Trina Solar LTD
Form 20-F
April 02, 2013
Table of Contents

UNITED STATES

SECURITIES AND EXCHANGE COMMISSION

WASHINGTON, D.C. 20549

FORM 20-F

(Mark One)

o	**REGISTRATION STATEMENT PURSUANT TO SECTION 12(b) OR 12(g) OF THE SECURITIES EXCHANGE ACT OF 1934**
	OR
x	**ANNUAL REPORT PURSUANT TO SECTION 13 OR 15(d) OF THE SECURITIES EXCHANGE ACT OF 1934** **For the fiscal year ended December 31, 2012**
	OR
o	**TRANSITION REPORT PURSUANT TO SECTION 13 OR 15(d) OF THE SECURITIES EXCHANGE ACT OF 1934** **For the transition period from to**
	OR
o	**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
(Address of Principal Executive Offices)

Terry Wang, Chief Financial Officer

Thomas Young, Vice President, Investor Relations

No. 2 Tian He Road

Electronics Park, New District

Changzhou, Jiangsu 213031

People s Republic of China

Tel: (+86) 519 8548 2008

Fax: (+86) 519 8517 6023

E-mail: ir@trinasolar.com
(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)

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.

3,946,062,783 ordinary shares, par value $0.00001 per share, as of December 31, 2012.

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

o Yes x 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.

o Yes x 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.

x Yes o 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).

x Yes o 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 o	Accelerated filer x	Non-accelerated filer o

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

U.S. GAAP x	International Financial Reporting Standards as issued by the International Accounting Standards Board o	Other o

* 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.

o Item 17 o 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).

o Yes x 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.

o Yes o No

Table of Contents

TABLE OF CONTENTS

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 depository 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.

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, 2010, 2011 and 2012.

This annual report contains translations of certain Renminbi amounts into U.S. dollars at the rate of RMB6.2301 to $1.00, the noon buying rate in effect on December 31, 2012 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 March 22, 2013, the noon buying rate was RMB6.2120 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, 2010, 2011 and 2012 and the selected consolidated balance sheet data as of December 31, 2011 and 2012 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, 2008 and 2009 and our consolidated balance sheets data as of December 31, 2008, 2009 and 2010 have been derived from our audited consolidated financial statements, which are not included in this annual report.

	Year Ended December 31,				
	2008	2009	2010	2011	2012
	(in thousands, except for share, per share, operating data and percentages)				
Consolidated Statement of Operations Data					
Net sales	$ 831,901	$ 845,136	$ 1,857,689	$ 2,047,902	$ 1,296,655
Cost of goods sold	667,459	607,982	1,273,328	1,715,260	1,239,412
Gross profit	164,442	237,154	584,361	332,642	57,243
Operating expenses:					

Selling expenses	20,302	30,940	75,677	100,427	118,885
General and administrative expenses	41,114	65,406	72,711	157,129	176,719
Research and development expenses	3,039	5,439	18,625	44,120	26,511
Total operating expenses	64,455	101,785	167,013	301,676	322,115
Income (loss) from operations	99,987	135,369	417,348	30,966	(264,872)
Foreign exchange (loss) gain	(11,802)	9,958	(36,156)	(27,435)	908
Interest expense	(24,558)	(27,095)	(33,952)	(35,021)	(51,887)
Interest income	2,944	1,667	2,590	3,056	8,552
Derivatives (loss) gain	(1,067)	(1,590)	9,476	(11,393)	8,542
Other (expense) income, net	(156)	2,613	216	9,317	6,797
Income (loss) before income taxes	65,348	120,922	359,522	(30,510)	(291,960)
Income tax (expense) benefit	(4,609)	(24,696)	(48,069)	(7,310)	25,405
Net income (loss)	60,739	96,226	311,453	(37,820)	(266,555)
Net loss attributable to the noncontrolling interest				(1)	(1)
Net income (loss) attributable to Trina Solar Limited Shareholders	$ 60,739	$ 96,226	$ 311,453	$ (37,820)	$ (266,555)
Earnings (loss) per ordinary share:					
Basic	$ 0.02	$ 0.04	$ 0.09	$ (0.01)	$ (0.08)
Diluted	$ 0.02	$ 0.03	$ 0.08	$ (0.01)	$ (0.08)
Earnings (loss) per ADS(2):					
Basic	$ 1.23	$ 1.77	$ 4.58	$ (0.54)	$ (3.77)
Diluted	$ 1.20	$ 1.69	$ 4.18	$ (0.54)	$ (3.77)
Weighted average ordinary shares outstanding:					
Basic	2,501,202,680	2,724,185,761	3,402,701,503	3,521,182,416	3,534,829,694
Diluted	2,690,723,390	3,131,505,181	3,833,713,796	3,521,182,416	3,534,829,694
Weighted average ADS outstanding:(2)					
Basic	50,024,054	54,483,715	68,054,030	70,423,648	70,696,594
Diluted	53,814,468	62,630,104	76,674,276	70,423,648	70,696,594
Consolidated Financial Data					
Gross margin	19.8%	28.1%	31.5%	16.2%	4.4%
Net margin	7.3%	11.4%	16.8%	(1.8)%	(20.6)%
Consolidated Operating Data					
PV modules shipped (in MW)	201.0	399.0	1,057.0	1,512.0	1,594.0
Average selling price ($/W)	$ 3.92	$ 2.10	$ 1.75	$ 1.33	$ 0.78

Table of Contents

	2008	2009	As of December 31, 2010	2011	2012
			(in thousands)		
Consolidated Balance Sheet Data					
Cash and cash equivalents	$ 132,224	$ 406,058	$ 752,748	$ 816,780	$ 807,276
Restricted cash	44,991	72,006	38,035	79,602	110,920
Inventories	85,687	81,154	79,126	249,779	318,504
Accounts receivable, net	105,193	287,950	377,317	466,537	390,157
Total current assets	419,883	927,517	1,415,139	1,768,722	1,765,487
Property, plant and equipment, net	357,594	476,858	571,467	919,727	893,340
Total assets	940,116	1,548,698	2,132,089	2,877,448	2,864,857
Short-term borrowings and current portion of long-term borrowings	248,558	267,428	158,652	389,472	875,821
Accounts payable	62,504	186,535	188,000	472,092	423,985
Total current liabilities	335,714	515,401	600,070	1,007,435	1,479,155
Accrued warranty costs	12,473	21,023	38,711	58,810	65,780
Long-term borrowings, excluding current portion	14,631	182,516	299,977	520,151	415,150
Total equity	436,501	679,312	1,173,647	1,145,325	881,785
Total liabilities and equity	$ 940,116	$ 1,548,698	$ 2,132,089	$ 2,877,448	$ 2,864,857

(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.

B. Capitalization and Indebtedness

Not Applicable.

C. Reasons for the Offer and Use of Proceeds

Not Applicable.

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 and other subsidies designed to benefit the solar industry. In the fourth quarter of 2008 and the first quarter of 2009, the global solar power industry experienced a precipitous decline in demand 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 decreased demand for and prices of polysilicon caused a decline in the prices of solar power products. In 2011, a decrease in payment to solar power producers, in the form of feed-in tariffs and other reimbursements, and a reduction in available financing caused a decrease in the growth in a 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 subsidies such as feed-in tariffs, which tariffs 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, the European governments reduced their support in the European markets that have traditionally relied upon feed-in-tariffs to support demand and newer markets utilized feed-in-tariffs and power purchase agreement to support demand, which in the aggregate resulted in a marked decline in the global growth rate of demand for solar products. In addition, a number of manufacturers faced cash liquidity pressures, which caused the prices of solar power products to decrease. 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.

Table of Contents

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.

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. According to Solarbuzz, an independent solar energy research and consulting firm, spot prices for solar grade polysilicon were in the range of $230-$375 per kilogram for most of the first half of 2008 and rose to a peak of $450-$475 per kilogram by mid-2008. Increases in the price of polysilicon have in the past increased our production costs, and any significant price increase in the future may adversely impact our business and results of operations. Due to the historical scarcity of polysilicon, supply chain management and financial strength were the key barriers to entry. Beginning in late 2008, however, newly available polysilicon capacity has resulted in an increased supply of polysilicon, which created downward pressure on prices. According to Solarbuzz, the average prices of long-term polysilicon supply contracts were $52-$57 per kilogram, approximately $38 per kilogram and approximately $22-$24 per kilogram during the fourth quarters of 2010, 2011 and 2012, respectively. According to Solarbuzz, spot prices for solar grade polysilicon were $75-$85 per kilogram, approximately $30 per kilogram and $16-$17 per kilogram during the fourth quarters of 2010, 2011 and 2012, respectively.

The price of polysilicon may not continue to decline or remain at its current levels. Increases in the price of polysilicon have in the past increased our cost of goods sold, and any significant price increase in the future may adversely impact our margins. 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 will be able to renegotiate contract prices with us based on the then market price. Further, in 2011 and 2012, we renegotiated several medium-term and long-term supply contracts that required us to purchase polysilicon at a predetermined price or quantity to more closely link our purchase costs with market prices. If there is a significant increase in polysilicon price and the contract prices are renegotiated or adjusted higher, our cost of goods sold may be materially and adversely affected. 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, we also recently 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 the 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.

Table of Contents

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 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, the global economic crisis and the resulting decrease in availability of financing had a significant negative impact on suppliers and manufacturers of raw materials. Suppliers typically require a significant amount of cash to fund their production and operation. The suppliers also require a significant amount of cash to meet future capital requirements, including the expansion of manufacturing facilities, as well as 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, medium-term and long-term contracts. 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. In 2011 and 2012, due to a general decrease in polysilicon prices, we 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. Due to the volatility of polysilicon prices, we also recently renegotiated our wafer purchase amounts and prices under a long-term framework agreement with a third party to more closely track market prices. See Item 4. Information on the Company B. Business Overview Silicon-based Raw Material Supplies 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 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.

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.

Solar panel manufacturing companies in the United States filed antidumping and countervailing duty actions against imports of Chinese solar panels in 2011. These actions resulted in investigations by U.S. authorities, namely the Department of Commerce and International Trade Commission. On October 10, 2012, the Department of Commerce announced its final affirmative determination regarding antidumping and

countervailing duties applicable to the importation of crystalline silicon PV cells into the United States, whether or not assembled into modules, from China. On November 7, 2012, the International Trade Commission announced its affirmative determination that imports of crystalline silicon PV cells into the United States from China cause material injury to the U.S. domestic industry. As a result, the Department of Commerce has issued antidumping and countervailing duty orders on our imports at an effective net rate of 23.75%, comprised of an antidumping duty margin of 18.32% and subsidy rate of 15.97%, minus 10.54% under the Department of Commerce rules to avoid a double application of calculated duties. In February 2013, we filed appeals, as did other parties, with the U.S. Court of International Trade, challenging various aspects of the Department of Commerce s findings. We may not be successful in our appeals, and if the domestic industry s appeals are successful, the scope of the antidumping and countervailing duty orders could be expanded and the net rate applicable to our imports into the United States could be increased, which could adversely affect our export sales to the United States.

Table of Contents

In addition, on September 6, 2012, the European Commission announced the initiation of an anti-dumping investigation concerning imports into the European Union of crystalline silicon PV modules and key components (i.e., cells and wafers), originating in China. On November 8, 2012, the European Commission announced the initiation of an anti-subsidy investigation concerning imports into the European Union of crystalline silicon PV modules and key components originating in China. Further, on March 6, 2013, the European Commission also moved to require registration of imports of silicon PV modules and key components into the European Union from China. The European Commission is expected to issue its provisional findings concerning its anti-dumping investigation by June 5, 2013, and concerning its anti-subsidy investigation by August 5, 2013. Its decision as to the imposition of any definitive measures will be presented before December 5, 2013. As one of the China-based suppliers of these products to the European Union, if the European Commission assesses duties on the importation of these products, it could materially and adversely affect our affiliated European Union import operations and increase our cost of selling into the region and thus could adversely impact our export sales to the European Union, which is our largest market.

It is also possible that other antidumping or countervailing duty or other import restrictive proceedings will be initiated in any number of additional jurisdictions. For example, in November 2012 India also initiated anti-dumping investigations against solar cell imports from China, the United States, Malaysia and Taiwan. Though our policy is 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 reach the same conclusion. Violations of antidumping and countervailing duty laws can result in significant additional duties imposed on imports of our products into these countries, which increase our costs of accessing future additional markets. As a result of the duties imposed by U.S. authorities, or if duties are imposed on our PRC-manufactured products, we may adjust our business strategy for selling into these jurisdictions, including moving part of our manufacturing operations overseas. 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.

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

We have to 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, including a lawsuit brought by the trustee of Solyndra LLC and trade actions. We may consider appealing the outcome of such legal and administrative actions should our initial defense be unsuccessful. 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 utilize 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 government subsidies and 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 aimed 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.

Table of Contents

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 subsidies and 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. For example, the rapid rises of the German and Spanish markets were largely due to the government policies of those countries that set feed-in tariff terms at attractive rates.

However, in September 2008, the Spanish government introduced a feed-in-tariff cap of 500 megawatts, or MW, which limited demand in the grid-connected market in Spain. Additionally, in December 2010, the Spanish government reduced the maximum allowable annual operating hours for which PV systems could earn feed-in-tariff payments. In 2009, the German government reduced solar feed-in tariffs by 9%. In January, July and October of 2010, Germany introduced further solar feed-in tariffs reductions of approximately 24 26% for rooftop systems and 20 25% for ground-based systems. 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 further feed-in tariff reduction of 1% monthly for roof-based systems while reducing or eliminating feed-in tariffs for ground-based systems. All such reductions may result in a significant fall in the price of PV products in order to support continued demand. In 2010, 2011 and 2012, Germany accounted for 24.1%, 37.0% and 33.1% of our net sales, respectively, Spain accounted for 21.8%, 13.2% and 1.3% of our net sales, respectively, and the United States accounted for 14.1%, 21.5% and 25.5% of our net sales, respectively, based on record country of 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 subsidies 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.

Demand for our products may be adversely affected by the effect of the current economic and credit environment on our customers.

Europe, the United States and international economies have recently experienced a period of slow economic growth. Near-term economic recovery remains uncertain. In particular, the credit and housing 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 demand for 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. Existing projects have also been delayed as a result of the credit crisis and other disruptions. If the economic recovery slows as a result of the economic turmoil 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. 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 have fluctuated recently, which could increase the cost of financing these purchases and may reduce our customers profits and investors expected returns on investment. Given the current credit environment, particularly the tightening of the credit markets, 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 their demand for our products. If economic recovery is slow in the United States or elsewhere, we may experience decreases in the demand for our solar power products, which may harm our operating results. These factors may adversely impact our existing or future sales agreements, including increasing the likelihood of contract breaches. 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.

