

Adapting Oil and Gas Data Strategies for CO2 Sequestration

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As regulatory regimes evolve to encourage carbon footprint reductions in different political jurisdictions with either tax incentives or cap and trade systems, industries that are point sources of CO₂ such as power plants, cement kilns and landfills will have a need for evaluation of saline reservoirs for CO₂ sequestration potential. In general these are industries that do not currently have geologic reservoir modeling technology, personnel, or expertise, and various academic and industry consortia and commercial ventures are rushing to fill the gap. The types of data required to evaluate a reservoir as a potential CO₂ repository have parallels in the exploration, development, and production phases of the oilfield life cycle. Thus the opportunity for knowledge transfer and leveraging of best practices and lessons learned from data management should be similar to that seen when large numbers of oil and gas geologists left the hydrocarbon extraction industries in the mid-1980's and began to apply their experience with data modeling techniques and data flows to environmental projects. Industry standard data models, data exchange formats and integrated workflows that have evolved over the last decades to support exploration and production processes are well positioned to be exploited by this new "green" segment of the energy industry. This paper examines the applicability of some available geological data models, exchange standards and work flow solutions to CO₂ sequestration projects.