

Trina Solar LTD
Form 20-F
April 24, 2015
Table of Contents

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

FORM 20-F

(Mark One)

REGISTRATION STATEMENT PURSUANT TO SECTION 12(b) OR 12(g) OF THE SECURITIES EXCHANGE ACT OF 1934

OR

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

TRANSITION REPORT PURSUANT TO SECTION 13 OR 15(d) OF THE SECURITIES EXCHANGE ACT OF 1934
For the transition period from to

OR

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

Date of event requiring this shell company report

Commission file number: 001-33195

TRINA SOLAR LIMITED

(Exact name of Registrant as specified in its charter)

N/A

(Translation of Registrant's name into English)

Cayman Islands

(Jurisdiction of incorporation or organization)

No. 2 Tian He Road

Electronics Park, New District

Changzhou, Jiangsu 213031

People's Republic of China

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(Name, Telephone, E-mail and/or Facsimile number and Address of Company Contact Person)

Securities registered or to be registered pursuant to Section 12(b) of the Act:

Title of each class	Name of each exchange on which registered
American Depositary Shares, each representing 50 ordinary shares, par value \$0.00001 per share	New York Stock Exchange

Securities registered or to be registered pursuant to Section 12(g) of the Act:

None
(Title of Class)

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Table of Contents

Securities for which there is a reporting obligation pursuant to Section 15(d) of the Act:

None
(Title of Class)

Indicate the number of outstanding shares of each of the issuer's classes of capital or common stock as of the close of the period covered by the annual report.

4,606,198,382 ordinary shares, par value \$0.00001 per share, as of
December 31, 2014.

Indicate by check mark if the registrant is a well-known seasoned issuer, as defined in Rule 405 of the Securities Act.

Yes No

If this report is an annual or transition report, indicate by check mark if the registrant is not required to file reports pursuant to Section 13 or 15(d) of the Securities Exchange Act of 1934.

Yes No

Indicate by check mark 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 filing requirements for the past 90 days.

Yes No

Indicate by check mark whether the registrant has submitted electronically and posted on its corporate Web site, if any, every Interactive Data File required to be submitted and posted pursuant to Rule 405 of Regulation S-T during the preceding 12 months (or for such shorter period that the registrant was required to submit and post such files).

Yes No

Indicate by check mark whether the registrant is a large accelerated filer, an accelerated filer, or a non-accelerated filer. See definition of accelerated filer and large accelerated filer in Rule 12b-2 of the Exchange Act. (Check one):

Large accelerated filer

Accelerated filer

Non-accelerated filer

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Indicate by check mark which basis of accounting the registrant has used to prepare the financial statements included in this filing:

U.S. GAAP

International Financial Reporting Standards as issued
by the International Accounting Standards Board

Other

* If Other has been checked in response to the previous question, indicate by check mark which financial statement item the registrant has elected to follow.

Item 17 Item 18

If this is an annual report, indicate by check mark whether the registrant is a shell company (as defined in Rule 12b-2 of the Exchange Act).

Yes No

(APPLICABLE ONLY TO ISSUERS INVOLVED IN BANKRUPTCY PROCEEDINGS DURING THE PAST FIVE YEARS)

Indicate by check mark whether the registrant has filed all documents and reports required to be filed by Sections 12, 13 or 15(d) of the Securities Exchange Act of 1934 subsequent to the distribution of securities under a plan confirmed by a court.

Yes No

Table of Contents

TABLE OF CONTENTS

<u>INTRODUCTION</u>		1
<u>PART I</u>		2
<u>Item 1.</u>	<u>IDENTITY OF DIRECTORS, SENIOR MANAGEMENT AND ADVISERS</u>	2
<u>Item 2.</u>	<u>OFFER STATISTICS AND EXPECTED TIMETABLE</u>	2
<u>Item 3.</u>	<u>KEY INFORMATION</u>	2
<u>Item 4.</u>	<u>INFORMATION ON THE COMPANY</u>	33
<u>Item 4A.</u>	<u>UNRESOLVED STAFF COMMENTS</u>	59
<u>Item 5.</u>	<u>OPERATING AND FINANCIAL REVIEW AND PROSPECTS</u>	60
<u>Item 6.</u>	<u>DIRECTORS, SENIOR MANAGEMENT AND EMPLOYEES</u>	91
<u>Item 7.</u>	<u>MAJOR SHAREHOLDERS AND RELATED PARTY TRANSACTIONS</u>	103
<u>Item 8.</u>	<u>FINANCIAL INFORMATION</u>	104
<u>Item 9.</u>	<u>THE OFFER AND LISTING</u>	106
<u>Item 10.</u>	<u>ADDITIONAL INFORMATION</u>	107
<u>Item 11.</u>	<u>QUANTITATIVE AND QUALITATIVE DISCLOSURES ABOUT MARKET RISK</u>	118
<u>Item 12.</u>	<u>DESCRIPTION OF SECURITIES OTHER THAN EQUITY SECURITIES</u>	120
<u>PART II</u>		121
<u>Item 13.</u>	<u>DEFAULTS, DIVIDEND ARREARAGES AND DELINQUENCIES</u>	121
<u>Item 14.</u>	<u>MATERIAL MODIFICATIONS TO THE RIGHTS OF SECURITY HOLDERS AND USE OF PROCEEDS</u>	121
<u>Item 15.</u>	<u>CONTROLS AND PROCEDURES</u>	122
<u>Item 16A.</u>	<u>AUDIT COMMITTEE FINANCIAL EXPERT</u>	123
<u>Item 16B.</u>	<u>CODE OF ETHICS</u>	123
<u>Item 16C.</u>	<u>PRINCIPAL ACCOUNTANT FEES AND SERVICES</u>	123
<u>Item 16D.</u>	<u>EXEMPTIONS FROM THE LISTING STANDARDS FOR AUDIT COMMITTEES</u>	124
<u>Item 16E.</u>	<u>PURCHASES OF EQUITY SECURITIES BY THE ISSUER AND AFFILIATED PURCHASERS</u>	124
<u>Item 16F.</u>	<u>CHANGE IN REGISTRANT'S CERTIFYING ACCOUNTANT</u>	124

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<u>Item 16G.</u>	<u>CORPORATE GOVERNANCE</u>	124
<u>PART III</u>		124
<u>Item 17.</u>	<u>FINANCIAL STATEMENTS</u>	124
<u>Item 18.</u>	<u>FINANCIAL STATEMENTS</u>	124
<u>Item 19.</u>	<u>EXHIBITS</u>	124

Table of Contents

INTRODUCTION

Unless the context otherwise requires, in this annual report on Form 20-F:

- We, us, our, and our company refer to Trina Solar Limited, its predecessor entities and its subsidiaries;
- Trina refers to Trina Solar Limited;
- Trina China refers to Changzhou Trina Solar Energy Co., Ltd.;
- TST refers to Trina Solar (Changzhou) Science and Technology Co., Ltd.;
- ADSs refers to our American depositary shares, each of which represents 50 ordinary shares;
- ADRs refers to the American depositary receipts, which, if issued, evidence our ADSs;
- China or PRC refers to the People's Republic of China, excluding, for the purpose of this annual report, Taiwan, Hong Kong and Macau;
- RMB or Renminbi refers to the legal currency of China, \$ or U.S. dollars refers to the legal currency of the United States, and or Euro refers to the legal currency of the European Union;
- shares or ordinary shares refers to our ordinary shares, par value \$0.00001 per share; and
- issued and outstanding refers to our shares that have been issued, outstanding and paid in full, for the avoidance of doubt, excluding shares that have been set aside in relation to any share incentive plan or convertible debt security.

