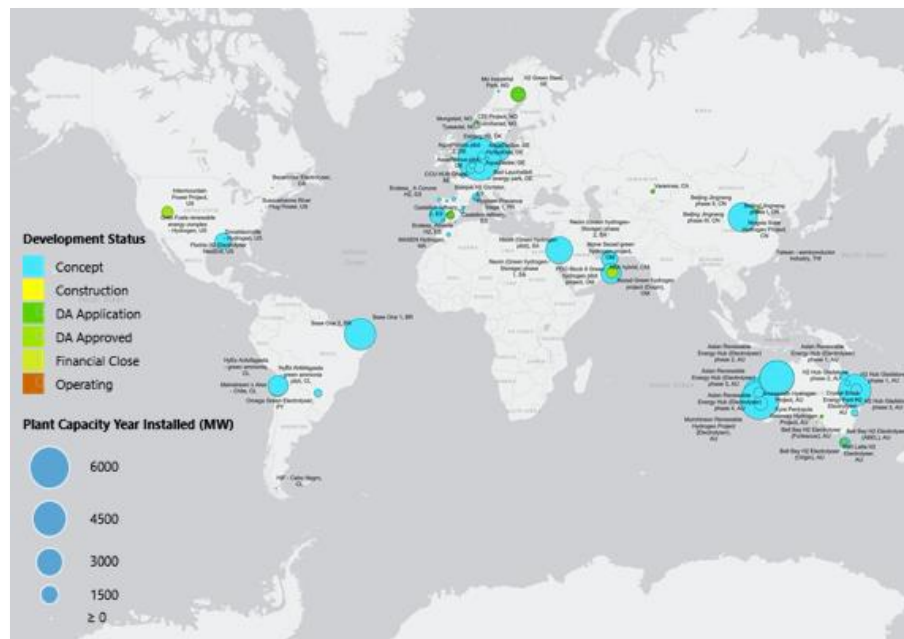


Norwegian Energy Symposium H₂ & CCS Solutions and Technologies

Norwegian Energy Partners, in collaboration with the Norwegian Embassy in Canberra, is hosting a Virtual Energy Symposium 9-10 November 2021 with focus on the **Hydrogen (H₂) and Carbon Capture and Storage (CCS)** value chains.

Norwegian companies, research institutes, and universities have over the last decades developed strong competence and experience in H₂ and CCS technologies. Both sectors form a key part of Norway's decarbonisation strategy.

The Australian government's Clean Technology Roadmap announced the first [Low Emissions Technology Statement](#) in Sep 2020. **H₂ and CCS** were 2 of the 5 Priority areas in this Statement. Australia is now seeing an unprecedented activity level in these two sectors, Hydrogen and CCS. According to Rystad Energy, the Hydrogen electrolyser pipeline in Australia is one of the largest globally.



Green hydrogen announced projects (MW)

Source: Rystad Energy RenewableCube

Since H₂ and CCS are important focus areas for both Norway and Australia, with growing expertise and capabilities in both countries, collaboration in these areas could assist in accelerating our respective decarbonisation efforts.

The objective of this Symposium is two-fold;

1. Showcase Norwegian expertise and solutions within the Hydrogen and CCS value chain
2. Promote collaboration between Norwegian and Australian stakeholders in the Hydrogen and CCS sectors

AGENDA

Please note, times are **AEDT** [CET +10hrs]

9 November – HYDROGEN

This session will cover the entire green hydrogen value chain from production to transportation, distribution, storage and utilisation.

14:00 Opening

AEDT Paul Gulleik Larsen, Ambassador, The Royal Norwegian Embassy in Canberra and
Jamie Isbister, Ambassador for The Environment, Department of Foreign Affairs and Trade

Ministry Opening Address

Amund Vik, State Secretary, Ministry of Petroleum and Energy

Key Note –Australia

Dr. Alan Finkel, Special Adviser to the Australian Government on Low Emissions Technology

Key Note - Norway

Mona Mølnevik, Research Director, SINTEF Energy

Green Hydrogen Wars - Trends in the race for global exports

Anja Jones Gudbrandsen, Business Development Manager & APAC Renewables, Rystad Energy