7

Table of Contents

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 these 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 these 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.

Prepayments to our polysilicon suppliers and equipment suppliers expose us to the credit risks of such 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 have significant outstanding bank borrowings 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.

We typically require a significant amount of cash to fund our operations, especially prepayments or loans to suppliers to secure our polysilicon supply requirements. We also 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, we had $807.3 million in cash and cash equivalents, $110.9 million in restricted cash and $1,374.6 million in outstanding borrowings, including convertible senior notes, of which approximately $959.4 million was due within one year. We have historically negotiated to renew our loans shortly before they mature. In the event that we are unable to extend or renew these borrowings, or if we are unable to obtain sufficient alternative funding at reasonable terms to make repayments, we will have to repay these borrowings with cash generated by our operating activities. We do not plan to utilize capital expenditures for capacity expansion in 2013 in addition to our working capital requirements. 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. In addition, repaying these borrowings and 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.

Table of Contents

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 fast evolving. We expect to face increased competition, which may result in price reductions, reduced margins or loss of market share. We compete with other PV module manufacturing companies, including dedicated PV manufacturers such as Yingli Green Energy Holding Co., Ltd., Suntech Power Holdings Co., Ltd., First Solar, Inc. and GCL Solar Energy Technology Holdings Inc. as well as multinational conglomerates such as Sharp Electronic Corporation and Mitsubishi Electric Corporation. Some of our competitors have also become vertically integrated, from polysilicon production, silicon ingot and wafer manufacturing to solar power system integration, such as Renewable Energy Corporation ASA and SolarWorld AG 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, many 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. Because of the scarcity of polysilicon in the past few years, supply chain management and financial strength were the key barriers to entry. As the shortage of polysilicon has eased since 2008, these barriers to entry become less significant and many new competitors may enter the industry and cause the industry to rapidly become over-saturated. Many mid-stream solar power products manufacturers have been seeking to move downstream to strengthen their position in regional markets. They are expected to leverage their existing sales capacity as the industry faces challenges posed by the economic downturn. In addition, we may also face new competition from semiconductor and other manufacturers who are 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 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. If we fail to compete successfully, our business would suffer and we may lose or be unable to gain market share.

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 2010, 2011 and 2012, sales to our top five customers accounted for approximately 24.9%, 23.3% and 25.1%, respectively, of our total net sales. Our largest customer contributed approximately 9.1% of our net sales in 2012. 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.

Table of Contents

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. Starting from February 2009, a majority of our overseas sales have been insured by China Export & Credit Insurance Corporation, or Sinosure. The amount of insurance coverage for each transaction is based on a rating assigned by Sinosure to the customer based on such customer s credit history. However, we cannot assure you that all our accounts receivable are sufficiently covered or that Sinosure 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 our need to obtain additional short-term borrowings to fund our working capital requirements. In 2012, 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 90 to 120 days to process in order for us to be paid, though in some instances the pay 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.

Because our manufacturing capabilities are concentrated in our manufacturing facilities in Changzhou, 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. We experienced an accidental fire in our wafer facilities in March 2010 caused by a hot spot in an electrical installation resulted in damages to our cleaning equipment and temporary disruption to a segment of our production line. 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.

Table of Contents

As of December 31, 2012, we had an annual manufacturing capacity of ingots and wafers of approximately 1,200 MW and cells and modules of approximately 2,400 MW. We do not currently plan to build new facilities to increase our annual manufacturing capacity of cells, ingots, wafers or modules during 2013 and plan to incur capital expenditures of up to $65 million to maintain or enhance our existing manufacturing facilities for new products, increased module efficiencies and systems-related initiatives. However, as we take into account market views concerning both customer demand and the commercial lending environment for financing PV system installations in our respective sales markets, as well as our strategy to expand prudently while preserving liquidity, we may later decide to expand our capacity during 2013 or at a future date. If we develop an expansion plan but 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 have typically been sold with a 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 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, 2010, 2011 and 2012 were $17.9 million, $21.9 million and $12.5 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.

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, colored modules for architectural applications and larger sized modules for utility grid applications. Further, we recently introduced our Honey cell technology, which we will use to develop and manufacture a number of new products. 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.

Table of Contents

Our future success depends in part on our ability to expand our business into downstream 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 select downstream markets, such as systems integration and project development, which we believe are natural extensions of our vertically integrated business model. These expansion plans may include investments in downstream companies and joint ventures and formation of strategic alliances with third parties for balance of system technologies, engineering, procurement and construction services, and related financing needs. However, these plans may require significant 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 or control entities which we invest in or provide adequate resources to such entities to maximize the return on our investments. In the case of 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 downstream operations.

We cannot assure you that we will be successful in expanding our business into downstream 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 downstream 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.

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 for other more established industries where trends can be assessed more reliably from data gathered over a longer period of time. We sell and market our products to a growing number of worldwide markets where government incentives are accelerating the adoption of solar power. In recent years, we have also increased our sales in newer and emerging solar power markets, which include China, the United States, the United Kingdom, Australia, India, Israel and Japan, as well as other markets in Asia, Africa, the Middle East, Latin America and the Caribbean Islands. Many factors may affect the viability of widespread adoption of solar power technology and demand for solar power products in our targeted markets, including:

Table of Contents

- availability of government subsidies and incentives to support the development of the solar power industry;
- availability and access to grid infrastructure, including interconnection facilities, for solar power producers;
- success of other alternative energy generation technologies, such as wind power, hydroelectric power and biomass;
- fluctuations in economic and market conditions that affect the viability of conventional and other renewable energy sources, such as increases or decreases in the prices of oil and other fossil fuels;
- capital expenditures by end users of solar power products, which tend to decrease when the economy slows down; and
- deregulation of the electric power industry and broader energy industry.

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 suffer and we may be unable to sustain our profitability.

Further technological changes in the solar power industry could render our products uncompetitive or obsolete, which could reduce our market share and cause our sales and profit to decline.

The solar power market is characterized by evolving technologies and standards that result in improved features, such as more efficient and higher power output, improved aesthetics and smaller size. This requires us to develop new solar power products and enhance existing products to keep pace with evolving technologies and changing customer requirements. A variety of competing solar technologies that other companies may develop could prove to be more cost-effective and perform better than our technologies. For example, thin-film technologies are competing technologies in the solar power industry. According to Solarbuzz, in 2012, thin-film technologies represented approximately 10% of the solar market, compared to approximately 90% for crystalline technology. Thin-film technologies allow for lower production costs for solar cells by using lower amounts of semiconductor materials. Thin-film solar cells generally have a lower conversion efficiency rate than crystalline solar cells.

Further development in competing solar power technologies may result in lower manufacturing costs or higher product performance than those expected from our PV modules. We will need to invest significant financial resources in research and development to maintain our market position, keep pace with technological advances in the solar power industry and effectively compete in the future. Our failure to further refine our technology, enhance our existing solar power products, or develop and introduce new products, could cause our products to become uncompetitive or obsolete, which could reduce our market share and cause our revenues to decline.

Non-compliance with present or future construction and environmental regulations may result in potentially significant monetary damages and fines.

In the past, we began constructing and operating facilities without having obtained all of the necessary construction and environmental permits. Although we have subsequently obtained all of the construction and environmental permits and approvals for these facilities, we could be subject to fines or penalties for our past non-compliance.

Because our manufacturing processes generate noise, waste water, gaseous wastes and other industrial wastes, we are required to comply with national and local environmental regulations. If we fail to comply with present or future environmental regulations, we may be required to pay substantial fines, suspend production or cease operations. Any failure by us to control the use or to adequately restrict the discharge of hazardous substances could subject us to potentially significant monetary damages and fines or suspensions in our business operations, which would have a materially adverse effect on our business and results of operations.

Table of Contents

In particular, the manufacturing processes for producing polysilicon employ processes that generate toxic waste products, including the highly volatile and highly toxic substance silicon-tetrachloride. We purchase our polysilicon from our suppliers in the United States, Germany, South Korea and China. If any of our suppliers fails to comply with environmental regulations for the production of polysilicon and the discharge of the highly toxic waste products, we may face negative publicity which may have a material adverse effect on our business and results of operations. Furthermore, if any of our suppliers are forced to suspend or shut down production due to violations of environmental regulations, we may not be able to secure enough polysilicon for our production needs on commercially reasonable terms, or at all.

Our future success substantially depends on our ability to significantly expand both our manufacturing capacity and output, which exposes us to a number of risks and uncertainties.

Our future success depends on our ability to significantly increase both our manufacturing capacity and output. If we are unable to do so, we may be unable to expand our business, decrease our costs per watt, maintain our competitive position and improve our profitability. Our ability to establish additional manufacturing capacity and increase output is subject to significant risks and uncertainties, including:

- the need to raise significant additional funds to purchase raw materials or to build additional manufacturing facilities, which we may be unable to obtain on commercially viable terms or at all;

- delays and cost overruns as a result of a number of factors, many of which are beyond our control, such as increases in the price of polysilicon and problems with equipment vendors, particularly with respect to major equipment such as ingot pulling or growing machines;

- delays or denial of required approvals by relevant government authorities;

- diversion of significant management attention and other resources; and

- failure to execute our expansion plan effectively.

If we are unable to establish or successfully operate additional manufacturing capacity, or if we encounter any of the risks described above, we may be unable to expand our business as planned. Moreover, even if we do expand our manufacturing capacity we might not be able to generate sufficient customer demand for our solar power products to support our increased production levels.

In particular, we believe that the expansion of our manufacturing capacity is an integral part of our long-term strategy to achieve a grid parity cost structure. Our ability to meet our estimate for the scale of production needed to achieve grid parity is affected by a number of factors,

including our ability to improve and maintain the degree of vertical integration and to increase our efficiencies and margins, the likelihood that we may approach or reach a point of diminishing returns as we continue to expand our scale, the average purchase price we will pay for silicon in the future to meet our expansion requirements, and the cost of conventional grid electricity which will determine at which point grid parity can be reached. We might not be able to meet our desired scale of production in order to fully implement our strategy.

In addition, in order to increase our production output of solar PV products, it may be necessary to outsource certain phases of the production process, such as the manufacturing of silicon wafers, to third party manufacturers. Outsourcing portions of the production process leave us more vulnerable to fluctuations in the costs of outsourced products and could further reduce our profit margins. In addition, outsourcing exposes us to quality control, payment, delivery and a number of other risks that, if realized, could materially and adversely affect our business and results of operations.

Table of Contents

Our business depends substantially on the continuing efforts of our executive officers, and our business may be severely disrupted if we lose their services.

Our future success depends substantially on the continued services of our executive officers, especially Mr. Jifan Gao, our chairman and chief executive officer. If one or more of our executive officers or key employees were unable or unwilling to continue in their present positions, we might not be able to replace them easily or at all. Our business may be severely disrupted, our financial condition and results of operations may be materially and adversely affected, and we may incur additional expenses to recruit, train and retain personnel. Since our industry is characterized by high demand and intense competition for talent, we also may not be able to attract or retain additional highly skilled employees or other key personnel that we will need to achieve our strategic objectives. As we are still a relatively young company and our business has grown rapidly, our ability to train and integrate new employees into our operations may not meet the growing demands of our business.

If any of our executive officers or key employees joins a competitor or forms a competing company, we may lose customers, suppliers, know-how and key professionals and staff members. Each of our executive officers has entered into an employment agreement with us, which contains non-competition provisions. If any dispute arises between our executive officers and us, these agreements may not be enforceable in China in light of the uncertainties with China s legal system, or in another country where they obtain employment. See Risks Related to Doing Business in China Uncertainties with respect to the Chinese legal system could have a material adverse effect on us.

If we are unable to attract, train and retain qualified technical personnel, our business may be materially and adversely affected.

Our future success depends, to a significant extent, on our ability to attract, train and retain qualified technical personnel, particularly those with expertise in the solar power industry. There is substantial competition for qualified technical personnel, and we might not be able to attract or retain our qualified technical personnel. If we are unable to do so, our business may be materially and adversely affected.

If we fail to manage our growth effectively, our business may be adversely affected.

We have experienced a period of rapid growth and expansion that has placed, and continues to place, significant strain on our management personnel, systems and resources. To accommodate our growth, we anticipate that we will need to implement a variety of new and upgraded operational and financial systems, procedures and controls, including the improvement of our accounting and other internal management systems, all of which require substantial management efforts. We also will need to continue to expand, train, manage and motivate our workforce, manage our customer relationships and manage our relationship with foundries and assembly and testing houses. All of these endeavors will require substantial management effort and skill and incurrence of additional expenditures. We might not be able to manage our growth effectively, and any failure to do so may have a material adverse effect on our business.

We face risks associated with the marketing, distribution and sale of our solar power products internationally, and if we are unable to effectively manage these risks, they could impair our ability to expand our business abroad.

In 2010, 2011 and 2012, we sold approximately 96.2%, 92.9% and 87.0%, respectively, of our products to customers outside of China. The marketing, distribution and sale of our solar power products in the international markets expose us to a number of risks, including:

- fluctuations in currency exchange rates;
- difficulty in engaging and retaining distributors who are knowledgeable about, and can function effectively in, overseas markets;
- increased costs associated with maintaining marketing efforts in various countries;
- difficulty and costs relating to compliance with the different commercial and legal requirements of the overseas markets in which we offer our products;
- trade barriers such as export requirements, tariffs, taxes and other restrictions and expenses, which could increase the prices of our products and make us less competitive in some countries; and
- demand for solar power products in overseas markets as influenced by the global economic downturn and its effects.

Table of Contents

We may be exposed to intellectual property infringement or misappropriation claims by third parties, which, if determined adversely to us, could cause us to pay significant damage awards.

Our success depends largely on our ability to use and develop our technology and know-how without infringing the intellectual property rights of third parties. The validity and scope of claims relating to solar power technology patents involve complex scientific, legal and factual issues and analysis and, therefore, may be highly uncertain. We may be subject to litigation involving claims of patent infringement or violation of intellectual property rights of third parties. The defense and prosecution of intellectual property suits, patent opposition proceedings and related legal and administrative proceedings can be both costly and time consuming and may significantly divert the efforts and resources of our technical and management personnel. An adverse determination in any such litigation or proceedings to which we may become a party could subject us to significant liability to third parties, require us to seek licenses from third parties, to pay ongoing royalties, or to redesign our products or subject us to injunctions prohibiting the manufacturing and sale of our products or the use of our technologies. Protracted litigations could also result in our customers or potential customers deferring or limiting their purchase or use of our products until resolution of such litigation.

