



NORWEGIAN CCS RESEARCH CENTRE

NCCS The Norwegian CCS Research Centre (NCCS)

The Impact of CCS research in Norway

Mona MølInvik, FME NCCS

FEnEx CRC CCS Workshop

2023-03-13



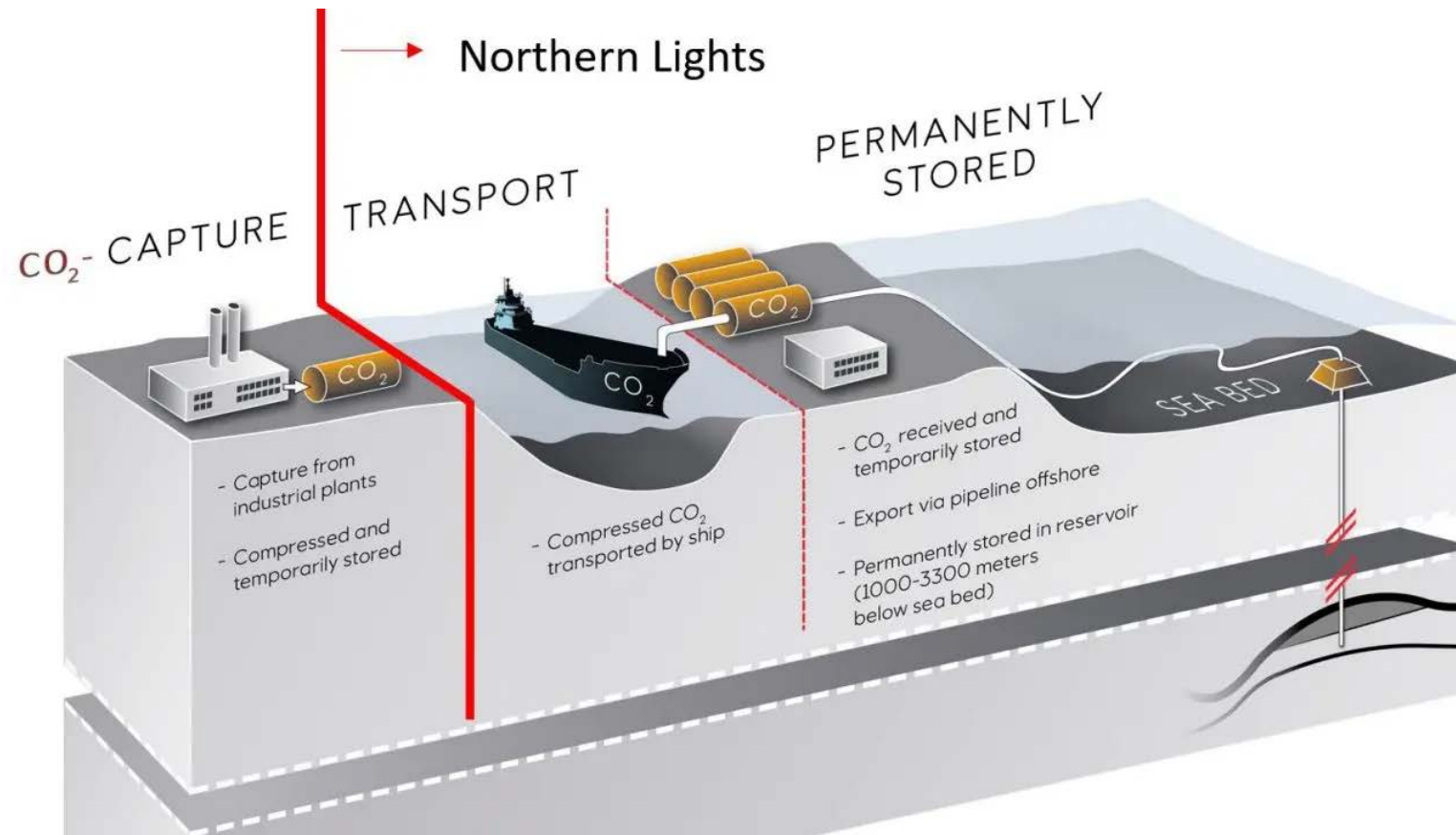


SINTEF



Teknologi for et bedre samfunn

The Longship project





‘No CCUS, No Green Deal’

