



An energy-efficient house designed by the Puerto Rico team for the 2002 Solar Decathlon. *Photo by Chris Gunn, NREL 12192*

# Case Study: Increasing Resilience in Puerto Rico with Solar Plus Storage

## Pathway: Rooftop Solar as an Eligible Weatherization Measure in WAP

### Solar Plus Storage Pilot

The Puerto Rico Department of Economic Development and Commerce (DEDCC) began exploring pathways to add rooftop solar through the Weatherization Assistance Program (WAP) in 2017. This was motivated by the destruction from Hurricane Maria that year, which caused island-wide electric power loss, and by the high cost of electricity on the island. In 2018, the U.S. Department of Energy (DOE) worked with DEDCC to structure and approve use of WAP funds for a pilot to install rooftop photovoltaic systems with battery storage. Although battery storage had not previously been approved as an eligible measure in WAP, the pilot was approved due to the result of the lasting conditions after the passing of the hurricane. Funds were used to service households that still had no electricity and to which power would not have been restored in the foreseeable future.<sup>1</sup>

### The goals of the pilot were to:

- Reduce energy consumption from the utility company
- Use rooftop solar-plus-storage systems as backup during power outages
- Provide resilience to households in remote locations
- Collect and analyze data to inform future studies

- Create a strong framework for future projects in Puerto Rico
- Help achieve government energy resiliency goals
- Share information with DOE and other stakeholders.

The pilot allocated \$40,000 of WAP funds, along with \$54,000 of DEDCC State Energy Program funds, for a total of \$94,000. Ten units were selected to participate in the project. Combining WAP and DEDCC State Energy Program funds allowed DEDCC to fully cover the cost of solar and storage projects.

In December 2020, DEDCC hosted a public auction to select the contractor to implement the installations. Solar and battery storage systems were ultimately installed on a total of six units between May and June 2022.<sup>2</sup> Each household received a 3-kW solar panel system; a 240-V, 3.8-kWh inverter; and four 12-V, 250-AH sealed lead carbon batteries.<sup>3</sup>

Following completion of the pilot, DEDCC did not allocate further funds toward this effort and paused implementation of future pilot phases to explore other options for solar program design. A leading option under consideration is the use of Low Income Home Energy Assistance Program (LIHEAP) funds for solar on homes previously served by WAP.<sup>4</sup>

### Key Takeaway

- Leveraged funds are critical to enable solar (and storage) within WAP and LIHEAP, and the consistency of funding sources is an important consideration in program design.

<sup>1</sup>DEDCC, direct communication, February 28, 2024.

<sup>2</sup>National Association for State Community Services Programs 2022 Annual Training Conference Presentation: Integrating Solar into Weatherization.

<sup>3</sup>National Association for State Community Services Programs 2022 Annual Training Conference Presentation: Integrating Solar into Weatherization.

<sup>4</sup>DEDCC, April 24, 2023.

