

JUNE 2024

OVERVIEW

The Juncos Landfill Site (Site) is in Juncos, Puerto Rico. The Site's landfill closed in 1981 and the remedial action is complete. The Site was listed on the National Priorities List (NPL) on September 8, 1983. Now, the Environmental Protection Agency (EPA) is helping the town and local partners to evaluate ways the Site property 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 town and residents.

Demographic Considerations

The Site is bordered by residential areas. Approximately 5,598 people live within 0.8 kilometers (km) of the Site (0.5 miles) and 1,770 live within 0.4 km. This population was determined using EPA's [EJ Screen tool](#), which calculates approximate population using EPA Site boundaries and the surrounding area, if needed.

The Site is in proximity to Cieba Norte, a comunidad especial. This means that the community qualifies for special attention and resources under the 2001 “Comunidades especiales de Puerto Rico” law. This designation is intended to facilitate infrastructure and economic opportunities for the most marginalized members of an area.

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

QUICK FACTS

Description: Former landfill; closed in 1981.

Location: Bo Cieba Norte, Road 189, Juncos, PR

Size: 20 acres/ 0.08 km²

Owner: Municipality of Juncos

Remedial Action Status: Complete

Solar Capacity (Estimated): 4.8 megawatts

Redevelopment Considerations:

- Landfill cap
- Long-term groundwater monitoring
- Fence to limit access
- Landfill gas venting system
- Institutional Controls (pending)

Website: www.epa.gov/superfund/juncos-landfill



Figure 1: Approximate Juncos Landfill 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 the capped landfill, rooftops and in an array on the ground.

- **Landfill Solar** – Approximately 32,000 square meters of land including the capped landfill and surrounding area is available to support a 4.8 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 52,700 square meter solar project.

- **Third-party ownership** – The most common way is for the local government 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 local government 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 below:

Juncos Landfill Site		
Project Size	4.8 MW (~10 acres/32,000 square meters)	
Estimated Cost	\$13,500,000	
Investment Tax Credit	-\$4,000,000	30%
Bonus Tax Credits*	-\$4,000,000	30%
Low Income Community (10%), Domestic Content (10%), Energy Community (10%)		
Project After Tax Credits	\$5,500,000	60%
*Project must be < 5 MWAC in capacity, and there is a national maximum allocation for this adder. Juncos is in a low-income community as defined by U.S. Treasury and meeting IRA domestic content & labor requirements.		

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