

Community Renewable Energy Grant Program

Resources for Applicants

This document provides a brief overview and guidance of what information to include for a project's general/specific resource assessment when applying to ODOE's [Community Renewable Energy Grant Program](#).

RESOURCE ASSESSMENT GUIDE

A renewable resource assessment seeks to identify whether the project would make use of an adequately available renewable energy resource and would need to include a description of the type of resource, how the resource availability was evaluated and estimated, and how the system will ensure access to the resource.

Solar

Solar Resource Assessment (SRA) refers to the analysis of a prospective solar energy production site with the end goal being an accurate estimate of that facility's annual energy production (AEP).

Hydroelectric

There are three levels of resource assessments performed by the hydropower industry.

- (1) Theoretical potential is the annual average amount of physical energy that is hypothetically available.
- (2) Technical resource potential is the portion of a theoretical resource that can be captured and converted into electricity using a specific technology.
- (3) Practical resource potential is the portion of the technical resource that is available when other siting considerations and constraints—including economic, environmental, and regulatory—are factored in.

Geothermal

Geothermal resource assessment is the broadly based appraisal of the quantities of heat that might be extracted from the earth and used economically at some reasonable future time. In the United States, the Geological Survey is responsible for preparing geothermal assessments based on the best available data and interpretations.

Wind

When developers plan a new wind power plant, they rely on location-specific data regarding wind speed, meteorological patterns, terrain, and other factors to inform siting and design decisions. Wind resource maps provide a quick and simple understanding of wind resource potential. These maps also show geographic boundaries and topographic features.

In addition, interactive maps and geospatial data provide wind supply curves, which characterize the quantity, quality, and cost of land-based and offshore wind energy resources.

Landfill Biogas

A landfill resource assessment typically involves characterizing the site by carrying out predictive modelling and calibrating these results by undertaking a pumping trial. The objective of a landfill gas pumping trial is to determine the volumes and qualities of LFG that can be sustainably extracted from a landfill. The information generated from the trial gives assurance that the correct management approach is selected (e.g., passive management or active extraction). Where active extraction can be shown to be sustainable, the trial will provide information on the required design parameters of a permanently installed extraction system to ensure the system is adequate in scale so that all can be controlled correctly.

Biogas/Cogen

Biomass resource assessments quantify the existing or potential biomass material in a given area. Biomass resources include agricultural crops and residues; dedicated energy crops; forestry products and residues; animal wastes; residues and byproducts from food, feed, fiber, wood, and materials processing plants; as well as post-consumer residues and wastes, such as municipal solid wastes and landfill gases. These biomass resources could be used to produce power, heat, transportation fuels, and various chemical products.

Marine Energy (Wave, Tidal & Ocean Thermal)

- **Waves**—energy contained in ocean surface waves
- **Tidal streams**—energy contained in the flow of water from tides
- **Ocean currents**—energy contained in the flow of water resulting from large-scale ocean circulation patterns
- **River currents**—energy contained in rivers that can be harnessed without flow diversion structures such as dams
- **Ocean thermal gradients**—energy contained in the temperature difference between ocean surface and deeper waters.