

Vega Baja Solid Waste Disposal Superfund Site

Vega Baja, Puerto Rico

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OVERVIEW

The Vega Baja Solid Waste Disposal Site (Site) is about two kilometers (km) south of Vega Baja's downtown. Remedial action that involved cleanup of residential soils and an investigation of potential groundwater contamination was completed in 2015. The Site was listed on the National Priorities List (NPL) on July 22, 1999. Now, the Environmental Protection Agency (EPA) is helping the municipality and local partners to evaluate ways the land at the Site could be used to benefit the community.

Frequent power outages, fluctuating electricity prices and extreme weather events are common challenges for communities around Puerto Rico. Creating more resilient alternative energy options is an important priority for many communities. In 2019, the Puerto Rico Energy Public Policy Act set a goal for the commonwealth to supply 100 percent of its electricity from renewable resources by 2050.

Solar photovoltaic (PV) generation can offer a resilient, cost-effective, and environmentally friendly source of energy. This document summarizes information about the surrounding area and local population and evaluates solar power generation opportunities that could benefit the municipality and residents.

Demographic Considerations

The 72-acre Site contains a residential area of 213 homes. Approximately 721 people live in the area. This population was determined using EPA's [EJ Screen tool](#), which calculates approximate population using EPA Site boundaries and an appropriate surrounding area if needed.

For more information about climate and economic justice in Puerto Rico, see the [Climate and Economic Justice Screening Tool](#).

QUICK FACTS

Description: Former solid waste disposal site

Location: Road 674, KM 2, Rio Abajo Ward, Vega Baja, PR

Size: 72 acres/ 0.29 km²

Owner: Multiple Owners

Remedial Action Status: Complete

Solar Capacity (Estimated): 1.8 megawatts

Redevelopment Considerations:

- Landfill cap
- Fence to limit access
- Institutional Controls including deed and land use restrictions

Website: www.epa.gov/superfund/vega-baja-disposal



Figure 1: Approximate Vega Baja Superfund Site boundary.

Reuse Opportunities

Reuse opportunities identified for the Site include:

Solar renewable energy generation

PV energy could be used to provide power to the community surrounding the Site. Solar panels can be mounted on rooftops and in an array on the ground.

- **Landfill Solar** – Approximately 12,000 square meters of land is available to support a 1.8 megawatt (MW) solar array at the Site. See Solar Economics for more info about development and financial benefits of solar on a landfill site.
- **Battery Storage** – Creating a microgrid system in which local solar panels are backed up by batteries can protect residents from losing power during a storm.
- **Rooftop Solar for Residents** – Rooftop solar panels could be deployed in the communities surrounding the Site. Buildings in the vicinity of the Site are either owned privately or by the municipality.
 - If property owners install their own rooftop solar, [LUMA Energy](#) can purchase 75% of PV electric output that customers do not use at their property. LUMA will purchase excess power from rooftop solar at \$0.10/kilowatt-hours (kWh). This is known as net metering. The PV system size limit for net metering is 25 kilowatts for residential and 1 megawatt for commercial.
- **Resilience Hub** – Resilience hubs are systems tailored to a community’s energy needs that can provide electricity during grid events or climate related disasters. The U.S. Department of Energy ([DOE](#)) has awarded funding to support this effort.

Solar Economics

There are several ways that the community and municipality could help sponsor and benefit from a solar project at the Site. The municipality or a development partner could pursue an approximately 12,000 square meter solar project.

- **Third-party ownership** – The most common way is for the municipality or landowner to work with a solar development partner that installs the panels and sells the power to one or more users through a Power Purchase Agreement (PPA). A third-party developer builds, owns, operates and maintains an array while the customer hosts the system on their property.
- **Direct ownership** – the municipality finances, builds, owns, operates, and maintains the solar project and controls the electricity it generates.
- **Community solar** – a solar project that accepts capital from and provides output to multiple customers.

Power Purchase Agreement (PPA)

A customer enters a contract with the third-party owner of the solar system to purchase electricity at a set rate per kWh.

The 2023 Inflation Reduction Act (IRA) created incentives that can help businesses and local governments to finance solar renewable energy projects. Solar project size and cost before and after applying opportunities are outlined in the following table:

Vega Baja Site		
Project Size	1.8 MW (~3 acres/12,120 square meters)	
Estimated Cost	\$5,000,000	
Investment Tax Credit	-\$1,500,000	30%
Bonus Tax Credits*	-\$1,500,000	30%
Low Income Community (10%), Domestic Content (10%), Energy Community (10%)		
Project After Tax Credits	\$2,000,000	40%
*Project must be < 5 MWAC in capacity, and there is a national maximum allocation for this adder. Vega Baja is in a low-income community as defined by U.S. Treasury and meeting IRA domestic content & labor requirements.		

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