

Ascent Solar Technologies, Inc.
Form S-1
January 08, 2016
Table of Contents

As filed with the Securities and Exchange Commission on January 8, 2015
Registration No. 333-
UNITED STATES
SECURITIES AND EXCHANGE COMMISSION
Washington, D.C. 20549

FORM S-1
REGISTRATION STATEMENT
UNDER
THE SECURITIES ACT OF 1933

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

	3674	
Delaware	(State or other jurisdiction of incorporation or organization)	20-3672603
(State or other jurisdiction of incorporation or organization)	(Primary Standard Industrial Classification Code Number)	(I.R.S. Employer Identification No.)

12300 North Grant Street
Thornton, Colorado 80241
(720) 872-5000
(Address, including zip code, and telephone number, including area code, of registrant's principal executive offices)

Victor Lee
Ascent Solar Technologies, Inc.
12300 North Grant Street
Thornton, Colorado 80241
(720) 872-5000
(Name, address, including zip code, and telephone number, including area code, of agent for service)

Copies to:
James Carroll
Faegre Baker Daniels LLP
1470 Walnut Street, Suite 300
Boulder, Colorado 80302
(303) 447-7700

Approximate date of commencement of proposed sale to the public: As soon as practicable after the effective date of this registration statement and from time to time thereafter.

If any of the securities being registered on this Form are to be offered on a delayed or continuous basis pursuant to Rule 415 under the Securities Act of 1933, check the following box.

Table of Contents

If this Form is filed to register additional securities for an offering pursuant to Rule 462(b) under the Securities Act, please check the following box and list the Securities Act registration statement number of the earlier effective registration statement for the same offering.

If this Form is a post-effective amendment filed pursuant to Rule 462(c) under the Securities Act, check the following box and list the Securities Act registration statement number of the earlier effective registration statement for the same offering.

If this Form is a post-effective amendment filed pursuant to Rule 462(d) under the Securities Act, check the following box and list the Securities Act registration statement number of the earlier effective registration statement for the same offering.

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

CALCULATION OF REGISTRATION FEE

Title of Each Class of Securities to be Registered	Amount to be Registered(1)	Proposed Maximum Offering Price Per Share(2)	Proposed Maximum Aggregate Offering Price	Amount of Registration Fee
Common Stock, par value \$0.0001	48,000,000 shares (3)	\$0.1319	\$6,331,200	\$638

Pursuant to Rule 416 under the Securities Act of 1933, as amended, this registration statement also covers such (1) additional shares as may hereafter be offered or issued to prevent dilution resulting from stock splits, stock dividends, recapitalizations or certain other capital adjustments.

Estimated solely for purposes of calculating the registration fee pursuant to Rule 457(c) under the Securities Act of (2) 1933, as amended, using the average of the high and low prices as reported on the NASDAQ Capital Market on January 7, 2016, which was \$0.1319 per share.

(3) Represents a portion of the shares potentially issuable in connection with the Company’s committed equity line purchase agreement.

The Registrant hereby amends this registration statement on such date or dates as may be necessary to delay its effective date until the Registrant shall file a further amendment which specifically states that this registration statement shall thereafter become effective in accordance with Section 8(a) of the Securities Act of 1933, as amended, or until the registration statement shall become effective on such date as the Securities and Exchange Commission, acting pursuant to said Section 8(a), may determine.

Table of Contents

The information in this prospectus is not complete and may be changed. These securities may not be sold until the related registration statement filed with the Securities and Exchange Commission is effective. This prospectus is not an offer to sell these securities and it is not soliciting an offer to buy these securities in any state where the offer or sale is not permitted.

SUBJECT TO COMPLETION, DATED JANUARY 8, 2015

PROSPECTUS

ASCENT SOLAR TECHNOLOGIES, INC.

48,000,000 shares of common stock

This prospectus relates to the offer and sale of up to 48,000,000 shares of common stock of Ascent Solar Technologies, Inc. by Redwood Management, LLC, or Redwood Management or the selling stockholder. We are not selling any securities under this prospectus and we will not receive any proceeds from the sale of shares by the selling stockholder.

This prospectus relates to 48,000,000 shares of common stock that the selling stockholder has agreed to purchase if put to it by us pursuant to, and subject to the volume and other limitations of, the terms of the committed equity line purchase agreement dated November 10, 2015 that we entered into with the selling stockholder. See “The Committed Equity Line Transaction” for a description of that agreement and “Selling Stockholder” for additional information regarding the selling stockholder.