Our failure to protect our intellectual property rights may undermine our competitive position, and litigation to protect our intellectual property rights or defend against third-party allegations of infringement may be costly.

We rely primarily on patent, trademark, trade secret, copyright law and other contractual restrictions to protect our intellectual property. Nevertheless, these afford only limited protection and the actions we take to protect our intellectual property rights may not be adequate. Third parties, including current and former employees, may infringe or misappropriate our proprietary technologies or other intellectual property rights, which could have a material adverse effect on our business, financial condition or operating results. Policing unauthorized use of proprietary technology can be difficult and expensive. Also, litigation may be necessary to enforce our intellectual property rights, protect our trade secrets or determine the validity and scope of the proprietary rights of others. We cannot assure you that the outcome of such potential litigation will be in our favor. An adverse determination in any such litigation will impair our intellectual property rights and may harm our business, prospects and reputation. Implementation of PRC intellectual property-related laws has historically been lacking, primarily because of ambiguities in the PRC laws and difficulties in enforcement. Accordingly, intellectual property rights and confidentiality protections in China may not be as effective as in the United States or other countries.

We have limited insurance coverage and may incur losses resulting from product liability claims.

As with other solar power product manufacturers, we are exposed to risks associated with product liability claims should the use of our solar power products results in injury. Since our products generate electricity, it is possible that users could be injured or killed by our products as a result of product malfunctions, defects, improper installation or other causes. We only began commercial shipment of our PV modules in November 2004 and, because of our limited operating history, we cannot predict whether product liability claims will be brought against us in the future or the effect of any resulting negative publicity on our business. We have limited worldwide product liability insurance coverage for our products manufactured in China. Product liability claims successfully brought against us in excess of our coverage amount could result in monetary damages and require us to make significant payments.

Table of Contents

If we fail to maintain an effective system of internal control over financial reporting, we may lose investor confidence in the reliability of our financial statements.

We are subject to reporting obligations under the U.S. securities laws. The SEC, as required by Section 404 of the Sarbanes-Oxley Act of 2002, or the Sarbanes-Oxley Act, adopted rules requiring every public company to include a management report on such company s internal control over financial reporting in its annual report, which contains management s assessment of the effectiveness of the company s internal control over financial reporting. In addition, an independent registered public accounting firm must render an opinion on the effectiveness of the company s internal control over financial reporting.

Our management has concluded that our internal control over financial reporting is effective as of December 31, 2012. See Item 15. Controls and Procedures. If we fail to maintain effective internal control over financial reporting in the future, it could result in the loss of investor confidence in the reliability of our financial statements and negatively impact the trading price of our ADSs. We have incurred and anticipate that we will continue to incur considerable costs, management time and other resources in an effort to comply with Section 404 and other requirements of the Sarbanes-Oxley Act.

Our independent registered public accounting firm s audit documentation related to their audit report included in this annual report may be located in China. The Public Company Accounting Oversight Board currently cannot inspect audit documentation located in China and, as such, you may be deprived of the benefits of such inspection.

Our independent registered public accounting firm that issues the audit report included in our annual reports filed with the SEC, as auditors of companies that are traded publicly in the United States and a firm registered with the Public Company Accounting Oversight Board, or the PCAOB, is required by the laws of the United States to undergo regular inspections by the PCAOB to assess its compliance with the applicable laws of the United States and professional standards. Our operations are principally conducted in China, a jurisdiction where the PCAOB is currently unable to conduct inspections without the approval of the PRC authorities. Accordingly, any audit documentation located in China related to our independent registered public accounting firm s report included in our filings with the SEC is not currently inspected by the PCAOB.

Inspections conducted by the PCAOB outside China have identified deficiencies in those firms audit procedures and quality control procedures, which may be addressed as part of the inspection process to improve future audit quality. This lack of PCAOB inspections in China prevents the PCAOB from regularly evaluating audit documentation located in China and its related quality control procedures. As a result, investors may be deprived of the benefits of PCAOB inspections.

The inability of the PCAOB to conduct inspections in China makes it more difficult to evaluate the effectiveness of our independent registered public accounting firm s audit procedures or quality control procedures as compared to audits outside China that are subject to PCAOB inspections. Investors may lose confidence in our reported financial information and procedures and the quality of our financial statements.

Recently, the SEC commenced administrative proceedings under Rule 102(e) of its Rules of Practice and also under the Sarbanes-Oxley Act against the Chinese affiliates of five global accounting firms, including our independent registered public accounting firm. The Rule 102(e) proceedings initiated by the SEC relate to these firms failure to produce documents, including audit work papers, at the request of

the SEC pursuant to Section 106 of the Sarbanes-Oxley Act, as the auditors located in the PRC are not in a position lawfully to produce documents directly to the SEC because of restrictions under PRC law and specific directives issued by the China Securities Regulatory Commission, or CSRC. As the administrative proceedings are ongoing, it is impossible to determine their outcome or the consequences thereof to us. The issues raised by the proceedings are not specific to our independent registered public accounting firm or to us, but affect equally all audit firms based in China and all China-based businesses with securities listed in the United States. However, if the administrative judge were to find in favor of the SEC under the proceeding and depending upon the remedies sought by the SEC, these audit firms could be barred from practicing before the SEC. As a result, listed companies in the United States with major PRC operations will find it difficult or impossible to retain auditors in respect of their operations in the PRC, which may result in their delisting. Moreover, any negative news about the proceedings against these audit firms may erode investor confidence in China-based, United States-listed companies and the market price of our ADSs may be adversely affected.

Table of Contents

Fluctuations in exchange rates could adversely affect our business.

The value of the Renminbi against the U.S. dollar, Euro and other currencies is affected by, among other things, changes in China s political and economic conditions and China s foreign exchange policies. On July 21, 2005, the PRC government changed its decade-old policy of pegging the value of the Renminbi to the U.S. dollar. Under the new policy, the Renminbi was permitted to fluctuate within a narrow and managed band against a basket of certain foreign currencies. This change in policy caused the Renminbi to appreciate approximately 21.5% against the U.S. dollar over the following three years. However, from July 2008 until June 2010, the Renminbi traded stably within a narrow range against the U.S. dollar. In June 2010, the People s Bank of China announced that the PRC government would reform the Renminbi exchange rate regime and increase the flexibility of the exchange rate. Between June 30, 2010 and December 31, 2012, the value of the Renminbi appreciated approximately 8.9% against the U.S. dollar and we cannot predict how this new policy will impact the Renminbi exchange rate going forward.

Most of our sales are denominated in Euros, with the remainder in U.S. dollars and Renminbi, while a substantial portion of our costs and expenses is denominated in Renminbi, with the remainder in U.S. dollars. Fluctuations in exchange rates, particularly among the U.S. dollar, Renminbi and Euro, may affect our net profit margins and could result in fluctuations in foreign currency exchange and operating gains and losses. We had a foreign exchange gain of approximately $0.9 million in 2012. We cannot predict the impact of future exchange rate fluctuations on our results of operations and may incur net foreign currency losses in the future. In addition, as we rely entirely on dividends paid to us by our operating subsidiaries in China, any significant fluctuation of the Renminbi may have a material adverse effect on our revenues and financial condition, and the value of, and any dividends payable on, our ordinary shares. As a large proportion of our revenues are paid to us in Euros, fluctuation between the Euro and the Renminbi may also have a material effect on our results of operations.

Starting from October 2008, we have entered into a series of foreign currency forward contracts with several commercial banks to hedge our exposure to foreign currency exchange risk. As of December 31, 2012, we had foreign currency forward contracts with a total contract value of approximately $177.5 million. We do not use foreign currency forward contracts to hedge all of our foreign currency denominated commitments. As with all hedging instruments, there are risks associated with the use of foreign currency forward contracts. While the use of such foreign currency forward contracts provides us with protection from certain fluctuations in foreign currency exchange, we forgo the potential benefits that might result from favorable fluctuations in foreign currency exchange. Any default by the counterparties to these transactions could adversely affect our financial condition and results of operations. Furthermore, these financial hedging transactions may not provide adequate protection against future foreign currency exchange rate fluctuations and, consequently, such fluctuations could adversely affect our financial condition and results of operations.

We may be classified as a passive foreign investment company, which could result in adverse U.S. federal income tax consequences to U.S. Holders of our ADSs or ordinary shares.

Based on the market price of our ADSs, the value of our assets, and the composition of our income and assets, we do not believe we were a passive foreign investment company, or PFIC, for U.S. federal income tax purposes for our taxable year ended December 31, 2012. However, the application of the PFIC rules is subject to uncertainty in several respects, and we cannot assure you the U.S. Internal Revenue Service will not take a contrary position. A non-U.S. corporation will be a PFIC for any taxable year if either (i) at least 75% of its gross income for such year is passive income or (ii) at least 50% of the value of its assets (based on an average of the quarterly values of the assets) during such year is attributable to assets that produce passive income or are held for the production of passive income. We must make a separate determination after the close of each taxable year as to whether we were a PFIC for that year. Because the value of our assets for purposes of the PFIC test generally will be determined by reference to the market price of our ADSs and ordinary shares, fluctuations in the market price of the ADSs and ordinary shares may cause us to become a PFIC. In addition, changes in the composition of our income or assets may cause us to become a PFIC. If we are a PFIC for any taxable year during which a U.S. Holder (as defined in Item 10. Additional Information E. Taxation United States Federal Income Taxation) holds an ADS or an ordinary share, certain adverse U.S. federal income tax consequences could apply to such U.S. Holder.

See Item 10. Additional Information E. Taxation United States Federal Income Taxation Passive Foreign Investment Company.

Table of Contents

Risks Related to Doing Business in China

Adverse changes in political and economic policies of the PRC government could have a material adverse effect on the overall economic growth of China, which could reduce the demand for our products and materially and adversely affect our competitive position.

All of our business operations are conducted in China and some of our sales are made in China. Accordingly, our business, financial condition, results of operations and prospects are affected significantly by economic, political and legal developments in China. The Chinese economy differs from the economies of most developed countries in many respects, including:

- the amount of government involvement;
- the level of development;
- the growth rate;
- the control of foreign exchange; and
- the allocation of resources.

While the Chinese economy has grown significantly in the past 30 years, the growth has been uneven, both geographically and among various sectors of the economy. The PRC government has implemented various measures to encourage economic growth and guide the allocation of resources. Some of these measures benefit the overall Chinese economy, but may also have a negative effect on us. For example, our financial condition and results of operations may be adversely affected by government control over capital investments or changes in tax regulations that are applicable to us.

The Chinese economy has been transitioning from a planned economy to a more market-oriented economy. Although in recent years the PRC government has implemented measures emphasizing the utilization of market forces for economic reform, the reduction of state ownership of productive assets and the establishment of sound corporate governance in business enterprises, a substantial portion of the productive assets in China is still owned by the PRC government. The continued control of these assets and other aspects of the national economy by the PRC government could materially and adversely affect our business. The PRC government also exercises significant control over Chinese economic growth through the allocation of resources, controlling payment of foreign currency-denominated obligations, setting monetary policy and providing preferential treatment to particular industries or companies. Efforts by the PRC government to control the pace of growth of the Chinese economy could result in decreased capital expenditure by solar energy users, which in turn could reduce demand for our products.

Uncertainties with respect to the Chinese legal system could have a material adverse effect on us.

We conduct substantially all of our manufacturing operations through our wholly-owned subsidiaries, Trina China and TST, both of which are limited liability companies established in China. Trina China and TST are generally subject to laws and regulations applicable to foreign investment in China and, in particular, laws applicable to wholly foreign-owned enterprises. The PRC legal system is based on written statutes. Prior court decisions may be cited for reference but have limited precedential value. Since 1979, PRC legislation and regulations have significantly enhanced the protections afforded to various forms of foreign investments in China. However, since these laws and regulations are relatively new and the PRC legal system continues to rapidly evolve, the interpretations of many laws, regulations and rules are not always consistent and enforcement of these laws, regulations and rules involves uncertainties. We cannot predict the effect of future developments in the PRC legal system, including the promulgation of new laws, changes to existing laws or the interpretation or enforcement thereof, the preemption of local regulations by national laws, or the overturn of local government decisions by the superior government. These uncertainties may limit legal protections available to us. In addition, any litigation in China may be protracted and result in substantial costs and diversion of resources and management attention.

Table of Contents

Our ability to make distributions and other payments to our shareholders depends to a significant extent upon the distribution of earnings and other payments made by Trina China and TST.

We conduct substantially all of our operations through Trina China and TST. Our ability to make distributions or other payments to our shareholders depends on payments from Trina China and TST, whose ability to make such payments is subject to PRC regulations. Regulations in the PRC currently permit payment of dividends only out of accumulated profits as determined in accordance with accounting standards and regulations in China. According to the relevant PRC laws and regulations applicable to Trina China and TST and their respective articles of association, Trina China and TST are required to set aside at least 10% of its after-tax profit based on PRC accounting standards each year to its general reserves until the accumulative amount of these reserves reaches 50% of its registered capital. These reserves are not distributable as cash dividends. As of December 31, 2012, these general reserves amounted to $49.3 million, accounting for 8.5% of the registered capital of Trina China and TST. In addition, under the Enterprise Income Tax Law and its Implementation Regulations, or the EIT Law, which became effective January 1, 2008, dividends from Trina China to us are subject to a 10% withholding tax to the extent that we are considered a non-resident enterprise under the EIT Law. See The expiration or reduction of tax incentives by the PRC government may have a material adverse effect on our results of operations and Item 4. Information on the Company Regulation Tax. Furthermore, if Trina China incurs debt on its own behalf in the future, the instruments governing the debt may restrict its ability to pay dividends or make other distributions to us.

Restrictions on currency exchange may limit our ability to receive and use our revenues effectively.

Certain portions of our revenues and expenses are denominated in Renminbi. If our revenues denominated in Renminbi increase or expenses denominated in Renminbi decrease in the future, we may need to convert a portion of our revenues into other currencies to meet our foreign currency obligations, including, among others, payment of dividends declared, if any, in respect of our ordinary shares or ADSs. Under China s existing foreign exchange regulations, foreign currency under current account transactions such as dividend payments and trade-related transactions are generally convertible. Accordingly, Trina China is able to pay dividends in foreign currencies without prior approval from the State Administration of Foreign Exchange, or the SAFE, by complying with certain procedural requirements. However, the PRC government could take further measures in the future to restrict access to foreign currencies for current account transactions.

