

- fossil energy
- environmental
- energy efficiency
- other

TREATING OIL AND GAS PRODUCED WATERS

States Impacted:

Alaska, Colorado, Montana,
New Mexico, North Dakota,
Utah, Wyoming

Benefit Areas:

Surface and Subsurface
Environment, Cost Savings,
Energy Security

Participants:

University of North Dakota
EERC, B.C. Technologies,
Gas Research Institute,
Amoco Production Company
(now BP Amoco), and
McMurry Oil Company

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Description

This project involves the field demonstration of Freeze-Thaw/Evaporation Process (FTE®), a novel new technology with the potential to greatly reduce the volume of wastewater from oil and gas production.

Goals

The goal of this project is to evaluate the operational effectiveness and economic viability of the FTE® process for treating oil and gas produced waters on a demonstration scale at two field sites.

Tangible Benefits

National: Costs for treating produced water are factored into the cost of producing oil and natural gas. Lowering produced-water treatment costs will result in lower production costs, which will ultimately lead to lower oil and gas prices for the American consumer. Lower production costs for oil and gas fields in the U.S. will also make the American petroleum industry more competitive, thereby reducing American dependence on foreign oil producers.

Regional: The FTE® process is capable of purifying produced water to a level that is acceptable for watering livestock and agricultural irrigation. Such water is a valuable commodity in the arid and semiarid regions of the western U.S. The FTE® process reduces the volume of water that must be disposed of, which helps to minimize the environmental impact of oil and gas production activities. Minimizing such impacts is critical if oil and gas production activities are to be conducted in environmentally sensitive areas such as those typically found in the Rocky Mountain region.

Local: Based on the deployment of an FTE® facility in the Jonah gas field in the Green River Basin of Wyoming, the cost of produced-water disposal at that field when the FTE® process is utilized is approximately \$1.00 per barrel (bbl). Conventional commercial disposal facilities in southwestern Wyoming charge as much as \$6.00/bbl. Such a large savings in the cost of water treatment and disposal will ultimately allow more wells to be drilled and brought on-line. Drilling and production activities make significant contributions to the local economies in terms of employment and tax revenue.