

The logo for FastGrid, featuring the word "Fast" in a thin, black, sans-serif font and "Grid" in a bold, black, sans-serif font, both contained within a white rectangular box that is centered within a larger black rectangular background.

Fast**Grid**

STATEMENT OF CAPABILITIES

Collaborative Partners in Project Engineering



About FastGrid

FastGrid is a Phoenix based limited liability corporation founded in 2016 and is a leader in the solar energy space as well as the energy storage and greater renewable energy industry. We provide design, analysis, and detailed engineering as well as development support services for solar and energy storage projects throughout the United States. .

We have designed and engineered greater than 6GW of solar projects and 2GWh of energy storage for IPPs, utilities, developers, EPCs, government, education, commercial, industrial, retail, hospitality, and professional sports teams.

The team at FastGrid has decades of experience in traditional and renewable power generation, including project development, engineering, procurement and construction, operations and maintenance, financing and M&A activities.

Our approach to our clients is simple, to serve as collaborative partners with a shared goal of project execution.

We are currently licensed in 38 states and with offices in Phoenix (HQ), Kansas, Montana, and Texas our team can provide local support to our clients across the country.



Why FastGrid?

We are **RESPONSIVE** - FastGrid understands that project development is a complex and intensive process. Our team strives to provide deliverables that add value in a timely fashion. We ensure that our clients won't go days wondering what work had been performed.

We are **COLLABORATIVE** - FastGrid is more than simply a service provider, we first work to understand your project, your unique situation, and your overall objectives. We then align with each of these to create solutions collaboratively that will deliver your project successfully.

We are **NIMBLE** - Agility is a key component to any successful project, and your engineering firm should be no different. We leverage our team and expertise to engage quickly and efficiently transition into multiple phases or projects with you.

We are **EXPERIENCED** - Unlike other firms, we have walked in your shoes with experience across the project development value chain. We create value with decades of knowledge from having actually developed, engineered, negotiated, constructed, and conducted M&A in the traditional, renewable, and energy storage space.

We are **TECHNOLOGY AGNOSTIC** - "We fly no flag" - FastGrid does not endorse or represent any given technology or solution. The solution that we develop together with you is strictly based on what is best for your specific project, your desired solution, and your cost basis supported by our market knowledge and experience.

FastGrid

Thank you for your interest in FastGrid, we appreciate the opportunity to be considered as your engineering partner.

The renewable power industry continues to grow at a breakneck pace, and now the impact of energy storage to transform the dynamics of power markets is unquestionable. Both are key to solving the current limitations of the power grid, from generation and transmission to distribution.

FastGrid provides interconnection & siting, owner's engineering, detailed engineering, and project support for solar energy projects, standalone storage, and storage paired with renewable and traditional generation. We partner with developers, EPC's, OEM's, utilities, operators, investors, and asset owners.

Unlike other firms in our space, we have walked in your shoes. Throughout our time in the industry, we have developed projects, performed all necessary engineering from site assessment to interconnection drawings for permit, negotiated EPC agreements, overseen construction, raised capital, and purchased and sold projects. We understand your perspective based on where you operate in the space and can support your unique objectives as a partner, not just a service provider.

From utility scale to microgrids we work in collaboration with our clients and we look forward to engaging with you and supporting your next project to its successful completion.

Sincerely,



Eric Hafner
Managing Principal & CEO



Eric Curry
Managing Principal & President

Our Engineering Capabilities

INTERCONNECTION & SITING

Interconnection Assistance

- Injection capability studies
- Pre-Feasibility studies
- Site specific cost estimations
- Regional screening studies
- Injection analysis of up to 4,000 injection points
- Interconnection request documentation preparation
- Technical representation with utility/RTO/ISO

Planning & Analysis

- Area prospecting support
- Analysis of injection points based on your criteria
 - Size
 - Location
 - Voltage
- Site analysis
 - Slope
 - Energy output
 - Buildable area
- Transmission/Power Flow analysis
- Contingency analysis
- NERC TPL and MOD studies
- Reactive power flow analysis
- Transient/Post Transient stability analysis



