

PRO GRA MME

CLIMIT SUMMIT

25—28 FEBRUARY 2025



Bølgen Cultural Centre
Sanden 2, NO-3264 Larvik, Norway

TUESDAY 25 FEBRUARY

CDR Conference

BREAKOUT SESSIONS

What the DAC is going on? [Bølgen 1]

What is going on in BiCRS? [Bølgen 2]

What is going on in EM? [Bølgen 3]

WEDNESDAY 26 FEBRUARY

Side events

Main programme

CCS SPEED DATING

CO₂ Capture [Bølgen 1]

CO₂ Transport [Bølgen 2]

CO₂ Storage [Bølgen 3]

THURSDAY 27 FEBRUARY

Main programme

TECHNICAL SESSIONS

CO₂ Capture [Bølgen 1]

CO₂ Transport [Bølgen 2]

CO₂ Storage [Bølgen 3]

SITE VISITS

26 FEBRUARY

27 FEBRUARY

28 FEBRUARY

CDR Conference

Moderator: **Camilla Brox**

[Storsalen]

10:00 Opening of conference

- **Jørild Svalestuen**, *Gassnova*

10:05 Opening remarks

- **Kristin Myskja**, *Ministry of Energy, Norway*

10:15 Mission Innovation CDR Opening Remarks

- **Mark de Figueiredo**, *U.S Department of Energy*

10:30 The State of Carbon Dioxide Removal

- **Steve Smith**, *University of Oxford*

10:45 BREAK

11:15 Monitoring, Reporting, and Verification (MRV)

- **Paul Zakkour**, *Carbon Counts*

11:25 SMART-CDR Competition

Session host: **K Powe**, *CDR Mission, Mission Innovation*

- Keynote: **Fahad Alajlan**, *KAPSARC*

- Finalist student presentations and live voting for prize winners

13:15 LUNCH

14:00 Outlook on CDR

- **Julio Friedmann**, *Carbon Direct*

14:15 BREAKOUT SESSIONS

What is going on in DAC, BiCRS, and EM?

See separate programme:

- [What the DAC is going on?](#) [Bølgen 1]

- [What is going on in BiCRS?](#) [Bølgen2]

- [What is going on in EM?](#) [Bølgen 3]

15:30 BREAK

16:00 Opportunities and challenges in the Carbon Markets

Introduction: **Camilla Brox**

Update on Article 6.4 for CCS and CDR

- **Tim Dixon**, *IEAGHG*

Short introduction on CRCF and methodologies in EU

- **Kristin Jordal**, *ZEP repr. DG CLIMA Carbon Removals exp. group*

Authors: Aymeric Amand and Eadbhard Pernot

Update from the Voluntary Carbon Market

- **Ole Henrik Ree**, *Microsoft*

16:20 Roundtable

- **Ole Henrik Ree**, *Microsoft*

- **Margaret Mistry**, *Equinor*

- **Paul Zakkour**, *Carbon Counts*

- **Ellen Skarsgård**, *DNV*

- **Kristin Jordal**, *ZEP repr., DG CLIMA Carbon Removals exp. group*

17:00 Coalition building for CDR

Discuss building the structures and infrastructure needed to foster global CDR collaboration and support global deployment.

Session host: **Artur Runge-Metzger**, *State of CDR*

- **Asser Rasmussen Berling**, *Ministry of Climate, Energy and Utilities, Denmark*

- **Cody Evans**, *Breakthrough Energy Catalyst*

- **Norela Constantinescu**, *IRENA Innovation and Technology Centre*

- **Andy Lam**, *CarbonRun*

18:00 Summing up

- **Juho Lipponen**, *Coordinator of CEM CCUS and MI CDR*

18:10 YOUR OWN TIME

19:00 Finger food, Sanden

Announcement of the SMART-CDR Award winners

Remarks from:

- **Abdullah Alkhubdhiri**, *King Abdulaziz City for Science and Technology*

- **Amany Alshawi**, *King Abdulaziz City for Science and Technology*

- **Faisal Al Qurooni**, *Ministry of Energy in Saudi Arabia*

- **Hasan Muslemani**, *Oxford Institute for Energy Studies*

- **Hussein Hoteit**, *King Abdullah University of Science and Technology*

- **Kari-Lise Rørvik**, *Gassnova*

- **Mark De Figueirido**, *U.S Department of Energy*

- **Mike Carpenter**, *Inherit*

25 FEB. **BREAKOUT SESSION:**



What the DAC is going on? [Bølgen 1]

