

# FastGrid

## **STATEMENT OF CAPABILITIES**



*Collaborative Partners in Project Engineering*

# About FastGrid

We are an Arizona based company founded in 2016 and are a leader in solar energy, battery storage, and greater renewable energy! Our team has decades of experience in traditional and renewable power generation; including project development, engineering, procurement and construction, operations and maintenance, financing, and M&A.

**10GW**

Solar Gigawatts  
Designed and  
Engineered by  
FastGrid's Team

**5GWh**

BESS Designed and  
Engineered by  
FastGrid's Team

**25**

States Currently Licensed



# Why FastGrid?

*Leaders in Renewables & Energy Storage*

**Responsive**

**Nimble**

**Experienced**

**Technology  
Agnostic**

**Collaborative**

# What we do

## BESS Services:

### **Preliminary:**

- Identification of Key Suppliers & Configurations
- Integrator Coordination & Pricing Market Knowledge
- Indicative Cost Estimates
- Indicative EPC & BOP Budgets
- Risk Matrix
- Level II EPC & BOP Budgets

### **System Optimization:**

- Optimal Design Scenario Charts
- Advanced Optimization & Simulation Modeling
- Annual BESS Energy & Performance Profile

### **BESS Retrofit:**

- Incremental Revenue
- Incremental Costs
- Multiple Use Cases

### **Detailed Financial Analysis:**

- Modeling Methodology:
- ESS Operational Logic & Sensitivity
- Time Series Revenue, Delivered Energy, COS Expected Revenue
- Capacity Value (RA, ICAP, CP, or other)
- Net Energy Value (Arbitrage at Nodal Level)
- Reserve Values
- Regulation Values
- Expected Project Costs
- Demand Charges
- Charging Limits
- Charging Energy
- Augmentation
- O&M
- Warranty
- Use Case Profile Creation

### **Electrical:**

- Preliminary Site Design
- Site Design & Site Design Optimization
- EOL Optimization
- Economic Dispatch Modeling
- Beginning of Life Optimization
- System Integration Support
- System Design for Tolling, Market Participation, and Reliability Services
- DC Block, PCS, MV AC, and LV AC Electrical Design
- Gas Peaker Hybrid Plant Design with Battery Storage. Market Participation and/or Blackstart/Reliability Services
- Solar Wind Hybrid Plant Design with Battery Storage. Market Participation and/or Blackstart/Reliability Services



# What we do

## Development Engineering and Owner's Engineering Services:

### **Electrical:**

- Site Assessments and Layouts
- Sensitivity Analysis
- RFP Support
- Energy Yield Modeling/Analysis
- Energy Yield Mapping
- Advanced Energy Storage Simulation and Optimization
- PVSyst Shading Scene

### **Civil:**

- Constraints Map/Buildable Area Development
- Hydrology/Stormwater Study Analysis
- Prelim Drainage and Flow Control Design
- Traffic Engineering
- Wetland Delineation, Reporting, Permitting, and Mitigation
- Shadow Analysis

### **Structural:**

- Prelim Pile Design
- Prelim Foundation Design for Inverters
- Pile Information Review
- Grading vs. Steel Analysis
- Prelim Geotech Report Review

### **Geotech:**

- Foundation Suitability
- Pile Testing
- Corrosion
- Thermal Resistivity
- Prelim Geotech Report
- Review Soiling Boring Logs, Lab Testing Results and historic resistivity data
- Provide expected subsurface conditions
- Fatal Flaw Review
- Geotech SOW



# What we do

## Preconstruction Services:



### **Electrical:**

- Site Assessments and Layouts
- Feasibility Studies/Constraint Analysis
- RFP Bid Design Package Development
- Energy Yield Modeling/Analysis
- Energy Storage Retrofit
- Advanced Energy Storage Simulation and Optimization
- PVSyst Shading Scene

### **Civil:**

- Wildlife/Habitat Studies
- Environmental Site Assessment
- Prelim Drainage and Flow Control Design
- Traffic Engineering
- Wetland Delineation, Reporting, Permitting, and Mitigation
- Landscape Design

### **Structural:**

- Pile Design
- Foundation Design for Inverters
- Foundation Quantities
- Grading vs. Steel Analysis

### **Geotech:**

- Foundation Suitability
- Pile Testing
- Thermal Resistivity
- Geotech Report
- Investigation Location Plan
- Local Utility Coordination

### **LiDAR/Topographic Survey:**

- Aerial Imagery/LiDAR Survey
- Ground Control and Truthing
- Topographic Survey



# What we do

## Detailed Engineering Services:

### **Electrical:**

- 30/60/90/IFC Design Drawing Sets
- Permitting Support
- Electrical Engineering Studies
- Peer Review
- As-Builts
- CA/RFI Management