Foreign exchange transactions by Trina China under capital accounts continue to be subject to significant foreign exchange controls and require the approval of, or registration with, PRC governmental authorities. In particular, if either Trina China or TST borrows foreign currency loans from us or other foreign lenders, these loans must be registered with the SAFE, and if we finance Trina China and TST by means of additional capital contributions, these capital contributions must be approved by certain government authorities including the Ministry of Commerce, or MOFCOM, or its local counterparts. These limitations could affect the ability of Trina China to obtain foreign exchange through debt or equity financing.

SAFE regulations may limit our ability to finance our PRC subsidiaries effectively and affect the value of your investment and may make it more difficult for us to pursue growth through acquisition.

If we finance our PRC subsidiaries through additional capital contributions, the MOFCOM in China or its local counterpart must approve the amount of these capital contributions. On August 29, 2008, SAFE promulgated Circular 142, a notice regulating the conversion by a foreign-invested company of foreign currency into Renminbi by restricting how the converted Renminbi may be used. The notice requires that Renminbi converted from the foreign currency-denominated capital of a foreign-invested company may only be used for purposes within the business scope approved by the applicable governmental authority and may not be used for equity investments in the PRC unless otherwise provided by laws and regulations. In addition, SAFE strengthened its oversight of the flow and use of Renminbi funds converted from the

foreign currency denominated capital of a foreign-invested company. The use of such Renminbi may not be changed without approval from SAFE, and may not be used to repay Renminbi loans if the proceeds of such loans have not yet been used for purposes within the company s approved business scope. Furthermore, on November 9, 2010, SAFE promulgated a notice on relevant issues concerning strengthening the administration of foreign exchange business, which requires the authenticity of settlement of net proceeds from an offshore offering to be closely examined and the net proceeds to be settled in the manner described in the offering documents.

Violations of Circular 142 may result in severe penalties, including substantial fines as set forth in the Foreign Exchange Administration Regulations. We cannot assure you that we will be able to complete the necessary government registrations or obtain the necessary government approvals on a timely basis, if at all, with respect to future loans by us to our PRC subsidiaries or with respect to future capital contributions by us to our PRC subsidiaries. If we fail to complete such registrations or obtain such approvals, our ability to contribute additional capital to fund our PRC operations may be negatively affected, which could materially adversely affect our liquidity and our ability to fund and expand our business.

Table of Contents

The expiration or reduction of tax incentives by the PRC government may have a material adverse effect on our results of operations.

The EIT Law imposes a uniform tax rate of 25% on all PRC enterprises, including foreign-invested enterprises, and eliminates or modifies most of the tax exemptions, reductions and preferential treatments available under the previous tax laws and regulations. Under the EIT law, enterprises that were established before March 16, 2007 and already enjoy preferential tax treatments will (i) in the case of preferential tax rates, continue to enjoy the tax rates which will be gradually increased to the new tax rates within five years from January 1, 2008 or (ii) in the case of preferential tax exemption or reduction for a specified term, continue to enjoy the preferential tax holiday until the expiration of such term. In addition, certain enterprises may still benefit from a preferential tax rate of 15% under the new EIT Law if they qualify as high and new technology enterprises strongly supported by the State, subject to certain general factors described therein. In September 2008, Trina China obtained the High and New Technology Enterprise Certificate with a valid term of three years starting from 2008. In 2011, Trina China renewed its High and New Technology Enterprise Certificate, effective from 2011 to 2013. Therefore, Trina China is entitled to a preferential income tax rate of 15% from 2008 through 2013 as long as it maintains its qualification as a high and new technology enterprise strongly supported by the State under the EIT Law. Also, in 2011, TST obtained the High and New Technology Enterprise Certificate, effective from 2011 to 2013 and is entitled to a preferential income tax rate of 15%. If either Trina China or TST fails to maintain the high and new technology enterprise qualification, their applicable EIT rate may increase to up to 25%, which could have a material adverse effect on our results of operations. We cannot assure you that we will be able to maintain our current effective tax rate in the future. Any discontinuation of preferential tax treatment or any increase of the enterprise income tax rate applicable to Trina China could have a material adverse effect on our financial condition and results of operations.

The dividends we receive from our PRC subsidiaries and our global income may be subject to PRC tax under the EIT law, which would have a material adverse effect on our results of operations; our foreign ADS holders may be subject to a PRC withholding tax upon the dividends payable by us and upon gains realized on the sale of our ADSs, if we are classified as a PRC resident enterprise.

Under the EIT law, dividends, interests, rents and royalties payable by a foreign-invested enterprise in the PRC to its foreign investor who is a non-resident enterprise, as well as gains on transfers of shares of a foreign-invested enterprise in the PRC by such a foreign investor, will be subject to a 10% withholding tax, unless such non-resident enterprise s jurisdiction of incorporation has a tax treaty with the PRC that provides for a reduced rate of withholding tax. The Cayman Islands, where Trina is incorporated, does not have such a tax treaty with the PRC. Therefore, if Trina is considered a non-resident enterprise for purposes of the EIT law, this 10% withholding tax imposed on dividends paid to Trina by its PRC subsidiaries would reduce Trina s net income and have an adverse effect on Trina s operating results.

Under the EIT law, an enterprise established outside the PRC with its de facto management body within the PRC is considered a resident enterprise and will be subject to the enterprise income tax at the rate of 25% on its worldwide income. The de facto management body is defined as the organizational body that effectively exercises overall management and control over production and business operations, human resources, finance and accounting, and properties of the enterprise. The State Administration of Taxation, or SAT, issued the Notice Regarding the Determination of Chinese-Controlled Offshore Incorporated Enterprises as PRC Tax Resident Enterprises on the Basis of De Facto Management Bodies, or SAT Circular 82, on April 22, 2009. SAT Circular 82 provides certain criteria for determining whether the de facto management body of an offshore-incorporated enterprise controlled by PRC enterprises is located in China. On July 27, 2011, the SAT issued Administrative Measures of Enterprise Income Tax of Chinese-controlled Offshore Incorporated Resident Enterprises (Trial), or Bulletin 45, which became effective on September 1, 2011, to provide further guidance on the implementation of SAT Circular 82. Bulletin 45 clarifies certain issues relating to the determination of PRC resident enterprise status, post determination administration and the authorities responsible for determining offshore incorporated PRC resident enterprise status. Bulletin 45 specifies that when provided with a copy of a Chinese tax resident determination certificate issued by the competent tax authorities from an offshore incorporated PRC resident enterprise, the payer should not withhold 10% income tax when paying Chinese-sourced dividends, interest and royalties to the offshore incorporated PRC resident enterprise. Although SAT Circular 82 only applies to offshore enterprises controlled by PRC enterprises and not those controlled by PRC or foreign

individuals or foreign enterprises, the criteria set forth therein may reflect the SAT s general position on how the de facto management body test should be applied in determining the tax resident status of offshore enterprises, regardless of whether they are controlled by PRC or foreign enterprises or individuals. Accordingly, we may be considered a resident enterprise and may therefore be subject to the enterprise income tax at 25% on our global income other than dividends from our PRC subsidiaries, which could significantly increase our tax burden and materially adversely affect our cash flow and profitability. Notwithstanding the foregoing provision, the EIT law also provides that, if a resident enterprise directly invests in another resident enterprise, the dividends received by the investing resident enterprise from the invested enterprise are exempted from income tax, subject to certain conditions. Therefore, if Trina is classified as a resident enterprise, the dividends received from its PRC subsidiary may be exempted from income tax. However, it remains unclear how the PRC tax authorities will interpret the PRC tax resident treatment of an offshore company, like Trina, having ownership interest in a PRC enterprise.

Table of Contents

Moreover, under the EIT law, a withholding tax at the rate of 10% is applicable to dividends payable to investors that are non-resident enterprises, which do not have an establishment or place of business in the PRC, or which have such establishment or place of business but the relevant income is not effectively connected with the establishment or place of business, to the extent such interest or dividends have their sources within the PRC unless such non-resident enterprises can claim treaty protection. As such, these non-resident enterprises would enjoy a reduced withholding tax from treaty. Similarly, any gain realized on the transfer of ADSs or shares by such investors is also subject to a 10% withholding tax if such gain is regarded as income derived from sources within the PRC. If Trina is considered a PRC resident enterprise, it is likely that the dividends Trina pays with respect to its ordinary shares or ADSs, or the gain you may realize from the transfer of Trina s ordinary shares or ADSs, would be treated as income derived from sources within the PRC and be subject to PRC withholding tax.

Under the PRC Individual Income Tax Law, or IITL, if we are treated as a PRC resident enterprise, it is possible that non-resident individual investors of our shares or ADSs would be subject to PRC individual income tax at a rate of 20% on dividends paid to such investors and any capital gains realized from the transfer of our common shares, ADSs or both, if such dividends or capital gains are deemed income derived from sources within the PRC, except in the case of individuals that qualify for a lower rate under a tax treaty. Under the PRC-U.S. tax treaty, a 10% preferential rate of withholding tax will apply to dividends provided that the recipients are U.S. tax residents that are eligible for the benefits of the PRC-U.S. tax treaty. A non-resident individual is an individual who has no domicile in the PRC and does not stay within the PRC or has stayed within the PRC for less than one year. Pursuant to the IITL and its implementation rules, for purposes of the PRC capital gains tax, the taxable income will be based on the total income obtained from the transfer of our common shares or ADSs minus all the costs and expenses that are permitted under PRC tax laws to be deducted from the income.

We face uncertainty with respect to indirect transfers of equity interests in PRC resident enterprises by their non-PRC holding companies.

Pursuant to the Notice on Strengthening Administration of Enterprise Income Tax for Share Transfers by Non-PRC Resident Enterprises, or SAT Circular 698, issued by the SAT on December 10, 2009 with retroactive effect from January 1, 2008, where a non-resident enterprise transfers the equity interests of a PRC resident enterprise indirectly via disposing of the equity interests of an overseas holding company, or an Indirect Transfer, and such overseas holding company is located in a tax jurisdiction that: (i) has an effective tax rate less than 12.5% or (ii) does not tax foreign income of its residents, the foreign investor shall report to the competent tax authority of the PRC resident enterprise this Indirect Transfer. Using a substance over form principle, the PRC tax authority may disregard the existence of the overseas holding company if it lacks a reasonable commercial purpose and was established for the purpose of avoiding PRC tax. As a result, gains derived from such Indirect Transfer may be subject to PRC withholding tax at a rate of up to 10%. SAT Circular 698 also provides that, where a non-PRC resident enterprise transfers its equity interests in a PRC resident enterprise to its related parties at a price lower than the fair market value, the relevant tax authority has the power to make a reasonable adjustment to the taxable income of the transaction.

There is uncertainty as to the application of SAT Circular 698. For example, while the term Indirect Transfer is not clearly defined, it is understood that the relevant PRC tax authorities have jurisdiction regarding requests for information over a wide range of foreign entities having no direct contact with China. Moreover, the relevant authority has not yet promulgated any formal provisions or formally declared or stated how to calculate the effective tax rates in foreign tax jurisdictions, and the process and format of the reporting of an Indirect Transfer to the competent tax authority of the relevant PRC resident enterprise. In addition, there are not any formal declarations with regard to how to determine whether a foreign investor has adopted an abusive arrangement in order to avoid PRC tax. As a result, we may become at risk of being taxed under SAT Circular 698 and we may be required to expend valuable resources to comply with SAT Circular 698 or to establish that we should not be taxed under SAT Circular 698, which may materially adversely affect our financial condition and results of operations.

Table of Contents

The approval of the China Securities Regulatory Commission might have been required in connection with our initial public offering, and, if required, we could be subject to sanction, fines and other penalties.

On August 8, 2006, six PRC regulatory agencies, including the CSRC, promulgated the Regulation on Mergers and Acquisitions of Domestic Companies by Foreign Investors, or the M&A Rules, which became effective on September 8, 2006 and was amended on June 22, 2009. The M&A Rules, among other things, require offshore special purpose vehicles, formed for overseas listing purposes through acquisitions of PRC domestic companies and controlled by PRC enterprises or individuals, to obtain the approval of the CSRC prior to publicly listing their securities on an overseas stock exchange. On September 21, 2006, the CSRC published a notice specifying the documents and materials that are required to be submitted for obtaining CSRC approval. Based on the advice we received from Fangda Partners, our PRC counsel, we did not seek the CSRC approval in connection with our initial public offering as we believe that this regulation does not apply to us and that CSRC approval is not required because (1) Trina is not a special purpose vehicle formed for the purpose of acquiring a PRC domestic company because Trina China was a foreign-invested enterprise before it was acquired by Trina, and, accordingly, Trina China did not fall within the definition of a PRC domestic company as set forth in the new regulation; and (2) such acquisition was completed before the new regulation became effective.

Uncertainty still exists as to how the M&A Rules will be interpreted and implemented, and the opinion of our PRC counsel is subject to any new laws, regulations, rules and their detailed implementations in the future in any form relating to the M&A Rules. If the CSRC or other PRC regulatory body subsequently determines that the CSRC s approval was required for our initial public offering, we may face sanctions by the CSRC or other PRC regulatory agencies. In that case, these regulatory agencies may impose fines and penalties on our operations in the PRC, limit our operating privileges in the PRC, restrict or prohibit payment or remittance of dividends by Trina China, or take other actions that could have a material adverse effect on our business, financial condition, results of operations, reputation and prospects, as well as the trading price of our ADSs.

The regulations also established additional procedures and requirements that could make merger and acquisition activities by foreign investors more time-consuming and complex, including requirements in some instances that the MOFCOM be notified in advance of any change-of-control transaction in which a foreign investor takes control of a PRC domestic enterprise. As we may grow our business in part by acquiring complementary businesses in the future, complying with the requirements of the new regulations to complete such transactions could be time-consuming, and any required approval processes, including obtaining approval from the MOFCOM, may delay or inhibit our ability to complete such transactions. Any such delay or inability to obtain applicable approvals to complete our potential future acquisitions could affect our ability to expand our business or maintain our market share.

