

PROJECT CHALLENGE

As one of the U.S. Virgin Island's leading project developers, Jackson Development Company, LLC prides itself on designing and constructing Affordable Housing Developments. They deliver reliable, low - cost power with minimal environmental and societal impacts. As a fundamental principle, Jackson Development builds projects to a hurricane hardened standard and one that is committed to stylish design, tenant amenities, and secure power. Their commitment to a more sustainable future does not just target what they build, but how they build it.

As part of their process in providing hurricane resilient power, Jackson Development is not only committed to doing it with the lowest carbon footprint, but also the lowest cost to operate. When the opportunity arose to re-develop the defunct St. Thomas Dairy site with 108 affordable rental apartments, the company turned to E-Finity Distributed Generation, Capstone's distributor for the Caribbean, Mid- Atlantic and southeastern U.S., to deliver such a solution.

Beyond meeting goals for reduced energy costs, increased efficiency, and reliability, E-Finity designed its' ultra - low emission distributed-generation microgrid around a microturbine paired with solar and batteries that was a natural fit for this premier developer's overall corporate sustainability initiatives.

PROJECT SOLUTION

To meet the apartment complex's sophisticated electric needs for both tenant and common area operations, the system was engineered by E-Finity with 455 kW of power from seven Capstone Turbine propane-fueled C65 microturbines and complemented with a 150 kW solar array and an 820 kWh Battery Energy Storage System (BESS). This microgrid installation not only provides 100% of the complex's electrical power, but it does it with the least amount of propane needed.

PROJECT PROFILE

Customer
Magens Junction by
Jackson Development

Location
U.S. Virgin Islands

Commissioned
January 2021

Fuel
Renewables

Technologies

- Seven C65 Capstone Microturbines
- 820 kWh Battery Energy Storage System
- 150 kW Solar Array
- Redundant m-TIM

"E-Finity has provided Jackson Development Co. with a dependable and cost effective means to generate off grid power for our multifamily rental developments in the USVI. Without E-Finity's expertise in power generation and microgrid technology, it would be impossible for us to provide safe, affordable and hurricane hardened housing for Virgin Islanders."
said Bob Jackson Principal, Jackson Development, LLC



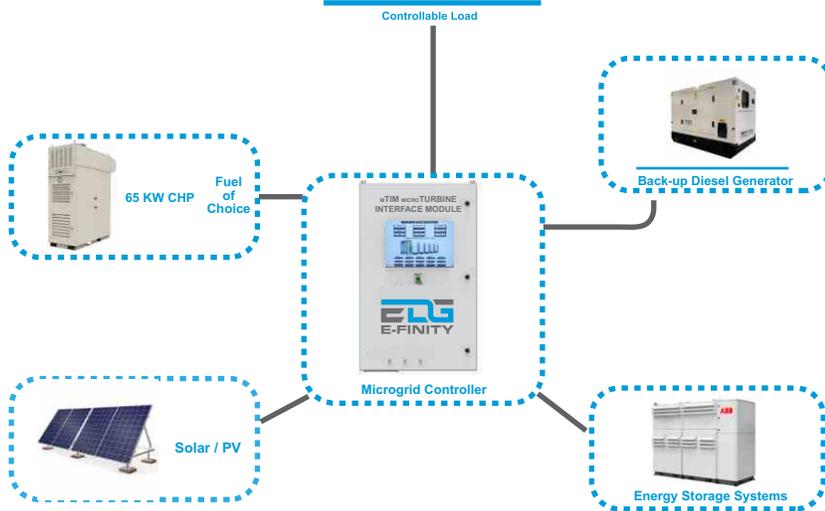
PROJECT SOLUTION CONT'D

E-Finity's m-TIM Controller is programmed to authorize the microgrid to select solar generation, microturbine generation, or both simultaneously to load follow and automatically adjust the amount of power needed to match and keep the BESS at the optimal "state of charge," meeting the apartment complex load, achieving maximum energy efficiency, and achieving the lowest possible carbon emissions obtainable.

PROJECT RESULTS

The E-Finity microgrid system installed at Magens Junction is the Islands single largest microgrid and the first of its kind in the USVIs. The microgrid produces around 1 million kWh of electricity. The system is designed with an 18,000-gallon propane tank that can fuel the system for 8-10 weeks before needing to be refilled. In addition, the system saves more than \$250,000 a year in energy costs and delivers un-interruptible (UPS) quality power to the entire site. The energy produced by the microgrid is extremely clean and eliminates over 700,000 pounds per year of CO2 carbon emissions that would have been generated by using grid power. That is the equivalent of removing over 100 cars from the road and planting 400 acres of forest each year in St. Thomas.

With a 15-year Factory Protection Plan (FPP) in place, Jackson Development receives comprehensive service coverage on all components including engine overhauls as well as all scheduled and unscheduled maintenance at a fixed cost for the entire term. Using connectivity through the company's robust m-TIM Controller, the E-Finity Customer Service Team provides power plant operations and uses their remote monitoring system to supervise, service, and optimize all microgrid components resulting in peak performance.



“To power all of this and also phase one, is an energy plant with solar panels on the roof, battery storage racking system, 7 propane powered microturbines and a diesel backup generator. In addition, all of the hot water for the buildings will be generated from heat recovered from the microturbines which will eliminate the need of electric water heaters with in the units.

Mr. Jeff Beiter from E-Finity, our power partner, is here today to help us mark this opening. Thanks Jeff for your outstanding energy knowledge and for helping us to be leader” in the energy sector.”
said Clifford Graham, Jackson Development, LLC

Power to be Independent