PTAC Project:

Assessing Wastewater Treatment Technologies, Storage and Water Reuse (Aquifer Storage and Recovery)

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Background

- **CAPP Knowledge Gap 3:** Beneficial use/treatment of municipal/industrial wastewater
- **Goal:** Identify new methods for energy companies to realize improved conservation and efficiency of fresh and saline water use through linking Industrial Water Cycle with Hydrologic Cycle
- **Objective:** Examine the feasibility of new methods to treat, store and re-use wastewater from industrial and municipal sources, and possibly marginally saline, produced water from shallower oil/gas production
- **Focus:** Subsurface storage and recovery technologies; some settings, possibly the added benefit of in-situ treatment.

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Team

- **ARC Senior Project Team:**
  - Project Manager: Sue Gordon, Ph.D., P.Geol. Research Hydrogeologist
  - Cathy Main, M.Sc., P.Geol., Research Hydrogeologist
  - Jim Brydie, Ph.D., Research Environmental Chemist

- **Industry Manager:**
  - Tom Pye, Senior Hydrogeologist, Husky Energy

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Study Components

- Suppliment water supply needs for gas/oil production
  - (focus Fracing and Enhanced Oil Recovery)
- Wastewater/marginally saline produced water production and storage processes
- Regional analyses to link specific potential energy sectors' water supply needs, wastewater/marginally saline produced source(s) with local hydrologic cycle
  - Hydrogeologic suitability, economic costs and regulatory aspects of the various options for delivery, subsurface storage, treatment, and recovery
  - Subsurface storage and in-situ treatment will be key technologies included within the assessment

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Methods

- Data for this study will be based on existing information

- In order to improve the relevance and accuracy of the information obtained, interviews will be conducted with key energy companies, and industrial and municipal wastewater producers or managers

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Outcomes

- Results of this research will be of use in providing criteria for evaluation of options for reuse of non-energy based wastewater and marginally saline produced water within the energy sector.

- Benefits for the oil/gas sector could be an increase in development opportunities because of new water sources and a reduction in capital costs for produced water handling facilities and infrastructure.

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