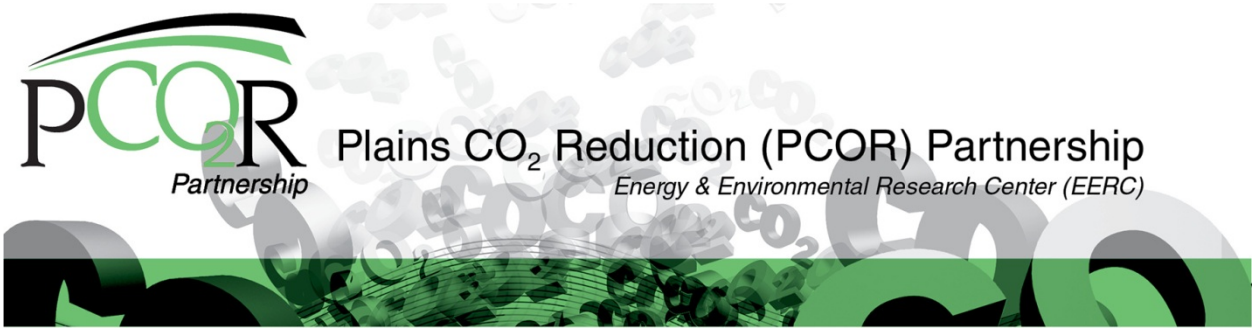

SPECIAL ISSUE OF IJGGC – NEXUS OF WATER AND CARBON CAPTURE AND STORAGE

Plains CO_2 Reduction (PCOR) Partnership Phase III
Task 14 – Deliverable D106

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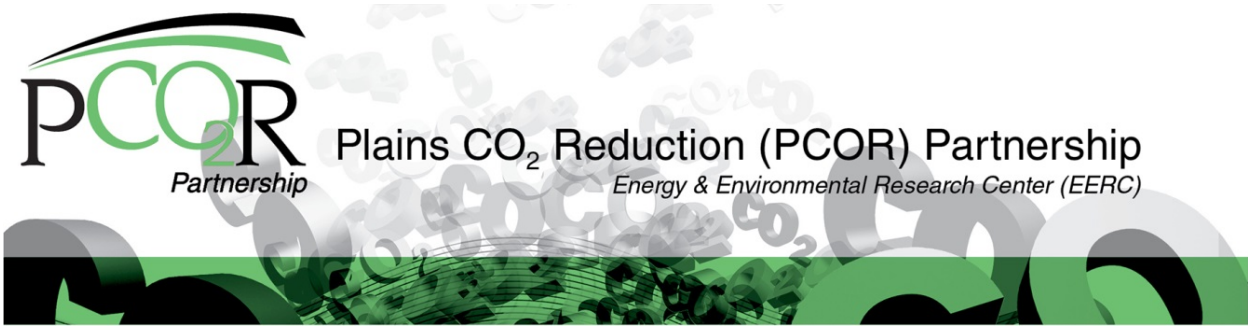

SPECIAL ISSUE OF IJGGC – NEXUS OF WATER AND CARBON CAPTURE AND STORAGE

OVERVIEW

The mission of the Regional Carbon Sequestration Partnership (RCSP) Water Working Group (WWG) is to address stakeholder concerns regarding emerging carbon capture and storage (CCS) technology and potential interactions with local and regional water resources. As part of that mission, the WWG has been working with the International Journal of Greenhouse Gas Control (IJGGC) to develop a Special Issue dedicated to the nexus of water and CCS. Research papers were solicited, edited, and subsequently published in IJGGC. These articles were then submitted to IJGGC on December, 29, 2016, to be published online in a virtual special issue. The articles published in the virtual special issue build upon the research that has been published in IJGGC over the previous 4 years to complete a more comprehensive understanding of water issues associated with CCS. The articles in the special issue and the previous works are listed below.

ARTICLES INCLUDED IN THE SPECIAL ISSUE

Buscheck, T.A., Bielicki, J.M., White, J.S., Sun, Y., Hao, Y., Bourcier, W.L., Carroll, S.A., and Aines, R.D., 2016, Pre-injection brine production in CO_2 storage reservoirs—an approach to augment the development, operation, and performance of CCS while generating water: International Journal of Greenhouse Gas Control, v. 54, p. 499–512.