CCUS Forum Oslo 2022

27-28 October 2022

‘Without CCS and CCU it will be practically impossible to limit global warming to 1.5 degrees Celsius objective’

Kadri Simson, EU Energy Chief

EU Commissions modelling indicates need to capture and store between **300 and 640 Mt CO₂/yr** by 2050



Mona Mølnevik, Director NCCS, panel debate on CDR



Ricarda Lang, leader of the German party Bündnis 90/Die Grünen



German economics and climate minister Robert Habeck (l) and Norwegian Prime Minister Jonas Gahr Støre

Centres for Environment-friendly Energy Research (FME)

1. Performs high-quality research
2. Wiends new bonds
3. Spins off innovation projects



Boosts innovation



NCCS Vision

NCCS will fast-track full-scale CCS deployment through industry-driven, science-based innovation, addressing the major barriers for CCS deployment identified within demonstration and industry projects

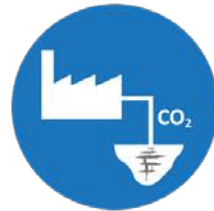
users



research institutes



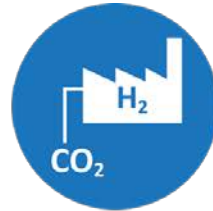
university



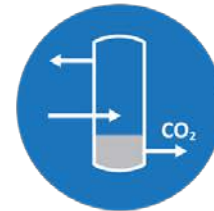
CO₂ value chain
and legal aspects



Solvent technology –
environmental issues



Low emission
H₂ production



Conditioning
through liquefaction



Gas turbines



CO₂ capture
process integration



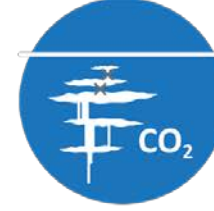
CO₂ transport



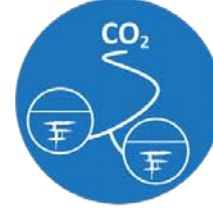
Fiscal metering and
thermodynamics



Structural
derisking



CO₂ storage site
containment



Reservoir
management
and EOR



Cost-efficient CO₂
monitoring technology

vendors



associated partners



Impacting the EU CCUS agenda

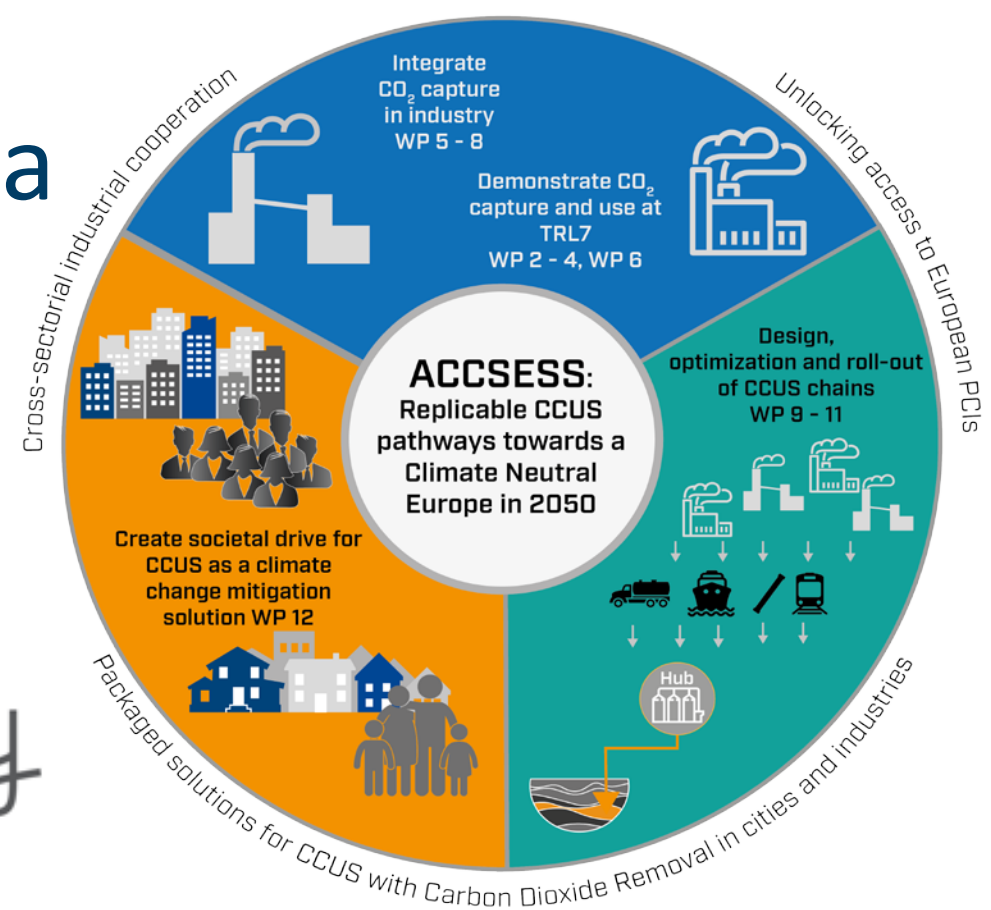
- Norwegian actors play different roles
- As research institute SINTEF see large potential in the Horizon Europe (Horizon 2020) European research programmes



