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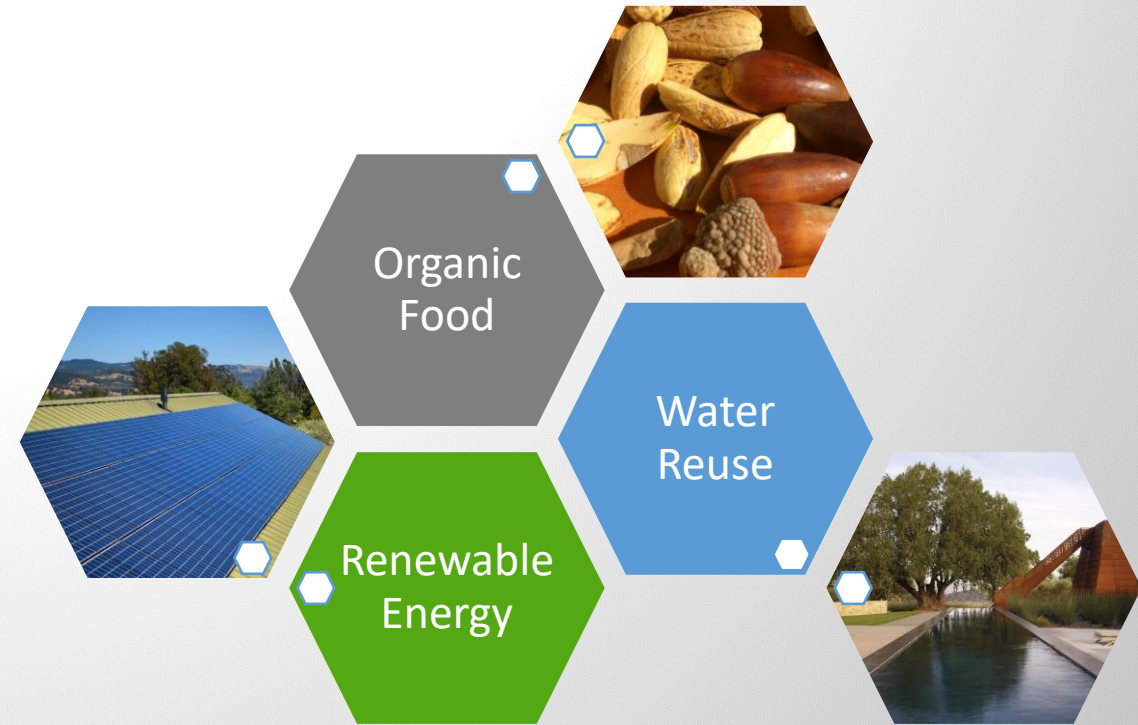
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# Stone Edge Farm Microgrid

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# Stone Edge Farm (SEF): The Vision for Sustainability



# Stone Edge Farm (SEF): Living Laboratory of Technologies



## Controllable Elements

**Eight solar arrays**

**Battery systems**

Tesla, Simpliphi, Aquion, LG Chem, ESS

**Hydrogen System**

Electrolyzer with fueling station

Hydrogen storage

Fuel cell system

**Controllable loads**

EV charger, motors, HVACs

**Gas turbine**

## Capabilities

**Grid-tie mode**

Economic Dispatch

Peak shaving and load shifting

Ancillary services capabilities

Decentralized optimization

**Island mode**

Decentralized power sharing

Multi-Master operation

**Seamless islanding / reconnection capabilities**

## Stone Edge Farm has provided immense value



### Resiliency

24/7 island operation for long periods of time include wildfire/SPSP outages in 2017, 2018 and 2019

### Renewables & Storage

Nearly 100% of our energy is offset by on-site solar generation. Seasonal storage next for true net-zero

## Lessons Learned for Commercialization

### 1 Modularity reduces long-term risks

Reduce upfront capital costs.  
Rightly sized systems as requirements change.

### 2 Diverse vendor ecosystem is key to growth

Competitive bids.  
Technology diversity reduces long-term risk.  
Right technology for the right need.  
Increased resiliency with different product failure modes.

### 3 Policy can do more for the industry

Interconnection and VPP applications are difficult.  
SGIP grants have been effective, though some implementation complexity/confusion.

Location of DERs in SEF

- 1 Tesla + Dynapower Master
- 2 SimpliPhi + Dynapwer Master
- 3 Capstone Gas Turbine
- 4 Aquion + Ideal Power
- 5 SimpliPhi + SMA
- 6 LG Chem + SolarEdge
- 7 Solar Fronius
- 8 Solar SMA Tripower
- 9 Solar SMA SunnyBoy



