Andalay Solar, Inc.
Form 10-K
April 15, 2015

Table of Contents

UNITED STATES
SECURITIES AND EXCHANGE COMMISSION
Washington, D.C. 20549

FORM 10-K

(Mark one)

x ANNUAL REPORT PURSUANT TO SECTION 13 OR 15(d) OF THE SECURITIES EXCHANGE ACT OF 1934

For the fiscal year ended December 31, 2014

or

o TRANSITION REPORT PURSUANT TO SECTION 13 OR 15(d) OF THE SECURITIES EXCHANGEACT OF 1934

For the transition period from _____ to _____

Commission file number: 001-33695

ANDALAY SOLAR, INC.
(Exact name of registrant as specified in its charter)

Delaware	90-0181035
(State or other jurisdiction of incorporation or organization)	(I.R.S. Employer Identification No.)
2071 Ringwood Ave. Unit C San Jose, CA	95131
(Address of principal executive offices)	(Zip Code)

(408) 402-9400
(Registrant's telephone number, including area code)

Securities registered pursuant to Section 12(b) of the Act:
None

Securities registered pursuant to Section 12(g) of the Exchange Act:
Common Stock, par value $0.001 per share

Indicate by check mark if the registrant is a well-known seasoned issuer, as defined in Rule 405 of the Securities Act. Yes o No x

Indicate by check mark if the registrant is not required to file reports pursuant to Section 13 or 15(d) of the Act. Yes o No x

Indicate by checkmark whether the registrant (1) has filed all reports required to be filed by Section 13 or 15(d) of the Securities Exchange Act of 1934 during the preceding 12 months (or for such shorter period that the registrant was required to file such reports), and (2) has been subject to such requirements for the past 90 days. Yes x No o

Table of Contents

Indicate by checkmark whether the registrant has submitted electronically and posted on its corporate Website, if any, every Interactive Data File required to be submitted and posted pursuant to Rule 405 of Regulation S-T (§232.405 of this chapter) during the preceding 12 months (or for such shorter period that the registrant was required to submit and post such files). Yes x No o

Indicate by checkmark if disclosure of delinquent filers pursuant to Item 405 of Regulation S-K (§229.405 of this chapter) is not contained herein, and will not be contained, to the best of registrant's knowledge, in definitive proxy or information statements incorporated by reference to Part III of this Form 10-K or any amendment to this Form 10-K. o

Indicate by check mark whether the registrant is a large accelerated filer, an accelerated filer, a non-accelerated filer, or a smaller reporting company. See the definitions of "large accelerated filer," "accelerated filer" and "smaller reporting company" in Rule 12b-2 of the Exchange Act.

Large accelerated filer o	Accelerated filer o
Non-accelerated filer o	Smaller reporting company x
(Do not check if a smaller reporting company)	

Indicate by check mark whether the registrant is a shell company (as defined in Rule 12b-2 of the Act).Yes o No x

The aggregate market value of the Common Stock held by non-affiliates of the registrant, based on the last sale price of the Common Stock on the OTCQB on June 30, 2014, was approximately $4.3 million. For purposes of this computation, all officers and directors of the registrant are deemed to be affiliates.

As of April 10, 2015, 398,153,951 shares of common stock of the registrant were outstanding.

DOCUMENTS INCORPORATED BY REFERENCE

None

Table of Contents

ANDALAY SOLAR, INC.
TABLE OF CONTENTS

Table of Contents

PART I

As used in this Annual Report on Form 10-K, unless otherwise indicated, the terms “we,” “us,” “our” and “the Company” refe to Andalay Solar, Inc. (“Andalay Solar”) and its subsidiaries.

Our Annual Report on Form 10-K for 2014, and information we provide in our Annual Report to Stockholders, press releases, telephonic reports and other investor communications, including those on our website, may contain forward-looking statements with respect to anticipated future events and our projected financial performance, operations and competitive position that are subject to risks and uncertainties that could cause our actual results to differ materially from those forward-looking statements and our expectations.

