AEGC2019 Data to Discovery
Australasian Exploration Geoscience Conference
2-5 September 2019 • Perth, Western Australia
Incorporating the AIG, ASEG, PESA, and WABS

CCS in Australia: Activities and Lessons Learned

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SUMMARY

There is the perception that somehow carbon capture and storage (CCS) is too expensive, too complex, and already by-passed by other technologies in Australia. However the challenge of meeting Australia's commitments to LNG contracts for a growing market in SE Asia requires low emissions solutions to meet Paris commitments. Over time, more challenging emissions contributions from industrial processes, or the transport sector, will require a range of technological solutions, to meet net zero emissions targets.

Emissions reduction using CCS remains current, relevant and scalable. The implementation of CCS and CCUS (U = utilisation) have been demonstrated in different parts of the world providing important lessons learned.

The science behind CCS and CCUS leverages a range of manufacturing and gas processing expertise to capture CO2. Storage uses much of the oil and gas industry approaches to characterise a storage site in the same way a potential gas prospect may be evaluated. Storage capacity, containment security and rate of injectivity contribute to the evaluation of preferred locations. Basin resource conflicts are mapped to manage utilisation of other resources, such as water, geothermal, hydrocarbons etc.

Environmental monitoring and social license to operate underpin decisions to develop potential storage sites, along with the economics: all of which can be challenging.

Clear information and dialogue with the public, industry and regulators can be facilitated through the provision of CCS demonstration activities, such as the CSIRO In Situ Laboratory to enable deployment of CCS now and in the future.

This presentation will provide some examples of the activities underway, and how they can help mitigate emissions that are ongoing as the world transitions to a low emissions world.

Key words: carbon capture and storage, CCS