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Names of certain companies provided in this annual report are translated or transliterated from their original Chinese legal names.

Discrepancies in any table between the amounts identified as total amounts and the sum of the amounts listed therein are due to rounding.

This annual report on Form 20-F includes our audited consolidated financial statements for the years ended December 31, 2012, 2013 and 2014.

This annual report contains translations of certain Renminbi amounts into U.S. dollars at the rate of RMB6.2046 to \$1.00, the noon buying rate in effect on December 31, 2014 in New York City for cable transfers of Renminbi as certified for customs purposes by the Federal Reserve Bank of New York. We make no representation that the Renminbi or U.S. dollar amounts referred to in this annual report could have been or could be converted into U.S. dollars or Renminbi, as the case may be, at any particular rate or at all. See Item 3. Key Information D. Risk Factors Risks Related to Our Company and Our Industry Fluctuations in exchange rates could adversely affect our business. On April 17, 2015, the noon buying rate was RMB6.1976 to \$1.00.

We completed the initial public offering of 5,300,000 ADSs on December 22, 2006. On December 19, 2006, we listed our ADSs on the New York Stock Exchange under the symbol TSL. On November 22, 2010, our ADRs started trading on the Singapore Exchange GlobalQuote Board under the symbol K3KD.

Table of Contents**PART I****Item 1. IDENTITY OF DIRECTORS, SENIOR MANAGEMENT AND ADVISERS**

Not Applicable.

Item 2. OFFER STATISTICS AND EXPECTED TIMETABLE

Not Applicable.

Item 3. KEY INFORMATION**A. Selected Financial and Operational Data**

The following selected consolidated statement of operations data (other than ADS data) for the years ended December 31, 2012, 2013 and 2014 and the selected consolidated balance sheets data as of December 31, 2013 and 2014 have been derived from our audited financial statements included elsewhere in this annual report. The selected consolidated financial data should be read in conjunction with those financial statements and the accompanying notes and Item 5. Operating and Financial Review and Prospects below. Our consolidated financial statements are prepared and presented in accordance with United States generally accepted accounting principles, or U.S. GAAP. Our historical results do not necessarily indicate our results expected for any future periods.

Our selected consolidated statements of operations data (other than ADS data) for the years ended December 31, 2010 and 2011 and our consolidated balance sheets data as of December 31, 2010, 2011 and 2012 have been derived from our audited consolidated financial statements, which are not included in this annual report.

	Year Ended December 31,				
	2010	2011	2012	2013	2014
	(in thousands, except for share, per share, operating data and percentages)				
Consolidated Statement of Operations Data					
Net sales	\$ 1,857,689	\$ 2,047,902	\$ 1,296,655	\$ 1,774,971	\$ 2,286,119
Cost of sales	1,273,328	1,715,260	1,239,412	1,556,777	1,900,547
Gross profit	584,361	332,642	57,243	218,194	385,572
Operating expenses:					

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Selling expenses	75,677	100,427	118,885	132,824	135,061
General and administrative expenses	72,711	157,129	176,719	103,523	108,150
Research and development expenses	18,625	44,120	26,511	19,926	22,258
Total operating expenses	167,013	301,676	322,115	256,273	265,469
Income (loss) from operations	417,348	30,966	(264,872)	(38,079)	120,103
Foreign exchange gain (loss)	(36,156)	(27,435)	908	(13,576)	(21,934)
Interest expense	(33,952)	(35,021)	(51,887)	(48,445)	(34,886)
Interest income	2,590	3,056	8,552	3,958	2,793
Derivatives (loss) gain	9,476	(11,393)	8,542	2,180	3,422
Other income, net	216	9,317	6,797	8,696	7,250
Income (loss) before income taxes	359,522	(30,510)	(291,960)	(85,266)	76,748
Income tax (expense) benefit	(48,069)	(7,310)	25,405	13,030	(15,488)
Net income (loss)	311,453	(37,820)	(266,555)	(72,236)	61,260
Net loss (income) attributable to the noncontrolling interests		(1)	(1)	210	(1,922)
Net income (loss) attributable to Trina Solar Limited Shareholders	\$ 311,453	\$ (37,820)	\$ (266,555)	\$ (72,026)	\$ 59,338
Earnings (loss) per ordinary share:					
Basic	\$ 0.09	\$ (0.01)	\$ (0.08)	\$ (0.02)	\$ 0.02
Diluted	\$ 0.08	\$ (0.01)	\$ (0.08)	\$ (0.02)	\$ 0.01
Earnings (loss) per ADS(2):					
Basic	\$ 4.58	\$ (0.54)	\$ (3.77)	\$ (1.01)	\$ 0.76
Diluted	\$ 4.18	\$ (0.54)	\$ (3.77)	\$ (1.01)	\$ 0.74
Weighted average ordinary shares outstanding:					
Basic	3,402,701,503	3,521,182,416	3,534,829,694	3,553,552,756	3,881,503,977
Diluted	3,833,713,796	3,521,182,416	3,534,829,694	3,553,552,756	4,274,694,832
Weighted average ADS outstanding:(2)					
Basic	68,054,030	70,423,648	70,696,594	71,071,055	77,630,080
Diluted	76,674,276	70,423,648	70,696,594	71,071,055	85,493,897
Consolidated Financial Data					
Gross margin(3)	31.5%	16.2%	4.4%	12.3%	16.9%
Net margin(4)	16.8%	(1.8)%	(20.6)%	(4.1)%	2.7%
Consolidated Operating Data					
PV modules shipped (in MW)(5)	1,057.0	1,512.0	1,594.0	2,584.3	3,336.2
Average selling price (\$/W) \$	1.75	1.33	0.78	0.64	0.63

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Table of Contents

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- (1) The amount of net loss attributable to the noncontrolling interest is less than one thousand for the years ended December 31, 2011 and 2012.
- (2) Reflects ADS ratio change effective January 2010.
- (3) Gross margin represents the result of gross profit divided by net sales.
- (4) Net margin represents the result of net income (loss) divided by net sales.
- (5) Excludes shipment to our solar power projects segment.

	2010	2011	As of December 31, 2012 (in thousands)	2013	2014
Consolidated Balance Sheet Data					
Cash and cash equivalents	\$ 752,748	\$ 816,780	\$ 807,276	\$ 486,686	\$ 392,892
Restricted cash	38,035	79,602	110,920	74,720	146,929
Inventories	79,126	249,779	318,504	244,532	350,852
Accounts receivable, net	377,317	466,537	390,157	435,092	608,149
Total current assets	1,415,139	1,768,722	1,765,487	1,521,701	1,773,346
Property, plant and equipment, net	571,467	919,727	893,340	889,752	1,253,543
Total assets	2,132,089	2,877,448	2,864,857	2,567,229	3,199,566
Short-term borrowings and current portion of long-term borrowings	158,652	389,472	875,821	935,590	820,252
Accounts payable	188,000	472,092	423,985	461,148	742,007
Total current liabilities	600,070	1,007,435	1,479,155	1,540,543	1,749,803
Accrued warranty costs	38,711	58,810	65,780	81,743	103,197
Long-term borrowings, excluding current portion	299,977	520,151	415,150	100,502	22,434
Total equity	1,173,647	1,145,325	881,785	822,479	1,001,079
Total liabilities and equity	\$ 2,132,089	\$ 2,877,448	\$ 2,864,857	\$ 2,567,229	\$ 3,199,566

B. Capitalization and Indebtedness

Not Applicable.

C. Reasons for the Offer and Use of Proceeds

Not Applicable.

