

HYBRID ENERGY SYSTEM – NL ANTILLES, 2017

LARGE-SCALE ISLAND ELECTRIFICATION, ST. EUSTATIUS



Today, solar energy covers 46% of St. Eustatius' total electricity need. Grid Forming SCS 2200 inverters allow to operate the island grid for 10.5 hours in Diesel Off-Mode operation with 100% Solar Power Fraction. In total a 5.9MWh Li-Ion storage facility has been integrated for energy shifting and grid services. Thanks to the SMA Fuel Solution about 4,560 tons CO2 per year can be saved. The project has been designed, and implemented by the SMA Sunbelt Energy GmbH.

Project "St. Eustatius Phase 1+2"

- Location: St. Eustatius, Caribbean
- Commissioning: November 2017
- Requirements: Grid forming inverters, overall power and energy management system

Plant information

- Installed PV power: 4.15 MWp
- Installed Storage capacity: 5.9 MWh
- Diesel capacity: 4 MVA
- Annual energy yield: 6,400 MWh
- Annual diesel savings: > 1,700,000 liters
- Island Load: ~2MW

System Technology

- Battery: 2 x SCS 2200 Grid Forming in 2 x MVPS 2200 and 1xSCS 1000 in MVPS 1000
- PV: 2xSC CP XT1000 in 1xMVPS 2000 and 74 SMA Sunny Tripower 25000TL-30
- Control: Hybrid ControllerSC 2.0 with Automatic Genset Shutdown

SMA system solutions for hybrid applications

