

Building Canadian CCUS - EOR Expertise for the 2020's.

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Summary

This presentation aims to answer the question: How may Canadian based developers of CCUS-EOR projects take advantage of domestic expertise to gain a competitive advantage as we “transition” towards a low carbon economy in an increasingly competitive energy supply environment?

With a focus upon geological sequestration, lessons learned from developments in CCUS-EOR over the last decade are reviewed along with today's stakeholder expectations in order to assess the trajectory of CCUS-EOR development in the 2020's. The benchmark for the review will be best practice findings of the \$41 million IEAGHG Weyburn-Midale CO₂ Monitoring and Storage Project research that ran from 2000 to 2012. Using that and other CCUS research over the last decade, developments in four “themes” will be discussed:

- Theme 1: Storage Integrity - The transition from utilization of CO₂ to pure storage requires an intimate knowledge of the storage “system”. This includes both the “traditional” oil reservoir, but also connected saline aquifers, cap rock, secondary aquifers and aquitards that control migration and inhibit movement to the biosphere.
- Theme 2: Risk Mitigation - assessment of CCUS-EOR projects consistently identifies well integrity as the most significant risk to storage integrity over time. Improved CO₂ placement through new drilling/completion and well management also has impacts upon storage potential and risk. In that context, how do we balance the costs versus the value to the business of environmental risk mitigation?
- Theme 3: Measurement, Monitoring and Verification (MMV) – What role does reservoir simulation play in understanding the storage “system” in CO₂ EOR? And what technology gaps and innovations are required for the MMV of containment effectiveness?
- Theme 4: what does CCS require in the way of support, and how may regulators, service suppliers and operators collaborate to improve the productivity of the innovation “ecosystem”?

315 Words