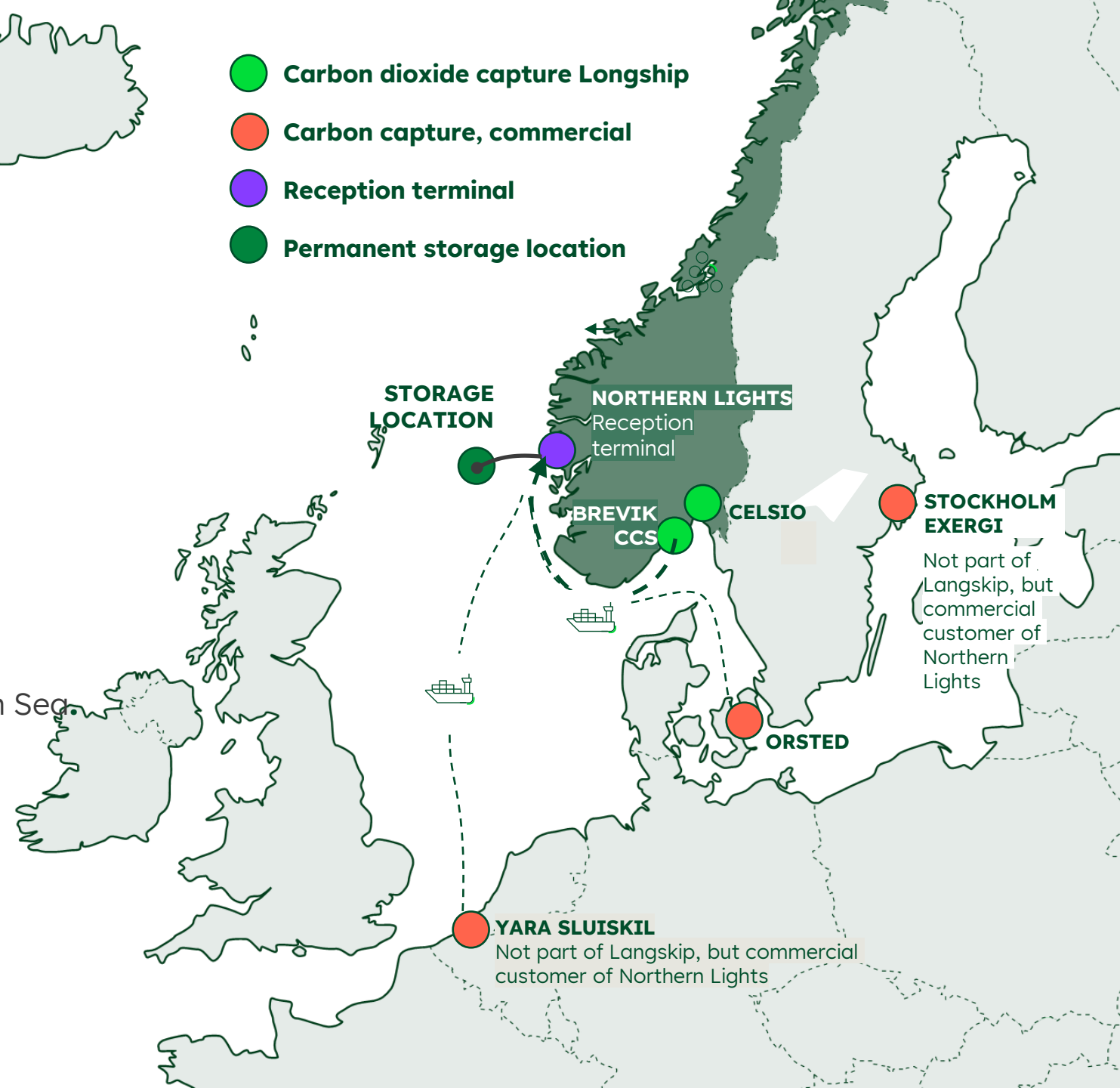
The Norwegian government's project to develop a full-scale CCS value chain.

01 | Carbon capture from **industrial emission sources**, including Brevik cement plant.