### **Civil:**

- SWPPP
- Storm Water Management Analysis Calculation/Report
- SPCC Plan
- Hydraulic and Hydraulic Assessment
- Erosion Control
- Site, Grading, and Drainage Plan
- Landscape Buffer/Restoration Plan

### **Structural:**

- Balance of System Equipment
- Tracker Foundations
- Fence Foundations Calculations
- Pile Location Plan

### **Geotech:**

- Foundation Suitability
- Geotech Report
- Corrosion
- Thermal Resistivity
- Fatal Flaw Review

### **LiDAR/Topographic Survey:**

- Aerial Imagery/LiDAR Survey
- Ground Control and Truthing
- Topographic Survey



# What we do

## BESS Commissioning Oversight & Testing Services:



- 3rd Party Walkthrough and Inspection of Equipment
- Witness Test and Review
- Test Plan Preparation
- Safety Systems, Alarms, and Fire Functional Test
- HVAC Functional and Performance Test
- BESS and PCS Integration Test
- Energization Test
- Manual Charge and Discharge Test
- Manual MVAR and P vs. Q Capability Test
- Round Trip Efficiency Test
- Capacity Test
- Ramp Rate Test
- Availability Test
- Daily Reports
- SCADA and System Integration Design, Commissioning, and Troubleshooting support
- Site Controller, String/Inverter Controller, BESS Application Layer, GIA and Project Site Controller Design, DD, Commissioning and Troubleshooting Support
- Compile, Organize, Run and Witness Site Acceptance and Performance Tests
- Pre-Parallel Utility Witness Testing
- Safety Compliance Support
- COD Testing with ISO or Market Entity
- Metering and Telemetry Review
- Blackstart Testing per ISO Requirements and Procedures





# RECENT SOLAR PROJECTS

*A summary of FastGrid's most recent projects, both in progress and completed*

## Alabama-

100MW Solar PV

Service: Engineer of Record

## Arizona -

396MW Solar PV

Service: Development Engineer

Client: IPP

## Arkansas -

271MW Solar PV

Service: Engineer of Record

Client: IPP

95MW Solar PV

Service: Engineer of Record

## California -

20MW Solar PV

Service: Development Engineer

Client: Developer

225MW Solar PV

Service: Engineer of Record

## Illinois -

275MW Solar PV

Service: Development Engineer

Client: Developer

10MW Solar PV

Service: Engineer of Record

Client: EPC

## Florida -

79MW Solar PV

Service: Engineer of Record

Client: EPC

## Indiana -

242MW Solar PV

Service: Engineer of Record

Client: EPC

## Louisiana -

50MW Solar PV

Service: Development Engineer

Client: IPP

80MW Solar PV

Service: Engineer of Record

Client: IPP

300MW Solar PV

Service: Engineer of Record

Client: IPP

200MW Solar PV

Service: Engineer of Record

Client: EPC

145MW Solar PV

Service: Engineer of Record

## Michigan -

170MW Solar PV

Service: Development Engineer

## Montana -

100MW Solar PV

Service: Engineer of Record

Client: EPC

## Nevada -

(2) 300MW Solar PV

Service: Engineer of Record

## Oklahoma -

62MW Solar PV

Service: Development Engineer

Client: Developer

## Tennessee -

104MW Solar PV

Service: Development Engineering

## Texas -

60MW Solar PV

Service: Development Engineer  
Client: Developer

540MW Solar PV

Service: Development Engineer

530mw Solar PV

Service: Engineer of Record

514 MW Solar PV

Service: Engineer of Record  
Client: EPC

85MW Solar PV

Service: Engineer of Record  
Client: Developer

## Virginia -

85MW Solar PV

Service: Engineer of Record  
Client: EPC



# OUR RECENT BESS PROJECTS

## California -

100MW/400MWh Saticoy Energy Storage Facility

Service: Owner's Engineering, Electrical Engineering

200MW/400MWh BESS Black Start

Service: Electrical Engineering

90MW plus 70MW/280MWh BESS

Service: Development Engineering, Engineer of Record

60MW/240MWh BESS

Service: Testing and Commissioning

100MW/400MWh BESS

Service: Development Engineering, Testing and Commissioning

200MW NGT plus 40MWh BESS

Service: Engineer of Record

25 MW Bess Standalone

Service: Electrical Engineering

80MW Battery Storage

Service: BESS

Client: Developer/Owner

## Texas -

(2) 200MW/400MWh BESS

Service: Owner's Engineering, Engineer of Record

(10) 10MW/20MWh BESS

Service: Engineer of Record (50 Site Portfolio)

(2) 200MW/300MWh BESS

Service: Electrical Engineering

(3) 100MW/150MWh

Service: Electrical Engineering



# Contact Us

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