Enel North America intends to build one of the largest solar photovoltaic (PV) manufacturing facilities in the US, expected to initially produce at least 3 GW and scale up to 6 GW of high-performance bifacial PV modules and cells annually. The proposed facility will be among the first in the United States to produce PV cells, the key building blocks that make up solar panels.

The facility is expected to create up to 1,500 new clean energy jobs, while also supporting the creation of a domestic solar PV supply chain to accelerate the growth of US generated energy and add to the country’s domestic solar cell and panel manufacturing capacity.

Construction of the proposed factory is expected to begin in the first half of 2023, and it’s anticipated that the first panel will be produced and available to the market by the end of 2024.

The proposed US factory will be Enel’s second solar PV manufacturing facility globally. The company previously announced the expansion of its 3Sun Gigafactory in Catania, Sicily, increasing its production capacity from 200 MW to 3 GW.

Boston, MA – November 17, 2022 – Enel North America, through its affiliate 3Sun USA, LLC, today announced its intention to build an industrial-scale production facility in the US for the manufacturing of innovative, sustainable and American-made photovoltaic (PV) modules. The proposed facility is expected to have a minimum production capacity of 3 GW with the possibility to scale production to 6 GW annually and is anticipated to create up to 1,500 new direct jobs by 2025. The facility is expected to be among the first in the United States to produce solar cells, the fundamental building block of PV modules.

“Recent policy tailwinds from the Inflation Reduction Act have served as a catalyst for our solar manufacturing ambitions in the US, ushering in a new era of made-in-America energy,” said Enrico Viale, head of Enel North America. “With this announcement, it is our intention to bolster a robust domestic solar supply chain that accelerates and strengthens the US’s transition to clean energy. In doing so, we are creating thousands of new jobs, supporting local economies and providing stability to the solar industry.”

Currently, Enel is evaluating possible sites for the new factory and expects to begin construction in mid-2023. It’s anticipated that the first panels will be available to the market by the end of 2024. Fewer than five large-scale solar module manufacturing facilities (over 1 GW) are currently operating in the US, while annual US solar PV installations are projected to grow from 16 GW in 2022 to 41 GW by the end of 2025, according to Wood Mackenzie.

Enel will leverage its expertise and experience from its 3Sun Gigafactory in Catania, Italy, which is set to become Europe’s largest factory producing high-performance bifacial photovoltaic modules. Enel intends to replicate the Gigafactory factory in the US to produce bifacial heterojunction (B-HJT) PV cells that capture more sunlight as the cells can respond to light on both front and rear surfaces.

3Sun is already a market leader in producing high-efficiency cells, breaking a record in 2020 by achieving 24.63% efficiency. Through an ambitious R&D program, the PV panels will be further developed to also incorporate a tandem structure, which utilizes two stacked cells that allows for more light to be captured compared to single-cell structures, yielding higher overall cell efficiency. The combination of bifacial PV panels and tandem cell structure offers significant efficiency improvements, which will enable PV modules to exceed 30% efficiency, securing higher average energy production. The technology’s lower degradation ensures a longer useful life for modules, and the cells’ high density is conducive to a variety of applications, including land-constrained utility-scale installations or rooftops.

About Enel North America
Enel North America, part of the Enel Group, is a clean energy leader in North America and is working to electrify the economy and build a net-zero carbon future by decarbonizing energy supply, electrifying transportation, creating resilient grids, and promoting a just, equitable transition. Enel North America serves over 4,500 businesses, utilities, and cities through renewable power generation, demand response, distributed energy resources, smart e-mobility solutions and services, energy trading, advisory and consulting services, and more. Its portfolio includes over 8 GW of utility-scale renewable capacity, 606.8 MW of utility-scale energy storage and 63 MW of distributed energy storage.
capacity, 4.7 GW of demand response capacity, and 110,000 electric vehicle charging stations. Visit enelnorthamerica.com and follow us on LinkedIn, Twitter, and YouTube to learn more.

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