

CSPG International Division

World Carbon Sequestration: a (geological) Primer

Presenter: Jon Noad, Stantec Consulting

Location: geoLOGIC Classroom (2nd Floor), Aquitaine Tower, 150, 540 – 5th Avenue SW, Calgary, Alberta

Format: Hybrid talk

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12:00pm, MST

ABSTRACT

Injecting carbon dioxide into reservoirs has been undertaken since the 1940s, mostly as a method to enhance oil recovery (EOR). With the recognition of the impact of climate change, interest in carbon sequestration has increased exponentially, with no less than 25 CCS projects ongoing in Alberta alone. This is despite the current lack of any financial recompense, such as carbon credits, for removing CO₂ from the atmosphere.

There are several different types of CCS and these have differing geological requirements. All will be explained during the presentation and the geological aspects of each of the examples shown will be highlighted. Both clastic and carbonate reservoirs are being utilized, including many Palaeozoic deposits, while basalts are being utilized in Iceland and are prospective in other locations round the globe. Obviously, the proximity to major emitters is also a factor when selecting the most appropriate reservoirs.

Across the globe, CCS projects are appearing in droves. We will look at projects in North America, including those in Western Canada and the US. These will include the QUEST and Aquistore projects, as well as looking ahead to the Pathways and other projects. Suitable analogues will also be flagged. We will also examine European projects such as the Sleipner and Snohvit Fields in the North Sea and ongoing projects in Iceland. We will look at onshore projects and then turn to Asia and Australia. China is pushing ahead with a variety of projects while Australia has several demonstration projects and is developing the Gorgon Project.

There are several successes to report as well as some projects facing challenges, but how effective is CCS currently proving to be as a global CO₂ sink? The scale and economic aspects of CCS will also be addressed to give you the opportunity to make your own mind up as to the overall effectiveness and the potential future of sequestration.



BIOGRAPHY

Jon Noad graduated in 1985 and started working as a mining geologist in South Africa. He returned to the UK to work in marine cable laying and completed a Masters in Sedimentology at evening classes. This led to a full time PhD, working in eastern Borneo, after which he joined Shell International working Middle East exploration and in several production roles. He moved to Shell Canada in Calgary in 2006, followed by senior geoscience roles at Murphy, Husky and Gran Tierra (Colombia). Jon started a consultancy in 2017 and now runs field trips and courses for industry as well as teaching at several universities. He is also a qualified Palaeontologist who often undertakes site monitoring for new pipelines and construction projects.