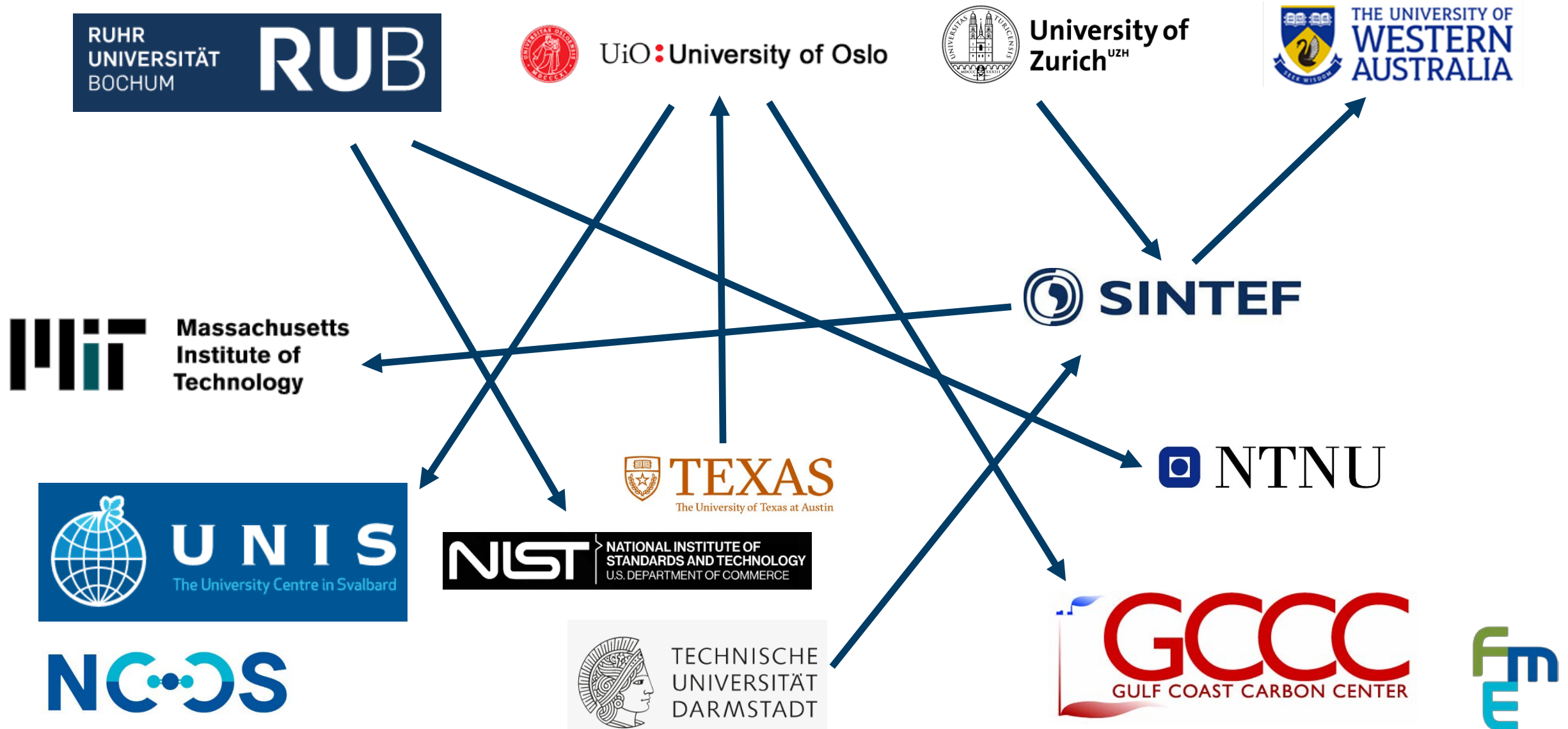
ELEGANCy



CEMCAP



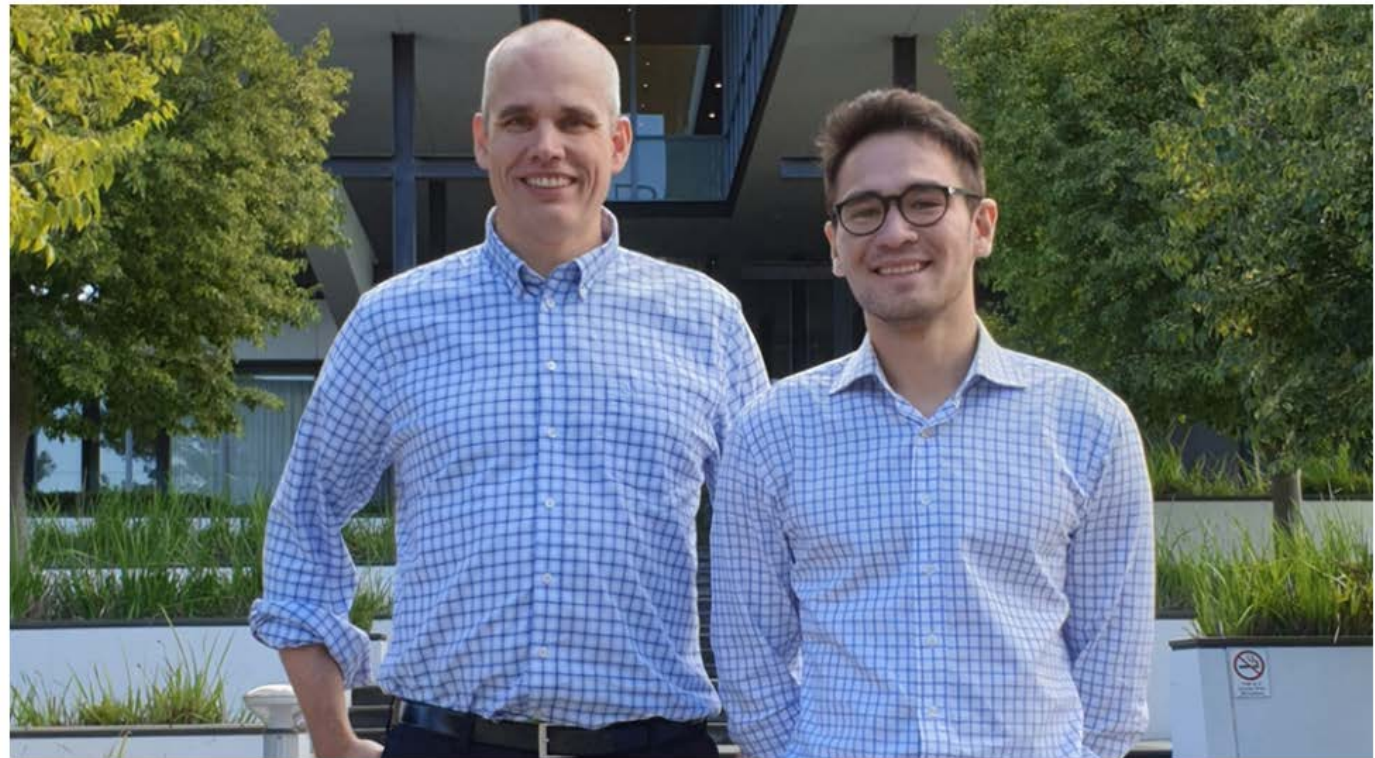
A Global Collaboration



I'ts all about people



Professor Eric May was visiting SINTEF Energy Research in 2018 as part of the work in NCCS Task 8 and ImpreCCS. The picture is taken in the CO2Mix-lab for accurate VLE measurements of CO2-rich mixtures.



Sigurd W. Løvseth of SINTEF Energy Research and Martin Khamphasith of UWA outside the ARRC research facility in Perth. They will continue the NCCS collaboration when Khamphasith goes to Trondheim in August.

Op-eds Outside of Norway

ENVIRONMENTAL
Science & Technology

pubs.acs.org/est



Article

Is Carbon Capture and Storage (CCS) Really So Expensive? An Analysis of Cascading Costs and CO₂ Emissions Reduction of Industrial CCS Implementation on the Construction of a Bridge