An efficient hydrogen value chain integrator

Anders Storstenvik, Asset Development Manager, Aker Clean Hydrogen

Large scale electrolyser plants by HydrogenPro

Karoline Aafos, Sales Manager, HydrogenPro

Wilhelmsen's involvement in the Hydrogen value chain

Espen Gjerde, VP Strategy and M&A, Wilhelmsen

15:30 BREAK

Moss technology for the transportation of green liquefied gas

Tor Skogan, VP Gas, Moss Maritime

Hydrogen storage and transportation solutions

Ola Engehagen, Director Sales and Marketing, Umoe Advanced Composites

Practical Approach to Process Safety on Hydrogen Systems

Geirmund Vislie, Vice President Hydrogen Safety, Gexcon

Reciprocating internal combustion engines for hydrogen

Isak Stamnes, Technical Manager R&D, Rolls Royce Bergen Engines

Decarbonisation Initiatives for the infrastructure sector

Tor-Erik Hoftun, Business Development Officer, TECO2030

PANEL SESSION - Q&A

18:00 Close day 1

10 November – BLUE HYDROGEN / CARBON CAPTURE & STORAGE

This session will cover Blue Hydrogen Production and the entire CCS value chain from CO₂ Capture to transportation, distribution, storage and monitoring.

14:00 Overview of CCS activities in Norway and the Northern Lights project

AEDT Per Sandberg, Senior Advisor, Equinor

Testing of cost-efficient technologies for capture of CO₂ at Technology Centre Mongstad

Svein Ingar Semb, Senior Advisor & Chairman, Gassnova

Competitive, emission-free production of blue H₂ and efficient transport and decarbonization

Torkild Reinertsen, President, Reinertsen New Energy

Providing solutions for clean hydrogen from gas

Kathrine Kværnæs Ryengen, CEO, ZEG Power

Compact Carbon Capture – a very compact CO₂ capture technology

Torleif Madsen, Chief Executive Officer, Baker Hughes

Enabling Large Scale CO₂ Capture by solving the Transport & Storage ChallengeCraig Harvey, Head of Carbon (CO₂) Transport, Storage & Injection, Renewables, Aker Solutions

15:30 BREAK

Delivering systems across the complete CCUS value chain

Marija Milenkovic-Jansson, Director for Strategic Initiatives, Wellstream Processing, NOV COPS

New life for pipelines: from hydrocarbon production to CO₂ transportation

Olivier Royet, Principal Pipeline Engineer, DNV

Stella Maris CCS infrastructure solution

Ragnar Wisløff, SVP Clean Energy, Hoegh LNG

Christian Fjell, Director, Sustainability, Altera Infrastructure

CO₂ Transportation

Stein Tollevik, Technical Manager, Larvik Shipping

Increased security with CSEM data for CO₂ storage monitoring

Kjetil Eide, Chief Geoscience Advisor, Allton

A cost-efficient holistic approach to monitoring of CO₂ storage

John Even Lindgård, VP Business Development, Octio Gravitude

PANEL SESSION - Q&A

18:00 Close day 2

Norwegian H2 & CCS Brief

H2 Norwegian industrial actors have produced and utilized hydrogen in large scale since 1927. Companies like Norsk Hydro developed their own electrolyser technologies that are today used all around the world.

Hydrogen from the industrial and research arenas were brought to the public refuelling arena in Norway in the beginning of 2000 through the HyNor-project, which was established to demonstrate the readiness of hydrogen as an alternative fuel for cars.

Today, hydrogen technologies, solution providers and projects in Norway are emerging across the entire value chain, including;

- Production, storage and distribution
- Industrial applications
- Transport and Maritime
- Hydrogen use in the energy system

CCS Norway has extensive experience with CCS, both capture, transport, temp storage and injection/monitoring with projects like Sleipner and Snøhvit having injected CO₂ successfully for more than 2 decades.

In 2010 Norway established a large-scale carbon capture demonstration facility (Technology Centre Mongstad, 'TCM'). Several new well-stream and post-combustion capture technologies have emerged from this facility.

In February 2021, Norway took FID on the Longship project capturing CO₂ from industrial sources and transport and storage in Northern Lights project, the world's first open-source CO₂ transport and storage infrastructure. Through these initiative, a lot of technologies / solutions have emerged and ongoing R&D is high on the agenda.