

Life Cycle Water Impacts of Energy Technologies Webinar

Overview:

The energy sector withdraws more freshwater in the U.S. than any other sector, primarily for cooling power plants. Although most attention historically has focused on water use at the power plant level, recent developments in alternative oil and gas extraction methods (e.g., hydraulic fracturing), have led to an interest in water use during fuel production. In addition, water is required for fuel processing, during site preparation and construction, and during the manufacturing of some components. The National Renewable Energy Laboratory (NREL) has recently compiled available life cycle assessment (LCA), peer reviewed, and government literature addressing water use throughout the entire life cycle of all major energy technology types. Water use values have been converted into a common metric such that water use can be consistently compared across different life cycle stages and energy technologies.

What You Will Learn:

- a. Water use of all major energy technologies at each stage of the life cycle
- b. Rationale for large variations in reported water use within a particular life cycle stage
- c. Direct comparison of fuel extraction water use with power plant water use
- d. Gaps in available data ripe for future research

Presenter:

Jordan Macknick is an Energy and Environmental Analyst in the Strategic Energy Analysis Center at the National Renewable Energy Laboratory (NREL). His work focuses on identifying and analyzing the environmental impacts of energy technologies and different energy future scenarios. Much of his work centers on the energy-water nexus, analyzing water impacts of the energy industry and the energy implications of the water industry. He holds a Master's of Environmental Science from the Yale University School of Forestry and Environmental Studies, and a B.A. in Mathematics and Environmental Studies from Hamline University.