

## **About Fortress Power**



We manufacture the highest quality Lithium Iron Phosphate (LFP) batteries at <a href="https://doi.org/10.1007/jhp.10.2007/">The Automotive Quality Standard for residential and commercial applications (5kWh-4.2MWH)</a>

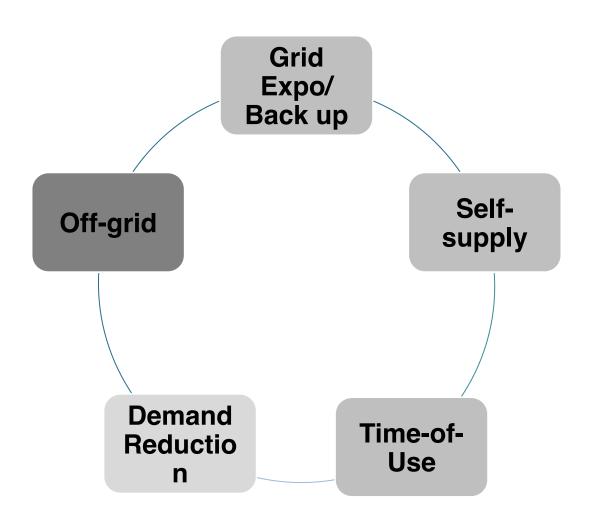
- U.S. Headquarters based in Langhorne, PA, plus 3 Offices: Asia, California, and Puerto Rico
- Founded in 2016
- Backed-up by Private Equity Partner
- 30,000+ Installs in US, International Markets
- Key Lithium Battery Supplier for numerous Government & Utility Entities



## **ESS APPLICATIONS**



## **ENERGY STORAGE APPLICATIONS**





### **Back Up Your Facility**

Power your facility when the grid is off; keep solar panels running during outages. Run Generators more efficiently



### **Allows "Self Supply"**

Install PV where grid prohibits back feed



#### **Maximize Your PV Production**

Store excess solar power for later use.



### Save Money on your Electric Bill

Charge the batteries at off-peak times; discharge them during peak periods. Peak Shaving to lower demand.



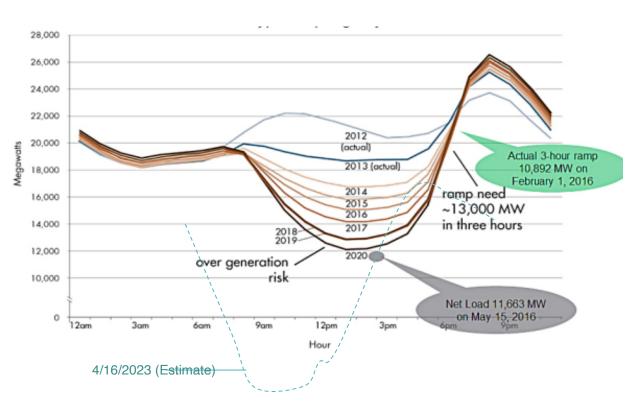
### Tax and Incentives

30% ITC available if it's powered by solar; enjoy state and utilities rebates

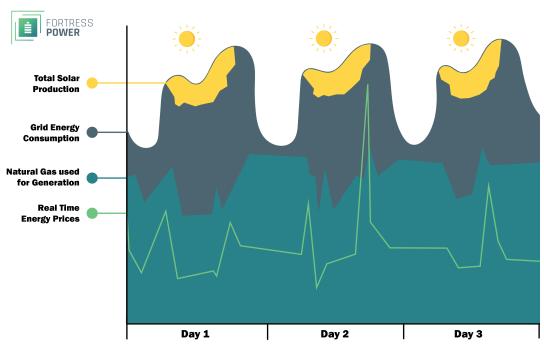


## California "Duck Curve" -> Canyon Curve

## Shows overgeneration risk and ramping need



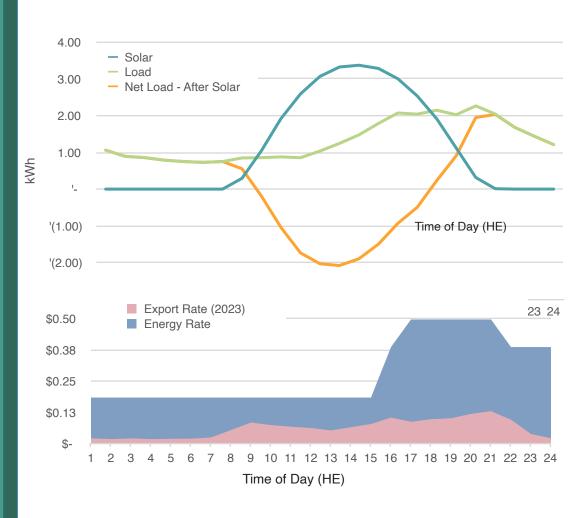
## Gas Peaker Plants drastically increase output for evening peaks