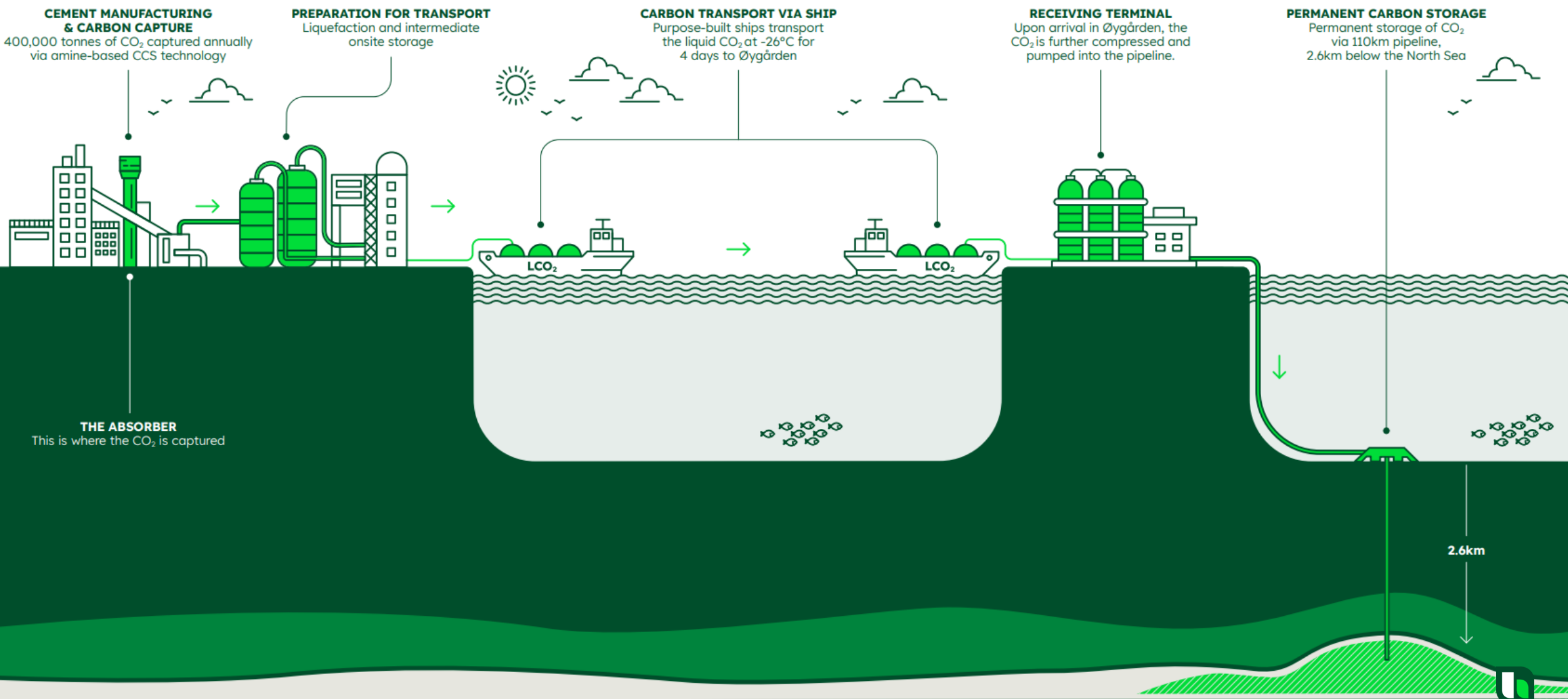
02 | Transport to Øygarden.

03 | Pipeline for permanent storage under the North Sea.

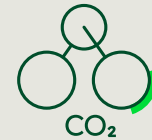
- Carbon dioxide capture Longship
- Carbon capture, commercial
- Reception terminal
- Permanent storage location



