Florida microgrids palau

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ENGIE eps is building what"s billed as the world"s largest, solar power-energy storage microgrid for the government of Palau. With 100 MW of power generation and distribution capacity, the Armonia microgrid will enable Palau to meet its 45%-by-2025 renewable energy goal five years ahead of schedule, as well as offer electricity at the lowest rates in Palau"s history, according to the project partners.

Faced with rising sea levels, saltwater intrusion of freshwater reservoirs and other ripple effects of a warming climate, Pacific island nations and territories have emerged at the forefront of the global effort to stem the rising tide of greenhouse gas emissions, mean global temperatures and the myriad, profound effects of rapid climate warming. Having signed on the UN Paris Climate Change Agreement, the government of Palau enacted its 45%-by-2025 renewable energy target, along with a goal of reducing energy-sector emissions 22% below 2005 levels, in August 2017.

"In the midst of the global energy transition, it is imperative that we address climate mitigation and climate adaption - at the same time," Palau President Tommy Remengesau stated.

As we reduce our carbon footprint, so too should we reduce the vulnerabilities of our energy infrastructure in the face of rising seas and natural disasters. As we generate cleaner energy, it must also be reliable, accessible, and economical for those citizens of the world who live on the front-lines of climate change. Our partnership with ENGIE has accelerated Palau"s transition toward a renewable and resilient future.

A 30-year power purchase agreement (PPA) signed by the Government of Palau, with the Palau Public Utilities Corp. as off-taker, and ENGIE eps sets the terms and conditions of the ambitious, Pacific island-wide Armonia project. Estimated value of the project totals US$70 million to US$80 million and ENGIE eps expects to bring Armonia online before the end of 2019, CEO Carlalberto Guglielminotti told Solar Magazine.

Ten years of research and development went into EPS" (Electro Power Systems) off-grid, solar-storage technology and systems platform before executives officially launched the company"s new business strategy and long-term plan in May of 2014, Guglielminotti recounted. The company"s stock was listed and open to trade in April the following year and the company was busy carrying out projects in various countries.

The largest independent power producer in the world, French multinational ENGIE acquired a controlling equity stake in EPS earlier this year. The acquisition closed in March. By the end of 2017, ENGIE eps had grown to be one of the largest installers of off-grid, solar-storage and other types of hybrid microgrids in the world, having installed or contracted to install systems with a total power capacity of more than 80 MW, according to the CEO. At the time, ENGIE eps microgrids were supplying clean, emissions-free electricity to more than 165,000 people in Africa and Asia.

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By the time ENGIE announced its acquisition plan, EPS had deployed microgrids in the tens of megawatts in Africa and the Maldives, a 12-MW system in Australia and a 20-MW energy storage system in Spain. Billed as the largest microgrid of its kind in the world, "Armonia isn"t all that different in terms of order of magnitude, but it is much larger in scale," Guglielminotti said.

"Lots of people are claiming lots of things when it comes to solar-storage and microgrids, but ask them how many people they are supplying power to. By the end of next year, ENGIE eps will commission systems powering the work and lives of approximately 500,000 people," Guglielminotti said in an interview.

ENGIE eps prides itself on the power and energy technology it has developed in-house. The company sources solar PV and battery energy storage cells from third parties, but all the other hardware and software used in its projects, including containerization, are designed and manufactured in-house, either by eps or by another ENGIE business group or operating unit.

Adopting and integrating the latest power electronics, digital information and artificial intelligence tools and technology with renewable power and energy storage systems has been a driving force fueling development and growth of distributed renewable energy worldwide, a trend that ENGIE eps is capitalizing on. That said, software accounts for perhaps no more than 20 percent of the complexity of managing and stabilizing distributed and off-grid power systems, as compared to power electronics, power conversion and power control and management hardware, according to Guglielminotti.

"We offer a full slate of technology and complete, turnkey solutions that includes fully integrated power control and electronics, power conversion and battery systems management, inverters for both solar PV and energy storage along with dispatching algorithms and SCADA (Supervisory Control and Data Acquisition) platforms," Guglielminotti told Solar Magazine. "We offer full, completely vertically integrated solutions that enable anyone to manage a grid of whatever scope and scale - from small, localized systems up through to national grids."