Forward-looking statements can be identified by the use of words such as “expects,” “plans,” “will,” “may,” “anticipate “believes,” “should,” “intends,” “estimates” and other words of similar meaning. These statements constitute forward-looking statements within the meaning of the Safe Harbor Provisions of the Private Securities Litigation Reform Act of 1995. These forward-looking statements reflect our then current beliefs, projections and estimates with respect to future events and our projected financial performance, operations and competitive position.

Such risks and uncertainties include, without limitation, our ability to raise capital to finance our operations, the effectiveness, profitability and marketability of our products, our ability to protect our intellectual property rights and proprietary information, general economic and business conditions, the impact of technological developments and competition, adverse results of any legal proceedings, the impact of current, pending or future legislation and regulation of the solar power industry, our ability to enter into acceptable relationships with one or more manufacturers for solar panel components and the ability of such contract manufacturers to manufacture products or components of an acceptable quality on a cost-effective basis, our ability to attract or retain qualified senior management personnel, including sales and marketing and technical personnel and other risks detailed from time to time in our filings with the SEC, including those described in Item 1A below. We do not undertake any obligation to update any forward-looking statements.

Item 1. Business.

Overview

We are a designer and manufacturer of integrated solar power systems and solar panels with integrated microinverters (which we call AC solar panels). We design, market and sell these solar power systems to solar installers and do-it-yourself customers in the United States, Canada, the Caribbean and South America through distribution partnerships, our dealer network and retail outlets. Our products are designed for use in solar power systems for residential and commercial rooftop customers. Prior to September 2010, we were also in the solar power installation business, but decided to exit that business. Recently we have re-entered the solar power installation business.

In September 2007, we introduced our “plug and play” solar panel technology (under the brand name “Andalay”), which we believe significantly reduces the installation time and costs, and provides superior reliability and aesthetics, when compared to other solar panel mounting products and technology. Our panel technology offers the following features: (i) mounts closer to the roof with less space in between panels; (ii) no unsightly racks underneath or beside panels; (iii) built-in wiring connections; (iv) approximately 70% fewer roof-assembled parts and approximately 50% less roof-top labor required; (v) approximately 25% fewer roof attachment points; (vi) complete compliance with the National Electric Code and UL wiring and grounding requirements. We have seven U.S. patents (Patent No. 7,406,800, Patent No. 7,832,157, Patent No. 7,866,098, Patent No. 7,987,614, Patent No. 8,505,248, and Patent No. 8,938,919) that cover key aspects of our Andalay solar panel technology, as well as U.S. Trademark No. 34856531373

for registration of the mark “Andalay.” In addition to these U.S. patents, we have eight foreign patents. Currently, we have 15 issued patents and nine other pending U.S. and foreign patent applications that cover the Andalay technology working their way through the United States Patent and Trademark Office (“USPTO”) and foreign patent offices.

In February 2009, we began a strategic relationship with Enphase, a leading manufacturer of microinverters, to develop and market solar panel systems with ordinary AC house current output instead of high voltage DC output. We introduced Andalay AC panel products and began offering them to our customers in the second quarter of 2009. Andalay AC panels cost less to install, are safer, and generally provide higher energy output than ordinary DC panels. Andalay AC panel systems deliver 5-25% more energy compared to ordinary DC panel systems, produce household AC power, and have built-in panel level monitoring, racking, wiring, grounding and microinverters. With 80% fewer parts and 5 – 25% better performance than ordinary DC panel systems, we believe Andalay AC panels are an ideal solution for solar installers and do-it-yourself customers.

Table of Contents

On May 30, 2013, we entered into a supply agreement for assembly of our proprietary modules with Environmental Engineering Group Pty Ltd, (EEG) an assembler of polycrystalline modules located in Australia. In August 2013, we began receiving product from EEG and began shipping product to customers during the third calendar quarter of 2013. In September 2013, we entered into a supply agreement for assembly of our proprietary modules with Tianwei New Energy Co, Ltd., (Tianwei) a panel supplier located in China. We began receiving initial shipments from Tianwei in February 2014, but that supply is now discontinued.

