



*More Power to you!*

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**Company Profile:** Founded: 2015

CEO: [Woody Gibson](#)

COO: [Bert Nelson](#)

## **Stalwart Power, Inc.**

### **Overview of Business Summary**

#### **Mission:**

*Stalwart Power uses the best technologies to solve the emerging challenges as regulators, generators; grid operators and consumer strive for cleaner, more sustainable, lower cost electric power.*

Stalwart Power is executing its unique process to innovate, scale and commercialize the most efficient, reliable and cost-effective white-labeled battery energy storage systems for all electric customers. Stalwart has identified, evaluated and secured proprietary advanced inverters, battery management systems and energy management and arbitrage software and combined them with breakthrough battery technologies to develop the world's most capable battery energy storage systems. This integrated approach provides significant cost, quality, packaging, reliability and efficiency advantages.

#### **Key takeaways:**

- Proven solutions for balancing the grid, integrating renewable power, reducing efficiency-robbing reserves, prolonging asset lives and deferring capital investment.
- Low-cost, long-lived, efficient, reliable and scalable battery energy storage systems.
- The only proven solution for real-time balancing of solar power, essentially for the new generation of "guaranteed delivery" solar power purchase agreements.
- Efficient, cost-effective, fast, verifiable demand response, direct load control, permanent load shifting, frequency regulation, marketable reserves and "duck curve" mitigation.

#### **Customer Problem:**

Existing energy storage system providers are packaging legacy inverter equipment with available batteries and software, usually with little regard for system optimization. Often, scale is substituting for technical prowess. Tesla is a prime example. While Tesla is producing battery cells on an unprecedented scale, the Tesla Powerwall lacks almost all of the essential elements of an effective battery energy storage system, and it is offered through Solar City in combination with balance of system equipment and technology that is mediocre at best. According to the latest global energy plan by the International Energy Agency, energy storage is regarded as the essential missing element of affordable, effective, sustainable power, but the current offerings are not innovative enough to provide a total battery energy storage solution. Energy storage is a promising industry, but until real innovation is productized and deployed the growth will be limited – Stalwart Power is addressing these constraints.

#### **Solution/Product Advantage:**

Stalwart controls a proprietary string inverter technology that has been specifically designed to maximize efficiency and reliability, optimize logistics and supply chain through a streamlined manufacturing bill of materials, and minimize size, weight and touch labor. This proprietary inverter architecture with extensive, strong intellectual property protection provides a sustainable and significant cost and performance advantage for Stalwart Power. Specific advancements have enhanced power density using latest electronic components and topology innovations. The inverter solution also provides enhanced data analytics, manages fault ride-through concerns and incorporates a novel direct-access multiple-input-port architecture that eliminates the need for DC connection optimizers, all contributing to much simpler and much less costly integrated systems with higher roundtrip efficiencies. Compared against best-selling industry-standard inverter benchmarks, Stalwart Power's inverter has 70% fewer parts, is 60% smaller, is 40% lighter and has 75% fewer losses. Stalwart Power's inverter is the only inverter available with a California Energy Commission certified 98.5% efficiency, with a clear development path underway to realize 99% efficiency. These efficiencies allow sealed systems without cooling losses, without associated cooling reliability issues, in denser packages, with smaller enclosures and with lower and more uniform operating temperatures that maximize battery performance. When integrated with application-specific advanced lithium ion batteries and proprietary energy management and monitoring software, the Stalwart Power battery energy storage solution delivers a compact, energy-dense, long-lived, reliable, rugged and efficient total energy management system a significant value price point.

## Target Market Opportunity/Outlook

While there are many sources and projections for the energy storage market, a significant consensus is that the US energy storage market alone is anticipated to grow from 221 MW in 2015 to around 1.7 GW annually in 2020. This would equate to over \$2.5 billion annually at projected 2020 prices. The total world market may be three times larger. Utility applications are projected to account for 50% of sales each year, with 30%-40% commercial and industrial sales and 10%-20% residential sales. Stalwart Power is positioned with product and channel partners to access and service all three markets.

## Competitive Advantage

Despite the exciting and rapid growth, the energy storage industry is in the early stages of what will become a gigantic global market. As the industry evolves, new business models will emerge to integrate and operate storage assets to allow the grid to work more reliably and cost-effectively, while reducing the deleterious effects of increased electricity consumption. Most Stalwart competitors like Green Charge Networks, Greensmith, and Younicos focus on integrating technology from third-party vendors and provide a software layer on top of the whole package. Tesla provides its own batteries, which are not optimized for storage applications, but is currently still relying on third-party vendors for their inverter technology and balance of system. Furthermore, they are repurposing the technology for the energy markets from automotive use.

Stalwart Power has a game changing solution:

1. Providing the latest disruptive inverter technology developed in the USA specifically to provide the most efficient and reliable inverter for the grid of the future.
2. Embedding a software layer that allows customers to monitor and automate their electricity usage to maximize the system's value based on real-time pricing signals and leveraging energy arbitrage.
3. White-labeling the product to allow utilities or other channel partnership to monetize a high quality system within their established network – preventing disintermediation among utilities and their customers is a key concern.
4. Ruggedized and hardened enclosure options, facilitated largely by Stalwart Power's inverter technology, enables utilities and government agencies to deploy technology in extreme environments and for very specialized applications.
5. Strong team with over 150 years of energy, defense, and power electronics industry experience.
6. Optimized energy delivery and management solutions at all levels of the electric grid.
7. Roll-up model to acquire stakes in key enabling technologies on favorable terms.
8. Lean operating model; technology investigation and readiness, product development and validation all completed using outside resources.
9. Robust pipeline of products and solutions currently deploying in the field.
10. Scalable solutions with clear tracks to fast-ramp to significant revenues and profits from hardware, software and services with a significant recurring revenue component.