On December 1, 2015, we filed a Registration Statement on Form S-1 to register 30,000,000 shares of common stock related to our committed equity line with Redwood Management (including 2,640,000 commitment shares). On December 18, 2015, the Securities and Exchange Commission declared such Registration Statement effective. To date, we have drawn down approximately \$3,000,000 from the issuance of 27,588,745 shares of common stock from the committed equity line (including the issuance of 1,000,000 commitment shares). We still have available to issue approximately 2,411,255 shares of common stock under such Registration Statement on Form S-1 line (including the issuance of 1,640,000 commitment shares) if all conditions under the committed equity line purchase agreement are met. Subject to the terms and conditions of the committed equity line purchase agreement we have the right to “put,” or sell, up to \$32,200,000 worth of shares of our common stock to Redwood Management, of which approximately \$3,000,000 worth of shares have been sold and approximately \$29,200,000 remains available for sale.

The selling stockholder may sell the shares of common stock described in this prospectus in a number of different ways and at varying prices. See “Plan of Distribution” for more information about how the selling stockholder may sell the shares of common stock being registered pursuant to this prospectus. The selling stockholder is an “underwriter” within the meaning of Section 2(a)(11) of the Securities Act of 1933, as amended (the “Securities Act”).

Our common stock is traded on the NASDAQ Capital Market under the symbol “ASTI.” On January 7, 2016, the last reported sale price of our common stock on the NASDAQ Capital Market was \$0.1199 per share.

Our principal executive offices are located at 12300 North Grant Street, Thornton, Colorado 80241.

Table of Contents

These are speculative securities. Investing in these securities involves significant risks. You should purchase these securities only if you can afford a complete loss of your investment. See “Risk Factors” beginning on page 6. We may amend or supplement this prospectus from time to time by filing amendments or supplements as required. You should read the entire prospectus and any amendments or supplements carefully before you make your investment decision.

NEITHER THE SECURITIES AND EXCHANGE COMMISSION NOR ANY STATE SECURITIES COMMISSION HAS APPROVED OR DISAPPROVED OF THESE SECURITIES OR PASSED UPON THE ADEQUACY OR ACCURACY OF THIS PROSPECTUS. ANY REPRESENTATION TO THE CONTRARY IS A CRIMINAL OFFENSE.

The date of this prospectus is [•], 2016

Table of Contents

TABLE OF CONTENTS	
<u>ABOUT THIS PROSPECTUS</u>	<u>1</u>
<u>PROSPECTUS SUMMARY</u>	<u>1</u>
<u>THE OFFERING</u>	<u>3</u>
<u>FORWARD-LOOKING STATEMENTS</u>	<u>5</u>
<u>RISK FACTORS</u>	<u>6</u>
<u>USE OF PROCEEDS</u>	<u>20</u>
<u>THE COMMITTED EQUITY LINE TRANSACTION</u>	<u>20</u>
<u>SELLING STOCKHOLDER</u>	<u>22</u>
<u>DESCRIPTION OF CAPITAL STOCK</u>	<u>23</u>
<u>MARKET PRICE OF COMMON STOCK</u>	<u>29</u>
<u>PLAN OF DISTRIBUTION</u>	<u>30</u>
<u>EXPERTS</u>	<u>32</u>
<u>LEGAL MATTERS</u>	<u>32</u>
<u>INFORMATION INCORPORATED BY REFERENCE</u>	<u>32</u>
<u>WHERE YOU CAN FIND MORE INFORMATION</u>	<u>33</u>
<u>INDEMNIFICATION</u>	<u>33</u>
<u>DISCLOSURE OF COMMISSION POSITION ON INDEMNIFICATION FOR SECURITIES ACT</u>	<u>34</u>
<u>LIABILITIES</u>	

Table of Contents

ABOUT THIS PROSPECTUS

You should rely only on the information contained or incorporated by reference in this prospectus or a prospectus supplement. We have not authorized any other person to provide you with different information. If anyone provides you with different or inconsistent information, you should not rely on it. You should not assume that the information appearing in this prospectus, any prospectus supplement or any document incorporated by reference is accurate as of any date other than its date, regardless of the time of delivery of the prospectus or prospectus supplement or any sale of securities. Our business, financial condition, results of operations and prospects may have changed since those dates.

PROSPECTUS SUMMARY

This summary highlights information contained in this prospectus. While we believe that this summary highlights some of the most important information about Ascent Solar Technologies, Inc. and this offering, you should read this entire prospectus and the documents incorporated by reference carefully, including “Risk Factors,” before deciding to invest in our securities. In this prospectus, references to “we,” “us,” “our,” “Ascent,” “Ascent Solar” or the “Company” mean Ascent Solar Technologies, Inc.