On July 16, 2014, we entered into an agreement for supply of solar PV modules with Auxin Solar Inc. These modules are assembled in the United States and we received the first slate of panels in December 2014.

Prior to September 2010, we were also in the solar power system installation business and we had completed over 4,300 solar power installations for customers in California, New York, New Jersey, Pennsylvania, Colorado and Connecticut since the commencement of our operations in 2001. In early 2009, we closed our non-California offices on the east coast and in Colorado and began distributing our solar power systems to customers outside of California. In September 2010, we made the strategic decision to exit our California solar panel installation business and expand our solar panel distribution network to dealers and other installers in California, by far the largest solar market in the United States. We recently made the decision to re-enter the solar panel installation business on a limited basis, focusing on the geographic region around the San Francisco Bay Area. Our business is now primarily focused on design and manufacturing activities, and sales of our solar power systems to solar installers, trade workers and retailers through distribution partnerships, our dealer network and retail home improvement outlets as well as installation of our panels.

We were incorporated in February 2001 as Akeena Solar, Inc. in the State of California and elected at that time to be taxed as an S corporation. During June 2006, we reincorporated in the State of Delaware and became a C corporation. On August 11, 2006, we entered into a reverse merger transaction (“merger”) with Fairview Energy Corporation, Inc. (“Fairview”). Pursuant to the Merger, our stockholders received one share of Fairview common stock for each issued and outstanding share of our common stock. Our common shares were also adjusted from $0.01 par value to $0.001 par value at the time of the Merger. On May 17, 2010, we entered into an exclusive worldwide license agreement with Westinghouse, Inc, which permitted us to manufacture, distribute and market solar panels under the Westinghouse name and in connection therewith, on April 6, 2011, we changed our name to Westinghouse Solar, Inc. On April 13, 2011, we effected a reverse split of our common stock at a ratio of 1 – for – 4. On August 23, 2013, the license agreement with Westinghouse, Inc. was terminated and on September 19, 2013, we changed our name to our current name, Andalay Solar, Inc. and increased our number of authorized shares of common stock to 500,000,000.

Our Corporate headquarters is located at 2071 Ringwood Ave., Unit C, San Jose, CA 95131. Our telephone number is (408) 402-9400. On or around May 1, 2015, our corporate headquarters is relocating to 48900 Milmont Drive, Fremont, CA 94538. Additional information about us is available on our website at http://www.andalaysolar.com . The information on our website is not incorporated herein by reference.

Strategy

Our philosophy is simple: “we believe that producing clean electricity directly from the sun is the right thing to do for our environment and economy.” Since our founding, we have concentrated on serving the solar power needs of residential and commercial customers tied to the electric power grid.

The solar power industry is rapidly evolving, but is still at an early stage and is highly fragmented. The prospects for long-term worldwide demand for solar power have attracted many new solar panel manufacturers, as well as a multitude of design/integration companies. We expect the commodity manufacturing segment of the industry to consolidate as more solar panel manufacturing capacity comes online.

The solar power industry is evolving and worldwide demand for residential and commercial solar systems continues to grow rapidly. More manufacturers of solar panels and mounting systems have entered the market and competition is increasingly intense in developing products and solutions which enable lower and lower-cost installations.

Accordingly, our strategy has evolved and now primarily focuses on the following:

- Developing and commercializing our solar panel technology optimized for the residential and commercial markets.
- Introducing our patented solar panel technology to the marketplace primarily through licensing agreements with bankable, top tier panel manufacturers, rather than our previous strategy of manufacturing under our own brand name via OEM suppliers.
- Focusing on growing top line revenue and gross margins from the sale of our proprietary mounting hardware.
- Reducing installation costs and improving the aesthetics and performance of solar systems compared to ordinary, commercially available solar equipment.
- Re-entering the solar power installation business in California in order to showcase best-practices for installation of our products and thereby accelerate the adoption of our products into the marketplace.

Management believes the strategy articulated above leverages the company’s strengths under the current market conditions.

