

RE-Powering America's Land

Evaluating the Feasibility of Siting Renewable Energy Production on Potentially Contaminated Land

Snohomish County,
Washington

RE-Powering: EPA/NREL Feasibility Studies

The U.S. Environmental Protection Agency's (EPA) *RE-Powering America's Land* Initiative encourages renewable energy development on current and formerly contaminated land, landfills and mine sites when it is aligned with the community's vision for the site. EPA and the U.S. Department of Energy's (DOE) National Renewable Energy Laboratory (NREL) are collaborating on a project to evaluate the feasibility of siting renewable energy production on potentially contaminated sites. This effort pairs EPA's expertise on contaminated sites with NREL's expertise in renewable energy. The feasibility studies provide site owners and communities with a technical and economic assessment of installing renewable energy on a given site.

Site Description

The 52-acre Cathcart Landfill, which is located eight miles southeast of Everett in western Washington State, received more than 3.2 million tons of municipal solid waste between 1980 and 1992. Final closure included the installation of a flexible membrane liner that was keyed into an existing bottom liner in order to completely encapsulate the waste. A landfill gas extraction system and leachate collection system operate onsite. A series of ground water monitoring wells installed down gradient of the facility have detected moderate levels of contaminants, including metals, ammonia nitrogen, chloride, and sodium.

Community Goals

Snohomish County envisions leveraging the landfill's existing infrastructure to accommodate a five megawatt solar array. The energy generated by this project could be used to power existing and future facilities, including the adjacent county-owned Cathcart Way Operations Center and a nearby planned mixed-use development project that includes a transit hub. The proposed project could be a showcase for demonstrating that large-scale solar projects are technically feasible and cost-effective in that area of the Pacific Northwest.

Feasibility Study: Solar

EPA and NREL conducted a study on the potential for solar power generation on the Cathcart Landfill site. The feasibility study evaluated the technical and economic opportunities and challenges at the site. The completed study:

- Provides a preliminary analysis of the viability of the site
- Assesses solar resource availability
- Identifies possible system size, design and location
- Reviews the economics of the proposed system

The Cathcart Landfill site has the potential to host up to a 3-MW solar energy system based on available acreage and local utility infrastructure. At the time of this study, there were not sufficient renewable energy incentives to make a large-scale PV system at this site cost-competitive with conventional fuel sources. However, based on existing federal and state incentives, project economics are most favorable for a 75-kW community solar system, using Washington-made solar panels and inverters, under the State of Washington's Renewable Energy Cost Recovery program.

Under the State of Washington program, a new 75-kW community solar system could be deployed each year to expand the solar energy generation at the site. The community's enthusiasm combined with the state's high product-based incentives for locally manufactured modules and inverters are two strong drivers that could counterbalance the relatively low cost of electricity.

Cathcart Landfill Snohomish County, Washington

Site Facts:

Site type: Superfund
Renewable technology: Solar

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The information presented in this fact sheet is from the site's initial proposal, site visit(s), discussions with community stakeholders, and other information collected in preparation of the feasibility study. This fact sheet is for informational purposes only and may not reflect the site's current regulatory or remediation status.

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