Sai Gokul Subraveti, Elda Rodríguez Angel, Andrea Ramírez, and Simon Roussanaly*



Cite This: <https://doi.org/10.1021/acs.est.2c05724>



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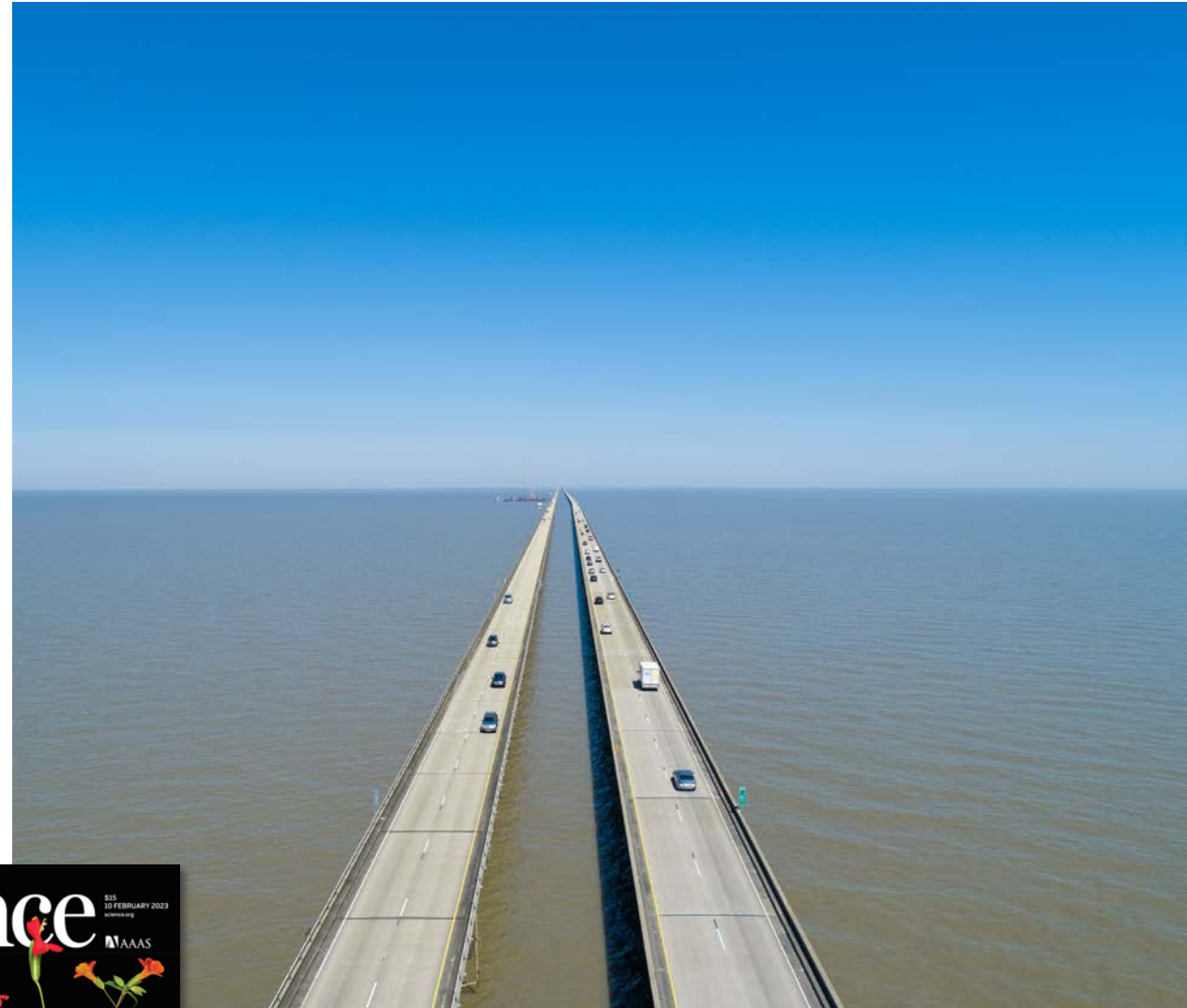
Supporting Information



You and 244 others

21 comments

NCSS



FME

The 12th Trondheim CCS Conference

<https://www.sintef.no/projectweb/tccs-12>

Date: June 19-21, 2023

Location: Trondheim, Norway

Objective: to bring forward, present and discuss work undertaken within R&D institutes, universities and in industry



A typical TCCS conference:

- 400-450 participants
- 150 oral presentations
- Five or six parallel sessions
- 100+ posters
- World-leading keynote speakers



Prof. May-Britt Hägg receives the NTNU-SINTEF CCS Award at TCCS-9

More relevant than ever:

- European Green Deal
- Fit for 55
- REPowerEU
- Net Zero2050 (IEA)
- IPCC WGs
- Longship Project (NOR)



PM Erna Solberg gave the opening speech at TCCS-11



Scope – Topics

- Pre-combustion capture
- Post-combustion capture
- Oxy-fuel capture
- CCS and hydrogen combinations
- CO₂ utilization
- CO₂ removal (CDR)
- Transport
- Storage
- International R&D activities
- Pilot and large-scale activities
- Novel technologies
- CCS in novel applications and mobility
- Public acceptance and communication
- CCS whole system issues
- Policy, legal and regulatory issues
- Business models





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NCCS: Norwegian CCS Research Centre

FME NCCS: An international research cooperation on CO₂ capture, transport and storage (CCS)
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