Table of Contents

Industry

Electric power is used to operate businesses, industries, homes and offices and provides the power for our communications, entertainment, transportation and medical needs. As our energy supply and distribution mix changes, electricity is likely to be used more for local transportation (electric vehicles) and space/water heating needs.

According to a 2014 report from the U.S. Energy Information Administration (http://www.eia.gov/energy_in_brief/article/renewable_electricity.cfm), electricity in the U.S. is generated from the following: coal – 39%, natural gas – 27%, nuclear – 19%, oil – 1%, with renewable energy contributing 13%. "Renewable Energy" typically refers to non-traditional energy sources, including hydroelectric, wind and solar energy. Due to continuously increasing energy demands, we believe the electric power industry faces the following challenges:

- Limited Energy Supplies. The primary fuels that have supplied this industry, fossil fuels in the form of oil, coal and natural gas, are limited. Worldwide demand is increasing at a time that industry experts have concluded that supply is limited. Therefore, the increased demand will probably result in increased prices, making it more likely that long-term average costs for electricity will continue to increase.
- Generation, Transmission and Distribution Infrastructure Costs. Historically, electricity has been generated in centralized power plants transmitted over high voltage lines, and distributed locally through lower voltage transmission lines and transformer equipment. As electricity needs increase, these systems will need to be expanded. Without further investments in this infrastructure, the likelihood of power shortages ("brownouts" and "blackouts") may increase.
- Stability of Suppliers. Since many of the major countries who supply fossil fuel are located in unstable regions of the world, purchasing oil and natural gas from these countries may increase the risk of supply shortages and cost increases.
- Environmental Concerns and Climate Change. Concerns about global warming and greenhouse gas emissions has resulted in the Kyoto Protocol, various states enacting stricter emissions control laws and utilities being required to comply with Renewable Portfolio Standards, which require the purchase of a certain amount of power from renewable sources. Currently, within the U.S., there are approximately 30 states with established RPS standards.

Solar energy is the underlying energy source for renewable fuel sources, including biomass fuels and hydroelectric energy. By extracting energy directly from the sun and converting it into an immediately usable form, either as heat or electricity, intermediate steps are eliminated. We believe, in this sense, solar energy is one of the most direct and unlimited energy sources.

Solar energy can be converted into usable forms of energy either through the photovoltaic effect (generating electricity from photons) or by generating heat (solar thermal energy). Solar thermal systems include traditional domestic hot water collectors (DHW), swimming pool collectors, and high temperature thermal collectors (used to generate electricity in central generating systems). DHW thermal systems are typically distributed on rooftops so that they generate heat for the building on which they are situated. High temperature thermal collectors typically use concentrating mirror systems and are typically located in remote sites.

Anatomy of a Solar Power System

Solar power systems convert the energy in sunlight directly into electrical energy within solar cells based on the photovoltaic effect. Multiple solar cells, which produce DC power, are electrically interconnected into solar panels. A typical 250 watt solar panel may have 60 individual solar cells. Multiple solar panels are electrically wired together. The number of solar panels installed on a building are generally selected to meet that building's annual electrical usage, or selected to fill available un-shaded roof or ground space.

4

Table of Contents

Ordinary solar power systems have solar panels that are electrically wired to a central inverter, which converts the power from DC to AC and interconnects with the utility grid. The following diagram schematically shows an ordinary DC solar power system:

Andalay Solar AC-ready panels integrate micro-inverters that produce AC power, eliminating the need for a central inverter. The following diagram schematically shows a typical Andalay Solar AC solar power system.

Solar Electric Cells. Solar electric cells convert light energy into electricity at the atomic level. The conversion efficiency of a solar electric cell is defined as the ratio of the sunlight energy that hits the cell divided by the electrical energy that is produced by the cell. By improving this efficiency, we believe solar electric energy becomes competitive with fossil fuel sources. The earliest solar electric devices converted about 1%-2% of sunlight energy into electric energy. Current solar electric devices convert 5%-25% of light energy into electric energy (the overall efficiency for solar panels is lower than solar cells because of the panel frame and gaps between solar cells), and current mass produced panel systems are substantially less expensive than earlier systems. Effort in the industry is currently being directed towards the development of new solar cell technology to reduce per watt costs and increase area efficiencies.