We may be subject to Regulations on National Security Review of Merger and Acquisition by Foreign Investors, which could jeopardize future transactions

On February 3, 2011, the State Council promulgated Circular 6, a notice on the establishment of the security review system for mergers and acquisitions of domestic enterprises by foreign investors, which became effective on March 3, 2011. To implement Circular 6, the MOFCOM promulgated the MOFCOM Security Review Rules on August 25, 2011 which became effective on September 1, 2011. According to Circular 6 and the MOFCOM Security Review Rules, a national security review is required for certain mergers and acquisitions by foreign investors of enterprises relating to national defense and certain mergers and acquisitions by which foreign investors may acquire de facto control of domestic enterprises raising national security concerns. When deciding whether a specific merger or acquisition of a domestic enterprise by foreign investors is subject to the national security review, the MOFCOM will look into the substance and actual impact of the transaction and the foreign investors are prohibited from bypassing the national security review requirement by structuring transactions through proxies, trusts,

indirect investments, leases, loans, control through contractual arrangements or offshore transactions. In addition, if a merger or acquisition by foreign investors which was not submitted for national security review, or was determined to have no impact on national security after such review, but thereafter, due to changed elements, including modification of the merger, change of business activities or acquisition transaction or amendment of the relevant agreements or documents and other changes, involves an enterprise relating to national defense or a change of de facto control of a domestic enterprise raising national security concerns such that it becomes subject to national security review, the foreign investor to such merger or acquisition will be required to file an application for national security review with the MOFCOM. Currently, there are no public provisions or official interpretations specifically providing that our current businesses fall within the scope of national security review and there is no requirement that foreign investors to those merger and acquisition transactions completed prior to the promulgation of the Circular 6 take initiatives to submit such transactions to MOFCOM for national security review. However, as the MOFCOM Security Review Rules and the Circular 6 are relatively new and there is no clear statutory interpretation on their implementation, there is no assurance that the relevant PRC regulatory authorities will have the same view as us when applying them. Moreover, there exists the possibility that our future merger and acquisition transactions will be subject to the national security review under the MOFCOM Security Review Rules and the Circular 6.

Table of Contents

Regulations relating to offshore investment activities by PRC residents may limit our ability to acquire PRC companies and could adversely affect our business, financial condition and results of operations. The regulations also establish more complex procedures for acquisitions by foreign investors, which could make it more difficult to pursue growth through acquisitions.

In October 2005, SAFE promulgated a regulation known as Circular No. 75 that states that if PRC residents use assets or equity interests in their PRC entities as capital contributions to establish offshore companies or inject assets or equity interests of their PRC entities into offshore companies to raise capital overseas, they must register with local SAFE branches with respect to their overseas investments in offshore companies. They must also file amendments to their registrations if their offshore companies experience material events involving capital variation, such as changes in share capital, share transfers, mergers and acquisitions, spin-off transactions, long-term equity or debt investments or uses of assets in China to guarantee offshore obligations. Under this regulation, failure to comply with the registration procedures set forth in such regulation may result in restrictions being imposed on the foreign exchange activities of the relevant PRC entity, including the payment of dividends and other distributions to its offshore parent, as well as restrictions on the capital inflow from the offshore entity to the PRC entity. On May 20, 2011, SAFE issued the Operational Rules on Foreign Exchange Administration for Financing and Return Investments by Domestic Residents through Special-Purpose Overseas Companies or Circular 19, which provides detailed procedures and specific instructions for SAFE registration under the Circular 75. While we believe our shareholders have complied with existing SAFE registration procedures, any future failure by any of our shareholders who is a PRC resident, or controlled by a PRC resident, to comply with relevant requirements under this regulation could subject our company to fines or sanctions imposed by the PRC government, including restrictions on Trina China s ability to pay dividends or make distributions to us and our ability to increase our investment in or to provide loans to Trina China.

On December 25, 2006, the People s Bank of China promulgated the Measures for Administration of Individual Foreign Exchange. On January 5, 2007, the SAFE promulgated Implementation Rules for those measures and on February 15, 2012, the SAFE promulgated the notice on issuers concerning the Foreign Exchange Administration for Domestic Individuals Participating in Stock Incentive Plan of Overseas Listed Company which terminated the Operating Procedures on Administration of Foreign Exchange regarding PRC individuals Participation in Employee Share Ownership Plans and Employee Stock Option Plans of Overseas Listed Company issued by SAFE on March 28, 2007 (collectively, referred to as the Individual Foreign Exchange Rules). According to the Individual Foreign Exchange Rules, PRC citizens who are granted shares or share options by a company listed on an overseas stock market according to its employee share option or share incentive plan are required to register with the SAFE or its local counterparts by following certain procedures. We and our employees who are PRC citizens and individual beneficiary owners, or have been granted restricted shares or share options, are subject to the Individual Foreign Exchange Rules and its relevant implementation regulations. The failure of our PRC individual beneficiary owners and the restricted holders to complete their SAFE registrations pursuant to the SAFE Jiangsu Branch s requirement or the Individual Foreign Exchange Rules may subject these PRC citizens to fines and legal sanctions and may also limit our ability to contribute additional capital into our PRC subsidiaries, limit our PRC subsidiaries ability to distribute dividends to us or otherwise materially adversely affect our business.

Labor laws in the PRC may adversely affect our results of operations.

On June 29, 2007, the PRC government promulgated the Labor Contract Law of the PRC, or the PRC Labor Contract Law, which became effective on January 1, 2008. On September 3, 2008, the PRC government promulgated the Implementing Rules on PRC Labor Contract Law, or the Implementing Rules. The PRC Labor Contract Law and the Implementing Rules impose requirements concerning contracts entered into between an employer and its employees and establish time limits for probationary periods and for how long an employee can be placed in fixed-term labor contracts. According to the PRC Labor Contract Law and the Implementing Rules, employers must pay their employees wages equal to or above the local minimum wage standards, establish labor safety and workplace sanitation systems, comply with national labor rules and standards and provide employees with appropriate training regarding workplace safety. Furthermore, if we enforce the non-compete provision in a labor contract, we have to compensate the employee on a monthly basis during the term of the non-compete period after the termination or expiration of the labor contract, which may cause additional expenses to us.

In addition, the PRC regulatory authorities have enacted a variety of laws and regulations regarding social insurance and housing funds. Pursuant to these laws and regulations, PRC companies have to make contributions to the relevant local social insurance and housing funds regulatory authorities for their employees. Due to the limited period of effectiveness of the PRC Labor Contract Law and the Implementing Rules and the lack of clarity with respect to their implementation and potential penalties and fines, it is uncertain how they will impact our current employment policies and practices. Therefore, we cannot assure you that our employment policies and practices do not, or will not, violate these laws and regulations and that we will not be subject to related penalties, fines or legal fees. If we are subject to large penalties or fees related to these laws and regulations, our business, financial condition and results of operations may be materially and adversely affected.

Table of Contents

We face risks related to health epidemics and other outbreaks.

Our business could be adversely affected by the effects of swine flu, avian flu, SARS or other epidemics or outbreaks. China reported a number of cases of SARS in April 2004. In 2006, 2007, 2008 and 2011, there have been reports on the occurrences of avian flu in various parts of China, including a few confirmed human cases and deaths. In April 2009, an outbreak of swine flu occurred in Mexico and the United States. In May 2009, the World Health Organization declared a level 6 flu pandemic, its highest pandemic alert phase, indicating a global pandemic underway. Any prolonged occurrence or recurrence of swine flu, avian flu, SARS or other adverse public health developments in China or any of the major markets in which we do business may have a material adverse effect on our business and operations. These could include our ability to travel or ship our products outside of China and to designated markets, as well as temporary closure of our manufacturing facilities, logistic facilities and/or our customers facilities, leading to delayed or cancelled orders. Any severe travel or shipment restrictions and closures would severely disrupt our operations and adversely affect our business and results of operations. We have not adopted any written preventive measures or contingency plans to combat any future outbreak of swine flu, avian flu, SARS or any other epidemic.

Risks Related to Our Ordinary Shares and ADSs

The market price for our ADSs has been and is likely to continue to be highly volatile.

The market price for our ADSs has been and is likely to continue to be highly volatile and subject to wide fluctuations in response to factors including the following:

- announcements of technological or competitive developments;
- regulatory developments in our target markets affecting us, our customers or our competitors;
- announcements of studies and reports relating to the conversion efficiencies of our products or those of our competitors;
- actual or anticipated fluctuations in our quarterly operating results;
- changes in financial estimates by securities research analysts;
- changes in the economic performance or market valuations of other solar power technology companies;

- addition or departure of our executive officers and key research personnel;

- financial blogs, Internet chat room or other media forms which publish unsubstantiated opinions or claims in support of undisclosed trades, including short selling, of the Company s ADSs;

- announcements regarding patent litigation or the issuance of patents to us or our competitors;

- conditions affecting general economic performance in the United States;

- fluctuations in the exchange rates between the U.S. dollar, the Euro and Renminbi;

- release or expiry of lock-up or other transfer restrictions on our outstanding ordinary shares; and

- sales or perceived sales of additional ADSs.

Table of Contents

In addition, the securities market has from time to time experienced significant price and volume fluctuations that are not related to the operating performance of particular companies. These market fluctuations may also have a material adverse effect on the market price of our ADSs. For example, financial markets have experienced extreme disruption in recent months, including, among other things, extreme volatility in securities prices. In the event of a continuing market downturn, the market price of our ADSs may decline further.

Holders of our ADSs do not have the same voting rights as the holders of our ordinary shares and may not receive voting materials in time to be able to exercise their right to vote.

Holders of our ADSs are not treated as shareholders. Instead, the depositary will be treated as the holder of the shares underlying the ADSs. Holders of our ADSs, however, may exercise some of the shareholders rights through the depositary and have the right to withdraw the shares underlying their ADSs from the deposit facility.

Except as described in this annual report and provided in the deposit agreement, holders of our ADSs will not be able to exercise voting rights attaching to the shares evidenced by our ADSs on an individual basis. Holders of our ADSs may instruct the depositary to exercise the voting rights attaching to the shares represented by the ADSs. If no instructions are received by the depositary on or before a date established by the depositary, the depositary shall deem the holders to have instructed it to give a discretionary proxy to a person designated by us to exercise their voting rights. Holders of our ADSs may not receive voting materials in time to instruct the depositary to vote, and holders of our ADSs, or persons who hold their ADSs through brokers, dealers or other third parties, might not have the opportunity to exercise a right to vote.

We have adopted a shareholders rights plan, which, together with the other anti-takeover provisions of our articles of association, could discourage a third party from acquiring us, which could limit our shareholders opportunity to sell their shares, including ordinary shares represented by our ADSs, at a premium.

In November 2006, we adopted our amended and restated articles of association, which became effective immediately upon completion of our initial public offering in December 2006. Our current articles of association contain provisions that limit the ability of others to acquire control of our company or cause us to engage in change-of-control transactions. In November 2008, our board of directors adopted a shareholders rights plan. Under this rights plan, one right was distributed with respect to each of our ordinary shares outstanding at the closing of business on December 1, 2008. These rights entitle the holders to purchase ordinary shares from us at half of the market price at the time of purchase in the event that a person or group obtains ownership of 15% or more of our ordinary shares (including by acquisition of the ADSs representing an ownership interest in the ordinary shares) or enters into an acquisition transaction without the approval of our board of directors.

This rights plan and the other anti-takeover provisions of our articles of association could have the effect of depriving our shareholders of an opportunity to sell their shares at a premium over prevailing market prices by discouraging third parties from seeking to obtain control of our company in a tender offer or similar transaction. Our existing authorized ordinary shares confer on the holders of our ordinary shares equal rights, privileges and restrictions. Our board of directors may, without further action by our shareholders, issue additional ordinary shares, or issue shares of a preferred class and attach to such shares special rights, privileges or restrictions, which may be different from those associated with our ordinary shares, up to the amount of the authorized capital and the number of authorized shares of our company. Preferred shares could also be issued with terms calculated to delay or prevent a change in control of our company or make removal of management more difficult. If our board of directors decides to issue ordinary shares or preferred shares, the price of our ADSs and the notes may fall and the voting and other rights of the holders of our ordinary shares and ADSs may be materially and adversely affected.

Table of Contents

Holders of our ADSs may not be able to participate in rights offerings that are made available to our shareholders, and may not receive cash dividends if it is impractical to make them available to them.

We may from time to time distribute rights to our shareholders, including rights to acquire our securities. Under the deposit agreement, the depositary bank will not make rights available to holders of our ADSs unless the distribution to ADS holders of both the rights and any related securities are either registered under the Securities Act of 1933, as amended, or the Securities Act, or exempted from registration under the Securities Act with respect to all holders of ADSs. We are under no obligation to file a registration statement with respect to any such rights or securities or to endeavor to cause such a registration statement to be declared effective. Moreover, we may not be able to establish an exemption from registration under the Securities Act. Accordingly, holders of our ADSs may be unable to participate in our rights offerings and may experience dilution in their holdings.

In addition, the depositary of our ADSs has agreed to pay to holders of our ADSs the cash dividends or other distributions it or the custodian receives on our ordinary shares or other deposited securities after deducting its fees and expenses. Holders of our ADSs will receive these distributions in proportion to the number of ordinary shares their ADSs represent. However, the depositary may, at its discretion, decide that it is inequitable or impractical to make a distribution available to any holders of ADSs. For example, the depositary may determine that it is not practicable to distribute certain property through the mail, or that the value of certain distributions may be less than the cost of mailing them. In these cases, the depositary may decide not to distribute such property and holders of our ADSs will not receive such distribution.

Holders of our ADSs may be subject to limitations on transfer of their ADSs.

Our ADSs are transferable on the books of the depositary. However, the depositary may close its transfer books at any time or from time to time when it deems expedient in connection with the performance of its duties. In addition, the depositary may refuse to deliver, transfer or register transfers of ADSs generally when our books or the books of the depositary are closed, or at any time if we or the depositary deem it advisable to do so because of any requirement of law or of any government or governmental body, or under any provision of the deposit agreement, or for any other reason.

We are a Cayman Islands company and, because judicial precedent regarding the rights of shareholders is more limited under Cayman Islands law than that under U.S. law, our shareholders may have less protection for their shareholder rights than they would under U.S. law.