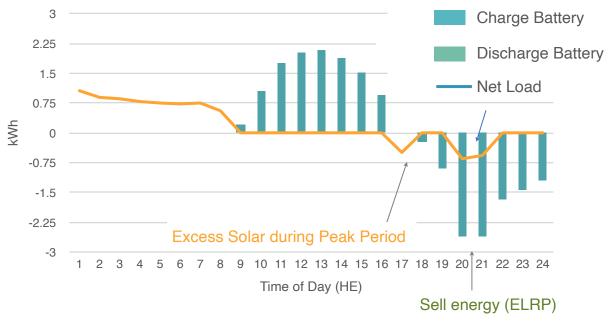




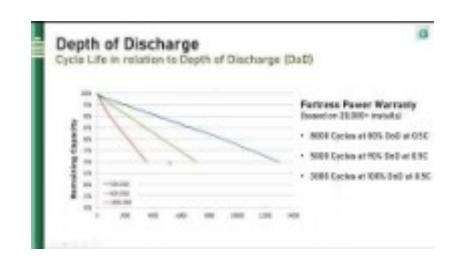
### **Value of Solar Midday is Low**

### Use energy when it's most valuable









- 1) **Not** all Lithium Iron Phosphate (LFP) Batteries are the same!
- 2) Different Manufacturers use different combat mixes, which determine the quality, longevity and safety.
- 3) The same manufacturer produces the batteries at different quality levels based on application (EV > Energy Storage > Telecommunication).
- 4) **Prismatic LFP cells** have the best power density and thermal stability.
- 5) Some batteries aren't ready for new code requirements, even if they are LiFePo4!



## Fortress Power 48V Product Line



## eVault Max 18.5kWh (48V)

- Tier 1 Automotive Prismatic Lithium Iron Phosphate Cell with 8000+ cycle life
- The largest single unit that's approved for SGIP Projects (17.7kWhAC approved)
- Easy to install & sleek look
- Local monitoring through LCD display
- Scalable up to 370kWh
- Close-loop with all 48V hybrid inverter (Sol-Ark, Schneider, SMA, Outback, Victron, Growatt, Phocos)



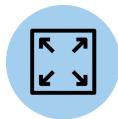


**CYCLES** 





UL 9540 & 9540 (A) CERTIFIED



LARGEST CAPACITY



98% ROUND TRIP EFFICIENCY

## eFlex 5.4 kWh (48V)

- Tier 1 Automotive Prismatic Lithium Iron Phosphate Cell with the highest cycle life & robust BMS
- Patented Enclosure design achieves 4 times better thermal performance than our competitors
- IP 65 Dust and Water-Proof design for outdoor install
- Flexible mounting options (wall mount, floor-stand or standard 19" industrial server rack mount)
- Close-loop with all 48V hybrid inverter
- Scalable to 162 kWh



UL9540 UL9540 (A)

Application Scenarios:













MOBILE RAILWAY

MARINE

TELECOM



## **FlexTower**

- √ Compatible with 48V Inverters
- ✓ IP 65 water & dust proof for outdoor installation
- ✓ Battery cabinet & Inverter cabinet are separated to allow flexible install & easy expansion
- √ Easy parallel multiple inverters or batteries







## Fortress Power Envy 12kW

#### Features Include:

- An All-in-One Solution with PV, Generator, and On/Off Grid Capability
- 200A AC Passthrough
- · Outdoor Rated at IP65
- Scalable up to 10 units (120kWAC)
- · Built in RSS Transmitter
- · 3 MPPTs for up to 21kW Output

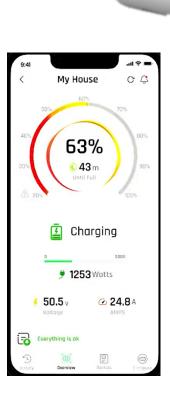


## **Monitoring Gateway/APP**

### Guardian

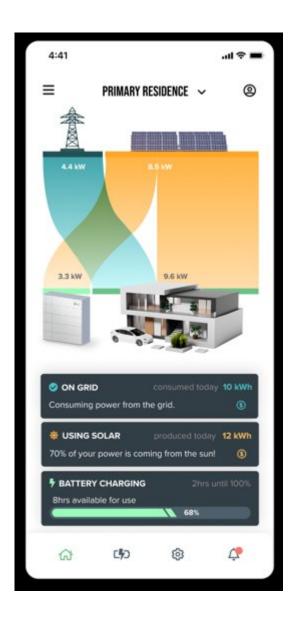
- Monitoring each single battery on the site
- Automatically discovers and connects to Fortress Power's products for Warranty Registration
- Remote firmware update & maintenance
- Live tech support chat