Moderator: **Mark de Figueiredo**, *U.S Department of Energy*

14:15 Status and opportunities for MI CDR
technical track on DAC R&D
- **Mark de Figueiredo**

Panel presentations

- **Adam Baylin-Stern**, *Carbon Engineering – Canada*
- **Einar Tyssen**, *Removr – Norway*

Author: *Rune Knotten*

- **K Ikegami**, *Planet Savers – Japan*
 - **Cody Evans**, *Breakthrough Energy Catalyst – United States*
-

14:45 Moderated discussion and questions
- **All panelists + audience**

15:25 Closing remarks
- **Mark de Figueiredo**

What is going on in BiCRS? [Bølgen 2]

MI CDR with examples from industry

Moderator: **Camilla Brox**

14:15 Status MI BiCRS

- **Jørild Svalestuen**, *Gassnova*
 - **Atul Sharma**, *AIST Japan*
-

14:20 - **Helene Mørne**, *Carbonor*

14:30 BiCRS in action today

- **Mike Carpenter**, *Co-CEO, Inherit Carbon Solutions*
 - **Ko Akiyama**, *Corporate Officer, Head of Energy Transformation – Europe, Sumitomo Corporation*
-

14:45 BECCS: Removing carbon for good

- **Gareth Johnson**, *Head of CCS Sustainability, Drax Group*
-

14:55 Perspectives for calculating CDR for BECCS

- **Hanne Lerche Raadal**, *NORSUS*
(*Norwegian Institute for Sustainability Research*)

Author: [Ingunn Saur Modahl](#)

15:05 Panel conversation

- **Hanne Lerche Raadal**, *NORSUS*
 - **Helene Mørne**, *Carbonor*
 - **Mike Carpenter**, *Inherit*
 - **Gareth Johnson**, *Drax Group*
-

25 FEB. **BREAKOUT SESSION:**



What is going on in EM? [Bølgen 3]

MI CDR with examples from industry

Moderator: **Rufaydah Alyamani**, *Ministry of Energy, Saudi Arabia*

14:15 Status in MI CDR

- **Faisal Al Qurooni**, *Ministry of Energy, Saudi Arabia*

14:25 Industry examples

In-situ Enhanced Mineralization

- **Edda Sif Pind Aradóttir**, *Carbfix, Iceland*

In-situ Enhanced Mineralization

- **Hussein Hoteit**, *KAUST, Saudi Arabia*

14:55 Challenges and Opportunities to Scaling
Enhanced Mineralization Projects Globally

- **Shannon Sterling**, *Carbon Run, Canada*

15:10 What is Going on in Enhanced Mineralization?

Future Directions for Enhanced Mineralization in the CDR Landscape

- **Dr. Naser Odeh**, *KAPSARC*

15:25 Summary and closing remarks

- **Rufaydah Alyamani**, *Ministry of Energy, Saudi Arabia*

WEDNESDAY 26 FEBRUARY



Side events

08:30—09:30	CO₂ Storage	(Bølgen 1)
08:30—09:45	Technology Centre Mongstad (TCM)	(Bølgen 2)
08:30—11:00	CCUS Standardization	(Bølgen 3)
10:00—11:00	ECCSEL ERIC	(Bølgen 1)
10:00—11:00	ACT/CETP	(Bølgen 2)
11:00	LUNCH	[Common area]

[More information](#)

Main programme

11:00 LUNCH

[Common area]

Moderator: **Kari-Lise Rørvik**, *Gassnova*

[Storsalen]

11:50 Welcome

- **Arvid Nøttveit**, *Chair CLIMIT's Programme Board*

12:00 Live CO₂ storage

- **Jan Martin Nordbotten**, *University of Bergen*

12:10 CLIMIT 20 years

- **Terje Aasland**, *Norwegian Minister of Energy*

Panel session:

- **Rosalinde van der Vlies/Jeroen Schuppers**, *European Commission*

- **Charlotte Powell**, *UK Department for Energy Security and Net Zero*

- **Mark Ackiewicz**, *U.S Department of Energy*

13:10 STATUS LONGSHIP – full-scale CCS demonstration

13:10 - **Henrik Ohrt**, *Northern Lights*

- **Vetle Houg**, *Brevik CCS*

- **Martin S. Lundby**, *Hafslund*

13:50 Carbon Capture - From tailor made to product

- **Åse Marit Hansen/Henke Erichsen**, *SLB Capturi*

14:00 BREAK

Moderator: **Tim Dixon**, *IEAGHG*

[Storsalen]

14:40 What are the key areas of Research, Development & Innovation in CCS toward 2040?