Our corporate affairs are governed by our memorandum and articles of association, the Companies Law, Cap. 22 (Law 3 of 1961, as consolidated and revised) of the Cayman Islands and the common law of the Cayman Islands. The rights of shareholders to take action against the directors, actions by minority shareholders and the fiduciary responsibilities of our directors to us under Cayman Islands law are to a large extent governed by the common law of the Cayman Islands. The common law of the Cayman Islands is derived in part from comparatively limited judicial precedent in the Cayman Islands as well as that from English common law, which has persuasive, but not binding, authority on a court in the Cayman Islands. The rights of our shareholders and the fiduciary responsibilities of our directors under Cayman Islands law are not as clearly established as they would be under statutes or judicial precedent in some jurisdictions in the United States. In particular, the Cayman Islands has a less developed body of securities laws than the United States. In addition, some U.S. states, such as Delaware, have more fully developed and judicially interpreted bodies of corporate law than the Cayman Islands. As a result of all of the above, shareholders of a Cayman Islands company may have more difficulty in protecting their interests in the face of actions taken by management, members of the board of directors or controlling shareholders than they would as shareholders of a company incorporated in a jurisdiction in the United States. The limitations described above will also apply to the depositary, which is treated as the holder of the shares underlying our ADSs.

Table of Contents

You may have difficulty enforcing judgments obtained against us.

We are a Cayman Islands company and substantially all of our assets are located outside of the United States. Substantially all of our current operations are conducted in the PRC. In addition, most of our directors and officers are nationals and residents of countries other than the United States. A substantial portion of the assets of these persons are located outside the United States. As a result, it may be difficult for you to effect service of process within the United States upon these persons. It may also be difficult for you to enforce in U.S. courts judgments obtained in U.S. courts based on the civil liability provisions of the U.S. federal securities laws against us and our officers and directors, most of whom are not residents in the United States and the substantial majority of whose assets are located outside of the United States. In addition, there is uncertainty as to whether the courts of the Cayman Islands or the PRC would recognize or enforce judgments of U.S. courts.

Item 4. INFORMATION ON THE COMPANY

A. History and Development of the Company

Our legal and commercial name is Trina Solar Limited. Our predecessor company, Trina China, was incorporated in December 1997. In anticipation of our initial public offering, we incorporated Trina in the Cayman Islands as a listing vehicle on March 14, 2006. Trina acquired all of the equity interests in Trina China through a series of transactions that have been accounted for as a recapitalization and Trina China became our wholly-owned subsidiary. In the past, we conducted substantially all of our operations (and we continue to conduct a significant part of our operations) through Trina China. In December 2006, we completed our initial public offering of our ADSs and listed our ADSs on the New York Stock Exchange. In June 2007, we completed a follow-on public offering of 5,406,280 ADSs sold by us and certain selling shareholders. In July 2008, we completed public offerings of $138 million aggregate principal amount of convertible senior notes due 2013 and 8,146,388 ADSs for a related ADS borrowing facility. In August 2009, we completed a follow-on public offering of 5,175,000 ADSs. In March 2010, we completed another follow-on public offering of 9,085,000 ADSs.

Our principal executive offices are located at No. 2 Tian He Road, Electronics Park, New District, Changzhou, Jiangsu 213031, People s Republic of China. Our telephone number at this address is (+86) 519 8548-2008 and our fax number is (+86) 519 8517-6023. Our registered office in the Cayman Islands is located at the offices of Codan Trust Company (Cayman) Limited, Cricket Square, Hutchins Drive, P.O. Box 2681, Grand Cayman, KY1-1111, Cayman Islands.

For information regarding our principal capital expenditures, see D. Property, Plants and Equipment.

Investor inquiries should be directed to us at the address and telephone number of our principal executive offices set forth above. Our website is http://www.trinasolar.com. The information contained on our website does not form part of this annual report. Our agent for service of process in the United States is CT Corporation System located at 111 Eighth Avenue, New York, New York 10011.

B. Business Overview

Overview

We are a large-scale integrated solar-power products manufacturer based in China with a global distribution network covering Europe, North and South America and Asia. Since we began our solar-power products business in 2004, we have integrated the manufacturing of ingots, wafers and solar cells for use in our PV module production. Our PV modules provide reliable and environmentally-friendly electric power for residential, commercial, industrial and other applications worldwide.

We produce standard monocrystalline PV modules ranging from 185 watts, or W, to 210 W in power output and multicrystalline PV modules ranging from 230 W to 310 W in power output. We build our PV modules to general specifications, as well as to our customers and end-users specifications. We sell and market our products worldwide, including in a number of European countries, such as Germany, Spain and Italy, where government incentives have accelerated the adoption of solar power. In recent years, we have also increased our sales in newer and emerging solar power markets, which include China, the United States, the United Kingdom, Australia, India, Israel and Japan, as well as other markets in Asia, Africa, the Middle East, Latin America and the Caribbean Islands. We have established regional headquarters and offices located in Europe, North America and Asia to target sales and distribution in those markets. We sell our products to distributors, wholesalers, power plant developers and operators and PV system integrators, including Enerparc AG, SolarCity, Parabel AG, GCL Solar Energy, Inc., Solartechnik Stiens GmbH & Co. KG and Fluor Corporation.

Table of Contents

As of December 31, 2012, we had an annual manufacturing capacity of ingots and wafers of approximately 1,200 MW and cells and modules of approximately 2,400 MW. In 2011 and 2012, we fulfilled some of our ingot and wafer requirements by sourcing and obtaining toll services from our strategic partners. We will continue to contract toll services from third party manufacturers to process ingots and wafers and source wafers from our suppliers and strategic partners in order to fill the gap between our PV cell and module manufacturing capacity and our ingot and wafer manufacturing capacity as a result of strong market demand and to achieve import cost advantages to certain markets. As a result, we have developed relationships with various domestic and international suppliers of ingots and wafers.

We purchase polysilicon from our network of over ten suppliers, including several leading global producers of polysilicon, and have developed strong relationships with our suppliers. To reduce raw material costs, we continue to focus on improving solar cell conversion efficiency and enhancing manufacturing yields. Our research and development platform will be further enhanced by the R&D Laboratory we have been commissioned by the PRC Ministry of Science and Technology to establish in the Changzhou PV Park, or the PV Park, located adjacent to our headquarters. We completed construction of our R&D laboratory during the second quarter of 2012 and began utilizing the new facilities in March 2012.

We began our research and development efforts in solar power products in 1999. We began our system integration business in 2002, our PV module business in late 2004 and our production of solar cells in April 2007. In 2010, 2011 and 2012, we generated net sales of $1,857.7 million, $2,047.9 million and $1,296.7 million, respectively. We recorded a net income of $311.5 million in 2010, a net loss of $37.8 million in 2011 and a net loss of $266.6 million in 2012.

Products

We design, develop, manufacture and sell high efficiency PV modules. PV modules are arrays of interconnected solar cells encased in a weatherproof frame. We produce standard solar monocrystalline modules ranging from 185 W to 210 W in power output and multicrystalline modules ranging from 230 W to 310 W in power output, built to general specifications for use in a wide range of residential, commercial, industrial and other solar power generation systems. The variation in power output is based on the conversion efficiency of the cells used in our PV modules, as well as the types of cells. We assemble PV modules either from monocrystalline or multicrystalline cells. We also design and produce PV modules based on our customers and end-users specifications, such as colored modules for architectural applications and larger sized modules for utility grid applications. Our PV modules are sealed, weatherproof and able to withstand high levels of ultraviolet radiation and moisture. We sell our module products under our own brand.

Manufacturing

We manufacture ingots, wafers, cells and modules. As of December 31, 2012, we had an annual manufacturing capacity of ingots and wafers of approximately 1,200 MW and cells and modules of approximately 2,400 MW. We do not currently plan to build new facilities to increase our annual manufacturing capacity of cells, ingots, wafers or modules during 2013, though we expect small gains in capacity through increased efficiency. However, as we take into account market views concerning customer demand and the commercial lending environment, which is essential for the financing of PV system installations in our respective sales markets as well as our strategy to expand while preserving liquidity, we may later decide to expand our capacity during 2013 or at a future date. The following table sets forth our manufacturing capacity and production output in MW equivalent of module production as a result of our ramp-up for each of our facilities.

29

Table of Contents

Manufacturing Facility	Manufacturing Commencement Date	Annual Manufacturing Capacity as of December 31, 2012	Production Output for the Year Ended December 31, 2012	Estimated Maximum Annual Manufacturing Capacity as of December 31, 2013
Silicon ingots	August 2005	1,200 MW(1)	1,140 MW(2)	1,250 MW
Silicon wafers	February 2006	1,200 MW(1)	1,080 MW(2)	1,250 MW
Solar cells	April 2007	2,400 MW(1)	1,550 MW(2)	2,500 MW
PV modules	November 2004	2,400 MW(1)	1,720 MW(2)	2,500 MW

(1) Approximate figures.

(2) Includes modules produced but not shipped as of December 31, 2012.

- *Silicon feedstock*. We purchase polysilicon from various suppliers, including silicon distributors, silicon manufacturers, semiconductor manufacturers and silicon processing companies. Our ability to mix the materials in the right proportion is critical to the production of high-quality silicon ingots. In the fourth quarter of 2012, we had an average silicon usage of approximately 5.4 grams per watt, compared to approximately 5.8 and 5.9 grams per watt in the fourth quarters of 2011 and 2010, respectively.

- *Ingots*. We began manufacturing monocrystalline ingots in August 2005 with silicon crystal growing furnaces. As of December 31, 2012, we had 110 silicon crystal growing furnaces for manufacturing monocrystalline ingots, which can yield 110 MW of modules annually based on current manufacturing processes, and 166 directional solidification system, or DSS, furnaces for the manufacturing of multicrystalline ingots, which can yield 1,090 MW of modules annually based on current manufacturing processes.

To produce monocrystalline silicon ingots, silicon raw materials are first melted in a quartz crucible in the pulling furnace. Then, a thin crystal seed is dipped into the melted material to determine the crystal orientation. The seed is rotated and then slowly extracted from the melted material which solidifies on the seed to form a single crystal.

We began commercial production of multicrystalline ingots in November 2007. To produce multicrystalline ingots, molten silicon is changed into a block through a casting process in a DSS furnace. Crystallization starts by gradually cooling the crucibles in order to create multicrystalline ingot blocks. The resulting ingot blocks consist of multiple smaller crystals as opposed to the single crystal of a monocrystalline ingot.

- *Wafers*. We began manufacturing wafers in February 2006. Currently, we slice monocrystalline and multicrystalline wafers to a thickness of approximately 180 microns, while maintaining a low breakage rate. After the ingots are inspected, monocrystalline ingots are squared by squaring machines. Through high-precision cutting techniques, the squared ingots are then sliced into wafers by wire saws using steel wires and silicon carbon powder. To produce multicrystalline wafers, multicrystalline ingots are first cut into pre-determined sizes. After a testing process, the multicrystalline ingots are cropped and the usable parts of the ingots are sliced into wafers by wire saws by the same high-precision cutting techniques used for slicing monocrystalline wafers, while the unusable parts are melted down for reuse. After being inserted into frames, the wafers go through a cleansing process to remove debris from the previous processes, and are then dried. Wafers are

inspected for contaminants then packed and transferred to our solar cell production facilities. Our annual wafer manufacturing capacity as of December 31, 2012 was approximately 1,200 MW based on current manufacturing processes.

We fulfill some of our wafer requirements by sourcing from strategic partners. We will continue to source wafers through long-term supply agreements in order to fill the gap between our PV cell and module manufacturing capacity and our wafer manufacturing capacity and to achieve import cost advantages to certain markets. As a result, we have developed relationships with various domestic and international suppliers of wafers. From time to time, we also fulfilled some of our ingot and wafer requirements through toll services from our strategic partners. We will continue to contract toll services from third party manufacturers to process ingots and wafers in the future.

Table of Contents

- *Solar cells*. We currently produce our own solar cells for use in our PV modules. After we installed our ingot and wafer production lines, we began manufacturing ingots and wafers in-house and outsourced the fabrication of solar cells to solar cell manufacturers. To reduce our dependence on third-party solar cell manufacturers and to increase our efficiencies both in solar cell and PV module manufacturing, we began the production of monocrystalline cells in April 2007 and achieved a conversion efficiency of up to 19.0% as of December 31, 2012 on a test production line basis. In November 2007, we began producing multicrystalline cells and achieved a conversion efficiency of up to 18.1% as of December 31, 2012 on a test production line basis. As of December 31, 2012, we had 64 production lines with an annual manufacturing capacity of approximately 2,400 MW.

To manufacture solar cells, the crystalline silicon wafer is used as the base substrate. After cleaning and texturing the surface, an emitter is formed through a diffusion process. The front and back sides of the wafer are then isolated using the plasma etching technique, the oxide formed during the diffusion process is removed and thus an electrical field is formed. We then apply an anti-reflective coating to the surface of the cell using plasma enhanced chemical vapors to enhance the absorption of sunlight. The front and back sides of the cell are screen printed with metallic inks and the cell then undergoes a fire treatment in order to preserve its mechanical and electrical properties. The cell is tested and classified according to its parameters.

We have also selectively entered into short-term agreements to both purchase and sell solar cells with commercially favorable terms to meet the fluctuations in PV module demand, or to achieve import cost advantages to certain markets.

- *PV modules*. We began module manufacturing in November 2004. We increased our annual manufacturing capacity of modules from approximately 6 MW per year as of November 2004 to approximately 2,400 MW per year as of December 31, 2012.

To assemble PV modules, we interconnect multiple solar cells by taping and stringing the cells into a desired electrical configuration. The interconnected cells are laid out, laminated in a vacuum, cured by heating and then packaged in a protective light-weight aluminum frame. Through this labor-intensive process, our PV modules are sealed and become weatherproof and are able to withstand high levels of ultraviolet radiation and moisture.

PV module assembly remains a labor intensive process. We leverage China s lower labor costs by using a greater degree of labor in our manufacturing process when it proves to be more efficient and cost-effective than using automated equipment. We are in close proximity to Chinese solar equipment manufacturers that offer much of the solar manufacturing equipment we require at competitive prices compared to similar machinery offered by international solar equipment manufacturers.

Solar Power Projects

Many solar power projects are being commissioned in Europe, the United States and other countries, largely driven by government mandates that require electric utility companies to use renewable energy to produce a certain percentage of their power by a future date. In 2009, we began to develop commercial solar power systems for these solar power projects on our own with the intent to sell them to third-parties upon completion of their development. Once construction on the project is completed, the project begins operating and generating power. Power is sold on the power grid, which may generate revenues for us, depending upon the project structure and whether there is a predetermined or committed purchaser. Once a purchaser for the project has been identified, we then complete the sale to the purchaser.

