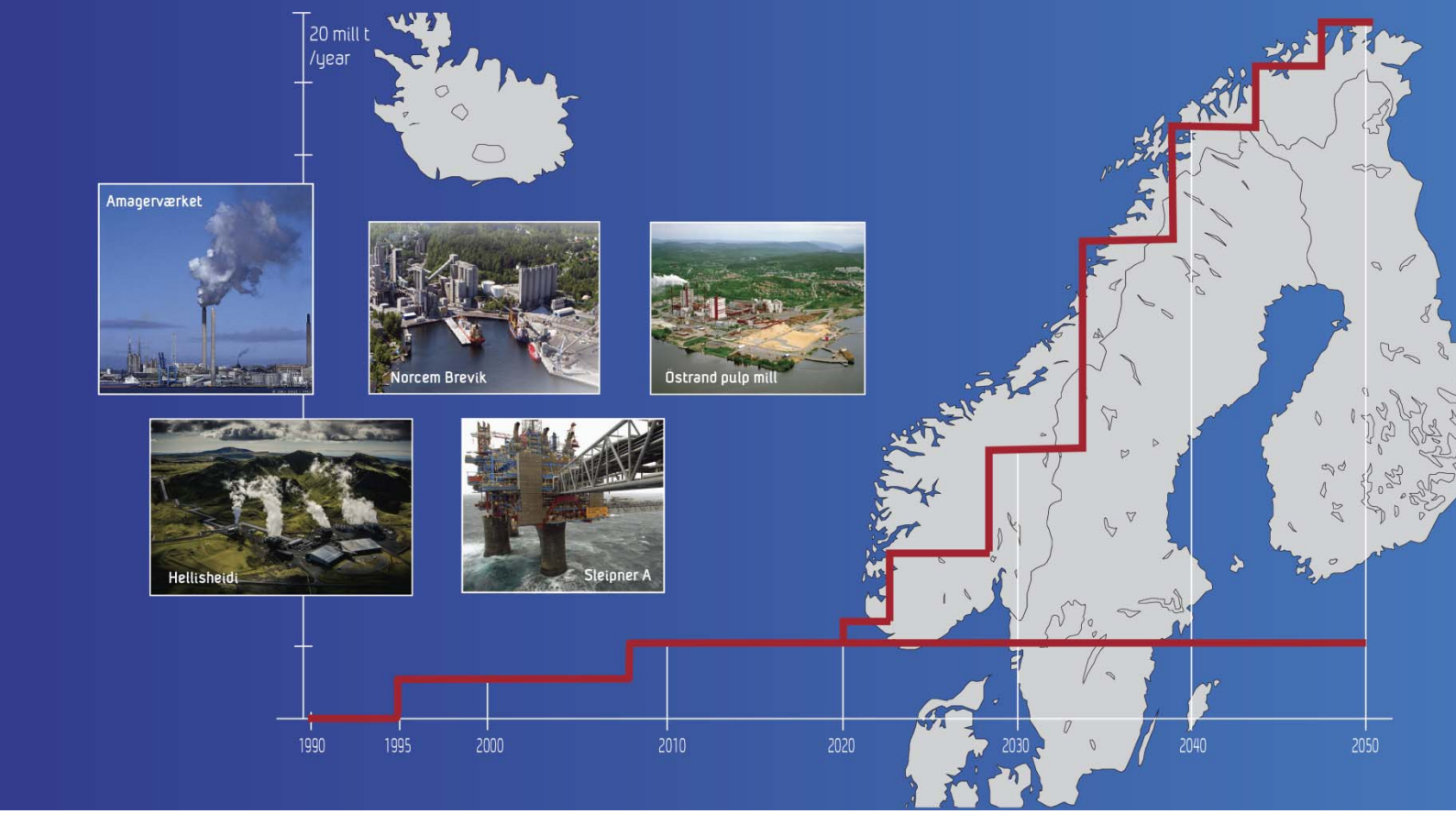

Joint Nordic CCS research in NORDICCS

- The Nordic CCS Competence Centre

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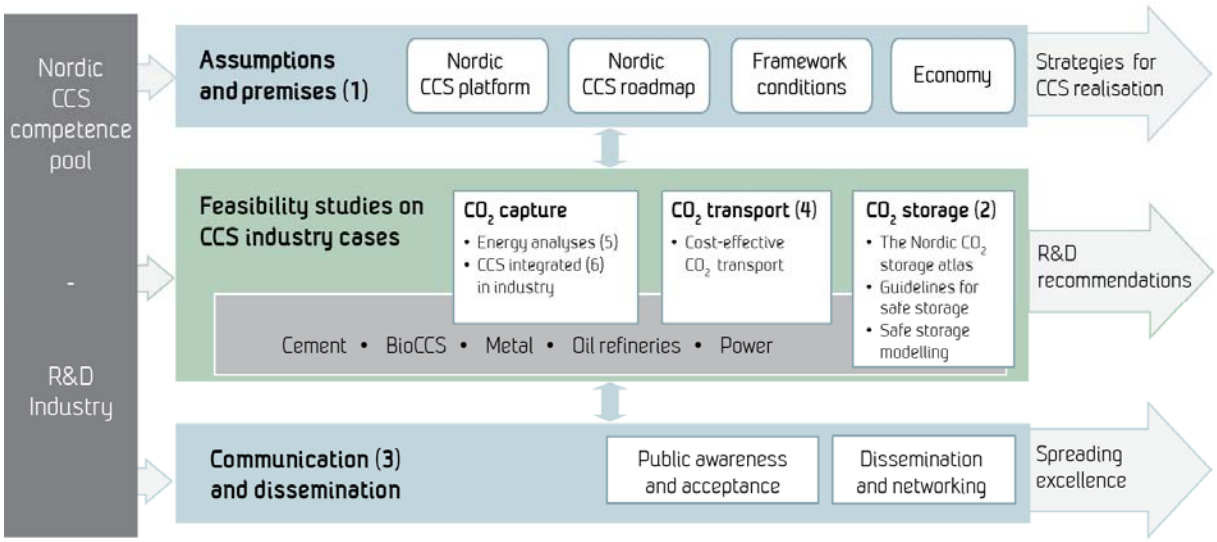
NORDICCS concept:



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Summary

Introduction to NORDICCS and the Nordic CO_2 storage atlas together with a summary of the current status for the mapping of potential Nordic CO_2 storage sites and an estimation of the up to date estimated storage capacity.

The poster was presented at the 9th CO_2GeoNet Open Forum, 20-22 May 2014, San Servolo Island, Venice, Italy.

Keywords Nordic CCS network, CO_2 storage sites, CO_2 storage capacity, CO_2 storage atlas.

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About NORDICCS

Nordic CCS Competence Centre, NORDICCS, is a networking platform for increased CCS deployment in the Nordic countries. NORDICCS has 10 research partners and six industry partners, is led by SINTEF Energy Research, and is supported by Nordic Innovation through the Top-level Research Initiative.

For more information regarding NORDICCS and available reports, please visit http://www.sintef.no/NORDICCS.

Joint Nordic CCS research in NORDICCS - the Nordic CCS Competence Centre

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Norway

To date, 33 storage units and 82 traps have been identified in the Norwegian part of the North Sea. The total storage capacity is estimated to 41000 Mt for the Norwegian saline aquifers. However this number will increase as more storage sites from Norway will be included.

Sweden

Two areas with potential for geological storage of CO_2 have been identified in the southernmost Sweden, the SE Baltic Sea and the SW Scania. Sweden has mapped 8 storage units and 1 trap, all new data with a preliminary predicted total capacity of approximately 3400 Mt.

Iceland

Iceland has a very different geological setting with young igneous, mainly basaltic rocks. Iceland has mapped porous onshore basalt formations potential suitable for CO_2 storage. Initial estimations of storage capacity in basaltic rocks give a wide range between 60000 – 330000 Mt (Anthonsen et al. 2013).

Denmark

Denmark has mapped 20 traps and 1 storage unit, hereof 12 new sites not evaluated in previous projects, with a total storage capacity close to 24000 Mt.

Finland

Finland has only shallow sedimentary basins not suitable for CO_2 storage. A minor potential for storage exists through carbonisation of ultramafic rocks, approximately 2000-3000 Mt (Aatos et al. 2006).