Our Engineering Capabilities

DEVELOPMENT ENGINEERING/OWNER'S ENGINEERING

- Site Assessment & Layouts
- Plant Capacity Design / Indicative Design
- Resource Studies
- Feasibility Studies / Constraint Analysis
- Generation / Consumption Analysis
- Critical Flaw Analysis / Recommendation
- Customized Energy Modeling for PV and Energy Storage
- Advanced Energy Storage Simulation and Optimization
- Technology Benchmarking
- Retrofit Existing Renewable Projects with Energy Storage
- Interconnection Single-Line Diagrams
- EPC Identification, Price Discovery, Negotiation, and Arrangement
- EPC Technical Exhibit Creation and Editing
- Creation, Refinement, and Review of Project Scope and Budget
- Request for Proposal (RFP) Preparation and Administration
- Commissioning Oversight



Our Engineering Capabilities Continued

DETAILED ELECTRICAL ENGINEERING

- Electrical Engineer of Record (EOR) (Licensed in 38 states)
- Project Kick-Off and Basis of Design Support
- 30/60/90% Drawing Sets
- Issue for Permit / Issue for Construction Drawing Sets
- Record Drawings
- Equipment Specifications
- Equipment Specification Development
- Technical Studies
- Owner's Engineer for SCADA Design and Construction
- Construction Administration & Project Management



OUR RECENT PROJECTS

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

100MW/400MWh Saticoy Energy Storage Facility

Owner's Engineering, Electrical Engineering
California

40MW BESS Paired w/Thermal Generation

Electrical Engineering
US Virgin Islands

200MW/400MWh BESS Black Start

Electrical Engineering
California

469MW Utility Scale Solar

Owner's Electrical Engineering
Texas

640MW Utility Scale Solar

Electrical Engineering
New York

10MW/40MWh BESS Standalone

Electrical Engineer
California

18MW Utility Scale Solar

Electrical Engineer
Oregon

25MW BESS Standalone

Electrical Engineer
California

225MW Utility Scale Solar

Electrical and Civil Engineering
Texas

50MW Solar Energy Facility

Electrical and Civil Engineering
Virginia

80MW Utility Scale Solar

Electrical Engineering
Pennsylvania

200MW Utility Scale Solar (Engie Long Draw)

Electrical Engineering
Texas

110MWac Solar Energy Facility

Electrical Engineering
Nevada

49.9MW Utility Scale Solar

Electrical and Civil Engineering
Virginia

80MW Utility Scale Solar

Electrical Engineer
Ohio

15MW Utility Scale Solar

Electrical Engineer
South Carolina

20MW Utility Scale Solar

Electrical Engineer
California

FastGrid Team Leadership



ERIC HAFNER

Eric Hafner, P.E. is the Managing Principal and CEO of Fast Grid Energy. He has led multiple engineering teams in the design of electrical distribution, low voltage communications, microgrids, and renewable energy systems for multiple market sectors. While at NRG, Eric led the engineering team in the execution of renewable energy projects located in the US, Haiti, and Guam. He also led the Emerging Technologies group that created and launched the FastGrid Solo product, a containerized hybrid power system blending renewable energy with energy storage and traditional diesel technologies. Eric Hafner is a certified Professional Engineer in multiple states and holds three provisional patents related to energy storage and hybrid power systems. He holds a Bachelor of Science degree in Electrical Engineering from The University of Wyoming.



ERIC CURRY

Eric Curry is the Managing Principal and President of Fast Grid Energy. He has wide experience across traditional power, renewables, and industrial sectors. Eric launched NRG's distributed solar generation business, spearheading the strategic investment of several hundred million dollars, as well as forming and directing multiple joint ventures with strategic partners, and led numerous acquisition teams. In addition, he has successfully developed utility scale projects internationally as well as high profile ventures with the National Football League. Eric holds a B.S. in Finance cum laude from the University of Houston, and an MBA from Rice University. Eric is also a veteran of the United States Navy where he was deployed in the Pacific Ocean and the Persian Gulf theatres.

FastGrid Team

Meet the dedicated team members of FastGrid

Eric Loos, Sr. Electrical Engineer

Eric is an electrical engineer for the design and implementation of renewable energy systems. Considered by many to be the leading expert for C&I interconnection, Eric has over a decade of experience engineering a multitude of system types ranging from elegant carport arrays to large scale workhorse rooftop array to multi-megawatt utility scale systems. Additionally, with extensive knowledge of building design, Eric has a unique skillset needed to integrate photovoltaic system designs to existing and new facilities allowing owner to benefit from the energy production while also providing an opportunity to promote a visible sign of the owner's commitment to clean energy. Eric's designs can be seen at professional football stadiums of the New England Patriots, Philadelphia Eagles, San Francisco 49ers, and Washington Redskins. Eric is a licensed professional engineer, holds registration in multiple states, and has a Bachelor of Science degree in Electrical Engineering from South Dakota State University.