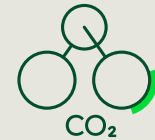
From capture to storage



Overview of Brevik CCS



400,000 tonnes
of CO₂ per year



55 tonnes
of CO₂ per hour



Capturing **50% of the plant's CO₂ emissions** – limited by
available waste heat



46 MW waste heat recovery – **ca 30 MW** from cement kiln, **16 MW** from **CO₂ compressor**

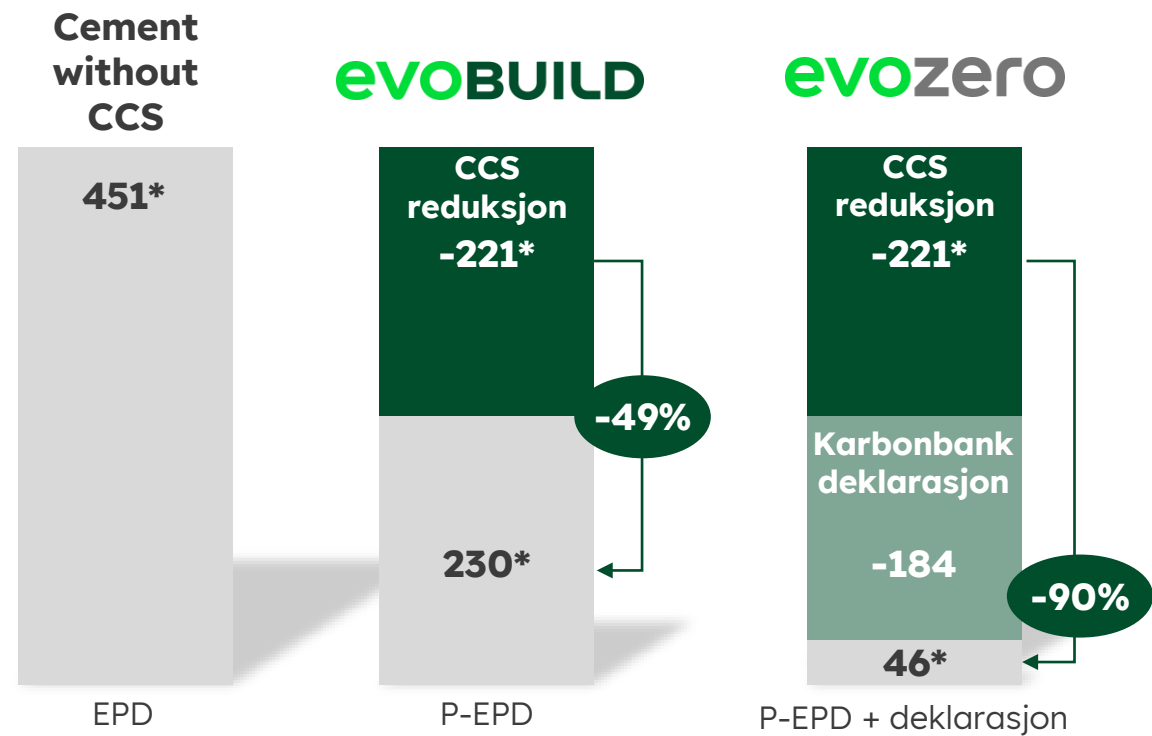




2. CCS marketing



How to create a market?



Green Premium strategy





3. Innovation and business enablers



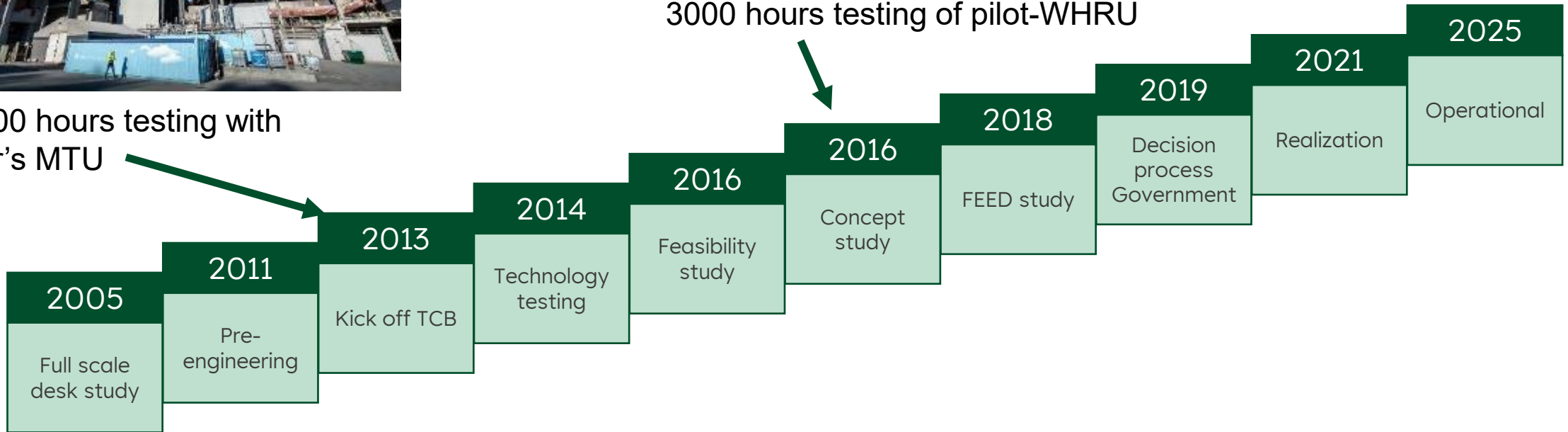
A long journey with many steps – URGENCY ???