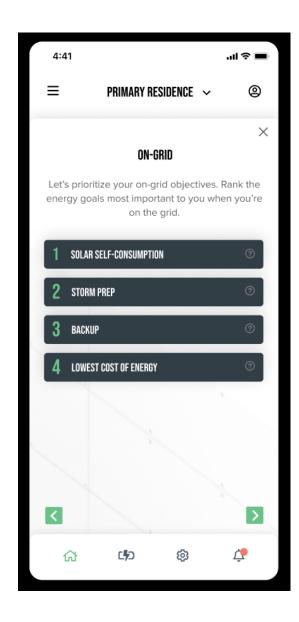


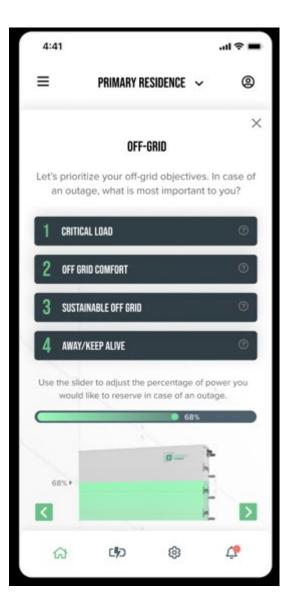


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## One App For All Applications









# Fortress Power High Voltage Product Line

# Smart Whole Home Back up Solution One solution for all

- Smart Micro-Grid Controller integrates Solar,
   Generator, EV charger and VPP
- Whole-Home Back-up via Smart Load Management
- Flexible Plug & Play Solutions (AC/DC Coupling;
   In- & Outdoor install; Wall mount or Floor mount)
- Easy Expansion with stackable design
- Safe Tier 1 Lithium Iron (LFP) Chemistry



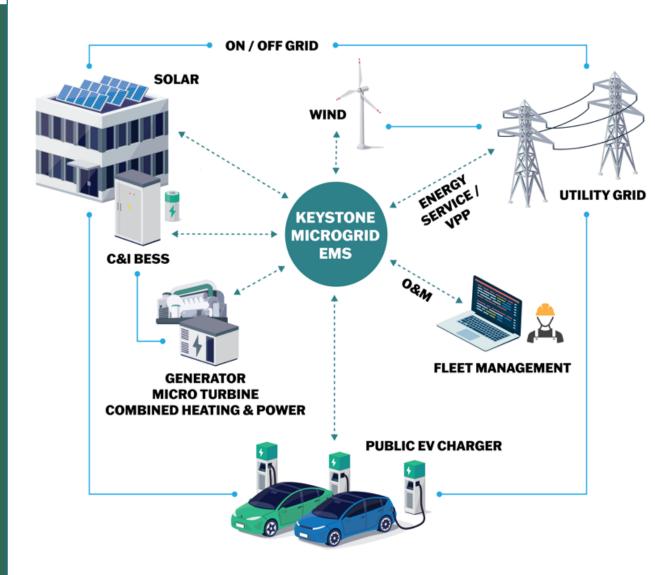


## Fortress Power

• YOUR C&I ENERGY STORAGE SOLUTION PARTNER



### The most completed EMS solution available on the market with 7+ years in operation!



### **Energy Cost Saving**

- Dynamic Peak Shaving
- Active Time of Use/Energy arbitrage
- Zero Export
- > PV production maximization

### Additional revenue from Energy Service/VP

- Utility demand response
- Wholesale market participation
- Retail value optimization

### **Energy resilience**

- Fully off-grid/Microgrid Application
- Grid-tie backup

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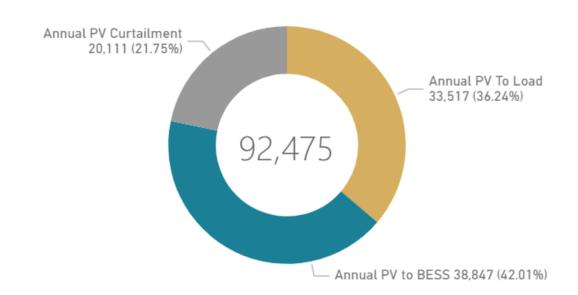
### Solution:

### **New Mexico Brewery**

- 55 kW Solar Array (92.5 MWh/year)
- 125 kW/280 kWh eSpire system
- CapEx total: \$349,957

- Results:
- \$167,455 incentives and tax Benefits
- \$44,654 annual utility bill savings (86%)
- 88% of savings from demand charges
- Payback in <5 years</li>