Breaking Carbon Boundaries: Europe's Competitiveness in CCS Research and Development

- **Aymeric Amand**, *Zero Emissions Platform (ZEP)*

- **Mona Mølnvik**, *FME gigaCCS*

Conversation with short introductions:

- **Netherlands** – Martijn van de Sande, *RVO*

- **Norway** – William Christensen, *Ministry of Energy*

- **Saudi Arabia** – Abdullah Alkhedhair, *King Abdulaziz City for Science and Technology*

- **UK** – Charlotte Powell, *Dept. for Energy Security and Net Zero*

- **U.S** – Amanda Raddatz Bopp, *U.S Department of Energy*

15:45 BREAK

Moderator: **Kari-Lise Rørvik**, *Gassnova*

[Storsalen]

16:15 CLIMIT toward 2030

- **Trond Moengen**, *Chair of the Gassnova board*

- **Eva Falleth**, *The Research Council of Norway*

16:45 CCS Speed dating

16:45 CO₂ CAPTURE [Bølgen 1]

CO₂ TRANSPORT [Bølgen 2]

CO₂ STORAGE [Bølgen 3]

18:30 YOUR OWN TIME

19:15 Dinner at Farris Bad

CO₂ Capture [Bølgen 1]

NEW CAPTURE CONCEPTS

Moderator: **Erik Gjernes**, *Gassnova*

- 16:45 Status Compact Carbon Capture
- **Torleif Kongsbakk Madsen**, *Baker Hughes*
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- 16:55 MeDORA - Membrane technology to reduce amine degradation and improve CO₂ quality
- **Luca Ansaloni**, *SINTEF*
-
- 17:05 HAl Zero – zero emission technology for Al smelters
- **Espen Wefring**, *Hydro*
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MEMBRANES AND ADSORBENTS

Moderator: **Erik Gjernes**, *Gassnova*

- 17:15 Membrane-based solutions for CCUS in shipping
- **Saravanan Janakiram**, *Aqualung Carbon Capture*
-
- 17:25 Membrane testing at Returkraft Waste-to-Energy plant
- **Ketil Bergman**, *Returkraft*
-
- 17:35 Sorbent-based CO₂ Capture: Challenges and outlook
- **Anna Lind**, *SINTEF*
Authors: Richard Blom, Shreenath Krishnamurthy, Roberto Mennitto, Schalk Cloete, Giorgia Mondino
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VALUE CHAINS

Moderator: **Erik Gjernes**, *Gassnova*

- 17:45 Optimal value chain for CCS cluster at Norwegian west coast
- **Tiril Fjeld**, *CCS Haugalandet*
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- 17:55 CO₂ capture onboard ships (Everlong)
- **Ragnhild Skagestad**, *SINTEF*
-
- 18:05 Value chain for small scale CO₂ emitters
- **Audun Aspelund**, *Lyse*
-
- 18:15 Socio-technical drivers, opportunities and challenges for large-scale CCUS
- **Tuukka Mäkitie**, *SINTEF*
Author: Markus Steen
-

CO₂ Transport [Bølgen 2]

MONITORING AND SIMULATION

Moderator: **Ernst Petter Axelsen**, *Gassnova*

16:45 IntoCloud: experimental data and validated models for leakage and dispersion of CO₂
- **Hans Langva Skarsvåg**, *SINTEF Energy*

16:55 Will hydrogen take off?
- **Norbert Hoyer**, *Schlumberger Information Solution AS*

17:05 CO₂ two-phase flow in pipelines and wells
- **Zhilin Yang**, *Equinor*

VALUE CHAIN

Moderator: **Ernst Petter Axelsen**, *Gassnova*

17:15 Novel CO₂ mass-meter solving gaps for large-scale CCS
- **Martin Nese**, *Cignus Instruments AS*

