



CSLF Technical Group Meeting Bergen 27 June 2022

Learnings from large scale projects

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Director Public Affairs HC NE

Cement represent 6 – 8% of total CO₂ emissions; 2/3 from the production process

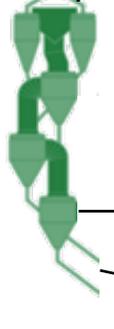
Sand & Gravel
 Split & Crushed Rock
 Limestone, Clay



Quarry



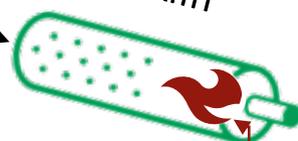
Cyclone
 preheater



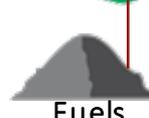
Calcliner



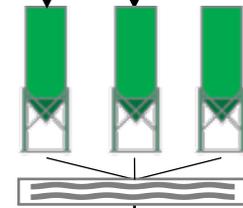
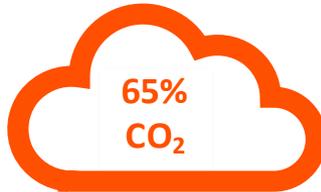
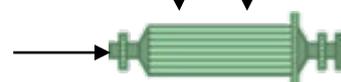
Kiln



Fuels



Ball mill



Concrete



Construction site



Other elements exist, e.g. carbonation hardening of concrete products.

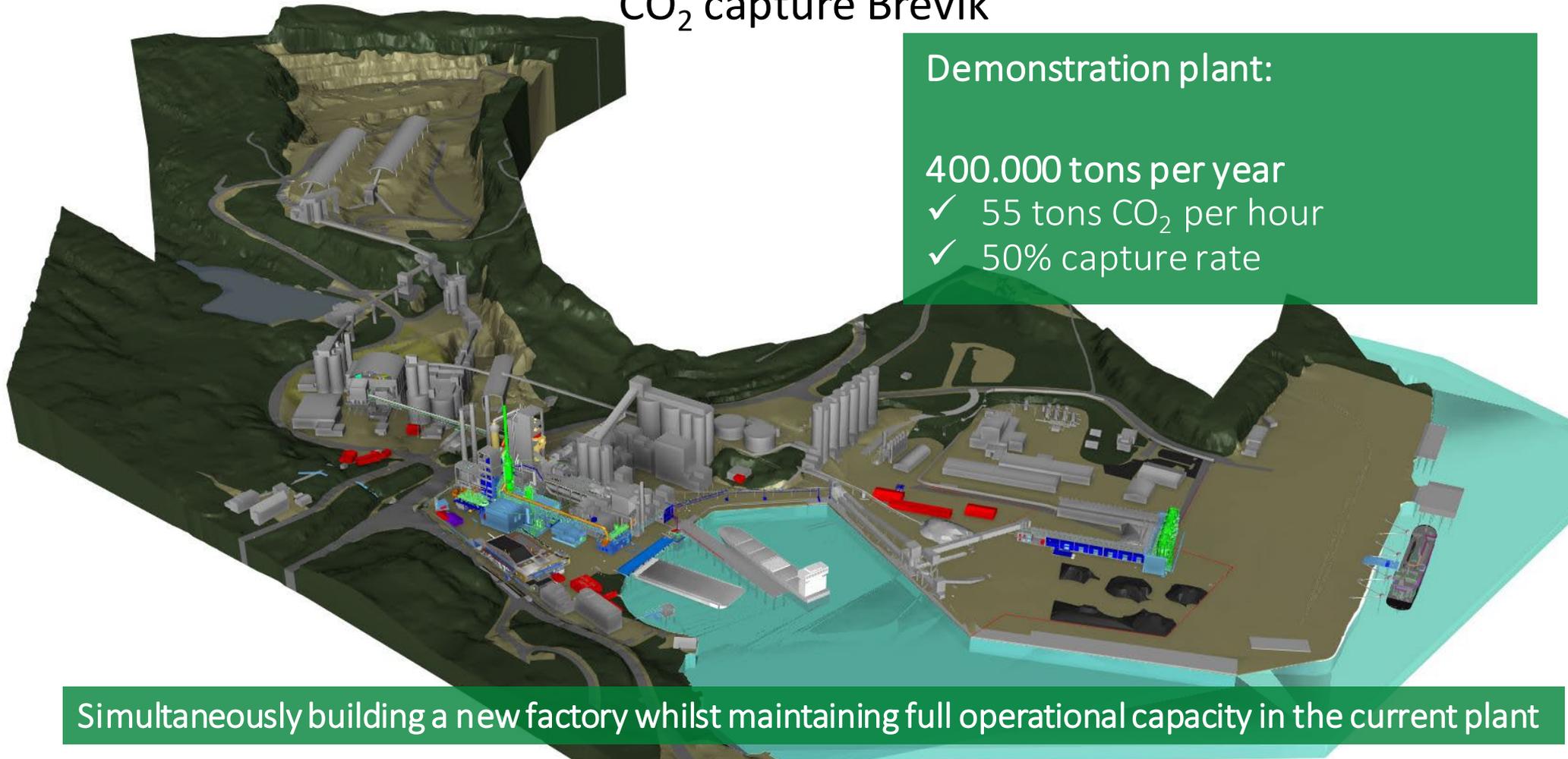
1) In addition: kiln efficiency, green hydrogen fuel, electrification of kilns.

CO₂ capture Brevik

Demonstration plant:

400.000 tons per year

- ✓ 55 tons CO₂ per hour
- ✓ 50% capture rate



Simultaneously building a new factory whilst maintaining full operational capacity in the current plant

We have started the journey towards 2024

Started
2021

Current status

2024



Demolition phase

Building phase

Testing phase

Estimated view July 2024



We have learned a lot ...

Organisation

- The project is much bigger than we had thought
- Long lasting project. Continuity re. critical personell
- Impotance of Interface meetings
- Start Commissioning as early as possible
- Requirements re. CO2 quality

Challenges/ Risk

- Public procurement an «unknown» area
- Ground works more challenging than assumed
- Covid-19 and War in Ukraine
- Price/cost development
- Area requirements and cost of changes
- Culture differences

Cost control

- Our responsibility: «Norwegian tax payer's money»
- Lump sum and Variation orders
- «We are in the middle»



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If you want to change the future,
you must start today!

Questions?