

RE-Powering America's Land

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

Eden and Lowell,
Vermont

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 1,550-acre Vermont Asbestos Group (VAG) mine site is located in the Townships of Eden and Lowell in northern Vermont. Mining took place from the early 1900s to 1993 when the mine closed. In the 1950s, the mine was the nation's largest producer of chrysotile asbestos. The mine covers approximately 650 acres within the VAG property and consists of two large tailing piles, several rock piles, quarries, a mill, mining-related buildings, and a pit lake. Several interim measures, including an EPA removal action, have taken place to mitigate releases at the site. EPA performed preliminary assessments at this site for potential listing on the Superfund National Priorities List (NPL).

Community Goals

The scale of this mine is such that many large, non-vegetated flat open areas containing removed and graded cap rock are available as a result of site activities that could be suitable for large-scale renewable energy projects. During potential future site remediation, up to 150 acres could potentially be configured to accommodate solar photovoltaic (PV) arrays. The community has expressed interest in developing idle land that cannot be used for other purposes due to contamination, as well as minimizing the environmental impact of the abandoned mine site. This project has the potential to provide rural areas of the state with a renewable and cleaner power source.

Feasibility Study: Solar

EPA and NREL conducted a study on the potential for solar power generation on the VAG 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; and
- Reviews the economics of the proposed system.

The VAG site has several different locations with potential for installing large solar arrays, including a 2.2 megawatt (MW) array on the waste-rock area, a 4.6 MW array in the entry and building areas, or a 11.6 MW array on south facing slopes of the Eden and Lowell piles.

Based on current site conditions and available state incentives, a 2.2 MW system installed on waste-rock area of the site would take full advantage of the Vermont Sustainably Priced Energy Development (SPEED) standard offer program and could be installed prior to potential future site remediation. This option represents a good value based on current incentives and economics, as well as represents the most likely feasible installation and maintenance strategy given the current conditions of the site and current expectations for potential future remediation. The study recommends that the interested site parties move forward with an additional environmental investigation to further validate the near-term potential to develop this waste-rock area at the site.

Vermont Asbestos Mine Group Site Eden and Lowell, Vermont

Site Facts:

Site type: Mine, Potential NPL
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



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