## Business Model:

Stalwart Power will monetize our technologies and capabilities in a variety of ways. Initially, we will fulfill our current backlog of OEM partners who are awaiting volume production of the inverter product, which is targeted to generate \$9 MM in revenue in 2017 and to grow to more than \$50 Million in revenue by 2020.

The company will generate revenue from both direct sales of the complete battery energy storage systems and project management fees for developing and financing efforts for customers. As regulations evolve, there will be additional revenue opportunities from providing grid services through system-wide control and deployment of aggregated resources. We project that consolidated revenue will exceed \$100 Million by 2020.

## Overview of Capital Requirements:

- Finalizing acquisition of inverter technology
- Working capital to accelerate current pipeline
- Target market sales growth
- Grow analytics and engineering team to stay ahead of rapidly evolving technology trends
- Streamline supply chain and manufacturing

While Stalwart Power has been “boot-strapped” by its owners and employees and has not had a formal fund raising, the company is really an “A-round” looking for a “C-round” in that the uses of funds will have little in common with traditional A-round uses. There is no technology to be developed; there are no concepts to be proven and no demonstrations to be

completed. Instead, Stalwart Power is looking to staff for growth and capital for execution. This can truly be a “one and done” financing.

## **Management:**

**WOODY GIBSON, CEO:** Co-founder of numerous startups in energy and environmental tech, most recently Smart Wires Inc. and Zenergy Power plc. Formerly CEO of Smart Wires and Zenergy Power, Founder & SVP Business Development of Thorne Environmental, GM Acquisitions & Operations of International Technologies, Inc., USN Diver and Offshore Oil industry support, Marine Engineering support to Lloyds of London for worldwide ship salvage, Executive MBA

**BERT NELSON, COO:** Experienced executive. Former CEO of Applied Superconductor, Inc. and Mgr. Director/COO of Zenergy Power. Early-stage shareholder, Director of Sargent Electric; TEGG; Holocom Networks; Sequentric Energy; AIRSIS; Direct Drive Systems; Cheng Power; and Smart Wires. Advisor to Applied Materials' FCL program, BS United States Naval Academy, USN Chief Engineer of Nuclear Submarine achieved rank of Commander

**RICK WEST, Advisor/Inverter:** Involved with the design and development of advanced PV power conversion products since 1986. Formerly Director of Engineering with Schneider Electric, Xantrex, Trace and Utility Power Group. Worked extensively with NREL, DOE and SNL to develop and commercialize high-impact PV power converter products. Named inventor on 39 issued and pending US patents related primarily to PV power conversion.

**ARIC SAUNDERS, VP Strategy and Partnerships:** Co-founder of multiple companies involved in all levels of the solar and energy storage industries. Developed a no credit check PPA for Native Hawaiians. Consulted, designed, and launched a residential and utility scale BESS. Co-founded Distributed Energy Resources Council of Hawaii to utilize policies and incentives to help Hawaii reach 100% renewable energy. BS UC-Boulder.

**DAVE BARDELLI, VP Sales:** Most recently, founder and CEO of Amerigen Power Solutions. 18 years of hands on experience in startup and established companies. Focused on onsite electrical power generation and distribution. Expertise in formulation and implementation of strategic direction, product design, and development.

**MIKE FAY, Controller:** An innovative executive with an extensive background in all aspects of private and public accounting, Proven record of improving operating performance in high-growth, fast-paced companies. Former CFO and Controller for a number of Silicon Valley and San Francisco based companies. BS, MA California State University

**DAVID NIEBAUER, Corporate Counsel:** General Counsel for cleantech companies, including SmartWires, Brillouin Energy Corp and LumiGrow. 25 years of domestic and international corporate finance experience, with a focus on clean energy. BA from State University of New York. MA University of Michigan. JD Brooklyn Law.

**ROBYN BEAVERS, Director:** Most recently, Senior VP at NRG Energy. Former Director of Commercialization, Water & Power at DEKA Research & Development. Also served as a Recovery Act Fellow at the US Department of Energy and Green Business & Operations Strategist at Google. MBA Stanford Graduate School of Business.

**MICHAEL SCHENCK, Senior Inverter Technical Systems Advisor:** Solar PV and Energy Storage Executive with proven leadership & technology pioneering skills. Latest projects include Service Organization Strategy & Aftermarket Service Offering for an OEM, Innovative multi-MW/multi-plant utility scale Solar PV + Storage portfolio, OE Due Diligence, Electrical Equipment Market Breakthrough Strategy for; Inverter M&A, Power Systems Modeling (PSSE/PLSF).

**AZMAT SIDDIQI, Senior Technical Advisor:** Solar PV and System Reliability. Formerly SVP and Sr. Technical Advisor at First Solar. Also served as Engineering Director at NSD for outer space and undersea classified efforts to support National Defense. Established leveled cost of quality, technology readiness, and lab to field validation constructs in MJ, CPV and Thin Film companies. Supported design, build, and deployment of over 10 GW solar pipeline. BS (mechanical), MS (Industrial and Systems) University of Florida, post-grad (Laser) Stanford Univ.