Overview

We are a development stage company formed in October 2005 to commercialize flexible photovoltaic (“PV”) modules using proprietary technology. Our technology was initially developed at ITN Energy Systems, Inc. beginning in 1994 and subsequently assigned and licensed to us. Our proprietary manufacturing process deposits multiple layers of materials, including a thin film of highly efficient copper-indium-gallium-diselenide (“CIGS”) semiconductor material, on a flexible, lightweight, high tech plastic substrate using a roll-to-roll manufacturing process and then laser patterns the layers to create interconnected PV cells, or PV modules, in a process known as monolithic integration.

We believe that our technology and manufacturing process, which results in a lighter, flexible module package, provides us with unique market opportunities relative to both the crystalline silicon (“c-Si”) based PV manufacturers that currently lead the PV market, as well as other thin film PV manufacturers that use substrate materials such as glass, stainless steel or other metals that can be heavier and more rigid than plastics.

We believe that the use of CIGS on a flexible, durable, lightweight, high tech plastic substrate will allow for unique and seamless integration of our PV modules into a variety of electronic products, building materials, defense, transportation and space applications, as well as other products and applications that may emerge.

Recent Strategic Developments

Introduction of EnerPlex™ Consumer Products

In February 2012, we began to reposition our business model with an immediate focus on developing downstream consumer products. In June 2012, we launched our EnerPlex™ line of consumer products, and introduced our first product, the Surfr™, under the EnerPlex brand. The Surfr™ is a battery and solar case for the Apple® iPhone® 4/4S smart phone, featuring our ultra-light CIGS thin film technology integrated directly into the case.

The case incorporates our ultra-light and thin PV module into a sleek, protective iPhone® 4/4S case, along with a thin, life extending, battery. The charger adds minimal weight and size to an iPhone® smartphone, yet provides supplemental charging when needed. In August of 2012, we announced the launch of the second version of the Surfr™ for the Samsung® Galaxy S® III, which provides 85% additional battery life.

Table of Contents

In December 2012, we launched the EnerPlex Kickr™ and EnerPlex Jumpr™ product series. The Kickr IV is an extremely portable, compact and durable solar charging device, approximately seven inches by seven inches when folded, and weighs less than half a pound. The Kickr IV provides 6.5 watts of regulated power that can help charge phones, digital cameras, and other small USB enabled devices. The Kickr IV is ideal for outdoor activities such as camping, hiking and mountain climbing as well as daily city use. To complement the Kickr IV, we also released the Jumpr series of portable power banks in December of 2012. The Jumpr series provides a compact power storage solution for those who need to take the power of the sun with them while on the go.

During 2013, our EnerPlex brand rapidly expanded with the addition of two new product series as well as over fifteen new products. In the beginning of 2013, we introduced further additions to the Jumpr line of portable power banks; releasing the Jumpr Mini and Jumpr Stack in August and the Jumpr Max in September. The latest additions to the Kickr line of portable solar chargers, the Kickr I and Kickr II, were introduced in August 2013. Furthermore, in October 2013, we released our first series of solar integrated backpacks, the Packr, for consumer use. The Packr is a fashion forward and functional pack perfect for charging mobile electronic devices while on the go. Also in October 2013, we introduced the Surfr battery and solar case for the Samsung Galaxy S® 4, and in December 2013, we introduced the Surfr battery and solar case for Apple's iPhone® 5. In January 2015, we introduced the Surfr battery and solar case for Apple's iPhone® 6. In addition, we added an assortment of useful accessories to our product lines, all of which can be integrated into the EnerPlex ecosystem of products; such as the LED wand which can be easily plugged into a Jumpr power bank to provide hours of light, or the Travel Adaptor, which enables consumers to charge up their Jumpr power banks from a traditional outlet anywhere in the world. During 2014, we introduced the Jumpr Slate 10K and 5K, which are thin lithium polymer portable power banks.