Table of Contents

D. Risk Factors

Risks Related to Our Company and Our Industry

We may be adversely affected by volatile market and industry trends, in particular, the growth for solar power projects may decline, which may reduce our revenues and earnings.

We are affected by solar power markets and industry trends. Weakened global economic conditions may affect the availability of financing, which in turn would slow the demand for photovoltaic, or PV, projects. As a result of global economic conditions, some governments may implement austerity measures that reduce the feed-in-tariffs, or FITs and other incentives designed to benefit the solar industry. In 2008 and 2009, demand for global solar power declined due to decreased availability of financing for downstream buyers of solar power products as a result of the global economic crisis. During the same period, increased manufacturing capacity combined with decreasing demand and prices caused a decline in the prices of solar power products. In 2011, a decrease in government payment to solar power producers, which were in the form of FITs and other reimbursements, and a reduction in available financing caused a decrease in the growth in the number of solar power projects in the European markets. Payments to solar power producers decreased as governments in Europe, under pressure to reduce sovereign debt levels, reduced incentives such as FITs, which require public utility companies to pay higher prices for solar power than for power generated through conventional means. Furthermore, many downstream purchasers of solar power products were unable to secure sufficient financing for the solar power projects due to the global credit crunch. As a result, many solar power producers that purchase solar power products from manufacturers like us were unable or unwilling to expand their operations. These market conditions were exacerbated by an over-supply of solar power products, primarily driven by an increase in manufacturing capacity that continued through 2011, which adversely affected the prices of solar power products.

In 2012, governments further reduced their support in the European markets that have traditionally relied upon FITs to support demand and fewer markets utilized FITs and power purchase agreements to support demand, which in the aggregate resulted in a marked decline in the global growth rate of demand for solar products. Further, in December 2013, anti-dumping and anti-subsidy duties imposed by the European Commissions on crystalline silicon photovoltaic, or CSPV, cells and modules originating in or consigned from China became effective, motivating a number of Chinese solar product manufacturers, including us, to agree to a price undertaking, pursuant to which exporters agreed not to sell more than an agreed amount of solar panels or certain related components into the European Union at a minimum price. Both the FITs reduction and the price undertaking have resulted in an increase in prices and a further decrease in demand in European markets. Although demand in other regions, including the U.S., Japan and India, as well as many other emerging markets in Asia, the Middle East and Africa, is expected to offset the decline in European demand, we cannot assure you that those increases will continue in the future and fully offset the declining demand in Europe.

The demand for solar power is also influenced by macroeconomic factors such as global economic conditions, the supply and prices of other energy products such as oil, coal and natural gas, and government regulations and policies concerning the electric utility industry. A decrease in oil prices, for example, may reduce demand for investment in alternative energy.

If these negative market and industry trends continue and demand for solar power projects and solar power products weakens as a result, our business and results of operations may be materially and adversely affected.

The determination by U.S. and European Union authorities that our export sales are in violation of international fair trade rules could impede our access to important export markets and our overall competitiveness.

In 2011, solar panel manufacturing companies in the United States filed antidumping and countervailing duty petitions with the U.S. government, which resulted in the institution of antidumping and countervailing duty investigations relating to imports into the United States of CSPV cells, whether or not assembled into modules, from China. In December 2012, following completion of those investigations by the U.S. International Trade Commission, or the Commission, and the U.S. Department of Commerce, or Commerce, antidumping and countervailing duty orders were imposed on imports into the United States covered by the investigation, including imports of our products originating from China. The orders require an effective net cash deposit rate on all imports of these covered products, which currently is set at 23.75% and may increase or decrease in the future. The current rate will be in effect until the final determination in the first administrative review, which is expected around May 2015. The actual duty rates at which entries of covered merchandise will be finally assessed may differ from the deposit rates because they are subject to completion of ongoing administrative reviews of the antidumping and countervailing duty orders. The first administrative review process is still underway, and preliminary results were published on January 8, 2015 and final results are expected to be published in the second quarter of 2015. According to the preliminary results, the anti-dumping rate proposed for approximately 20 Chinese exporters, including us, was 1.82%, significantly lower than the average net cash deposit rate initially projected. The proposed countervailing duty rate for us was 15.68%. A second administrative review is also currently underway. In February 2013, we, along with other parties, including the U.S. companies that petitioned for the investigations, filed appeals with the U.S. Court of International Trade, or the CIT, challenging various aspects of Commerce's findings. We may not be successful in our appeals, in which case the scope of the antidumping and countervailing duty orders could remain or be expanded.

Table of Contents

Also, on December 31, 2013, SolarWorld Industries America, Inc., or SolarWorld, a U.S. producer of solar cells and panels, filed a separate petition with the U.S. government resulting in the institution of new antidumping and countervailing duty investigations against imports from China. The petitions accuse Chinese producers of certain CSPV cells and modules of dumping their products in the United States and receiving countervailable subsidies from the Chinese government. This action excludes from its scope certain products, including any products that are covered by the antidumping and countervailing duty orders imposed in 2012. This trade action also accuses Taiwanese producers of certain CSPV cells and modules of dumping their products in the United States. These petitions seek to subject modules assembled in China using solar cells produce outside of China to antidumping and countervailing duties. On December 17, 2014, Commerce issued final rulings that imports of certain CSPV cells and modules were dumped in the United States from China and Taiwan and that imports of certain CSPV cells and modules from China received subsidies. On these imports we received an anti-dumping duty rate of 26.71% and a countervailing duty rate of 49.79%, which will be in effect until the final determination of the first administrative review. On January 21, 2015, the Commission affirmed that imports of certain CSPV cells and modules from mainland China and Taiwan materially injure the domestic industry. The actual duty rates at which entries of covered merchandise will be finally assessed may differ from the announced deposit rates, because they will be subject to completion of administrative reviews of these antidumping and countervailing duty orders. We expect the first administrative reviews to be completed by the first half of 2017. We are considering whether to file an appeal of the final determinations issued by Commerce and the Commission.

On September 6, 2012 and November 8, 2012, the European Commission announced the initiation of antidumping and anti-subsidy investigations, respectively, concerning imports into the European Union of CSPV modules and key components (i.e., cells and wafers) originating in China. On December 5, 2013, the Council of the European Union announced its final decision imposing antidumping and anti-subsidy duties on imports of CSPV cells and modules originating in or consigned from China. An average duty of 47.7%, consisting of both antidumping and anti-subsidy duties, are applicable for a period of two years beginning on December 6, 2013 to imports from Chinese solar panel exporters who, like us, cooperated with the European Commission's investigations. However, on the same day, the European Commission accepted a price undertaking by Chinese export producers in connection with the antidumping and anti-subsidy proceedings. As a result, imports from Chinese solar panel exporters that are made pursuant to the price undertaking are exempt from the final antidumping and anti-subsidy duties imposed by the European Union. We have agreed to comply with the minimum price and other conditions set forth in the undertaking so that our exported products will be exempt from the antidumping and anti-subsidy duties imposed by the European Commission. The European Commission monitors compliance on an ongoing basis, and there have been allegations of non-compliance to the price undertaking by certain Chinese export producers. If the price undertaking is withdrawn because the European Commission determined that these Chinese export producers are not complying with the price undertaking, the above-described duties would be applied on our exports to the European markets and could materially and adversely affect our affiliated European Union operations and increase our cost of selling into the region, which could negatively affect our financial conditions and results of operations.

