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**Capturing the Renewable Energy Potential of
Landfills and Brownfields Sites**

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Capturing the Renewable Energy Potential of Landfills and Brownfields Sites

Aileen M. Hooks¹

I. Introduction

This paper explores the use of landfill sites and sites with a history of industrial or commercial use or other uses involving hazardous substances or petroleum products, with known or suspected contamination, including brownfield and superfund sites, collectively “potentially contaminated lands” or “potentially contaminated properties,” for the production of renewable energy, including solar and wind power installations and landfill gas-to-energy projects, focusing on environmental considerations relating to siting renewable projects at these sites.

Although deciding to redevelop potentially contaminated lands requires consideration of a multitude of factors, potentially contaminated lands represent an enormous opportunity for renewable energy development and can offer a number of benefits. To realize these benefits, potential risks, liabilities and additional regulatory requirements must be assessed and, where possible, should be mitigated.

II. Background

“Potentially contaminated lands” are sites where contamination is suspected but has not yet been confirmed **and** sites where contamination has been identified.”² Potentially contaminated sites include brownfields, landfills, superfund sites, mining sites, or other sites with a history of industrial use. Brownfields are properties “the expansion, redevelopment, or reuse of which may be complicated by the presence of potential presence of a hazardous substance, pollutant, or contaminant.”³

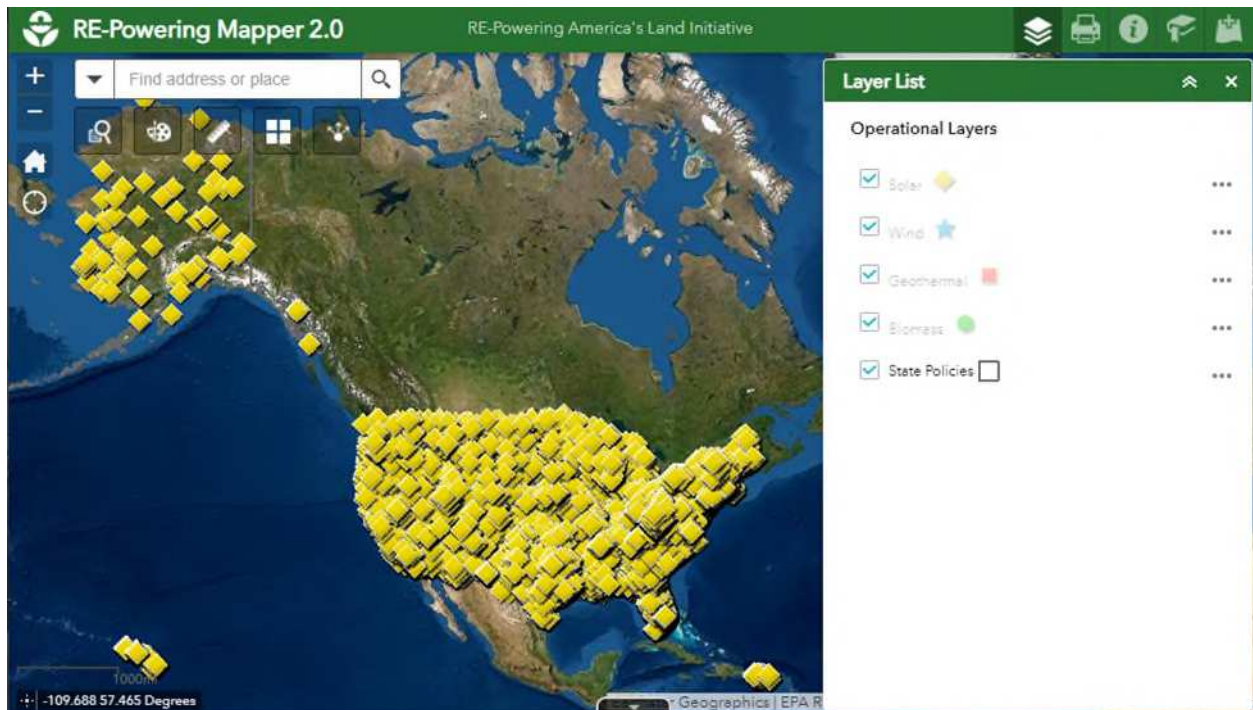
The United States Environmental Protection Agency (“EPA”) has identified “over 130,000 contaminated lands, landfills, and mine sites, collected from state and federal sources, that have been pre-screened for renewable energy potential,”⁴ as reflected in the “Re-Powering Mapper” below. Siting renewable energy facilities on potentially contaminated sites can help restore those lands to safe and productive use.

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² Learn More About RE-Powering, EPA, <https://www.epa.gov/re-powering/learn-more-about-re-powering#what> (last visited Jan. 7, 2021) (emphasis added).

³ Overview of EPA’s Brownfields Program, EPA, <https://www.epa.gov/brownfields/overview-epas-brownfields-program> (last visited Jan. 7, 2021).

⁴ RE-Powering Mapper 2.0, EPA, <https://geopub.epa.gov/repoweringApp/> (last visited Jan. 8, 2021).



5

Identifying whether a potentially contaminated property was or is contaminated and what steps have been taken to assess and cleanup any contamination is critical to an understanding of the whether such a site will be suitable for renewable energy development and what risks could be associated with developing a project on the site. The following provides a high-level overview of the cleanup process.

A typical land cleanup process includes the following steps: site identification, environmental assessment, cleanup plan, cleanup, and post-cleanup.⁶ During the site identification phase, the location, types of structures, and potential contamination are determined. When an environmental assessment, or remedial investigation, is conducted, the site is investigated to determine the nature and extent of contamination. If, through the assessment, the site is determined to have contamination at levels requiring a response under applicable environmental laws, a cleanup plan is designed based on information gathered during the assessment stage, which is typically submitted to the applicable regulatory authority for review and approval. Some cleanup plans are subject to requirements to provide notice to the public and an opportunity for comment. The cleanup is then conducted per the plan, and some sites require ongoing monitoring and/or institutional or engineering controls to ensure continued protection of human health and the environment. Institutional controls are typically legal documents such as

⁵ *Id.*

⁶ Siting RE-Powering Projects While Addressing Environmental Issues, EPA, https://www.epa.gov/re-powering/siting-re-powering-projects-while-addressing-environmental-issues#renewable_energy_project_development_process (last visited Jan. 7, 2021).

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