We continue to aggressively pursue new distribution channels for the EnerPlex brand. These activities have led to placement in a variety of high-traffic ecommerce venues such as www.walmart.com, www.bestbuy.com, www.amazon.com, www.newegg.com as well as many others including our own e-commerce platform at www.goenerplex.com. The April 2013 placement of EnerPlex products at Fry's Electronics, a US West Coast consumer electronics retailer, represented our first domestic retail presence. EnerPlex products are carried in all of Fry's 34 stores across 9 states. Each store is provided with EnerPlex branded merchandising assets to highlight the uniqueness of our product lines. In February 2015, we announced that our EnerPlex products would be available in over 300 Verizon Wireless stores through our retail partner The Cellular Connection. We believe this multi-faceted strategy will give the EnerPlex™ brand the broadest exposure for the amount of investment and make our products immediately available to large numbers of consumers. In the third quarter of 2015, EnerPlex expanded its presence to 456 total TCC Verizon Wireless Premium retailers, adding 156 stores.

During the first quarter of 2015, we reached an agreement with EVINE Live, one of the premier home shopping networks with TV programming that reaches over 87 million US homes, to begin selling EnerPlex products during their broadcasts. During the second quarter of 2015, EnerPlex launched the Generatr S100 and select other products exclusively with EVINE, and in the third quarter of 2015, the Generatr 1200 launched exclusively with EVINE for a limited period.

During the second quarter of 2015, EnerPlex launched its products into two world recognized retailers; including over 100 The Sports Authority stores nationwide, in addition to launching in select Cabela's, "The World's Foremost Outfitter", stores and via Cabela's online catalog. Internationally, EnerPlex products became available in the United Kingdom via the brand's launch with 172 Maplin's stores throughout the country. Subsequent to the close of the third quarter of 2015, EnerPlex launched with GovX, the premier online shopping destination for military, law enforcement and government agencies.

We continue to design and manufacture PV integrated consumer electronics as well as portable power applications for commercial and military users. Due to the high durability of our products due to the monolithic integration employed

by our technology, the capability to customize modules into different form factors and the industry leading light weight and flexibility provided by our modules, we believe that the potential applications for our products are numerous.

Need for Additional Capital

2

Table of Contents

Since inception, we have incurred significant losses. We expect to continue to incur net losses in the near term. For the year ended December 31, 2014, our cash used in operations was \$28.1 million. For the nine months ended September 30, 2015, our cash used in operations was \$17.5 million. At September 30, 2015, we had cash and equivalents of \$619,000.

We do not expect that sales revenue and cash flows will be sufficient to support operations and cash requirements until we have fully implemented our new consumer products strategy. Additional projected product revenues are not anticipated to result in a positive cash flow position for 2016 overall. We continue to accelerate sales and marketing efforts related to our consumer products strategy through increased hiring and expansion of our sales channel. We will need to raise additional capital in order to continue our current level of operations throughout 2016. There is no assurance that we will be able to raise such capital on acceptable terms or at all. If our revenues do not increase rapidly, and/or additional financing is not obtained, we will be required to significantly curtail operations to reduce costs and/or sell assets. Such actions would likely have an adverse impact on our future operations.

Corporate Information

We are incorporated under the laws of Delaware. Our principal business office is located at 12300 North Grant Street, Thornton, Colorado 80241, and our telephone number is (720) 872-5000. Our website address is www.ascentsolar.com. Information contained on our website or any other website does not constitute part of this prospectus.

THE OFFERING

On November 10, 2015, we entered into a committed equity line purchase agreement (the "Purchase Agreement") with Redwood Management, LLC (the "Selling Stockholder"). In connection with the Purchase Agreement, we entered into a Registration Rights Agreement (the "Registration Rights Agreement") with the Selling Stockholder, pursuant to which we agreed to file this registration statement.

Under the terms and subject to the conditions of the Purchase Agreement, at our option, we have the right to sell to the Selling Stockholder, and the Selling Stockholder is obligated to purchase from us, up to \$32,200,000 of our common stock (the "Committed Equity Line"), subject to certain limitations, from time to time, over the 36-month period commencing on December 18, 2015 (the date that the initial registration statement relating to the Committed Equity Line was declared effective by the Securities and Exchange Commission (the "SEC")).

We agreed not to issue any shares of common stock pursuant to the Purchase Agreement unless and until our stockholders approved the potential issuance of the common stock thereunder in accordance with applicable Nasdaq listing rules. We obtained such stockholder approval on December 18, 2015.

From time to time, we may direct the Selling Stockholder, at its sole discretion and subject to certain conditions, to purchase an amount (the "Purchase Amount") of shares of common stock up to the lesser of (i) \$1,000,000 (calculated using the per share price described below) or (ii) 300% of the average daily trading volume of our common stock over the preceding ten trading day period. The maximum amount of any Purchase Amount may be increased, subject to the Selling Stockholder's approval. The per share purchase price for shares of common stock to be sold by us under the Purchase Agreement shall be fixed at 80% of the average of the two lowest volume weighted average prices ("VWAPs") of our common stock for the ten consecutive trading day period prior to each specific purchase date.