17:25 Monitoring of CCS Networks
- **Yessica Arellano**, *SINTEF Energy*

17:35 CO₂LOS IV
- **Ragnhild Skagestad**, *SINTEF Industry*

CO₂ SPECIFICATIONS AND CORROSION

Moderator: **Ernst Petter Axelsen**, *Gassnova*

17:45 CO₂ effect on polymeric materials within the CO₂ transport chain
- **Ben Alcock**, *SINTEF Industry*
Authors: Vilde Andreassen, Luca Ansaloni, Thijs Peters

17:55 Effect of impurities on chemical reactions and corrosion in CCS streams
- **Gaute Svenningsen**, *IFE*
Authors: Bjørn Helge Morland, Arne Dugstad, Shivangi Gupta

18:05 H₂S in CO₂ pipelines
- **Klas Solberg**, *DNV*
Authors: Riccardo Rizzo, Yun Deng, Bente Leinum, Kari Lønvik, Erling Østby, Gustav Heiberg

18:15 Discussions about CO₂ specification

CO₂ Storage [Bølgen 3]

MONITORING AND SIMULATION

Moderator: **Aage Stangeland**, *Research Council of Norway*

16:45 Sparse Passive-Active Reservoir monitoring
- **Peder Eliasson**, *SINTEF*

Author: Michael Jordan

16:55 The SHAPE project improves seafloor depth monitoring
- **Ola Eiken**, *Quad Geometrics Norway AS*

17:05 RamonCO – A Risk-based Approach to Accelerate CO₂ Storage
- **Kirsti Midttømme**, *NORCE*

Author: Arvid Nøttveit

WELL

Moderator: **Kristian Stangvik**, *Gassnova*

17:15 Securing gigaton CO₂ Storage: Advanced Characterization for near Well Integrity and Leak Detection
- **Amir Ghaderi**, *SINTEF*

17:25 CO₂DataShare - Driving Climate Action with Shared Data
- **Grethe Tangen**, *SINTEF*

Author: Odd Andersen

17:35 Unloading system for direct CO₂ injection
- **Christian Falck**, *Nemo Maritime AS*

17:45 Development of new technology for real-time logging of formation resistivity for core drilling Equipment
- **Per Erik Berger**, *CoreAll AS*

RESERVOIR AND CAPROCK

Moderator: **Aage Stangeland**, *Research Council of Norway*

17:55 Leveraging Under-utilized Shale Data for Better CO₂ Containment Risk Evaluation
- **Jung Chan Choi**, *NGI*

18:05 THERMESI – Taking the temperature on CO₂ storage
- **Tore Ingvald Bjørnarå**, *NGI*

Authors: Peter Betlem, Halvard Smith, Sparsha Nagula

SOCIAL SCIENCE

18:15 Value chains for CO₂ storage and blue hydrogen in Europe
- **Rolf Golombek**, *Frischsenteret*

Authors: Kine Josefine Aurland-Bredesen, Mads Greaker

Main programme

Moderator: **Kari-Lise Rørvik**, *Gassnova*

[Storsalen]

08:45 Welcome, day 2

08:50 Artificial Intelligence (AI)

- **Julio Friedmann**, *ICEF on Artificial Intelligence*

09:00 International Collaboration

Mission Innovation (MI) and Clean Energy Ministerial (CEM) CCUS

- **Juho Lipponen**, *Coordinator of CEM CCUS and MI CDR*

09:10 European Research Infrastructure for CO₂ Capture, Utilisation, Transport and Storage

- **Klaus Tobias Mosbacher**, *ECCSEL ERIC*

09:20 European Plan for R&D

- **Marie Bysveen**, *SINTEF*

09:30 BREAK

– go to the technical sessions

10:00 Technical sessions

- **CO₂ Capture** (Bølgen 1)

- **CO₂ Transport** (Bølgen 2)

- **CO₂ Storage** (Bølgen 3)

11:00 BREAK

[Common area]

Moderator: **Olav Øye**, *Bellona*

[Storsalen]

11:45 Knowledge sharing across borders

Collaborating for a Net-Zero Future

- **Jarad Daniels**, *Global CCS Institute*

Conversation with short introductions:

- **Jon Christoffer Knudsen**, *SLB Capturi*

- **Hussein Hoteit**, *King Abdullah University of Science and Technology*

- **Jannicke Gerner Bjerkås**, *Hafslund Celsio*

- **Pia Prestmo**, *Heidelberg Materials*

- **Adam Baylin-Stern**, *Carbon Engineering*

12:50 Closing remarks

- **Kari-Lise Rørvik**, *Gassnova*

13:00 LUNCH

[Common area]

CO₂ Capture [Bølgen 1]

Moderator: **Jørild Svalestuen**, *Gassnova*

10:00 CCS in Elkem Climate Roadmap - Status and way forward
- **Trond Sæterstad**, *Elkem*

10:15 A Climate Cure for Waste-to-Energy
- **Audun Aspelund**, *Lyse*

10:30 Drinking Water Levels of Nitrosamines and Nitramines near a CO₂ Capture Plant
- **Cathrine Brecke Gundersen**, *NIVA*

Authors: Armin Wisthaler, Massimo Cassiani, Magnus D. Norling, Aina C. Wennberg, François Clayer, Peter Dörsch, Muhammad Zeeshan, Marius Tednes, Nadya Leviana

10:45 Heat recovery and CO₂ capture for the ferroalloy industry
- **Kristin Jordal**, *SINTEF*

Authors: Halvor Dalaker, Fu Chao, Luca Riboldi, Trond Andresen, Magnus Windfeldt, Jana Jakobsen

11:00 **BREAK**

[Common area]

27 FEB. **TECHNICAL SESSIONS:**



CO₂ Transport [Bølgen 2]

Moderator: **Ernst Petter Axelsen**, *Gassnova*

10:00 Roadmap for CO₂ infrastructure – how to develop a sustainable and efficient transport network in Norway?

- **Ragnhild Skagestad**, *SINTEF Industry*

Author: Kristin Jordal, SINTEF Energy

10:15 CO₂ logistic in Northern Norway

- **Ragnhild Skagestad**, *SINTEF Industry*

10:30 CO₂Flow - Advancing LedaFlow to enable transport and injection of CO₂

- **Jan Gerhard Nordstrøm**, *Leda Flow*

Authors: Grethe Tangen, Jørn Kjølaas, Ivar Eskerud Smith, Ludivine Rossvoll, Wouter Dijkhuizen

10:45 Data and models to optimize maritime CO₂ transport and offshore injection

- **Svend Tollak Munkejord**, *SINTEF Energy*

11:00 **BREAK**

[Common area]

27 FEB. **TECHNICAL SESSIONS:**



CO₂ Storage [Bølgen 3]

Moderator: **Kristian Stangvik**, *Gassnova*

10:00 Barrier Testing for Subsea Carbon Storage:
Towards Umbilical-Free Operations
- **Sören Ulonska**, *Vedeld AS*

10:15 Well control for CO₂ wells, risk for blowout?
- **Sven Inge Ødegård**, *eDrilling AS*

10:30 PERBAS – Permanent sequestration of gigatons of CO₂ in continental
margin basalt deposits
- **Stéphane Polteau**, *IFE*

10:45 Improvements in digital technology to address
the broad challenges of multi-site CO₂ injection
- **Sarah Gasda**, *NORCE*

11:00 **BREAK**

[Common area]

SITE VISITS



26 February

08:00—10:30 **Brevik CCS** (Cement plant) **Group 1**

BUS: *BØLGEN—BREVIK—BØLGEN*

08:45—11:15 **Brevik CCS** (Cement plant) **Group 2**

BUS: *BØLGEN—BREVIK—BØLGEN*

SITE VISITS



27 February

09:30—11:45 **Brevik CCS** (Cement plant)
MoU US&Norway – *by invitation only*

BUS: BØLGEN—BREVIK—BØLGEN

14:15—17:30 **Brevik CCS** (Cement plant)

BUS: BØLGEN—BREVIK—SANDEFJORD AIRPORT

SITE VISITS



28 February

08:00—13:30 **Technology Centre Mongstad (TCM)**

BUS: BERGEN BUS STATION—TCM—BERGEN AIRPORT

08:00—13:30 **Northern Lights (CO₂ Hub)**

BUS: BERGEN BUS STATION—NORTHERN LIGHTS—BERGEN AIRPORT

08:30—11:30 **Hafslund Celsio (WtE)**

BUS: OSLO CENTRAL STATION—HAFSLUND CELSIO—OSLO CENTRAL STATION