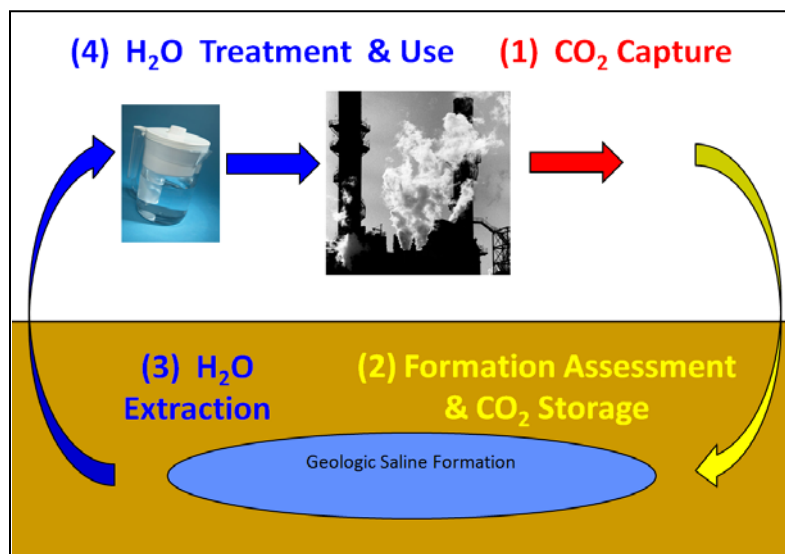


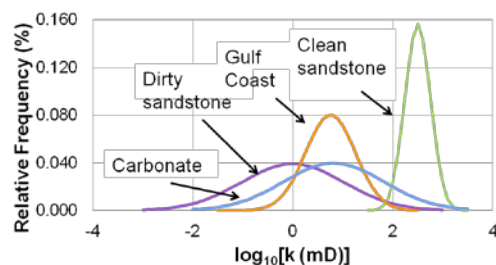
Geologic Sink Parameters & Analysis: Analytical Challenges & Opportunities for Collaboration

The Water, Energy and Carbon Sequestration Model (WECSsim) is an integrated assessment software tool developed to calculate the potential performance, location, and cost characteristics that are associated with a national-scale CO₂ capture and storage program. A challenge to the project is to quantify the geologic storage resource with explicit consideration of uncertainty and the impacts on the economics.



National-Scale Data Challenges & Opportunities

→ WECSsim employs probability density functions (PDFs) based on rock type to supplement existing NATCARB and other geologic sink data/properties.

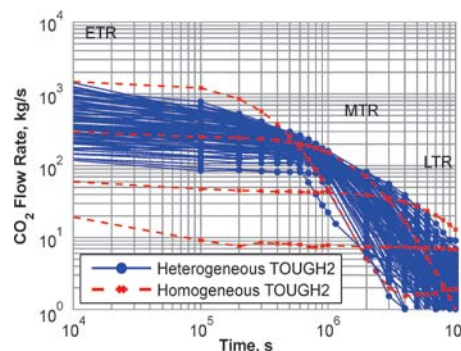


Opportunities for Collaboration

→ Inform each other's projects through sharing of data and analysis techniques to avoid repetition
→ Co-author conference papers or journal manuscripts on injectivity and storage capacity work

Heterogeneity and CO₂ Injectivity,

→ System models need to incorporate spatial heterogeneity and not just parameter variability



Heath et al., 2012

Select Past Collaborative Works:

Heath, J.E., Kobos, P.H., Roach, J.D., Dewers, T.A. and S.A. McKenna, 2012. Geologic Heterogeneity and Economic Uncertainty of Subsurface Carbon Dioxide Storage. SPE Economics & Management 4, 32–41.

Kobos, P.H., Cappelle, M.A., Krumhansl, J.L., Dewers, T.A., McNeamar, A., and D.J. Bors, 2011. Combining power plant water needs and carbon dioxide storage using saline formations: Implications for carbon dioxide and water management policies. Int. J. of Greenhouse Gas Control 5, 899-910.

Contacts:

Jason Heath, Geomodeling Task Lead
Sandia National Laboratories
jeheath@sandia.gov, (505) 845-1375

Jesse D. Roach, Lead Analyst
Sandia National Laboratories
jdroach@sandia.gov, (505) 284-9367

Peter H. Kobos, Principal Investigator
Sandia National Laboratories
phkobos@sandia.gov, (505) 845-7086



Sandia National Laboratories is a multi-program laboratory managed and operated by Sandia Corporation, a wholly owned subsidiary of Lockheed Martin Corporation, for the U.S. Department of Energy's National Nuclear Security Administration under contract DE-AC04-94AL85000.
WECSsim Funded by NETL. Pictures for illustrative purposes. 5/2012.