It is also possible that other antidumping or countervailing duty or other import restrictive proceedings will be initiated in additional jurisdictions. For example, in November 2012, India initiated antidumping investigations against solar cell imports from China, the United States, Malaysia and Taiwan, and in May 2014, India's Department of Commerce recommended imposing duties on electricity produced on solar cell imports from these countries before India's Ministry of Finance decided against imposing any such duties in September 2014. Further, on May 14, 2014, Australia initiated an antidumping investigation against certain CSPV modules or panels exported to Australia from China. Although our policy requires that all of our export sales comply with international trade practices, we cannot guarantee that the government agencies in the jurisdictions in which actions are brought will not impose trade remedy actions. Under the antidumping and countervailing duty laws, significant additional duties may be imposed on imports of our products into these countries, which increase our costs of accessing these additional markets. As a result of the duties imposed by the relevant authorities, or if duties are imposed on our PRC-manufactured products, we may adjust our business strategy for selling into these jurisdictions. Any change in our business strategy would create a number of operational and legal uncertainties. Any of the above scenarios may materially and adversely impact our sales, thereby limiting our opportunities for growth.

Table of Contents

We have been named as a defendant in certain legal and administrative actions that may have a material adverse impact on our operating results and financial condition.

We must defend against legal and administrative actions described in Item 8 of this annual report, Item 8. Financial Information A. Consolidated Statements and Other Financial Information Legal and Administrative Proceedings. These include various trade actions as well as lawsuits brought by the trustees of Solyndra LLC and Energy Conversion Devices Liquidation Trust, against which the defendants, including us, filed motions to dismiss the claims in their entirety. The motion to dismiss the Solyndra LLC trustee's lawsuit was denied by the court and discovery is proceeding in that case. The motion to dismiss Energy Conversion Devices Liquidation Trust's lawsuit was granted by the district court, though the plaintiff has filed a motion for reconsideration of the district court's order and the court has not yet issued a decision. We will continue to defend ourselves in these cases, although we cannot be certain that we will be successful in these efforts. We also cannot be certain that we will be able to successfully defend ourselves against these claims if either case is brought to trial. We will consider appealing the outcome of these legal and administrative actions should our initial defense be unsuccessful. Although we will vigorously defend these cases we are currently unable to estimate the possible loss or possible range of loss, if any, associated with the resolution of these legal and administrative actions and disputes. Any unfavorable outcome from these actions and disputes, including an appeal of the judgment or outcome in these actions and disputes, may have a material adverse effect on our consolidated financial position, results of operations, or cash flows in the future. The legal and administrative proceedings may consume a material portion of our cash resources and divert management's attention from the day-to-day operations of our company, all of which could harm our business. There can be no assurance that we will prevail in any such appeal and any adverse outcome of these cases could have a material adverse effect on our business or results of operations.

A significant reduction or elimination of economic incentives or change in government policies may have a material adverse effect on our business and prospects.

Demand for our products depends substantially on government incentives which aim to promote greater use of solar power. In many countries in which we are currently, or intend to become, active, the solar power markets, particularly the market of on-grid PV systems, would not be commercially viable without government incentives. This is because the cost of generating electricity from solar power currently exceeds, and we believe will continue to exceed for the foreseeable future, the costs of generating electricity from conventional or non-solar renewable energy sources.

The scope of the government incentives for solar power depends, to a large extent, on political and policy developments relating to environmental concerns in a given country, which could lead to a significant reduction in or a discontinuation of the support for renewable energies in such country. Federal, state and local governmental bodies in many of our primary-targeted markets, notably, Germany, Italy, the United Kingdom and other countries in Europe, China, the United States, Australia, India, Japan, as well as other markets in Asia, Africa, the Middle East, Latin America, and the Caribbean Islands have provided economic incentives in the form of capital cost rebates, feed-in tariffs, tax credits and other incentives to end users, distributors, system integrators and manufacturers of solar power products. Policy shifts could reduce or eliminate these government economic incentives altogether.

However, as the solar power industry continues to develop, these government economic incentives have been reduced and could continue to be reduced or be eliminated altogether. For example, in December 2010, the Spanish government reduced the maximum allowable annual operating hours for which PV systems could earn FIT payments. Germany further reduced its feed-in tariffs in the beginning of 2012 by 15% to up to 24.43 Euro cents per kilowatt hour for rooftop systems and up to 18.76 Euro cents per kilowatt hour for ground-based systems. In September 2012, Germany introduced a further reduction in feed-in tariffs of 1% monthly for roof-based systems while reducing or eliminating feed-in tariffs for ground-based systems. Reductions in FIT programs continued in 2012, 2013 and 2014 across Europe, including Germany, Italy, Spain, Romania and Czech. All such reductions may result in a significant fall in the price of PV products in order to support continued demand. In 2012, 2013 and 2014, Germany accounted for 33.1%, 10.4% and 1.0%, respectively, of our net sales and Spain accounted

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for 1.3%, 2.3% and 0.1%, respectively, of our net sales. We believe that uncertainty in political and policy developments may lead to increased competition among solar manufacturers. Electric utility companies that have significant political lobbying powers may also seek changes in the relevant legislation in their markets that may adversely affect the development and commercial acceptance of solar energy. Further, austerity measures being implemented by many countries attempting to lower national spending may reduce incentives to the solar industry. A significant reduction in the scope or discontinuation of government incentive programs, especially those in our target markets, could cause demand for our products and our revenues to decline, and have a material adverse effect on our business, financial condition, results of operations and prospects.

Table of Contents

Demand for our products may be adversely affected by the effects of the credit environment on our customers and seasonal variations.

Europe, the United States and international economies are in the midst of a prolonged period of slow economic growth. In particular, the credit and financial crises, terrorist acts and similar events, continued turmoil in the Middle East or war in general could contribute to a slowdown of the market demand for products that require significant initial capital expenditures, including solar power products. For example, global economics, capital markets and credit disruptions have resulted in slower investments in new installation projects that make use of solar power products. If the current economic recovery slows, stalls or reverses, we may experience decreases in the demand for our solar power products, which may harm our operating results.

Global economics, capital markets and credit disruptions also pose risks for our customers. Although we have benefited from historically low interest rates that have made it more attractive for our customers to use credit to purchase our products, interest rates may rise soon, which could increase the cost of financing purchases of our products and may reduce our customers' profits and investors' expected returns on investment. There can be no assurance that our customers will be able to borrow money on a timely basis or on reasonable terms, which could have a negative impact on demand for our products. If global economic growth remains slow, it could result in a decrease in the demand for our solar power products, which may harm our operating results. These same factors may adversely impact our existing or future sales agreements, including increasing the likelihood of contractual breaches by our counterparties. Our sales are affected by interest rate fluctuations and the availability of liquidity, and would be adversely affected by increases in interest rates or liquidity constraints. Rising interest rates may also make certain alternative investments more attractive to investors and therefore lead to a decline in demand for our solar power products, which could have a material adverse effect on our business, results of operations, financial conditions and cash flows.

Our sales are also affected by seasonal variations in demand linked to construction cycles and weather conditions. Because of this, comparisons of sales and operating results between different periods within a single financial year, or between different periods in different years, are not necessarily meaningful and cannot be relied on as indicators of our performance. Seasonality may cause our working capital and other cash flow requirements to vary depending on the variability in the volume and timing of sales. These factors, among other things, make forecasting more difficult and may reduce our ability to manage working capital and to predict financial results accurately.

Fluctuations in polysilicon prices may affect our margins.

