

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

Shawnee, Kansas

## 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.

## Doepke-Holliday Site

The Doepke-Holliday Site includes a former municipal and industrial waste landfill located on an 80 acre parcel of land on the southern bluffs of the Kansas River in Shawnee, Kansas. The site initially operated as a residential trash disposal service starting in 1952. During the 1950s and 1960s, it received residential, commercial and industrial waste. The site closed in 1970 and was added to the EPA Superfund National Priorities List in 1983.

The selected Superfund site remedy, an impermeable multi-layered cap with geosynthetic components, was placed over the 38-acre waste disposal area to prevent percolation and subsequent migration of contaminants. Construction began in 1995 and was completed and approved by EPA in 1996. Monitoring at the site continues to evaluate the effectiveness of the cap. Because of the cap, the reuse of the site is limited and the site is not currently contributing to the local economy to the extent that it could be.

## Feasibility Study: Fall 2009 – Summer 2010

NREL is conducting a study on the potential for both wind and solar power generation on the Doepke-Holliday site. The feasibility study will evaluate the technical and economic opportunities and challenges at the site. It will:

- Provide a preliminary analysis of the viability of the site;
- Assess wind and solar resource availability;
- Identify possible system size, design and location; and
- Review the economics of the proposed system.

## Doepke-Holliday Superfund Site

18181 West 53rd Street  
Shawnee, Kansas

### Site Facts:

**Site type:** Superfund

**Renewable technology:** Wind and solar

**Generation potential:** Utility scale and energy for remediation

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