Solar Panels. Solar electric panels are composed of multiple solar cells, along with the necessary internal wiring, aluminum and glass framework, and external electrical connections. Although panels are usually installed on top of a roof or on an external structure, certain designs include the solar electric cells as part of traditional building materials, such as shingles and rolled out roofing. Solar electric cells integrated with traditional shingles is usually most compatible with masonry roofs and, while it may offset costs for other building materials and be aesthetically appealing, it is generally more expensive than traditional panels. Our design integrates racking wiring and grounding components directly into the panel resulting in an integrated solution that reduces by 80%, the amount of rooftop solar components resulting in a solar power system that reduces the amount of field assembly, thereby increasing reliability and performance, while providing a better looking design.

Table of Contents

Inverters. Inverters convert the DC power from solar panels to the AC power used in buildings. Grid-tie inverters synchronize to utility voltage and frequency and only operate when utility power is stable (in the case of a power failure these grid-tie inverters shut down to safeguard utility personnel from possible harm during repairs). Inverters also operate to maximize the power extracted from the solar panels, regulating the voltage and current output of the solar array based on sun intensity. Our solution can incorporate an integrated micro-inverter, or DC optimizer, on each panel which improves system performance, is safer for installers and homeowners, and reduces the amount of installation labor.

Monitoring. There are two basic approaches to access information on the performance of a solar power system. DC systems with central inverters collect the solar power performance data from the central inverter and then transmit that data to a digital hardware display and/or to dedicated monitoring devices connected to the internet. AC systems utilizing microinverters collect the solar power performance data of each panel and transmit panel-level and combined system data via the internet to a centralized database. AC system data on the performance of each panel and total system can then be accessed from any device with a web browser, including personal computers and cell phones.

Net Metering. The owner of a grid-connected solar electric system may not only buy, but may also sell, electricity each month. This is because electricity generated by the solar electric system can be used on-site or fed through a meter into the utility grid. Utilities are required to buy power from owners of solar electric systems (and other independent producers of electricity) under the Public Utilities Regulatory Policy Act of 1978 (PURPA). When a home or business requires more electricity than the solar power array is generating (for example, in the evening), the need is automatically met by power from the utility grid. When a home or business requires less electricity than the solar electric system is generating, the excess is fed (or sold) back to the utility and the electric meter actually spins backwards. Used this way, the utility serves as a backup to the solar system similar to the way in which batteries serve as a backup in stand-alone systems.

Solar Power Benefits

The direct conversion of light into energy offers the following benefits compared to conventional energy sources:

- Economic — Once a solar power system is installed, the cost of generating electricity is fixed over the lifespan of the system. There are no risks that fuel prices will escalate or fuel shortages will develop. In addition, cash paybacks for systems range from 5 to 25 years, depending on the level of state a4d federal incentives, electric rates, annualized sun intensity and installation costs. Solar power systems at customer sites generally qualify for net metering to offset a customer's highest electric rate tiers, at the retail, as opposed to the wholesale, electric rate.
- Convenience — Solar power systems can be installed on a wide range of sites, including small residential roofs, the ground, covered parking structures and large industrial buildings. Solar power systems also have few, if any, moving parts and are generally guaranteed to operate for 20-25 years resulting, we believe, in low maintenance and operating costs and reliability compared to other forms of power generation.
- Environmental — We believe solar power systems are one of the most environmentally friendly ways of generating electricity. There are no harmful greenhouse gas emissions, no wasted water, no noise, no waste generation and no particulates. Such benefits continue for the life of the system.
- Security — Producing solar power improves energy security both on an international level (by reducing fossil energy purchases from hostile countries) and a local level (by reducing power strains on local electrical transmission and distribution systems).
- Infrastructure — Solar power systems can be installed at the site where the power is to be used, thereby reducing electrical transmission and distribution costs. Solar power systems installed and operating at customer sites may also save the cost of construction of additional energy infrastructure including power plants, transmission lines, distribution systems and operating costs.