Michael Connor, P.E. Senior Engineer (based in Phoenix, Arizona)

Mike has over twelve years of solar generation experience in the areas of design, engineering, installation and project management for both utility scale and C&I projects. Mike has led multiple teams of engineers and designers throughout the design of medium and large scale solar generation facilities. He is adept at coordinating across multiple cross discipline engineering teams while maintaining firm standards, consistency and focus on the client's objectives. Mike is a certified Professional Engineer in multiple states, is a North American Board Certified Energy Professional and holds a Bachelor of Science in Electronics Engineering Technology from DeVry University.

FastGrid Team Continued

Mike Powell, Director of Interconnection & Siting (based in Phoenix, Arizona)

With over 29 years of experience, Mike has worked in the process control and transmission planning areas in the power industry. He has spent the last 21 years working with developers to provide knowledge and guidance for utility scale interconnections for wind, solar, and biomass projects. Mike has performed over 20GW of interconnection analysis and applications in all 48 contiguous United States and Hawaii with every major utility and all RTO's/ISO's. Mike is very knowledgeable regarding the different power markets throughout the U.S. and works with developers to identify interconnection points and develop interconnection strategies based on the project location market. Mike holds an A.S. in Electronic Engineering Technology from Victor Valley and an A.S. in Weapons Control Systems from the USAFCC. Mike is also a veteran of the US Air Force.

Cortney Hoffman, Project Development Engineer (based in Phoenix, Arizona)

Cortney provides development engineering expertise for both utility scale solar as well as energy storage projects for FastGrid clients. In addition, she is an expert at energy analysis and simulation leveraging multiple software platforms. Previously she held positions in design engineering and project management, with a mechanical engineering focus. Cortney holds a Bachelor of Science degree in Mechanical Engineering from the South Dakota School of Mines and Technology.

Ian Graham, Project Development Engineer

With over 10 years in the renewable energy industry, Ian brings a long record of experience in microgrids, large scale wind, large scale solar, and battery storage. The first 3 years of his career were developing and building microgrids using wind, natural gas, diesel and battery storage. Then he transitioned on to providing solutions for the wind industry as an Owners Engineer on utility projects in the US. The next period of his career was focused on product and project development for battery storage. Reviewing, modeling and designing >1000 projects for a variety of clients providing them with project analysis, equipment selection, fatal flaw analysis, resource modeling, and the engineering and design packages. His experience covers the whole range of project activities through development, engineering, design, project management, and operations.

FastGrid Team Continued

Kevin White, Project Development Engineer (based in Phoenix, Arizona)

Kevin supports the design of renewable energy systems for commercial/industrial and utility market sectors. Previously with Strategy Solar Energy, Kevin took a multifaceted role in the execution of renewable energy projects located throughout the U.S., including design, energy and financial analysis, O&M, and procurement. He holds a Professional Science Master's degree in Solar Energy Engineering and Commercialization from Arizona State University and a Bachelor of Science degree in Nanoscience and Nanotechnology from The University of Central Florida.

Chad Highland, Senior Electrical Engineering Designer E.I.T. (based in Phoenix, Arizona)

Chad has 12+ years designing electrical distribution and lighting for multiple solar projects, warehouse and multi-floored buildings and associated exterior parking and site. Previously with DLR Group and Kraemer Consulting Engineers, Chad has also completed projects including open office call centers up to approximately 175K square feet, assisted living centers, industrial manufacturing facilities, retail, hotels, and schools. Chad Highland has completed his EIT status with the State of Arizona. He holds a Bachelor of Science degree in Electrical Engineering from Iowa State University of Science and Technology and is currently pursuing his Professional Engineering License.

Gregg Looney, Senior Electrical Designer (based in Phoenix, Arizona)

Gregg brings more than 33 years of experience with specialization in electrical design and construction to support plant engineering, design, construction, integration, and maintenance. Previously with First Solar, Steve has heavy experience in large scale grid PV solar and process control/instrumentation design in projects ranging from 50MW to 500MW with grid interconnection voltage from 69kv to 500kv. Steve's career has also included time with Stirling Energy Systems where he was an EPC Electrical Designer as well as serving as an Electrical Designer at Arizona Public Service, Arizona's largest electric utility. Gregg completed a 4-year Apprenticeship at JATC for IBEW and previously held licenses as a Journeyman Electrician in several states.