Polysilicon is an essential raw material used in the production of solar cells and modules. Prior to the second half of 2008, there was an industry-wide shortage of polysilicon, primarily as a result of the growing demand for solar power products. In the past, increases in the price of polysilicon have increased our cost of sales and impacted our margins. Polysilicon production capacity expanded rapidly in 2009, which coupled with the global economic downturn, led to an oversupply of high-purity silicon in 2009, which aligned with the oversupply of solar wafers, cells and modules resulting in substantial downward pressure on prices throughout the value chain in 2011 until the second half of 2013. According to Solarbuzz, as demand increased during 2013, polysilicon spot prices began to stabilize and during the second half of 2013 through the first half of 2014 spot prices increased. Polysilicon production increased in 2014 due to higher prices, which weakened the upward pressures on spot prices. One of the main determining factors of polysilicon prices is upstream supply, which has been increasing since the beginning of 2014. According to Solarbuzz, annual polysilicon supply is forecasted to grow by 21.8% in 2015 compared to 2014, and prices are expected to rise in the first quarter of 2015 and then decrease during the rest of 2015. Further, the gap between average spot prices and contract prices for polysilicon used in PV applications has narrowed considerably in 2014 as previously entered into long-term contracts expired, were renegotiated to be priced by referencing to the prevailing market price, or were cancelled.

Table of Contents

We purchase polysilicon from a limited number of international and domestic suppliers. Consistent with market practice, our medium and long-term supply contracts generally contain price adjustment provisions that offer both parties the right to adjust contract price when the fluctuation of market price during a specified period has exceeded a threshold as agreed to by both parties. If the market price of polysilicon increases significantly in the future, our counterparties may renegotiate contract prices with us based on the then market price. Moreover, as the prices of other silicon-based raw materials, including ingots and wafers, are correlated to the price of polysilicon, an increase in the price of polysilicon would likely lead to increases in the prices of other silicon-based raw materials that we source from third parties. Due to the volatility of polysilicon prices, in 2012, we also renegotiated our wafer purchase amounts and prices under a long-term framework agreement with a third party to more closely track market prices. We cannot assure you that our polysilicon procurement strategy will be successful in ensuring that we have an adequate supply of polysilicon at commercially viable prices to meet our requirements. Further, if the price of polysilicon increases faster than the increase in the price of PV modules, we may be unable to pass this increase to our customers, or if the price of PV modules decreases more quickly than the decrease in the price of polysilicon, our results of operations could be materially and adversely affected.

We continue to rely on a limited number of third-party suppliers and manufacturers for silicon-based raw materials for our products and toll services, which could prevent us from delivering our products to our customers within required time frames and result in sales and installation delays, cancellations, liquidated damages and loss of market share.

We purchase silicon-based raw materials, including polysilicon, ingots and wafers, from a limited number of domestic and international suppliers, and from time to time we source or contract toll services from third party manufacturers to manufacture some of our wafers. We purchase non-silicon-based raw materials from many sources. If we fail to develop or maintain our relationships with the key third party suppliers or manufacturers, we may be unable to manufacture our products timely or our products may only be available at a higher cost or after a long delay. If we do not deliver products to our customers within the required time frames, we may experience order cancellations, loss of market share and legal action.

Furthermore, any decrease in the availability of financing may have a significant negative impact on suppliers and manufacturers of raw materials. Suppliers typically require a significant amount of cash to fund their production and operations, to meet contractual obligations arising from previous expansions of manufacturing facilities, as well as for research and development activities. The inability of our suppliers to access capital or the insolvency of our suppliers could lead to their failure to deliver raw materials to us. Our inability to obtain raw materials in a timely manner from suppliers could have a material adverse effect on our business, financial conditions and results of operations.

If we do not successfully renegotiate our medium-term and long-term contracts with our polysilicon and wafer suppliers, our raw material costs and our excess inventory may increase.

We purchase polysilicon from a limited number of international and domestic suppliers using short-term contracts, as well as medium-term and long-term contracts which we previously entered into. Several of these medium-term and long-term contracts are partially pre-paid. From the fourth quarter of 2008, the price of polysilicon decreased rapidly due to the increased supply of polysilicon that resulted from intensive investments in silicon manufacturing. As a result of the decrease in the price of polysilicon in late 2008 and early 2009, we renegotiated most of our medium-term and long-term contracts to reduce the purchase price, thereby reducing our costs. Since 2011, we have renegotiated several medium-term and long-term supply contracts that required us to purchase polysilicon at a pre-determined price or quantity to more closely link our purchase costs with market prices. Beginning in 2012, we have renegotiated our wafer purchase quantity annually and price monthly under a long-term framework agreement with a third party to more closely track market prices.

Table of Contents

See Item 4. Information on the Company B. Business Overview Suppliers and Contractors Manufacturing Segment for more information. If we are required to renegotiate our polysilicon and wafer contracts in the future and we are unable to reach an agreement with terms favorable to us, we may be placed at a competitive disadvantage compared to our competitors, and our costs could increase and our earnings could decline. In addition, if demand for our PV products decreases, yet our supply agreements require us to purchase more polysilicon or wafers than required to meet our actual customer demand, we may incur costs associated with carrying excess inventory. To the extent we are not able to pass these increased costs on to our customers, our business, cash flows, financial condition and results of operations may be materially and adversely affected.

Our future success depends in part on our ability to expand our business into solar power projects markets. Any failure to successfully implement this strategy could have a material adverse effect on our growth, business prospects and results of operations in future periods.

Our current business strategy includes plans to expand into selected solar power projects markets, which we believe are a natural extension of our vertically integrated business model. Historically, the solar module manufacturing business has accounted for the large majority of our net sales but as we continue to expand our business into the solar power projects segment of the industry, we expect that our solar power projects business will contribute an increasingly large portion of our net sales. These expansion plans may include investments in project companies and joint ventures and forming strategic alliances with third parties to balance system technologies, engineering, procurement and construction services, and related financing needs. These plans may require additional capital expenditures, which could be used in pursuit of other opportunities and investments. Additionally, our experience in the solar power products manufacturing industry may not be as relevant or applicable in downstream markets. We may also face intense competition from companies with greater experience or established presence in the targeted downstream markets or competition from our industry peers with similar expansion plans. Furthermore, we may not be able to manage entities which we invest in or provide adequate resources to such entities to maximize the return on our investments. We may not be able to secure the government approvals or licenses required for construction and operation of solar power projects in a timely manner, or at all. In the case of potential joint ventures and strategic alliances with third parties, we may face risks associated with the sharing of proprietary information, loss of control of operations that are material to our business and profit sharing arrangements. We may also consider acquisitions of existing downstream players, in which we may face difficulties related to the integration of the operations and personnel of acquired businesses and the division of resources between our existing and acquired operations.

We cannot assure you that we will be successful in expanding our business into solar power projects markets along the solar power product value chain. Any failure to successfully identify, execute and integrate our acquisitions, investments, joint ventures and alliances as part of entering into projects markets may have a material adverse impact on our growth, business prospects and results of operations, which could lead to a decline in the price of our ADSs.

We may not be able to locate third party buyers for our solar projects on a timely manner, or at all, or we may not be able to timely renew or replace expiring power purchase agreements, or PPAs, or other contractual arrangements with agreements containing equivalent terms and conditions.