We believe escalating fuel costs, environmental concerns and energy security make it likely that the demand for solar power systems will continue to grow. The federal government, and several states, have put a variety of incentive programs in place that directly spur the installation of grid-tied solar power systems, so that customers will “purchase” their own power generating system rather than “renting” power from a local utility. These programs include:

- Rebates — to customers (or to installers) to reduce the initial cost of the solar power system, generally based on the size of the system. Many states have rebates that can substantially reduce initial costs.
- Tax Credits — federal and state income tax offsets directly reducing ordinary income tax. There is currently a 30% federal tax credit for solar power systems.
- Accelerated Depreciation — solar power systems installed for businesses (including applicable home offices) are generally eligible for accelerated depreciation.
- Net Metering — provides a full retail credit for energy generated.
- Feed-in Tariffs — are additional credits to consumers based on how much energy their solar power system generates. Feed-in Tariffs set at appropriate rates have been successfully used in Europe to accelerate growth.
- Renewable Portfolio Standards — require utilities to deliver a certain percentage of power generated from renewable energy sources.
- Renewable Energy Credits (RECs) — are additional credits provided to customers based on the amount of renewable energy they produce.
- Solar Rights Acts — state laws to prevent unreasonable restrictions on solar power systems. California’s Solar Rights Act has been updated several times in past years to make it easier for customers of all types and in all locations to install a solar power system.
- PPA's — Power Purchase Agreements, or agreements between a solar power system purchaser and an electricity user under which electricity is sold/purchased on a long-term basis.
- Leases — in which the solar equipment is owned by a third party entity and repaid over time by the host customer.

Table of Contents

Challenges Facing the Solar Power Industry

We believe the solar power industry faces three key challenges:

- Customer Economics — In many cases, the net (after applicable incentives) cost to customers for electricity produced by a solar power system at the customer's site is comparable to conventional, utility-generated power. We believe lower equipment (primarily solar panels) and installation costs would reduce the total cost of a system and increase the potential market for solar power.
- System Performance and Reliability — We believe that a design that incorporates factory assembly of an integrated solar power system versus field assembly provides a more reliable solution. A system with these characteristics will deliver improved system performance and allow the customer to achieve the shortest possible payback.
- Aesthetics — We believe that customers prefer solar panels that blend into existing roof surfaces with fewer shiny parts, mounted closely to the roof surface and have more of a "skylight" appearance than the traditional rooftop metal framed solar panels raised off the roof.

Competition

The integrated solar panel design industry is in its early stages of development and is highly fragmented, consisting of many large and small companies. In the United States, there are many small residential solar installers, and a few large ones with dominant market share, including Solar City, Verengo, and Vivint. In October 2013, Solar City acquired Zep Solar, which also competes in the integrated solar panel design business.

We believe the principal competitive factors in the integrated solar panel design industry and solar power installation industry include:

- Quality;
- Price;
- Aesthetics;
- Time saving;
- Long-term operations and malignance cost;
- Installation cost; and
- Company reputation

We believe that our competitive advantages as a designer of integrated solar panels include:

- Integrated DC and AC Panels Dramatically Reduce Installation Costs. Our technology significantly reduces the installation complexity, parts and costs, as well as providing superior reliability and aesthetics for customers when compared to other solar panel mounting products and technology. In 2007, we introduced our DC panels, which offer the following advantages to our customers: (i) low profile panel design looks like a beautiful, energy producing skylight and eliminates unsightly racking and exposed wires; (ii) built-in wiring connections that improve reliability; (iii) 70% fewer roof-assembled parts and 50% less roof-top labor required; (iv) 25% fewer roof attachment points; (v) complete compliance with the National Electric Code and UL wiring and grounding requirements. In 2009 we introduced our AC panels, which deliver 5-25% more energy compared to ordinary DC panel systems, produce household AC power and have built-in panel level monitoring, racking, wiring, grounding and microinverters. With 80% fewer parts and 5 – 25% better performance than ordinary DC panel systems, we believe our AC panels are an ideal solution for solar installers, trade workers and do-it-yourself customers.