We may not direct the Selling Stockholder to purchase shares of common stock more frequently than once each ten business days. Our sales of shares of common stock to the Selling Stockholder under the Purchase Agreement are limited to no more than the number of shares that would result in the beneficial ownership by the Selling Stockholder and its affiliates, at any single point in time, of more than 4.99% of our then outstanding shares of common stock. At

the Selling Stockholder's option, the cap may be raised or lowered to any other percentage not in

3

Table of Contents

excess of 9.99%, except that any increase will only be effective upon 61 days' prior notice to us. We have the right to terminate the Purchase Agreement at any time, at no cost or penalty.

As consideration for entering into the Purchase Agreement, we have agreed to issue to the Selling Stockholder 2,640,000 shares of our common stock (the "Commitment Shares"). The Commitment Shares will be issued to the Selling Stockholder in four tranches of 500,000 shares each and one tranche of 640,000 shares, at an interval of every 15 calendar days commencing upon December 18, 2015.

As of January 8, 2016, we have issued a total of 27,588,745 shares to the Selling Stockholder pursuant to the Purchase Agreement, including 1,000,000 Commitment Shares.

On December 1, 2015, we filed an initial Registration Statement on Form S-1 to register 30,000,000 shares of common stock related to our committed equity line with Redwood Management (including 2,640,000 commitment shares). On December 18, 2015, the Securities and Exchange Commission declared such initial Registration Statement effective. As of January 8, 2016, 2,411,255 shares of common stock remain available for issuance under such initial Registration Statement.

As of January 8, 2016, we have drawn down approximately \$3,000,000 from the issuance of shares of common stock from the committed equity line. Subject to the terms and conditions of the committed equity line purchase agreement, we have the right to "put," or sell, up to \$32,200,000 worth of shares of our common stock to Redwood Management, of which approximately \$3,000,000 worth of shares have been sold and approximately \$29,200,000 remains available for sale.

As of January 8, 2016, there were 164,934,687 shares of our common stock outstanding, of which 158,691,409 shares were held by non-affiliates. Although the Purchase Agreement provides that we may sell up to \$32,200,000 of our common stock to the Selling Stockholder, only 48,000,000 shares of our common stock are being offered under this prospectus. If we elect to issue and sell more than the 48,000,000 shares offered under this prospectus to the Selling Stockholder, which we have the right, but not the obligation, to do, we must first register for resale under the Securities Act any such additional shares, which could cause additional substantial dilution to our stockholders.

The number of shares ultimately offered for resale by the Selling Stockholder is dependent upon the number of shares we sell to the Selling Stockholder under the Purchase Agreement. The Selling Stockholder will determine when and how it will sell the common stock it purchases under the Purchase Agreement and which are offered in this prospectus. The Selling Stockholder should be considered an "underwriter" under the Securities Act.

Issuances of our common stock in this offering will not affect the rights or privileges of our existing stockholders, except that the economic and voting interests of each of our existing stockholders will be diluted as a result of any such issuance. Although the number of shares of common stock that our existing stockholders own will not decrease, the shares owned by our existing stockholders will represent a smaller percentage of our total outstanding shares after any such issuance to the Selling Stockholder.

Table of Contents

This prospectus includes 48,000,000 shares of common stock issuable in connection with the Purchase Agreement.

Common stock outstanding prior to the offering	164,934,687*
Common stock offered by the Selling Stockholder	48,000,000**
Common stock to be outstanding after the offering	212,934,687**

Use of proceeds

We will not receive any proceeds from the sale of the securities hereunder. However, we may receive up to \$32,200,000 under the Purchase Agreement with the Selling Stockholder. Any proceeds that we receive from sales to the Selling Stockholder under the Purchase Agreement will be used for working capital and general corporate purposes. See “Use of Proceeds” for a complete description.

* As of January 8, 2016.

** Reflects 48,000,000 shares of common stock that we may sell to the Selling Stockholder from time to time after the effective date of this registration statement.