Upon completing solar projects, we either sell them to third party buyers, or operate them under PPAs or other contractual arrangements with utility or grid operators. For those projects we intend to sell, if we are not able to locate third party buyers and agree to a purchase and sales contract on terms and conditions favorable to us and in a timely manner, or at all, our business, financial condition and results of operations could be materially and adversely affected. In addition, substantially all of our build-to-own solar power projects are located in China, where local subsidiaries of the State Grid Corporation of China, or the State Grid, purchase nearly all of the electricity we generate pursuant to PPAs. Our PPAs for projects located in China generally have terms of four to ten years and are subject to renewal by the parties when the original term expires. However, the PRC central government guarantees the FIT at a fixed price for all solar power projects approved by China's National

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Development and Reform Commission, or NDRC, for at least 20 years in principle. If we are unable to renew the PPAs when they expire, we may not be able to replace them with agreements of equivalent terms, or at all, or we may experience significant delays or incur additional costs related to securing replacements. Although the local subsidiaries of the State Grid are required under PRC law to purchase all electricity generated by renewable energy producers within their coverage areas, if, for any reason, the local subsidiaries of the State Grid are unable or unwilling to fulfill their obligations or otherwise terminate agreements prior to their expiration, our business, financial condition and results of operations could be materially and adversely affected.

Table of Contents

Solar power projects located in China can only receive subsidies from the PRC government after they are listed in the Renewable Energy Electricity Subsidy Catalog issued by China's Ministry of Finance, the NDRC, and the National Energy Administration from time to time, or the Subsidy Catalog.

Solar power projects located in China can only receive central government subsidies after completing the administrative and perfunctory procedures with the relevant authorities of finance, pricing and energy to be listed in the Subsidy Catalog. In order to be listed in the Subsidy Catalog, ground-mounted projects must submit applications to the relevant provincial authorities and rooftop projects must submit applications to the local grid companies in the area where the projects are located. After preliminary review of the applications, the relevant provincial authorities and the local grid companies will report to China's Ministry of Finance, the NDRC, and the National Energy Administration.

The Ministry of Finance, the NDRC and the National Energy Administration review the applications of all solar power projects and decide whether to list the projects in the Subsidy Catalog. In 2013, these agencies instituted a number of measures to standardize the approval process and the settlement of subsidies, but there have been significant delays in the listing of projects in the Subsidy Catalog, at times until even after electricity has been sold to the power grid, which has delayed the payment of the government subsidies. As of the date of this annual report, we have not received subsidies for our build-to-own projects located in China that have met all of the measures of the approval process because they have not been included in the most recent Subsidy Catalog. If we do not receive subsidies for our projects in a timely manner or at all, our business, cash flows, financial condition and results of operations may be materially and adversely affected.

Our ability to expand the pipeline of our projects business in several key markets exposes us to a number of risks and uncertainties.

As a greater proportion of our net sales will be derived from our solar power projects business, we will be increasingly exposed to the risks associated with solar power projects. Further, our future success largely depends on our ability to expand our solar power project pipeline. The risks and uncertainties associated with our projects business and our ability to expand our solar power project pipeline include:

- the need to raise funds to develop greenfield or purchase late-stage solar power projects, which we may be unable to obtain on commercially reasonable terms or at all;
- the uncertainty of being able to sell the projects, receive full payment for them upon completion, or receive payment in a timely manner;
- delays and cost overruns as a result of a number of factors, many of which are beyond our control, including delays in regulatory approvals, construction, grid-connection and customer acceptance testing;
- delays or denial of required approvals, permits or licenses by relevant government authorities in connection with the construction, grid-connection and operation of solar power projects;

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- failure to negotiate favorable payment terms with components and services suppliers;
- unforeseeable engineering problems, construction or other unexpected delays and contractor performance shortfalls;
- labor, components and materials supply delays, shortages or disruptions, or work stoppages;
- failure to execute PPAs or other arrangements that are commercially acceptable to us;
- diversion of significant management attention and other resources; and
- failure to execute our project pipeline expansion plan effectively.

If we are unable to successfully expand our projects business, and in particular, our solar power project pipeline, we may be unable to expand our business, maintain our competitive position, improve our profitability, and generate the cash flows we have currently forecasted.

Some of the suppliers of polysilicon with whom we have entered into long-term contracts may not be able to produce polysilicon of sufficient quantity and quality or on schedule to meet our manufacturing requirements.

Manufacturing polysilicon is a highly complex process and our suppliers may not be able to produce polysilicon of sufficient quantity and quality or on schedule to meet our wafer manufacturing requirements. Minor deviations in the manufacturing process can also cause substantial decreases in yield and, in some cases, cause production to be suspended or result in minimal output. If shipments of polysilicon from our suppliers experience major delays or our suppliers are unable to supply us with polysilicon as planned, we may suffer a setback to our raw material procurement, which could materially and adversely affect our growth strategy and our results of operations. Moreover, we may be involved in disputes to retrieve prepayments we made for the polysilicon delivery, which would expose us to risks of losing the prepayment or entering into settlements which may result in losses to us. In addition, the polysilicon supplied by suppliers may contain quality defects. For example, PV modules produced using polysilicon of substandard quality would result in lower cell efficiency and conversion rates than that which the supplier has claimed or provided a warranty for. From time to time, we may engage in negotiations and disputes with certain suppliers that supplied us with polysilicon with quality defects. Any litigation arising out of the disputes could subject us to potentially expensive legal expenses, distract management from the day-to-day operation of our business and expose us to risks for which appropriate damages may not be awarded to us, all of which could materially and adversely affect our business and financial condition.

Table of Contents

Prepayments to our polysilicon suppliers and equipment suppliers expose us to the credit risks of those suppliers and may increase our costs and expenses, which could in turn have a material adverse effect on our liquidity.

Under supply contracts with several of our multi-year polysilicon and our equipment suppliers, consistent with industry practice, we have made prepayments to our suppliers prior to the scheduled delivery dates for polysilicon and equipment. In many such cases, we made the prepayments without receiving collateral for such payments. As a result, our claims for such payments would rank as unsecured claims, which would expose us to the credit risks of our suppliers in the event of their insolvency or bankruptcy. Our claims against the defaulting suppliers would rank below those of secured creditors, which would undermine our chances of obtaining the return of our prepayments. Furthermore, if demand for our products decreases, we may incur costs associated with carrying excess materials. Accordingly, any of the above scenarios may have a material adverse effect on our financial condition and results of operations.

We must comply with certain financial and other covenants under the terms of our debt instruments and the failure to do so may put us in default under those instruments.

Many of our loan agreements include financial covenants and broad default provisions. The financial covenants primarily include current ratios, quick ratios, debt to asset ratios, contingent liability ratios and minimum equity requirements, which, in general, govern our existing long-term debt and debt we may incur in the future. These covenants could limit our ability to plan for or react to market conditions or to meet our capital needs in a timely manner and complying with these covenants we may require us to curtail some of our operations and growth plans. In addition, any global or regional economic deterioration may cause us to incur significant net losses or force us to assume considerable liabilities, which would adversely impact our ability to comply with the financial and other covenants of our outstanding loans. If our creditors refuse to grant waivers for any non-compliance with these covenants, such non-compliance will constitute an event of default which may accelerate the amounts due under the applicable loan agreements. Some of our loan agreements also contain cross-default clauses, which could enable creditors under our debt instruments to declare an event of default should there be an event of default on our other loan agreements.

We have on occasion failed to comply with certain financial covenants in some of our loan agreements. For example, as of August 31, 2014, Trina China was not in compliance with the current ratio and quick ratio requirements of loans from China Development Bank, and Trina Solar (Luxembourg) Holdings S.A.R.L. was not in compliance with the gearing ratio for loans from China Development Bank. On September 19, 2014, Trina China and Trina Solar (Luxembourg) Holdings S.A.R.L. each obtained waiver letters from China Development Bank waiving past breaches and revising those financial covenants.

