# RE-Powering America's Land:
## Evaluating the Feasibility of Siting Renewable Energy Production on Potentially Contaminated Land

**Alpine County, California**

### EPA/NREL Partnership

In September 2008, the U.S. Environmental Protection Agency (EPA) launched the *RE-Powering America's Land: Siting Renewable Energy on Potentially Contaminated Land and Mine Sites* initiative. EPA and the U.S. Department of Energy's National Renewable Energy Laboratory (NREL) are collaborating on a project to evaluate the feasibility of siting renewable energy production on potentially contaminated sites. EPA has provided more than $650,000 through an interagency agreement that pairs EPA's expertise on contaminated sites with NREL's expertise in renewable energy. The project will analyze the feasibility of siting renewable energy on 12 sites across the country. The analysis will include, among other things, the best renewable energy technology for the site, the optimal area to locate the renewable energy technology on the site, potential renewable energy generating capacity, the return on investment, and the economic feasibility of the renewable energy projects. NREL will also pursue an analysis to explore the potential for siting alternative fuel stations (e.g., electric charging stations) at former gas station sites.

**Leviathan Mine Superfund Site**
Alpine County, California

**Site Facts:**

**Site type:** Superfund
**Renewable technology:** Wind, solar and hydro
**Generation potential:** Energy for remediation

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### Leviathan Mine Superfund Site

The Leviathan Mine Superfund Site lies within a remote portion of northeastern Alpine County, California surrounded by National Forest. Waste from open-pit sulfur mining in the 1950s and 1960s covers 253 acres at an elevation of 7,000 feet on the dry eastern flank of the Sierra Nevada, near the California-Nevada border. Acidic mine waste flows from at least four separate discharge locations. Sulfuric acid with dissolved metals and arsenic enter Leviathan and Aspen Creeks unless it can be captured and treated. Since the eastern slope is fairly arid, even the relatively low flow rates of the acid mine drainage have devastated the stream system as far away as the Carson River, nine miles downstream.

Atlantic Richfield is the successor to Anaconda Copper, which owned and operated the open pit mine from 1952 until the mine was abandoned around 1962. They and the State of California are conducting early response actions to capture and treat the acid drainage under EPA oversight. Atlantic Richfield is under an Administrative Order to conduct a feasibility study that will include an estimate of power needs for a long-term remedy.

The Leviathan Mine project will require active remediation for a very long time. Because the site is remote and many miles from power lines, diesel or other fuel must be trucked into the site to power any cleanup activity. Snowfall and wet winter conditions limit large vehicle access on the steep mountain road to only about half the year during the dry summer months. Using renewable energy instead could potentially allow treatment of the acid drainage for longer periods of the year, would be a much greener cleanup option, and would reduce stress on local roads.

### Feasibility Study: Begins Winter 2010

The feasibility study will analyze the potential for a hybrid power generation system using renewable energy, including wind, solar and water-based technologies along with the existing diesel generator system to power the remediation operations. This analysis will include cost versus timeline for payback of capital costs and evaluation of system reliability in harsh weather conditions.

**For more information, visit www.epa.gov/renewableenergyland or contact cleanenergy@epa.gov**

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