FORWARD-LOOKING STATEMENTS

This prospectus and the documents incorporated by reference into it contain forward-looking statements within the meaning of Section 27A of the Securities Act and Section 21E of the Securities Exchange Act of 1934, as amended (the “Exchange Act”). Forward-looking statements are those that predict or describe future events or trends and that do not relate solely to historical matters. You can generally identify forward-looking statements as statements containing the words “believe,” “expect,” “may,” “will,” “could,” “would,” “anticipate,” “intend,” “estimate,” “project,” “plan,” “continue,” or other similar expressions, although not all forward-looking statements contain these identifying words. All statements contained in this prospectus regarding our plans, objectives, goals, strategies, future events, future net sales or performance, capital expenditures, projected financial position, potential future revenues, projected costs, financing needs, plans or intentions relating to acquisitions, plans for the commercialization of our products, business trends and results that might be obtained by pursuing management's current plans and objectives are forward-looking statements.

Forward-looking statements include, but are not necessarily limited to, those relating to:

- Our limited operating history and lack of profitability;
- Our ability to successfully design, manufacture and sell our EnerPlex™ line of consumer products;
- Our ability to develop demand for, and sales of, our products;
- Our ability to attract and retain qualified personnel to implement our business plan and corporate growth strategies;
- Our ability to develop sales, marketing and distribution capabilities;
- Our ability to achieve profitability through our strategic alliance with TFG Radiant Investment Group Ltd. (“TFG Radiant”) in designing, manufacturing and selling products;
- Our ability to successfully develop and maintain strategic relationships with key partners, including original equipment manufacturers (“OEMs”), system integrators, distributors, retailers and e-commerce companies, who deal directly with end users in our target markets;

Table of Contents

- The accuracy of our estimates and projections;
- Our ability to secure additional financing to fund our short-term and long-term financial needs;
- Our ability to maintain the listing of our common stock on the NASDAQ Capital Market;
- The commencement, or outcome, of legal proceedings against us, or by us, including ongoing litigation proceedings;
- Changes in our business plan or corporate strategies;
- The extent to which we are able to manage the growth of our operations effectively, both domestically and abroad, whether directly owned or indirectly through licenses;
- The supply, availability and price of equipment, components and raw materials, including the elements needed to produce our photovoltaic modules;
- Our ability to expand and protect the intellectual property portfolio that relates to our consumer electronics, photovoltaic modules and processes;
- General economic and business conditions, and in particular, conditions specific to consumer electronics and the solar power industry; and
- Other risks and uncertainties discussed in greater detail in the section captioned “Risk Factors.”

You should not place undue reliance on our forward-looking statements because the matters they describe are subject to known and unknown risks, uncertainties and other unpredictable factors, many of which are beyond our control.

Our forward-looking statements are based on the information currently available to us and speak only as of the date on the cover of this prospectus. New risks and uncertainties arise from time to time, and it is impossible for us to predict these matters or how they may affect us. Over time, our actual results, performance or achievements will likely differ from the anticipated results, performance or achievements that are expressed or implied by our forward-looking statements, and such differences might be significant and materially adverse to our investors. We have no duty to, and do not intend to, update or revise the forward-looking statements in this prospectus after the date of this prospectus except to the extent required by the federal securities laws. You should consider all risks and uncertainties disclosed in our filings with the SEC described in the sections of this prospectus entitled “Information Incorporated by Reference” and “Where You Can Find More Information,” all of which are accessible on the SEC’s website at www.sec.gov

RISK FACTORS

An investment in our securities involves a high degree of risk and many uncertainties discussed in the section entitled “Risk Factors” in our annual report on Form 10-K for the year ended December 31, 2014, which is incorporated by reference into this prospectus. You should carefully consider the risk factors before purchasing our securities. If one or more of the possibilities described as risks actually occurs, our operating results and financial condition would likely suffer and the trading price of our securities could fall, causing you to lose some or all of your investment in the securities we are offering.

Risks Relating to Our Business

We have a limited history of operations, have not generated significant revenue from operations and have had limited production of our products.

Table of Contents

We have a limited operating history and have generated limited revenue from operations. Currently, we are producing consumer oriented products in quantities necessary to meet current demand. Under our current business plan, we expect losses to continue until annual revenues and gross margins reach a high enough level to cover operating expenses. We are utilizing contract manufacturers in Asia for components and for final assembly of finished goods. Our ability to achieve our business, commercialization and expansion objectives will depend on a number of factors, including whether:

- We can generate customer acceptance of and demand for our products;
- We successfully ramp up commercial production on the equipment installed;
- Our products are successfully and timely certified for use in our target markets;
- We successfully operate production tools to achieve the efficiencies, throughput and yield necessary to reach our cost targets;
- The products we design are saleable at a price sufficient to generate profits;
- Our strategic alliance with TFG Radiant results in the design, manufacture and sale of sufficient products to achieve profitability;
- We raise sufficient capital to enable us to reach a level of sales sufficient to achieve profitability on terms favorable to us;
- We are able to design, manufacture, market, distribute and sell our newly introduced line of consumer oriented products;
- We effectively manage the planned ramp up of our operations;
- We successfully develop and maintain strategic relationships with key partners, including OEMs, system integrators and distributors, retailers and e-commerce companies, who deal directly with end users in our target markets;
- Our ability to maintain the listing of our common stock on the NASDAQ Capital Market;
- Our ability to achieve projected operational performance and cost metrics;
- Our ability to enter into commercially viable licensing, joint venture, or other commercial arrangements; and
- The availability of raw materials.

Each of these factors is critical to our success, and accomplishing each of these tasks may take longer or cost more than expected, or may never be accomplished. It also is likely that problems we cannot now anticipate will arise. If we cannot overcome these problems, our business, results of operations and financial condition could be materially and adversely affected.

We have to date incurred net losses and may be unable to generate sufficient sales in the future to become profitable. We incurred a net loss applicable to common stockholders of \$51.4 million for the year ended December 31, 2014 and \$35.2 million for the nine months ended September 30, 2015. We reported an accumulated deficit of \$334.5 million as of September 30, 2015. We expect to incur net losses in the near term. Our ability to achieve profitability depends on a number of factors, including market acceptance of our consumer oriented products at

Table of Contents

competitive prices. If we are unable to raise additional capital and generate sufficient revenue to achieve profitability and positive cash flows, we may be unable to satisfy our commitments and may have to discontinue operations. Our EnerPlex line of consumer oriented products exposes us to many new risks and uncertainties.

Following the appointment of our new President and CEO in February 2012, we repositioned our business model with an immediate focus into developing downstream consumer products. In 2012, we launched our EnerPlex brand line of consumer products, and introduced the first product under the EnerPlex brand with a solar assisted mobile phone charger incorporating our CIGS PV thin film technology. This new line of consumer oriented products exposes us to many risks and uncertainties that are new to our business.

We have limited experience in the design, manufacture, marketing, distribution and sale of consumer oriented products. Our ability to be successful with our line of consumer oriented products will depend on a number of factors, including whether:

• We can achieve and maintain customer acceptance of our new consumer oriented products;

• We can rapidly develop and successfully introduce large numbers of new consumer oriented products in response to changing consumer preferences, the introduction of new consumer electronics products (such as new mobile phone models) that our EnerPlex™ products are designed to extend their battery life, and the introduction of new products by competing manufacturers;

• We can maintain an adequate level of product quality over multiple consumer oriented products which must be designed, manufactured and introduced rapidly to keep pace with changing consumer preferences and competitive factors;

• We can successfully manage our third party contract manufacturers located outside the U.S. on whom we are heavily dependent for the production of our consumer oriented products;

• We can successfully distribute our consumer oriented products through distributors, wholesalers, internet retailers and traditional retailers (many of whom distribute products from competing manufacturers) on whom we are heavily dependent; and

• We can successfully manage the substantial inventory and other asset risks associated with the manufacture and sale of consumer electronic products, given the rapid and unpredictable pace of product obsolescence in such consumer markets.

Our business is based on a new technology, and if our PV modules or processes fail to achieve the performance and cost metrics that we expect, then we may be unable to develop demand for our PV modules and generate sufficient revenue to support our operations.

Our CIGS on flexible plastic substrate technology is a relatively new technology. Our business plan and strategies assume that we will be able to achieve certain milestones and metrics in terms of throughput, uniformity of cell efficiencies, yield, encapsulation, packaging, cost and other production parameters. We cannot assure you that our technology will prove to be commercially viable in accordance with our plan and strategies. Further, we or our strategic partners and licensees may experience operational problems with such technology after its commercial introduction that could delay or defeat the ability of such technology to generate revenue or operating profits. If we are unable to achieve our targets on time and within our planned budget, then we may not be able to develop adequate demand for our PV modules, and our business, results of operations and financial condition could be materially and adversely affected.

Our failure to further refine our technology and develop and introduce improved PV products could render our PV modules uncompetitive or obsolete and reduce our net sales and market share.

Table of Contents

Our success requires us to invest significant financial resources in research and development to keep pace with technological advances in the solar energy industry. However, research and development activities are inherently uncertain, and we could encounter practical difficulties in commercializing our research results. Our expenditures on research and development may not be sufficient to produce the desired technological advances, or they may not produce corresponding benefits. Our PV modules may be rendered obsolete by the technological advances of our competitors, which could harm our results of operations and adversely impact our net sales and market share.