FastGrid Team Continued

Lena Luchenta, Electrical Designer and AutoCAD Drafter (based in Phoenix, Arizona)

Lena brings 18 years of experience in Electrical/Civil AutoCAD/AutoCAD-3D design and Navisworks management and is an expert in electrical CAD standards. Previously Lena was with Westwood Professional Services where she performed computer drafting in Autocad Civil 3D 2017 and Electrical Design for utility scale solar projects including Iron Horse Tucson, Arizona's first utility scale battery storage project, Mt Kimley Horn III utility scale solar project in Mexicali, and Cummington Solar Farm in Cummington, Vermont. Prior to Westwood, Lena worked at First Solar as an Electrical Designer performing computer drafting and design for solar panel farms, process all as-builts and DC single line diagrams. Major utility scale solar projects included Moapa Southern, Paiute Solar, Desert Sunlight, Kingbird, North Star, Silver State, East Pecos & Portal Ridge. Lena has completed coursework at Scottsdale Community College.

Leon Reese, Electrical Designer and AutoCAD Drafter (based in Phoenix, Arizona)

Leon specializes in PV design, including Autocad drafting. He has completed projects across the U.S. and is knowledgeable of specific AHJ requirements in multiple states including Arizona, Nevada, Texas, North Carolina and South Carolina. Previously Leon worked in the solar installation area of the renewable industry, leveraging his professional knowledge to optimize installation and design plans to maximize production and efficiency. Leon holds a Bachelor of Science degree in Engineering Technology from East Tennessee State University. He is also a veteran of the United States Army where he served in an artillery unit and was stationed in Fort Hood, Texas.

Nathan Sterk, Electrical Designer and AutoCAD Drafter (based in Phoenix, Arizona)

Nathan is a recent addition to the FastGrid team and brings 8 years of experience within the renewables industry, specializing in the solar and battery storage markets. He has worked on projects ranging in size from residential to utility scale throughout the United States. From installation to design to procurement, Nathan has worked on numerous aspects within projects to gain valuable understanding for every stage of their development. Previously, he has worked with Tesla as a Senior PV and Storage Designer focusing on prototype and complex interconnections and with McCarthy as a Preconstruction Engineer leading up the procurement of inverters and transformers for large scale utility projects. Nathan holds a Bachelor of Science degree in Electronics Engineering with a Renewable Energy focus from Arizona State University.

FastGrid Team Continued

Nektarios Kasidiaris, Electrical Designer (based in Phoenix, Arizona)

Nektarios is a recent graduate from Arizona State University and holds a Bachelor of Science degree in Electrical System Engineering. He provides design support to the team using AutoCad drafting and simulation software. Recently, he joined the FastGrid team and is currently learning the ins and outs of the commercial and industrial electrical world. Additionally, he has a background in property management and construction.

Terri Rogers, Electrical Designer (based in Phoenix, Arizona)

Terri is a senior CAD designer with 23 years of experience in the development of design drawings for electrical substations and solar power plants. She has design experience including the development of Single Line Diagrams, Three Line Diagrams, AC/DC Schematics, communications diagrams, Relay Panel elevations, Device Development Diagrams, General Arrangement, Grounding, Cable/Conduit Schedules/Layouts, Bill of Material, Wiring Diagrams, and Interconnection Diagrams for high voltage (13.8kV – 500kV) substations.

Kellsie Hardy, Office Manager (based in Phoenix, Arizona)

Kellsie is the current Office Manager of FastGrid. In her role as Office Manager, she handles the day to day operations of all FastGrid locations. This includes being responsible for Human Resources, AP/AR, scheduling, licensing, payroll, etc. In her time with FastGrid, she has re-vamped the invoicing and billing system, began tracking all overhead expenses including business development, as well as implementing organizational processes throughout the business. She holds a Bachelor of Science degree in Business Management from Northern Arizona University and has a background in recruiting and headhunting. Kellsie has previous experience working at start-up companies and being one of the first 10 people hired. She also has a love of reading and plans to open an independent bookstore in the future using the knowledge gained at FastGrid.

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