As of December 31, 2012, we had total solar power projects of approximately $41.0 million, including both projects operated by us and projects either completed or in construction for future sales. We completed construction of a solar power project located in four different sites in the Baslicata region of Italy, which has 2 MW of installed PV systems and has connected to the local electricity grid to generate power with total assets of $9.6 million. We are also in the early stages of development on several other solar power projects, including partially completed projects in the United States and China. We intend to begin construction on projects in China, the United States and the United Kingdom during 2013.

Table of Contents

Silicon-based Raw Material Supplies

Our business depends on our ability to obtain silicon-based raw materials, including polysilicon, ingots and wafers. We procure polysilicon from domestic and international manufacturers as well as domestic and international distributors. In addition to our headquarters, we have three offices located in the United States, Asia and Europe to conduct procurement activities. We believe our procurement team s geographical proximity to the supply sources helps us better communicate with the suppliers and respond to them more efficiently. We believe our efforts to procure silicon-based raw materials from various sources will enable us to better control the silicon supply chain, increase manufacturing efficiency, and reduce margin pressure.

According to Solarbuzz, the average long-term supply contract price of polysilicon increased from approximately $60-$65 per kilogram delivered in 2007 to $60-$75 per kilogram in 2008. In addition, according to Solarbuzz, spot prices for solar grade polysilicon were in the range of $230-$375 per kilogram for most of the first half of 2008 and rose to a peak of $450-$475 per kilogram by mid-2008. During the fourth quarter of 2008, the price of polysilicon began to decrease rapidly due to increased supply of polysilicon resulting from intensive investments in silicon manufacturing. According to Solarbuzz, the average price range of long-term polysilicon supply contracts had decreased to approximately $22-$24 per kilogram by the fourth quarter of 2012, and spot prices for solar grade polysilicon had decreased to approximately $16-$17 per kilogram in the fourth quarter of 2012. However, we cannot assure you that the price of polysilicon will continue to decline or remain at its current levels.

We have entered into medium-term and long-term supply contracts to procure silicon feedstock of different grades with Chinese and international suppliers, which provide us with the ability to meet our future requirements. These medium-term and long-term suppliers include Jiangsu Zhongneng Polysilicon Technology Development Co., Ltd., or Jiangsu Zhongneng, and Changzhou GCL Photovoltaic Technology Co., Ltd., or GCL (Changzhou), both of which are wholly-owned subsidiaries of GCL-Poly Energy Holdings Limited, or GCL-Poly, among others. Our medium-term and long-term contracts have delivery terms beginning in 2008 and ending in 2020 and generally have fixed quantities and variable prices referenced to prevailing market price or a range of fixed prices subject to negotiation. These contracts also require us to make an advance payment of a certain negotiated amount. In 2011 and 2012, due to generally declining polysilicon prices, we successfully renegotiated several medium-term and long-term supply contracts that required us to purchase polysilicon at a predetermined price or quantity to more closely link our purchase costs with market prices.

To secure sufficient feedstock to support our planned sales growth, in March 2008, we entered into an eight-year framework polysilicon supply agreement with Jiangsu Zhongneng, a supplier of polysilicon based in Jiangsu, China. In August 2008, we expanded the scope of the supply of polysilicon under this agreement to wafers. In August 2009, we extended the term of this supply agreement by another five years. In December 2010, Jiangsu Zhongneng assigned all of its obligations and rights under this supply agreement with respect to the wafer supply to GCL (Changzhou), a wafer supplier based in Jiangsu, China. Under a supplemental framework long-term agreement we entered into in March 2010 with Jiangsu Zhongneng, Jiangsu Zhongneng has agreed to supply to us up to an aggregate of 27,220 tons of polysilicon through 2020. Under a supplemental framework long-term wafer supply agreement we entered into with GCL (Changzhou) in January 2011, GCL (Changzhou) has agreed to supply to us wafers sufficient to produce up to an aggregate of 19,737 MW of PV modules over ten years from January 2011 to December 2020, and we have agreed to procure not less than 50% of our outsourced wafer requirement from GCL (Changzhou) each year during the term of the agreement. Under this agreement and its supplemental agreements, the prices of the polysilicon and wafers were initially predetermined subject to periodic adjustments. Due to the volatility of polysilicon prices, we have negotiated actual polysilicon and wafer purchase amounts and prices under our long-term framework agreement with GCL from time to time. For example, in March 2012 and then again in March 2013, we entered into supplemental agreements with GCL (Changzhou) and Jiangsu Zhongneng to modify our total wafer and polysilicon purchase quantities for 2012 and 2013, respectively, among other things. We expect to further negotiate our purchase commitments in the future taking into account market conditions.

In April 2008, in order to encourage the development of the solar power industry in Changzhou, the Changzhou municipal government established the PV Park adjacent to our headquarters, which has attracted and continues to attract PV supply chain component manufacturers. Several of our key suppliers have established or plan to establish production facilities in the PV Park. We believe the relocation of suppliers to the PV Park will help us to realize procurement and logistical advantages, accelerate our cost reduction initiatives, as well as providing synergies for research and development. For example, in 2010 we commenced sourcing wafers and slurry for wafer slicing from the new facilities of several of our vendors located in the PV Park. Sourcing from suppliers located within the PV Park and expanding our close-in supply system to cover a greater number of vendors would allow us to collaborate with our vendors for better inventory and production management control, better monitoring of supply quality and easy access to onsite inventory.

Table of Contents

Quality Assurance

Our quality control was set up according to the quality system requirements of ISO 9001:2000. Our quality control consists of three components: incoming inspections through which we ensure the quality of the raw materials that we source from third parties, in-process quality control of our manufacturing processes, and outgoing quality control of finished products through inspection and by conducting reliability and other tests. We possess a nationally recognized quality test laboratory in China that performs product and reliability testing on all of our products.

We have received international certifications for our quality assurance programs, including ISO 9001:2000, which we believe demonstrates our technological capabilities as well as instills customer confidence. The following table sets forth the major certifications we have received and major test standards our products have met as of the date of this annual report.

Certification Test Date	Certification or Test Standard	Relevant Products
December 2007	ISO 9001:2000 quality system certification	Manufacturing and sales of silicon, ingots, casting, silicon wafers, solar cells and PV modules
December 2008	ISO 14001:2004 environmental management system	Manufacturing and sales of silicon, ingots, casting, silicon wafers, solar cells and PV modules
March 2008, May 2008, October 2008, February 2009, April 2009, September 2009, April 2010, December 2010, January 2011, February 2011	ICIM product certification	PV modules sold in Europe
August 2006, June 2007, July 2007, February 2009, April 2009, May 2009, June 2009, November 2009, October 2010, December 2010, February 2011, March 2011, April 2011, May 2011, June 2011, July 2011, November 2011, January 2012, February 2012, December 2012	TÜV Rheinland product certification	PV modules sold in Europe
May 2009, April 2011, June 2011	TÜV SUD product certification	PV modules sold in Europe
May 2010, July 2011, August 2011, May 2012	MCS certification	PV modules sold in UK
April 2008, February 2010, November 2011, February 2012, November 2012	Golden Sun product certification	PV modules sold in China

Table of Contents

Certification Test Date	Certification or Test Standard	Relevant Products
February 2009, May 2009, September 2009, December 2010, November 2011, December 2011, June 2012	KEMCO product certification	PV modules sold in Korea
March 2009, October 2009, May 2010, October 2010, February 2011	JET product certification	PV modules sold in Japan
February 2012	J-pec listing	PV modules sold in Japan
February 2011, September 2011, March 2012, October 2012	Clean Energy Council (CEC)	PV modules sold in Australia
October 2011, April 2012	SII product certification	PV modules sold in Israel
April 2010	ISO/IEC17025 CNAS laboratory accreditation certification	PV product testing center
December 2010	OHSAS18001:2007 occupational health and safety management system certification	Manufacturing and sales of silicon, ingots, casting, silicon wafers, solar cells and PV modules
December 2010	ISO 9001:2008 quality management system certification	Manufacturing and sales of silicon, ingots, casting, silicon wafers, solar cells and PV modules
January 2012	ISO 14001:2004 environmental management system	Designing, manufacturing and sales of silicon, ingots, casting, silicon wafers, solar cells and PV modules
August 2008, July 2009, April 2011, May 2011, June 2011, August 2011, September 2011, January 2012, July 2012, November 2012	UL 1703 certification	PV modules sold in North America
January 2010, March 2010, January 2011, November 2011	CSA certification(UL1703)	PV modules sold in North America
January 2011	OHSAS18001 occupational health and safety management system	Manufacturing and sales of silicon, ingots, casting, silicon wafers, solar cells and PV modules.
July 2012	ISO 14064-1:2006 environmental management system	

Table of Contents

Certification Test Date	Certification or Test Standard	Relevant Products
July 2011, October 2011	Ammonia test	Special requirement from customer
May 2011, October 2011, December 2012	Salt mist test	Special requirement from customer
January 2012	ISO9001:2008 Management System Certification	Designing, manufacturing and sales of ingot, casting, silicon wafers, solar cells, PV solar modules; design, installation and service of PV system engineering
December 2011, February 2012	European Module certification	PV modules sold in Italy
September 2012	PAS2050:2011 product carbon footprint certification	TSM-PC05 PV modules TSM-DC/DA01A PV module
September 2012	ISO 14067(DIS) 2012-01-06	TSM-PC05 PV modules TSM-DC/DA01A PV module
November 2012	Client Test Data Program	PV product
December 2012	Sand blast test	PV modules
July 2012, December 2012	PID testing	PC05, PC14

In May 2010, we entered into a strategic partnership agreement with TÜV Rheinland Group, or TÜV Rheinland, Underwriters Laboratories Inc., or Underwriters Laboratories, and China General Certification Center, three of the leading certification bodies. Under the agreement, TÜV Rheinland, Underwriters Laboratories and China General Certification Center will perform product certification tests at our Changzhou PV testing center and other facilities, allowing us to introduce our newest certified product lines in the shortest time to our customers. In October 2012, the testing center for key national PV science and technology laboratories at Trina Solar received the official certification issued by Underwriters Laboratories, which certification recognizes our testing center as Underwriters Laboratories first global PV customer data program testing center.

In June 2012, we announced that we have achieved what is believed to be a new world record for laboratory-tested multicrystalline module power output, with a standard-size Honey Ultra (1650x992mm) module reaching a peak of 284.7 watts. The record was set using our Honey cell technology and the result was confirmed by TÜV Rheinland.

Customers and Markets

We currently sell our PV modules primarily to power plant developers and operators, distributors, wholesalers and PV system integrators. We focus on different types of clients depending largely upon the demand in specific markets. We work with solar power plant developers and operators, who tend to be large volume purchasers, by supplying PV modules for downstream projects. PV system integrators typically design

and sell integrated systems that include our branded PV modules along with other system components. Some of the PV system integrators also resell our modules to other system integrators. Our major customers in 2012 included Enerparc AG, SolarCity, Parabel AG, GCL Solar Energy, Inc., Solartechnik Stiens GmbH & Co. KG and Fluor Corporation. We have a quality customer base as many of our customers are well-known wholesalers and system integrators in their respective markets and are expanding to become multinational PV companies.

Table of Contents

A small number of customers have historically accounted for a majority of our net sales. Our top five customers collectively accounted for approximately 24.9%, 23.3% and 25.1% of our net sales in 2010, 2011 and 2012, respectively. Our largest customer contributed approximately 9.1% of our net sales in 2012.

We currently sell most of our PV modules to customers located in Europe, the United States and China. Solar manufacturers like us have capitalized on government and regulatory policies for the promotion of solar power in many jurisdictions. In order to continue growing our sales and to reduce our exposure to any particular market segment, we intend to broaden our geographic presence and customer base. While Germany continues to be our largest market, we have significantly expanded our sales of PV modules to solar power markets in Europe, North America and Asia, including the United States, China and Italy. As of December 31, 2012, the United States, China, Italy and European countries other than Germany, Italy and Spain accounted for 25.5%, 13.0% , 6.1% and 7.5% of our net sales, showing that we have been increasing our market presence in European countries other than Germany and building our brand as one of the top global solar brands.

To enhance our sales capabilities in the European and American markets, we have regional headquarters in Switzerland; San Jose, California and Santiago, Chile. We began operating from a new Asia Pacific regional headquarters in Singapore in October 2012, we opened new sales and project development offices in Chengdu and Urumqi, China in March 2012 and we opened new sales and business development offices in Ontario, Canada in July 2012 and Santiago, Chile in September 2012, all to support our growing base of customers and to seek out business development opportunities in the regions. We also plan to drive our sales growth through expansion into downstream arrangements in major markets such as system integrations and project developments. We believe these actions will help reduce the effects of reduced incentives from the governments of certain European countries.

The following table sets forth our total net sales by geographical region, based on record country of sales, for the periods indicated:

	Year Ended December 31,					
	2010		2011		2012	
Region	Total Net Sales	Percent	Total Net Sales	Percent	Total Net Sales	Percent
	(in thousands, except for percentages)					
Europe						
Germany	$ 447,316	24.1%	$ 756,575	36.9%	$ 428,964	33.1%
Italy	409,561	22.0%	262,492	12.8%	79,533	6.1%
Spain	404,131	21.8%	271,071	13.2%	16,744	1.3%
Others	175,114	9.4%	107,396	5.3%	97,667	7.5%
Europe Total	1,436,122	77.3%	1,397,534	68.2%	622,908	48.0%
China	70,782	3.8%	144,739	7.1%	167,953	13.0%
USA	262,300	14.1%	440,299	21.5%	331,213	25.5%
Others	88,485	4.8%	65,330	3.2%	174,581	13.5%
Total	$ 1,857,689	100.0%	$ 2,047,902	100.0%	$ 1,296,655	100.0%

We conduct our PV module sales typically through short-term contracts with terms of one year or less or, to a lesser extent, long-term sales or framework agreements with terms of generally one to two years. Our short-term contracts provide for an agreed sales volume at a fixed price. Our long-term sales or framework agreements provide for a fixed sales volume or a fixed range of sales volume to be determined generally two to three quarters before the scheduled shipment date. Prices for long-term sales or framework agreements are generally determined one month prior to the start of the quarter of the scheduled shipment date. Compared to short-term contracts, we believe our long-term sales or framework agreements not only provide us with better visibility into future revenues, but also help us enhance our relationships with our customers.

We may require advance payments depending on the credit status of our customer, our relationship with the customer, market demand and the terms of the particular contract. Our contracts with customers stipulate different post-delivery payment schedules based on the credit worthiness of the customer. We have also increased our sales to customers using credit sales, generally with payments due within 120 days. Starting from February 2009, a majority of our overseas sales have been insured by Sinosure. The amount of insurance coverage for each transaction is based on a rating assigned by Sinosure to the customer based on such customer s credit history.