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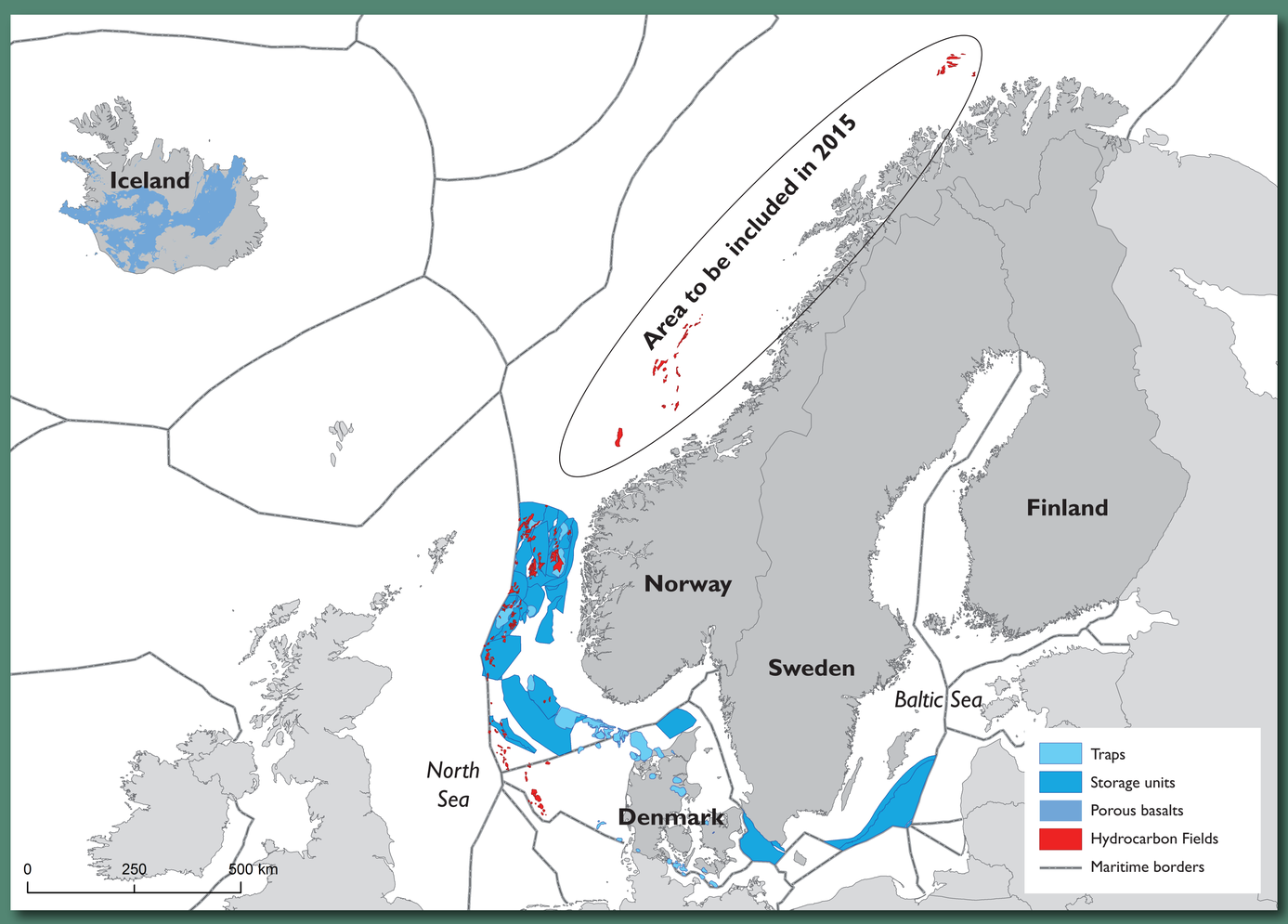

Joint Nordic research

In the autumn of 2008, the Nordic countries joined forces on the largest joint Nordic research and innovation initiative to date. The Top-level Research Initiative involves various Nordic organisations and national institutions. The initiative consists of six sub-programmes and one of them is Carbon, Capture and Storage.

NORDICCS was established in 2011 and is funded until 2015. It is a virtual CCS networking platform aiming for increased CCS deployment in the five Nordic countries. Some of the concrete results of NORDICCS activities include:

- A Nordic CCS roadmap – a common vision of strategies for implementation of large-scale CCS
- Communication of CCS to general public and stakeholders
- Coordination of industry case studies
- Investigation of opportunities for economically viable solutions
- Recommendations on CO_2 transport solutions for the Nordic countries
- A Nordic CO_2 storage atlas, a web-based geographic information system database (GIS) with possible CO_2 storage locations

The Nordic CO_2 storage atlas

Parts of the Nordic region has previously been screened for potential storage sites within the EU co-funded GESTCO (2004) and GeoCapacity (2009) projects and by the Norwegian Petroleum Directorate in the Norwegian CO_2 storage atlas (2011-2014). However, these previous mapping projects only covered Norway and Denmark.

One of the major challenges in NORDICCS is to lift all countries to a reasonable equalised mapping standard in order to produce a homogenised public web-based Nordic CO_2 storage atlas in 2015.

During 2013 many new storage units and traps in the southern Scandinavia were mapped and included in the Nordic CO_2 storage site GIS-database. Altogether, 42 storage units and 103 traps in saline aquifers, together with an area of 34000 km^2 with porous basaltic rocks in Iceland were mapped.

Preliminary results of the Nordic storage capacity estimates are summarised in the text above the figure.

Acknowledgement

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