### PV Generation Distribution (kWh)



### Project Overview

### \$349,957

TOTAL PROIECT COST

- TOTAL INCENTIVES \$167,455 - IRR 16.7% - PAYBACK 4.9 YEARS - NPV \$213.000

### Savings Summary

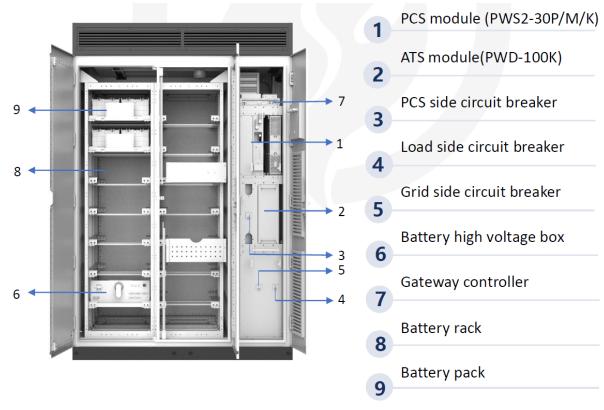
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|-----------------|----------------------|---|-----------------------|----------|
| BASELINE YEARLY | COST <b>\$51,500</b> | - | TOTAL UTILITY SAVINGS | \$44,654 |
| NEW YEARLY COST | \$8,700              | - | DEMAND SAVINGS        | \$39,470 |
| TOTAL SAVINGS   | \$42,800             | - | ENERGY SAVINGS        | \$5,185  |
| LCOE            | \$0.3 / KWH          | _ | ENERGY CREDITS        | \$0      |

### eSpire Mini-Plug & Play Solution

### **Key Features**

- All in One DC/AC Couple ESS, Small Footprint (WDH)80x50x90
- Integrated Grid Disconnect (30ms transfer time)
- Fully integrated Microgrid/EMS
- Flexible Configuration:
  - > 30/60/90KW 208 or 480AC
  - > 45/90/135KW MPPT
  - > 81KWH~266 KWh
- Stackable Up to 3 Units
- UL 9540(A) Certified
- NEC & Grid Compliance
- Support remote O&M, reporting, alarm



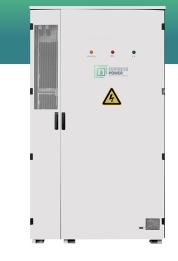


eSpire 280/300-Modular & Scalable Design

### **Key Features**

- AC Couple125KW 3 Phase BESS
  - ➤ 280/300KWH Battery Capacity
- Modular Design: Flexibility deployment
- Fully integrated Microgrid/EMS
- Stackable up to 0.65 MW AC with 4 MWH
   Battery Capacity
- UL 9540(A) Certified
- NEC & Grid Compliance
- Support remote O&M, reporting, alarm



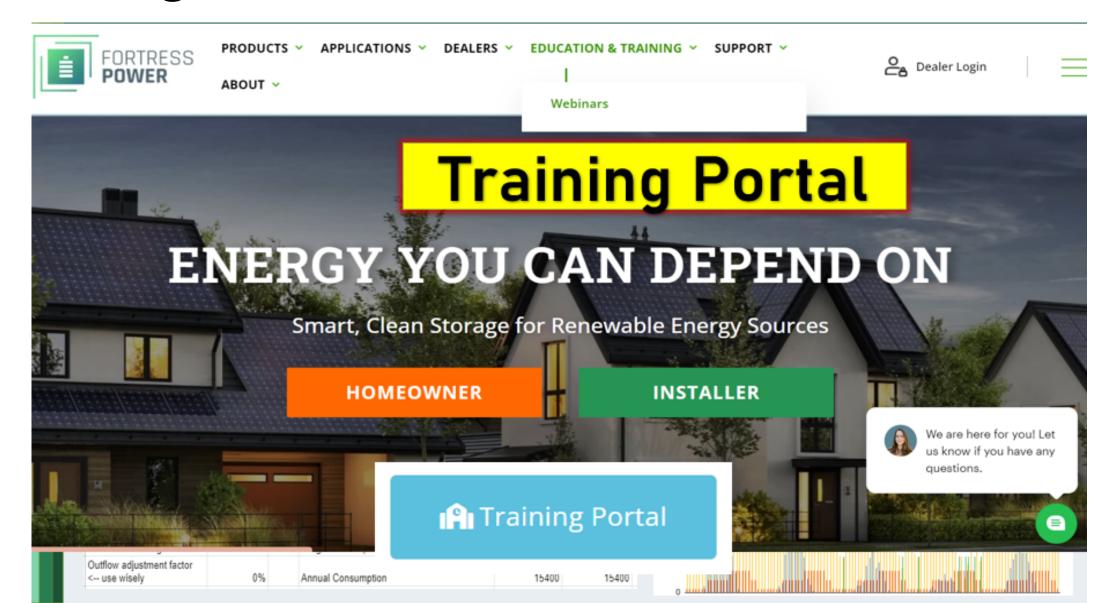








## **Training Portal & Other Resources**





## If you want to go fast, go alone; if you want to go far, go together!