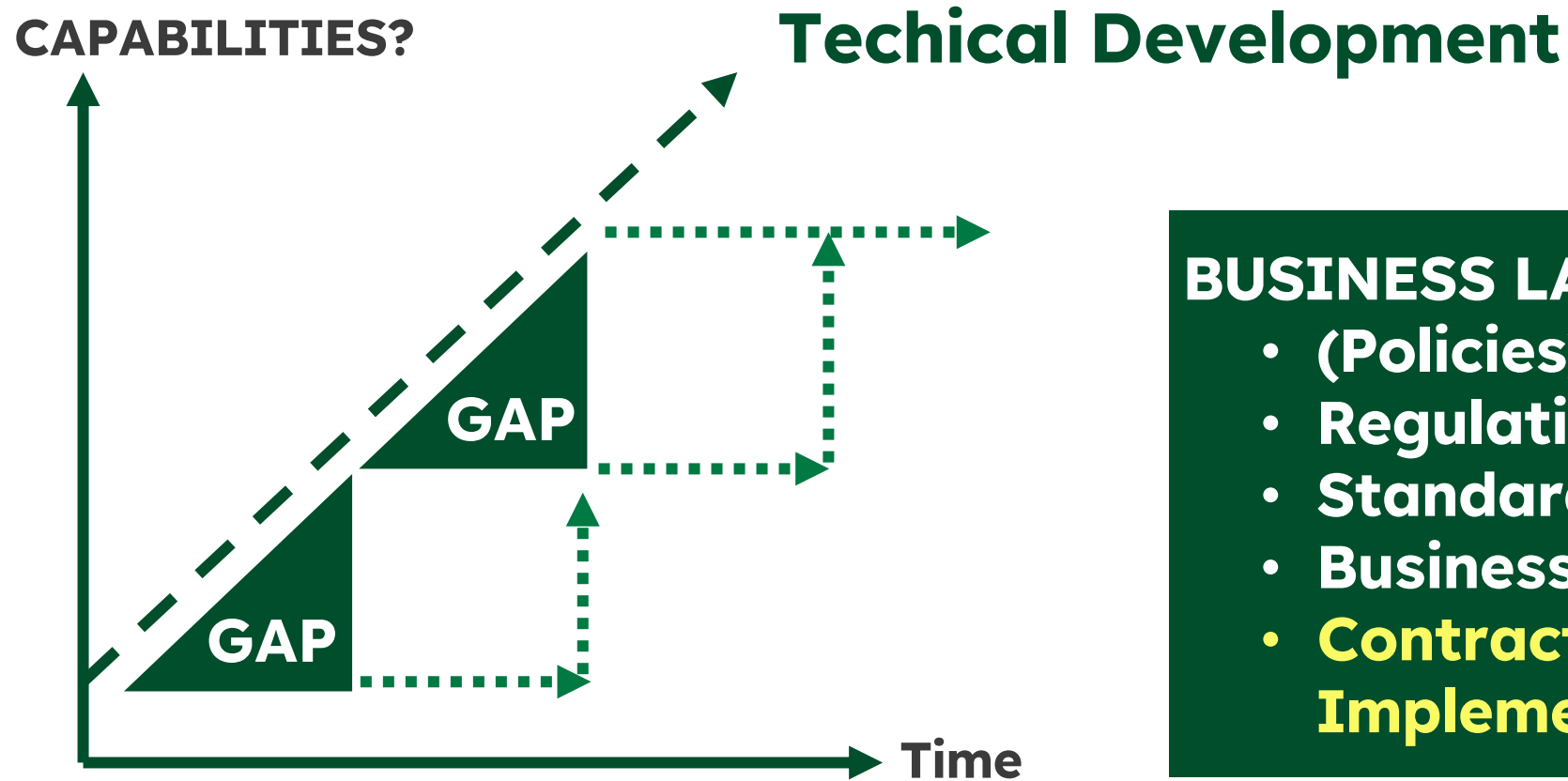
>7500 hours testing with Aker's MTU



3000 hours testing of pilot-WHRU



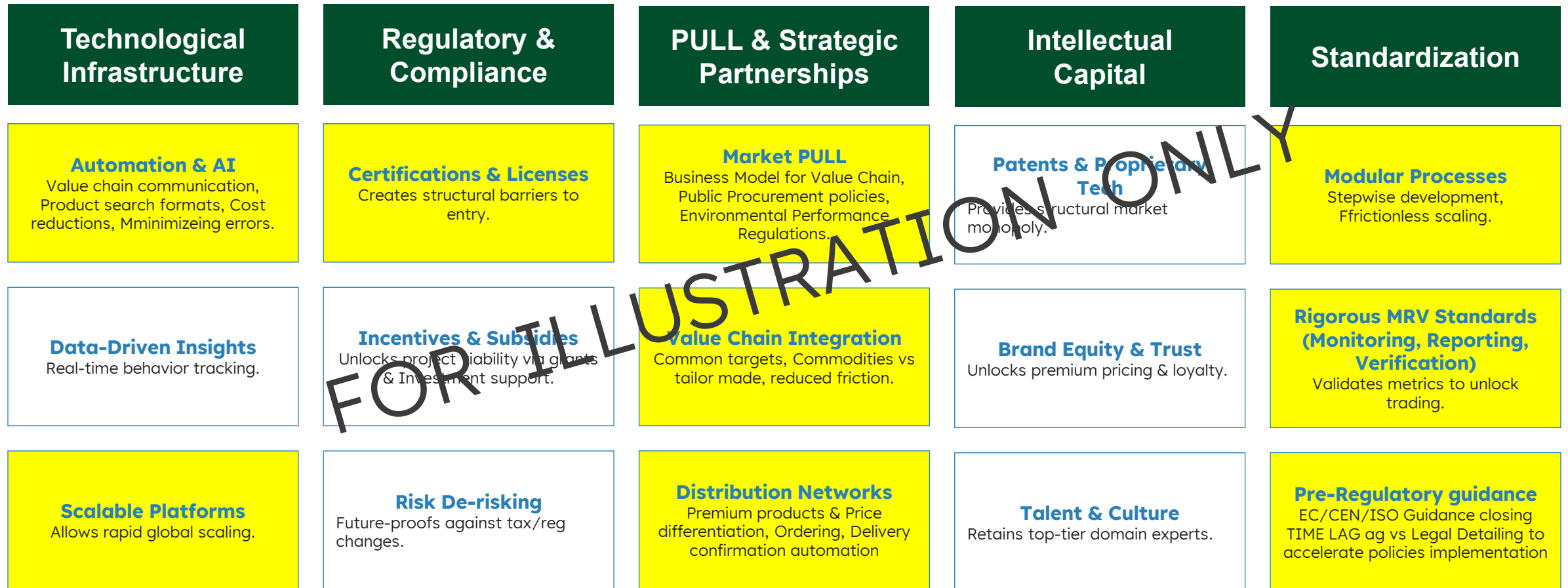
URGENCY - Need for rapid Innovation



BUSINESS LAGs

- (Policies)
- Regulations
- Standards
- Business models
- **Contracts & Implementation**

CCS Business Value Enablers – GAPS



FOR ILLUSTRATION ONLY



Ideation -> Legal -> Legal -> -> Business rules & VALUE ???

L 140/114

EN

Official Journal of the European Union

5.6.2009

DIRECTIVE 2009/31/EC OF THE EUROPEAN PARLIAMENT AND OF THE COUNCIL

of 23 April 2009

on the geological storage of carbon dioxide and amending Council Directive 85/337/EEC, European Parliament and Council Directives 2000/60/EC, 2001/80/EC, 2004/35/EC, 2006/12/EC, 2008/1/EC and Regulation (EC) No 1013/2006

(Text with EEA relevance)



**Like for Non-standardized Product Assessment
(EADs/ETAs – “Technical Approval”)**

**EU BUSINESS ACCEPTANCE DOCUMENTs (Business
Procedure) => EU BUSINESS ACCEPTANCE (Valid X Yrs)?**



Thank you for your attention.

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Heidelberg
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