Dastgheib, S., Knutson, C., Yang, Y., and Salih, H., 2016, Treatment of produced water from selected oilfields and coal mines in the Illinois Basin: International Journal of Greenhouse Gas Control, v. 54, p. 513–523.

Kobos, P.H., Klise, G.T., Malczynski, L.A., and Walker, L.T., 2016, Parametric analysis of technology costs for CO_2 storage in saline formations: International Journal of Greenhouse Gas Control, v. 54, p. 574–587.

Martin, C., Folkedahl, B., Dunham, D., and Kay, J., 2016, Application of liquid desiccant dehumidification to amine-based carbon capture systems: International Journal of Greenhouse Gas Control, v. 54, p. 574–587.

Pan, F., McPherson, B.J., Esser, R., Xiao, T., Appoid, M.S., Jia, W., and Moodie, N., 2016, Forecasting evolution of formation water chemistry and long-term mineral alteration for GCS in a typical clastic reservoir of the southwestern United States: International Journal of Greenhouse Gas Control, v. 54, p. 524–537

Schroeder, J., Harto, C., and Clark, C., 2016, Analysis of state and federal regulatory regimes potentially governing the extraction of water from carbon storage reservoirs in the United States: International Journal of Greenhouse Gas Control, v. 54, p. 566–573.

Ziemkiewicz, P., Stauffer, P., Sullivan-Graham, J., Chu, S., Bourcier, W.L., Buscheck, T.A., Carr, T., Donovan, J., Jiao, Z., Lin, L., Song, L., and Wagoner, J.L., 2016, Opportunities for increasing CO_2 storage in deep, shale aquifers by active reservoir management and treatment of extracted formation water—case study at the GreenGen IGCC Facility, Tianjin, PR China: International Journal of Greenhouse Gas Control, v. 54, p. 538–556.

PREVIOUSLY PUBLISHED ARTICLES

Birkholzer, J., Cihan, A., and Zhou, Q., 2012, Impact-driven pressure management via targeted brine extraction—conceptual studies of CO_2 storage in saline formations: International Journal of Greenhouse Gas Control, v. 7, p. 168–180.

Breunig, H., Birkholzer, J., Borgia, A., Oldenburg, C., Price, P., and McKone, E., 2013, Regional evaluation of brine management for geologic carbon sequestration: International Journal of Greenhouse Gas Control, v. 14, p. 39–48.

Buscheck, T., Sun, Y., Chen, M., Hao, Y., Wolery, T., Boucier, W., Court, B., Celia, S., Freidmann, J., and Aines, R., 2012, Active CO_2 reservoir management for carbon storage—analysis of operational strategies to relieve pressure buildup and improve injectivity: International Journal of Greenhouse Gas Control, v. 6, p. 230–245.

Cihan, A., Birkholzer, J., and Bianchi, M., 2015, Optimal well placement and brine extraction for pressure management during CO_2 sequestration: International Journal of Greenhouse Gas Control, v. 42, p. 175–187.

Court, B. Bandilla, K., Celia, M., Busheck, T., Nordbotten, J., Dobossy, M., and Janzen, A., 2012, Initial evaluation of advantageous synergies associated with simultaneous brine production and CO_2 geological sequestration: International Journal of Greenhouse Gas Control, v. 8, p. 90–100.

Dempsey, D., O'Malley, D., and Pawar, R., 2015, Reducing uncertainty associate with CO_2 injection and brine production in heterogeneous formations: International Journal of Greenhouse Gas Control, v. 37, p. 24–37.

Guoxiang, L., Gorecki, C., Bremer, B., Klapperich, R., and Braunberger, J., 2015, Storage capacity enhancement and reservoir management using water extraction—four site case studies: International Journal of Greenhouse Gas Control, v. 35, p. 82–95.

Roach, J., Heath, J., Kobos, P., and Klise, G., 2014, System-level benefits of extracting and treating saline water from geologic formations during national-scale carbon capture and storage: International Journal of Greenhouse Gas Control, v. 25, p. 186–197.

Sullivan Graham, E., Chu, S., and Pawar, R., 2015, Probabilistic cost estimation methods for treatment of water extracted during CO_2 storage and EOR: International Journal of Greenhouse Gas Control, v. 41, p. 316–327.