

OIL · GAS · GEOTHERMAL

Expand the Economic Potential of Your Oil Fields And be Part of the Global Clean Energy Solution

FREE Turbines Available for Coproductio n Demonstration

The Department of Energy's Geothermal Technologies Office is exploring opportunities to partner with the oil and gas industry to deploy binary systems in operating commercial oil and gas fields. Two 250 kW units are available:



Air-cooled unit on test at Rocky Mountain Oilfield Testing Center.



Water-cooled unit in operation.

DOE Provides

- Delivery of system to site
- Infrastructure for data collection
- Protection of proprietary company information and data
- Technical support from National Laboratories to help resolve operational problems
- Support for publication of results at technical conferences
- Transfer of ownership at end of two year operational period for continued geothermal application
- Funds for minimally invasive and fast installation
- Maintenance of unit for two year period.

Industry Partner Provides

- Prepared site at commercial operation
- Permitting
- System operations
- Reasonable site access for National Laboratory personnel
- Approval to publish power production and other non-proprietary data
- Site Access for installation and contingency operations.

Site Requirements

- Water temperature greater than 200°F
- Water flow of 10,000 BPD that can be collected at a single point
- High speed internet connection via existing infrastructure or cell service.

The Objectives

- Demonstrate oil and gas/geothermal coproduction at an operating oil and gas site
- Collect operational data to fully understand performance, reliability, and O&M requirements
- Identify barriers to, and opportunities for, further investment in continued R&D and market deployment.

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Industry Value Proposition

Positive PR benefits:

- Positions the oil and gas industry as part of the global clean-energy solution
- Addresses public concerns with fracking by turning a portion of waste water into clean geothermal power
- Creates new renewable energy jobs.

Economic benefits:

- Maximizes return on investment by using existing infrastructure longer and more efficiently
- Lowers oilfield electricity costs
- Reduces the need for diesel-powered equipment and fuel
- Creates a new renewable energy revenue stream from the production of electricity.

Technology benefits:

- Reduces dependency on the electricity grid
- Quick and minimally invasive installation
- Provides insights into value of deploying at other sites
- Leverages both expertise and the infrastructure already in place

Environmental benefits:

- Reduces diesel emissions
- Reduces greenhouse gas emissions
- Reduces dependency on fossil fuel
- Turns unwanted wastewater byproduct into clean energy.

Energy Potential from Coproductio n is Substantial

In certain water-flow fields in the U.S. Gulf Coast region, the produced water/oil cut is 95%

- Fields produce up to 50,000 barrels/day of fluid (20-40 wells)
- Paid for (in terms of pumping costs), by existing operations.

Collecting and passing this fluid through a binary electrical plant is readily performed

- Most produced fluid is already passed to a central collection facility for hydrocarbon separation and water disposal
- Piggy-backing on existing infrastructure eliminates the need for expensive drilling and hydro-fracturing operations
- Reducing the majority of the upfront cost of geothermal electrical power production is critical to its widespread use.

Resources are Abundant