Although we are currently in compliance with our existing financial and other covenants under the terms of our debt instruments, we cannot assure you that we will be able to remain in compliance with those covenants in the future. We may not be able to cure future violations or obtain a waiver on a timely basis in order to avoid a default. An event of default under any agreement governing our existing or future debt, if not cured by us or waived by our creditors, could have a material adverse effect on our liquidity, financial condition and results of operations.

We have significant outstanding bank borrowings, outstanding convertible senior notes and capital expenditure needs, and we may not be able to arrange adequate financing when our outstanding borrowings mature or when capital expenditures are required.

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We typically require a significant amount of cash to fund our operations, especially for prepayments or loans to suppliers to secure our polysilicon supply requirements. We also will require a significant amount of cash to meet future capital requirements, including the expansion of our PV product manufacturing facilities and research and development activities, in order to remain competitive. Future acquisitions, expansions, market changes or other developments may cause us to require additional funds. As of December 31, 2012, 2013 and 2014, our aggregate outstanding borrowings were \$1,291.0 million, \$1,036.1 million and \$842.7 million, respectively, of which approximately \$875.8 million, \$935.6 million and \$820.3 million, respectively, were due within one year. We also had \$172.5 million 3.5% convertible senior notes due 2019 and \$115 million 4.0% convertible senior notes due 2019 as of December 31, 2014. As of December 31, 2014, we had \$392.9 million in cash and cash equivalents and \$146.9 million in restricted cash.

Table of Contents

We have historically negotiated with our lenders to renew or rollover our loans shortly before they mature. However, we cannot assure you that we will be able to renew or rollover these borrowings upon maturity in the future. In the event that we are unable to renew or rollover these borrowings, or if we are unable to obtain sufficient alternative funding at reasonable terms to fulfill relevant repayment obligation, we will have to repay these borrowings with cash generated by our operating activities. Our business might not generate sufficient cash flow from operations to repay these borrowings, some of which are secured by significant amounts of our assets, and at the same time fund our capital expenditures. If we are unable to make scheduled repayments in connection with our debt or other fixed payment obligations as they become due, we may need to renegotiate the terms and conditions of those obligations or obtain additional equity or debt financing. We cannot assure you that our renegotiation efforts would be successful or timely or that we would be able to refinance our obligations on acceptable terms or at all.

In addition, repaying these borrowings and financing our capital expenditures with cash generated by our operating activities will divert our financial resources from the requirements of our ongoing operations and future growth, and may have a material adverse effect on our business, financial condition and future prospects. If we are unable to obtain funding in a timely manner or on commercially acceptable terms, or at all, our growth prospects and future profitability may decrease materially. Moreover, future turmoil in the credit markets and the potential impact on the liquidity of financial institutions may have an adverse effect on our ability to fund our business through borrowings, under either existing or newly created instruments in the public or private markets on terms that we believe to be reasonable, if at all. Failure to secure any necessary financing in a timely manner and on favorable terms could have a material adverse effect on our growth strategy, financial performance and market price of ADSs and could require us to delay or abandon critical development plans.

Because the markets in which we compete are highly competitive and many of our competitors have greater resources than us, we may not be able to compete successfully and we may lose or be unable to gain market share.

The market for solar power products is competitive and evolves quickly. We face intense competition, which in the past has resulted in price reductions, reduced margins or loss of market share. We compete with other PV module manufacturing companies, including dedicated PV manufacturers such as First Solar Inc., Yingli Green Energy Holding Co., Ltd., Canadian Solar, Inc., JinkoSolar Holding Co., Ltd., JA Solar Holdings Co., Ltd. as well as multinational conglomerates such as Sharp Electronic Corporation and Mitsubishi Electric Corporation. We may also face competition in the downstream solar power business from competitors such as Canadian Solar Inc., JinkoSolar Holding Co., Ltd., and Yingli Green Energy Holding Co., Ltd., as well as the large Chinese state-owned electric utility enterprises in the downstream solar power business in China. Some of our competitors may have a stronger market position than ours, more sophisticated technologies and products, greater resources and better name recognition than we do. Further, some of our competitors are developing and are currently producing products based on new solar power technologies, such as thin-film technology, which may ultimately have costs similar to, or lower than, our projected costs.

The barriers to entry are relatively low in the PV module manufacturing business, given that manufacturing PV modules is labor intensive and requires limited technology. As the shortage of polysilicon has eased, supply chain management and financial strength have become less significant barriers to entry and many new competitors may enter the industry and cause it to become over-saturated. Some mid-stream solar power products manufacturers have been seeking to move downstream to strengthen their position in regional markets. In addition, we may also face new competition from manufacturers developing thin film and other PV technologies that are designed to offer economic or performance advantages, several of which have already announced their intention to start production of solar cells or module products. Decreases in polysilicon prices and increases in PV module production could result in substantial downward pressure on the price of PV modules and intensify the competition we face.

Some of our current and potential competitors have longer operating histories, access to a larger customer base, stronger relationships with customers, access to greater resources, and greater economies of scale, financing, sales and marketing, manufacturing, distribution, research and development, technical and other advantages over us. As a result, they may be able to respond more quickly to changing customer demands or

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market conditions or to devote greater resources to the development, promotion and sales of their products than we can. Our business relies on sales of our PV modules, and our competitors with more diversified product offerings may be better positioned to withstand a decline in the demand for PV modules. New competitors or alliances among existing competitors could emerge and rapidly acquire a significant market share, which would harm our business. Moreover, the key entry barriers to the downstream solar power business at present consist of availability of financing, availability of experienced technicians and executives who are familiar with the industry and the implementation of market access standards. If these barriers disappear or become easier to surmount, new competitors may successfully enter into the market, resulting in increased competition and loss of our market share, which could adversely affect our operating and net margins. If we fail to compete successfully, our business would suffer and we may lose or be unable to gain market share.

Table of Contents

Our dependence on a limited number of customers may cause significant fluctuations or declines in our revenues.

We currently sell a significant portion of our PV modules to a limited number of customers. In 2012, 2013 and 2014, sales to our top five customers accounted for approximately 25.1%, 18.7% and 34.7%, respectively, of our total net sales. Our largest customer contributed approximately 13.2% of our net sales in 2014. Sales to our customers are typically made through non-exclusive, short-term arrangements. We anticipate that our dependence on a limited number of customers will continue for the foreseeable future. Consequently, any one of the following events may cause material fluctuations or declines in our revenues:

- reduction, delay or cancellation of orders from one or more of our significant customers;
- selection of competing products by one or more of our significant customers;
- loss of one or more of our significant customers due to disputes, dissatisfaction with our products or otherwise and our failure to attract additional or replacement customers; and
- failure of any of our significant customers to make timely payment for our products.

We are exposed to the credit risk of these customers, some of which are new customers with whom we have not historically had extensive business dealings. Some of our overseas credit sales are insured against non-payment by our customers. The amount of insurance coverage for each transaction is based on a rating assigned by the insurer to the customer, based on that customer's credit history. However, we cannot assure you that all of our accounts receivable are sufficiently covered or that the insurer will be able to make payments on our claims. The failure of any of these significant customers to meet their payment obligations would materially and adversely affect our financial position, liquidity and results of operations.

The practice of requiring customers to make advance payments when they place orders with us has declined, and we have experienced and will continue to experience increased needs to finance our working capital requirements and are exposed to increased credit risk.

