

# Building Renewable Resilience in St. Croix

## BMR Energy's Spanish Town Facility

### Context

The Caribbean has been shifting towards a more renewable energy supply over the past decade. But since the massive devastation of Hurricanes Irma and Maria in 2017, “resilience” has been at the crux of conversations as governments rebuild infrastructure and consider future development.

The Spanish Town solar farm in St. Croix, U.S. Virgin Islands—in operation since 2015—received significant damage during the 2017 hurricanes. The plant remained offline for nearly 5 months, while grid repairs were implemented, and production was limited to less than 45 percent of its energy capacity once reenergized.



Total of **4 megawatts** **16,000 solar panels** of power and **9 inverters**

Located in **St. Croix, U.S. Virgin Islands**

Returned to full operation **November 2018**

In June 2018, BMR Energy purchased the plant from NRG Energy, Inc. and began efforts to restore and enhance the facility.

### Impact

- Supplies power for approximately **1,600 homes** in St. Croix.
- Reduces greenhouse gas emissions by **7,200 tons of CO<sub>2</sub>** equivalent per year—the equivalent of taking **1,400 cars** off the road each year.
- Power provided to the local grid **decreases the amount of fuel oil** that needs to be burned to provide electricity.
- Increases facility **resilience** and promotes energy **stability** by utilizing robust racking for solar panels and climate-resistant inverters.



## Process

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While the Spanish Town facility's racking was sturdy, well-designed and rated to withstand hurricane-force winds, some damages were still incurred. The majority of the plant's photovoltaic (PV) infrastructure remained standing, and the limited damage has since been repaired. The plant's electrical equipment, including the inverters, sustained significant damage -- despite being housed inside a sealed building -- when the structure's roof fan blew out during the hurricane. The facility also experienced a static surge that damaged electronic equipment and some solar PV modules.

As the new facility owners, BMR has employed an extreme-case scenario approach to resilience by replacing the damaged electrical and inverter equipment with outdoor-rated equipment with salt- and moisture-resistant coating even though the inverters will remain indoors. Roof fan replacement and installation also included strengthening supporting structures. To combat future static surges, BMR reinforced the grounding system for the electrical equipment and array and established new storm preparedness operating procedures to check grounding systems and reinforce where needed. Under BMR's ownership, facility design and operations center around planning for both the known and unknown.

## Beyond the Project

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BMR is committed to going beyond energy development in our support for thriving, sustainable communities.

In Spanish Town, BMR is creating jobs by employing local residents and several locally-based contracting partners to restore and maintain the facility.

For more information on the St. Croix solar facility or other BMR Energy projects:



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