STONE EDGE FARM MicroGrid Technical Overview

Sonoma, California, USA
Facility/Load Type: Agricultural, Residential
Project Timeline: July 2013-June 2018

Total Capacity: 785kW

Generation Types:
- Fuel Cell Hives
- Hydrogen Electrolyzer/Fueling Station
- Iron Flow Cell Battery
- Lithium Cobalt Ion Battery
- Lithium Iron Phosphate Batteries
- Microturbine
- Sodium Ion Battery
- Zinc Bromide Flow Cell Battery

Energy Storage Capacity and Duration:
- Aquion Sodium Ion Battery: 28kW/380kWh
- ESS Iron Flow Cell Battery: 10kW/65kWh
- Redflow Zinc Bromide Flow Cell Battery (2): 10kW/20kWh
- SimpliPhi Lithium Ferro Phosphate Battery (7): 23.8kW/45kWh
- Sony Lithium Iron Phosphate Battery (8): 2.4kW/9.6kWh
- Tesla Lithium Cobalt Ion Battery (80): 250kW/475kWh
TOTAL: 324kW/995kWh

Current Generation Capacity (not including energy storage)
- Solar PV: 368kW
- Capstone Microturbine: 65kW
- ReliOn Fuel Cell Hive: 28kW (kWh based on quantity of hydrogen stored)
TOTAL: 461kW

Programmable Loads:
- Millenium Reign Hydrogen Electrolyzer: -400kW

Planned Additional Generation Capacity:
- Solar PV: 300kW

Principal Engineer: Wooster Energy Engineering
Vendor Partners:
- Capstone Turbine Corporation
- DC Systems
- Dersch Design & Engineering, Inc.
- Eaton Corporation
- Emerson Electric
- Energy Storage Systems, Inc.
- Enphase Energy
- Heila IQ
- Independent Electric Supply, Inc.
- Millenium Reign Energy, LLC
- Pacific Gas & Electric
- PlugPower, Inc.
- Redflow Advanced Energy Storage
- SimpliPhi Power
- Smart Geotech, Inc.
- Sonoma Clean Power
- Sony Corporation
- Tesla Motors