We have historically required our customers to make an advance payment of a certain percentage of their orders, a business practice that helped us to manage our accounts receivable, prepay our suppliers and reduce the amount of funds that we needed to finance our working capital requirements. In line with market trends, this practice of requiring our customers to make advance payments is on the decline, which in turn has increased pressure to increase our working capital turnover or obtain additional financing to fund our working capital requirements. In 2014, a majority of our revenues were derived from credit sales, generally with payment schedules due according to negotiated contracts. In addition, some of our customers pay us through drawn upon acceptance, open account and letter of credit terms, which typically take approximately 90 days to 120 days to process in order for us to be paid, although in some instances the settlement period may be longer. Despite the more lenient payment terms, any of our customers may fail to meet their payment obligations, especially due to the global economic crisis and the resulting

decrease in the availability of financing, which would materially and adversely affect our financial position, liquidity and results of operations.

We may experience difficulty in achieving acceptable yields and product performance as a result of manufacturing problems.

The technology for the manufacturing of silicon ingots and wafers is complex, requires costly equipment and is continuously being modified in an effort to improve yields and product performance. Microscopic impurities such as dust and other contaminants, difficulties in the manufacturing process, disruptions in the supply of utilities or defects in the key materials and tools used to manufacture wafers can cause a percentage of the wafers to be rejected, which in each case negatively affects our yields. We have, from time to time, experienced production difficulties that have caused manufacturing delays and lower than expected yields.

Table of Contents

Because our manufacturing capabilities are concentrated in our manufacturing facilities in China, any problem in our facilities may limit our ability to manufacture products. We may encounter problems in our manufacturing facilities as a result of, among other things, production failures, construction delays, human errors, equipment malfunction or process contamination, which could seriously harm our operations. We may also experience fires, floods, droughts, power losses and similar events beyond our control that would affect our facilities. For example, shortages or suspensions of power supplied to us have occasionally occurred due to severe thunderstorms in the area, and have disrupted our operations and caused severe damages to wafers in the process. A disruption to any step of our manufacturing process will require us to repeat each step and recycle the silicon debris, thus adversely affecting our yields. Operating hazards and natural disasters may cause interruption to our operations, property and/or environmental damage as well as personal injuries, and each of these incidents could have a material adverse impact on our results of operations. Although we carry business interruption insurance, losses incurred or payments required to be made by us due to operating hazards or natural disasters that are not fully insured may have a material adverse effect on our financial condition and results of operations.

We plan to build or acquire new facilities to increase our annual manufacturing capacity of ingots, wafers, cells, and modules from 2,000 megawatts, or MW, 1,700 MW, 3,100 MW and 4,000 MW, respectively, as of December 31, 2014 to 2,900 MW, 2,300 MW, 4,100 MW and 4,400 MW, respectively, as of December 31, 2015. We plan to incur capital expenditures of up to \$370 million to accomplish our 2015 expansion plans in our manufacturing segment. If we fail to implement that plan as expected, experience a delay in the ramp up or fail to achieve our targeted yields, our business and results of operations may be materially and adversely affected.

Problems with product quality or product performance could damage our reputation, or result in a decrease in customers and revenues, unexpected expenses or loss of market share, and may cause us to incur significant warranty expenses.

Our products may contain defects that are not detected until after they are shipped or are installed because we cannot test for all possible scenarios. Unlike PV modules, which are subject to certain uniform international standards, solar cells generally are not subject to uniform international standards, and it is often difficult to determine whether solar power product defects are a result of defective solar cells, other defective components of PV modules or other reasons. Furthermore, the solar wafers and other components that we purchase from third-party suppliers are typically sold to us with no or only limited warranties. Also, as many of our customers place orders for bulk deliveries, the large number of items delivered increases the likelihood that a defective or low quality module may be delivered to a customer. We have received in the past, and may receive from time to time in the future, complaints from certain customers that portions of our PV modules have quality deficiencies. For example, in certain instances in the past, customers raised concerns about the stated versus actual performance output of some of our PV modules. We determined that these concerns resulted from differences in calibration standards we used. However, the corrective actions and procedures that we took may turn out to be inadequate to prevent further similar incidents or to protect against future errors or defects. If we deliver PV module products that do not satisfy our customers' or end users' quality requirements, or if there is a perception that our products are of poor quality, our credibility and the market acceptance and sales of our PV module products could be harmed. We may also incur substantial expense to replace products that do not meet our quality standards.

Our PV modules had typically been sold with a two or five year warranty for defects in materials and product workmanship and a minimum power output warranty of up to 25 years following the date of purchase or installation. In 2011, we extended the product workmanship warranty from two or five years to 10 years and began to guarantee that module power output will not decrease by more than approximately 0.7% per year after the initial year of service. We believe our warranty periods are consistent with industry practice. We only began to sell PV modules in November 2004. Although we conduct accelerated reliability testing of our PV modules, our PV modules have not been and cannot be tested in an environment simulating the 25-year warranty period. As a result, we may be subject to unexpected warranty expense and associated harm to our financial results for as long as 25 years after the sale of our products. Our warranty provisions for the years ended December 31, 2012, 2013 and 2014 were \$12.5 million, \$16.6 million and \$21.6 million, respectively. Any increase in the defect rate of our products would cause us to increase the amount of our warranty reserves and have a correspondingly negative impact on our operating results. Furthermore, widespread product failures may damage our market reputation, reduce our market share and cause our sales to decline.

Table of Contents

We may not be successful in the commercial production of new products, which could adversely affect our business and prospects.

We may develop and produce new products from time to time, such as high-efficiency monocrystalline and multicrystalline modules. In 2012, we introduced our Honey cell technology, which we have used to develop and manufacture a number of new products, and in January 2015 we launched two new high-efficiency multicrystalline and monocrystalline Honey Plus modules that we believe offer significant upgrades on our previous Honey modules. The two modules are expected to become available in select markets in the first half of 2015 with a worldwide launch scheduled in 2016. However, there is no guarantee that we will be able to successfully launch these products or that they, or any other products that we develop, will become commercially successful. We may be unable to generate sufficient customer demand for our new products if we are unable to develop and produce new products that provide the expected performance in a cost-effective manner. If we fail to generate demand for our new products, our business and prospects may be adversely affected and we may be unable to recoup our investment in the development and production of such products.

Existing regulations and policies and changes to these regulations and policies may present technical, regulatory and economic barriers to the purchase and use of solar power products, which may significantly reduce demand for our products.

The market for electricity generation products is heavily influenced by government regulations and policies concerning the electric utility industry, as well as policies adopted by electric utilities. These regulations and policies often relate to electricity pricing and technical interconnection of customer-owned electricity generation. In a number of countries, these regulations and policies are being modified and may continue to be modified. Customer purchases of, or further investment in the research and development of, alternative energy sources, including solar power technology, could be deterred by these regulations and policies, which could result in a significant reduction in the demand for our products. For example, without a regulatory mandated exception for solar power systems, utility customers are often charged interconnection or standby fees for putting distributed power generation on the electric utility grid. These fees could increase the cost to our customers of using our solar power products and make them less desirable, thereby harming our business, prospects, financial condition and results of operations.

We anticipate that our products and their installation will be subject to oversight and regulation in accordance with national and local regulations relating to building codes, safety, environmental protection, utility interconnection and metering and related matters. It is difficult to track the requirements of individual jurisdictions and design products to comply with the varying standards. Any new government regulations or utility policies pertaining to our solar power products may result in significant additional expenses to us and, as a result, could cause a significant reduction in demand for our solar power products.

If solar power technology is not adopted widely, or sufficient demand for solar power products does not develop or takes longer to develop than we anticipate, our revenues may further decline and we may be unable to sustain our profitability.

The solar power market is at a relatively early stage of development, and the extent of acceptance of solar power products is uncertain. Market data on the solar power industry are not as readily available as those