San marino utility-scale solar

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For many of us active in the energy industry, when we think about solar, we think about the vast arrays of panels covering acres and acres of land. Unsurprisingly, the growth of the US solar industry is - and will continue to be - mainly driven by the utility-scale segment. In our latest US Solar Market Insight Report, we estimate that the utility-scale segment will lead the solar industry, with almost 70% of the capacity built in the US over the next 10 years.

However, many markets follow a very different dynamic. Regions with weak transmission infrastructure and an ageing generation fleet tend to advance distributed generation (DG) resources. These factors, in addition to favorable DG policy by local utilities, contribute to higher penetration of behind-the-meter solar resources. One of these markets with high expected DG penetration is Puerto Rico.

While the utility-scale market has gained some traction over the past few years, the distributed segment will largely drive solar growth in Puerto Rico. We forecast that more than 5. GW of solar capacity will be installed in Puerto Rico over the next 10 years. Yet, only 440 MW will come from the utility-scale segment. Low investment in transmission infrastructure, slow permitting processes, challenged site availability, and limited grid resiliency limit the expected growth of the utility-scale segment.

The distributed generation segment, conversely, is in a much brighter place, as there are tools and incentives to drive installations on the island. From a policy standpoint, Laws 17, 57, and 114 of 2014 govern and protect distributed generation in Puerto Rico. These policies allow behind-the-meter (BTM) renewable projects up to 1 MW to be connected to the grid, establish a net metering mechanism, and regulate interconnection tariffs and timeframes.

The local utility, LUMA, has a robust net metering program, allowing all clients to submit an interconnection request online. By law, any requests must be finalized in 30 business days, a very competitive timeframe compared to many areas in the US. Moreover, strong federal incentives will continue to enable DG installations, with up to $1 billion destined to increase residential solar + storage installations by companies like Sunnova and nonprofits like Let’s Share the Sun.

Distributed generation is an excellent mechanism on its own to help reduce load and increase the penetration of clean energy resources. In Puerto Rico, DG is a multi-pronged solution to many of the citizens’ issues with energy security and the environmental impact of its generation fleet.

This week, six Woodmackers will be in Adjuntas, Puerto Rico installing solar panels and energy storage

systems on homes affected by natural disasters. The group will be part of a broader delegation coordinated by Let’s Share the Sun.

Click here to learn more about Wood Mackenzie’s work with Let’s Share the Sun. To support Let’s Share the Sun"s mission of providing energy to those most in need, you can donate here.

US residential solar companies Sunrun, Sunnova and power product supplier Generac have been selected by the US Department of Energy (DOE) to install rooftop solar and battery storage systems for vulnerable households in Puerto Rico.

DOE expected the first installations will begin in spring 2024, adding that these companies will enter award negotiations and may be awarded a total of US$400 million in funding, part of the first tranche of Puerto Rico Energy Resilience Fund (PR-ERF) announced last year, to deploy residential solar and battery systems for up to 40,000 vulnerable households across Puerto Rico.

The latest selection was the first round from the 2023 PR-ERF Funding Opportunity Announcement. Eligible beneficiaries will include very low-income, single-family households that are either located in areas that have a high percentage of very low-income households and experience frequent and prolonged power outages; or include a resident with an energy-dependent disability, such as an electric wheelchair user or individual who uses at-home dialysis machines.