

Develop tool to complete environmental net effects (ENE) assessment of water source alternatives for unconventional gas

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GL 15-WIPC-04

ENE effects were first defined in 2006 by the Alberta Government through the Water Conservation and Allocation Guideline for Oilfield Injection. In 2010, the Alberta Government met with the Oil Sands Leadership Initiative (OSLI) to begin development of a quantitative ENE Tool.

In 2012, at the request of OSLI, CH2M was asked to develop an ENE Tool using a Multi-Objective Decision Analysis (MODA) framework. In 2014, OSLI member ConocoPhillips Canada (CPC) asked CH2M to modify the tool for broader applications. CPC has offered to allow PTAC and CH2M to modify the tool for hydraulic fracturing assessments.

The ENE Tool provides a semi-quantitative assessment (ENE Score) of environmental trade-offs. It is suitable for overall environmental scenario evaluation

and the comparison of scenarios. The tool can be customized for any scenario. Making full use of the tool's capabilities requires knowledge of how to apply MODA to aggregate effects from many different aspects of the environment.

Policy Issue

Assessment of alternative sources and handling of water for unconventional oil and gas development, considering the entire life cycle.

Knowledge Gap

Develop tool to complete environmental net effects (ENE) assessment of water source alternatives (i.e., saline, non-saline, produced water, flowback, reclaimed wastewater and low quality groundwater) for hydraulic fracturing, in support of the Water Conservation Policy for Upstream Oil and Gas Operations.