

Droplets

Shared hunt for CO₂ storage

The Norwegian and British authorities are working together to identify suitable formations under the North Sea in which carbon dioxide can be stored.

"We're updating and quality-assuring data from our part of the North Sea, while our opposite numbers in the British Geological Survey (BGS) work to map the UK sector," says Eva Halland (below). A geologist with the Norwegian Petroleum Directorate (NPD) and project manager for the work on the NCS, she adds: "The intention is to obtain an overview of suitable storage sites."

The One North Sea project will estimate the size of existing storage locations as well as the potential requirement. It is also looking into demand for storing carbon dioxide from Europe – and when this need might arise.

Another aspect of the project is to establish what industry and government can do to establish a good framework and an infrastructure for carbon transport.

"Several locations in mainland Europe could store carbon dioxide below ground, but many are sceptical about the safety of these sites," explains Ms Halland. "That's why we're looking at the North Sea."

She and her colleagues are hunting for formations where carbon storage will not conflict with oil and gas production. Such sites must obviously also have the right characteristics to ensure that the injected gas stays in place.

Carbon dioxide has been stored under the seabed off the Norwegian coast for a number of years. Operator Statoil has injected it into the Utsira formation in the Sleipner area of the North Sea since the mid-1990s, while carbon dioxide extracted from Snøhvit gas is stored beneath the Barents Sea.

"Carbon capture and storage (CCS) is in huge demand," Ms Halland comments. "Norway possesses good expertise in this area, which is a big advantage in the mapping project we're now pursuing."

Plans call for a report to be submitted in January as part of the input for developing an international strategy on CCS.



Readying for remote operation

The Norwegian government is to initiate the process of opening the waters around Jan Mayen in the Arctic Ocean for petroleum activity, with a view to awarding production licences. This decision is based on White Paper 37 (2008-2009) on integrated management of the marine environment in the Norwegian Sea (known as the management plan).

The first step in the opening process around the remote Norwegian island is to establish the area's petroleum potential and environmental assets in greater detail. That includes an impact assessment of oil and gas activity, which is the responsibility of the Ministry of Petroleum and Energy. The NPD has a role in identifying the resource base.

"Today's data make it impossible to say anything about the oil and gas potential of the continental shelf around Jan Mayen," explains Sissel Eriksen, exploration director at the NPD.

More information is accordingly needed to improve knowledge of the area. Seismic surveys and shallow drilling are conventional methods in this respect.

"We already have a good deal of seismic data, but the lines are much too far apart," says Ms Eriksen. "We also have some shallow drilling, but the wells aren't optimally placed. That's not least a consequence of the inadequate seismic information, so we need more input from both sources."

Iceland announced its first offshore licensing round this spring, including blocks on the Icelandic sector of the Jan Mayen Ridge (known as the Dreki area). Awards were planned for the autumn, but none were made because only two applications had been submitted and these were both withdrawn.

Antarctic clarification sought

Norway submitted a claim to the CLCS in May for the continental shelf boundaries related to its Bouvet Island and Dronning Maud Land dependencies in the far south.

According to NPD senior geologist Morten Sand, the seabed off Dronning Maud Land on the Antarctic continent has been mapped with the aid of seismic and oceanographic surveys.

The seismic data were gathered through a scientific collaboration between the NPD, the University of Bergen and Russian institutions. Oceanographic measurements were carried out together with the Norwegian Polar Institute and the Norwegian Institute of Marine Research.

However, Norway has asked to CLCS to ignore the documentation relating to these sea areas since they fall within the scope of the Antarctic treaty. But it wants the outer boundary of Bouvet Island's continental shelf to be determined because this territory does not form part of the continental land mass.

The Norwegian claim is based on internationally available water-depth data. According to Mr Sand, seismic information is of little relevance since sedimentation around the island is small.



www.npd.no

Site for sore eyes

A revamped version of the NPD's website was unveiled at www.npd.no on 31 August, eight years since its last upgrade. The new solution offers better searches and easier access to maps and facts.

The NPD possesses a great deal of information in wide demand, and has now made it available in a more understandable way. Help is provided for a number of the functions.

This update appears to have found favour with users, and hits rose by 25 per cent immediately after the launch. The figure has now stabilised at roughly 1 500 unique users per weekday.

Anyone who previously subscribed to news stories from the NPD must now re-register. The information can also be obtained as an RSS feed.



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Identifying ways and means to meet the Norwegian government's goal for radical cuts in greenhouse gas emissions is Bente Jarandsen's job as a member of the inter-agency Climate Cure 2020 team.

(Photo: Emile Ashley)