Failure to expand our manufacturing capability successfully at our facilities would adversely impact our ability to sell our products into our target markets and would materially and adversely affect our business, results of operations and financial condition.

Our growth plan calls for production and operation at our facility and at contract manufacturers in Asia. Successful operations will require substantial engineering and manufacturing resources and are subject to significant risks, including risks of cost overruns, delays and other risks, such as geopolitical unrest that may cause us not be able to successfully operate in other countries. Furthermore, we may never be able to operate our production processes in high volume or at the volumes projected, make planned process and equipment improvements, attain projected manufacturing yields or desired annual capacity, obtain timely delivery of components, or hire and train the additional employees and management needed to scale our operations. Failure to meet these objectives on time and within our planned budget could materially and adversely affect our business, results of operations and financial condition.

We may be unable to manage the expansion of our operations and strategic alliances effectively.

We will need to significantly expand our operations and form beneficial strategic alliances in order to reduce manufacturing costs through economies of scale and partnerships, secure contracts of commercially material amounts with reputable customers and capture a meaningful share of our target markets. To manage the expansion of our operations and alliances, we will be required to improve our operational and financial systems, oversight, procedures and controls and expand, train and manage our growing employee base. Our management team will also be required to maintain and cultivate our relationships with partners, customers, suppliers and other third parties and attract new partners, customers and suppliers. In addition, our current and planned operations, personnel, facility size and configuration, systems and internal procedures and controls, even when augmented through strategic alliances, might be inadequate or insufficient to support our future growth. If we cannot manage our growth effectively, we may be unable to take advantage of market opportunities, execute our business strategies or respond to competitive pressures, resulting in a material and adverse effect to our business, results of operations and financial condition.

We depend on a limited number of third party suppliers for key raw materials, and their failure to perform could cause manufacturing delays and impair our ability to deliver PV modules to customers in the required quality and quantity and at a price that is profitable to us.

Our failure to obtain raw materials and components that meet our quality, quantity and cost requirements in a timely manner could interrupt or impair our ability to manufacture our products or increase our manufacturing cost. Most of our key raw materials are either sole sourced or sourced by a limited number of third party suppliers. As a result, the failure of any of our suppliers to perform could disrupt our supply chain and impair our operations. Many of our suppliers are small companies that may be unable to supply our increasing demand for raw materials as we implement our planned expansion. We may be unable to identify new suppliers in a timely manner or on commercially reasonable terms. Raw materials from new suppliers may also be less suited for our technology and yield PV modules with lower conversion efficiencies, higher failure rates and higher rates of degradation than PV modules manufactured with the raw materials from our current suppliers.

Our continuing operations will require additional capital which we may not be able to obtain on favorable terms, if at all or without dilution to our stockholders.

Table of Contents

Since inception, we have incurred significant losses. We expect to continue to incur net losses in the near term. For the year ended December 31, 2014, our cash used in operations was \$28.1 million. For the nine months ended September 30, 2015, our cash used in operations was \$17.5 million. At September 30, 2015, we had cash and equivalents of \$619,000.

Although we have commenced production at our manufacturing facility, we do not expect that sales revenue and cash flows will be sufficient to support operations and cash requirements until we have fully implemented our new consumer products strategy. Additional projected product revenues are not anticipated to result in a positive cash flow position for the year 2016 overall. The Company will need to raise additional capital in order to continue our current level of operations throughout 2016.

To the extent that we may need to raise additional capital in the future, there is no assurance that we will be able to raise additional capital on acceptable terms or at all. If we raise additional funds through the issuance of equity or convertible debt securities, the percentage ownership of our existing stockholders could be significantly diluted, and these newly issued securities may have rights, preferences or privileges senior to those of existing stockholders. If we raise additional funds through debt financing, which may involve restrictive covenants, our ability to operate our business may be restricted. If adequate funds are not available or are not available on acceptable terms, if and when needed, our ability to fund our operations, take advantage of unanticipated opportunities, develop or enhance our products, expand capacity or otherwise respond to competitive pressures could be significantly limited, and our business, results of operations and financial condition could be materially and adversely affected.

In addition, the terms of a loan we obtained from the Colorado Housing and Finance Authority (“CHFA”) in connection with our purchase and improvement of our Thornton, Colorado facility contain covenants that limit our ability, without the consent of CHFA, to create or incur additional indebtedness (other than obligations created or