Table of Contents

Pursuant to our sales contracts, we provide customers with warranty services. Our PV modules have typically been sold with a five-year warranty for defects in materials and workmanship and a minimum power output warranty for up to 25 years following the date of purchase or installation. In 2011, we extended the product workmanship warranty to ten 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 seek to better serve our customers or their end-customers by setting up local offices with sales and marketing, sales support and logistics teams close to them. We are also expanding our range of value-added services to customers. We service residential and commercial end-customers through a network of local distributors and system integrator partners. For distributors and system integrators, we provide marketing support, logistics support that minimizes handling and administrative costs, and pre-sale and post-sale supports that include customized product selection, technological and installation support. In January 2012, we announced the offering of a three-pronged service solution featuring complimentary design services, high performance Honey modules and the rapid install Trinamount racking system, a proprietary system to mount PV modules onto residential and commercial rooftops. For our customers in the utility sector, we will continue to provide a greater level of pre-sale due diligence and technical input to facilitate their procurement.

Sales and Marketing

Over the years, we have expanded our distribution network globally. While our core solar module customer base continues to expand in Germany, Italy and Spain, we continue to grow our sales and distribution channels into newer and emerging solar power markets, which include China, the United States, Australia, the United Kingdom, India, Israel, Israel and Japan, as well as other markets in Asia, Africa, the Middle East, Latin America and the Caribbean Islands. To grow our sales and reduce exposure to any particular market, we have broadened our geographic presence and diversified our sales among distributors, wholesalers, power plant developers and operators, PV system integrators and regional and national grid operators through increased sales and marketing and customer support efforts. In 2012, the Company launched its Partner Plus customer loyalty program in Germany, Italy, the United Kingdom, Austria, Switzerland and the United States

To further expand our distribution network and enhance our sales and delivery capabilities, we have established regional headquarters, warehouse operations and have opened sales offices in the locations listed below. Our localized offices will continue to be supported by our global operations and administration headquarters located in Changzhou, China.

Global Headquarters

Changzhou, China

Regional Headquarters

San Jose, California, US (January 2010)

Zurich, Switzerland (January 2010)

Singapore (November 2011)

Warehouse Operations

Rotterdam, Netherlands (December 2008)

San Jose, California, US (June 2009)

Sales Offices

Seoul, South Korea (September 2008)

Tokyo, Japan (March 2010)

Abu Dhabi, United Arab Emirates (December 2011)

Sydney, Australia (May 2011)

Chengdu, China (March 2012)

Urumqi, China (March 2012)

Santiago, Chile (September 2012)

Table of Contents

Our marketing programs include participation in industry conferences, trade fairs and public relations events. Our sales and marketing group works closely with our research and development and manufacturing groups to coordinate our product development activities, product launches and ongoing demand and supply planning. In May 2010, we became a sponsor and partner of the Renault Formula One Team, which we believe will increase our brand awareness and enhance our marketing efforts.

Intellectual Property

In manufacturing our solar power products, we use know-how available in the public domain and unpatented know-how developed in-house. We rely on a combination of trade secrets and employee contractual protections to establish and protect our proprietary rights. We believe that many elements of our solar power products and manufacturing processes involve proprietary know-how, technology or data that are not coverable by patents or patent applications, including technical processes, equipment designs, algorithms and procedures. We have taken security measures to protect these elements. All senior research and development personnel employed by us have entered into confidentiality, non-competition and proprietary information agreements with us. These agreements address intellectual property protection issues and require our employees to assign to us all of the inventions, designs and technologies they develop during their terms of employment with us.

As of December 31, 2012, we had 435 issued patents and 406 patent applications pending in China. We obtained an additional 205 patents in 2012. Our issued patents and our pending patent applications mainly relate to technology that we are currently using, including technology relating to improvements to the solar power product manufacturing process and integration of construction elements into our PV modules or solar systems. 21 of our issued patents and patent applications relate to technology that we do not use in our current production of solar power products. As we expand our product portfolio, continue our expansion into solar cell manufacturing and enter into polysilicon manufacturing in the future, we believe that the development and protection of our intellectual property will become more important to our business. We intend to continue to assess appropriate opportunities for patent protection of those aspects of our technology that we believe provide a significant competitive advantage to us.

We have registered as a trademark the logo Trina in China, the European Union, Japan, Singapore, Switzerland, Morocco, Taiwan, Thailand, Croatia, Canada, South Korea, the Philippines, Australia, the United States and the United Arab Emirates and Vietnam. We have registered as a trademark the logo Trinasolar in China, the United States, Canada, the European Union, Australia, the United Arab Emirates, Croatia, Thailand, the Philippines, Japan, Singapore, Switzerland, Morocco, Taiwan, South Korea, India, Vietnam and Turkey and the logo TSM in the European Union, Australia, China, Croatia, Japan, Morocco, South Korea, Singapore, Switzerland, Turkey, the United States and Vietnam. We have pending trademark registration applications for the logos Trina and Trinasolar in Pakistan, Indonesia and several other countries. We filed a trademark registration application for the logo in the PRC in December 2007 and in Taiwan in September 2009. We also registered as a trademark the logo MeSolar in China, Croatia, Singapore, Canada, Morocco, Turkey, the United Arab Emirates, Thailand, the European Union, Taiwan, Japan, Australia and Switzerland and registered as a trademark the logo YouSolar in China, the United States, Australia, Morocco, the United Arab Emirates, Taiwan, Japan, South Korea, Croatia, the European Union, Thailand, Philippines, Turkey, Vietnam, Switzerland and Singapore. We have filed trademark registration applications for the logo Trinasolarin China, the European Union, Croatia, South Korea, Singapore, Japan and several other countries. We have also recently filed European Community Trade Mark (CTM) registration for the logo Honey and Comax in twenty-seven European Union member states and will extend the registration to other states afterwards. Additionally, we have filed the trademark registration applications for the logos , , , , , , and individually with the trademark off and we also filed the trademark registration applications for the logo Smart energy together with the trademark office in the PRC in September 2012. In December 2012, the trademarks and TrinaSolar were certified as well-known trademarks of Changzhou city.

Table of Contents

Competition

The market for solar power products is competitive and it evolves quickly. We expect to face increasing competition, which may result in price reductions, reduced margins or loss of market share. We believe that the key competitive factors in the market for PV modules include:

- manufacturing efficiency;
- power efficiency and performance;
- price;
- strength of supplier relationships;
- aesthetic appearance of PV modules; and
- brand name and reputation.

We compete with other PV module manufacturing companies, including dedicated PV manufacturers such as Yingli Green Energy Holding Co., Ltd., Suntech Power Holdings Co., Ltd., First Solar, Inc. and GCL Solar Energy Technology Holdings Inc. as well as multinational conglomerates such as Sharp Electronic Corporation and Mitsubishi Electric Corporation. Some of our competitors have also become vertically integrated, from polysilicon production, silicon ingot and wafer manufacturing to solar power system integration, such as Renewable Energy Corporation ASA, SolarWorld AG and Yingli Green Energy Holding Co., Ltd. Some of our competitors may have a stronger market position than ours and greater resources than we do. Further, many 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. Because of the scarcity of polysilicon in the past few years, supply chain management and financial strength were the key barriers to entry. As the shortage of polysilicon has eased, these barriers to entry have become less significant and many new competitors may enter the industry and cause the industry to rapidly become over-saturated and eventually leading to industry consolidation. Many mid-stream solar power products manufacturers have been seeking to move downstream to strengthen their position in regional markets. They are expected to leverage on their existing sales capacity as the industry faces challenges posed by the economic downturn. In addition, we may also face new competition from semiconductor manufacturers, several of which have already announced their intention to start production of solar cells. 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.

Environmental Matters

We believe we have obtained the environmental permits necessary to conduct our business. Our manufacturing processes generate noise, waste water, gaseous wastes and other industrial wastes. However, we have devoted efforts to reduce such wastes to acceptable levels. We have installed various types of anti-pollution equipment in our facilities to reduce, treat and, where feasible, recycle the wastes generated in our manufacturing process. We believe we are currently in compliance with all applicable environmental laws and regulations. Our operations are subject to regulation and periodic monitoring by local environmental protection authorities. If we fail to comply with present or future environmental laws and regulations, we could be subject to fines, suspension of production or a cessation of operations.

Insurance

We maintain property insurance policies with reputable insurance companies for covering our equipment, facilities, buildings and their improvements, and office furniture. These insurance policies cover losses due to fire, earthquake, flood and a wide range of other natural disasters. We maintain director and officer liability insurance for our directors and executive officers. We have limited worldwide product liability insurance coverage for our products manufactured in China. We consider our insurance coverage to be in line with other manufacturing companies of similar size in China. However, significant damage to any of our manufacturing facilities, whether as a result of fire or other causes, could have a material adverse effect on our results of operation. We paid an aggregate of approximately $4.0 million in insurance premiums in 2012.

Table of Contents

Starting from February 2009, a majority of our overseas sales have been insured by Sinosure. The amount of insurance coverage for each transaction is based on a rating assigned by Sinosure to the customer based on such customer s credit history.

Regulation

This section sets forth a summary of the most significant regulations or requirements that affect our business activities in China or our shareholders right to receive dividends and other distributions from us.

Renewable Energy Law and Other Government Directives

In February 2005, China enacted its Renewable Energy Law, which became effective on January 1, 2006 and was amended on December 26, 2009. The Renewable Energy Law sets forth policies to encourage the development and use of solar energy and other non-fossil energy. The law sets forth the national policy to encourage and support the use of solar and other renewable energy and the use of on-grid generation. It also authorizes the relevant pricing authorities to set favorable prices for the purchase of electricity generated by solar and other renewable power generation systems.

The law also sets forth the national policy to encourage the installation and use of solar energy water-heating systems, solar energy heating and cooling systems, solar PV systems and other solar energy utilization systems. It also provides financial incentives, such as national funding, preferential loans and tax preferences for the development of renewable energy projects. In January 2006, China s National Development and Reform Commission, or NDRC, promulgated two implementation directives of the Renewable Energy Law. These directives set forth specific measures in setting prices for electricity generated by solar and other renewal power generation systems and in sharing additional expenses occurred. The directives further allocate the administrative and supervisory authorities among different government agencies at the national and provincial levels and stipulate responsibilities of electricity grid companies and power generation companies with respect to the implementation of the Renewable Energy Law.

China s Ministry of Construction also issued a directive in June 2005 that seeks to expand the use of solar energy in residential and commercial buildings, and encourages the increased application of solar energy in different townships. In addition, China s State Council promulgated a directive in July 2005 that sets forth specific measures to conserve energy resources.

On September 4, 2006, China s Ministry of Finance and Ministry of Construction jointly promulgated the Interim Measures for Administration of Special Funds for Application of Renewable Energy in Building Construction, which provides that the Ministry of Finance will arrange special funds to support the application of renewable energy in building construction in order to enhance building energy efficiency, protect the ecological environment and reduce the consumption of fossil energy. These special funds provide significant support for the application of solar energy in hot water supply, refrigeration and heating, PV technology and lighting integrated into building construction materials.

In August 2007, the NDRC issued the Medium and Long-term Development Plan for Renewable Energy which describes the national government s financial incentives for the renewable energy industry for the multi-year period ending 2020, with an estimated required investment

amount of approximately $300 billion. The plan also calls for increasing the overall installation capacity for solar energy to 300 MW by 2010 and 1.8 gigawatts, or GW, by 2020. Recent policy statements have indicated that these targets may rise to 400 MW to 500 MW by 2010 and 2 GW by 2020.

On April 1, 2008, the PRC Energy Conservation Law came into effect. Among other objectives, this law encourages the utilization and installation of solar power facilities in buildings for energy-efficiency purposes.

In March 2009, China s Ministry of Finance promulgated the Interim Measures for Administration of Government Subsidy Funds for Application of Solar Photovoltaic Technology in Building Construction, or the Interim Measures, to support the demonstration and the promotion of solar PV applications in China. Local governments are encouraged to issue and implement supporting policies for the development of solar PV technology. These Interim Measures, set forth subsidy funds set at RMB20 per watt for 2009 to cover solar PV systems integrated into building construction that have a minimum capacity of 50 kilowatt peak.

Table of Contents

In April 2009, the Ministry of Finance and the Ministry of Housing and Urban-Rural Development jointly issued the Guidelines for Declaration of Demonstration Project of Solar Photovoltaic Building Applications. These guidelines created a subsidy of up to RMB20 per watt for building integrated PV or BIPV projects using solar-integrated building materials and components and up to RMB15 per watt for BIPV projects using solar-integrated materials for rooftops or walls.

In July 2010, the Ministry of Housing and Urban-Rural Development issued the City Illumination Administration Provisions or the Illumination Provision. The Illumination Provisions encourage the installation and use of renewable energy system such as PV systems in the process of construction and re-construction of city illumination projects.

On July 24, 2011, NDRC released the Notice Regarding the Pricing Policy of the Feed-in Tariffs (NDRC Pricing [2011] No. 1594), or the Notice. According to the Notice, all solar energy projects that were approved before July 1, 2011 and completed construction and commenced manufacturing before December 31, 2011 shall price their feed-in tariff at RMB1.15 per kilowatt-hour, or kwhr, (tax included), if such price had not been set by NDRC before the date of the Notice. All other solar energy projects, except for the solar energy projects in Tibet which shall still price their feed-in tariff at RMB1.15/kwhr (tax included), shall price at RMB 1/kwhr (tax included). The solar power projects granted through special auction procedures shall follow the auction price, which shall not exceed the relevant prices set forth in the Notice. In addition, according to the Notice, the solar power projects receiving governmental subsidies shall follow certain local feed-in tariff guidance.

On March 1, 2013, China s State Council issued the Twelfth Five Year Plan. The plan supports the promotion and development of renewable energy, including the solar energy. The plan also encourages the development of solar PV power stations in the areas with abundant solar power resource.

Environmental Regulations

We are subject to a variety of governmental regulations related to environmental protection and the prevention and control of water, air, solid waste and noise pollution. The major environmental regulations applicable to us include the Environmental Protection Law of the PRC, the Law of PRC on the Prevention and Control of Water Pollution, Implementation Rules of the Law of PRC on the Prevention and Control of Water Pollution, the Law of PRC on the Prevention and Control of Air Pollution, Implementation Rules of the Law of PRC on the Prevention and Control of Air Pollution, the Law of PRC on the Prevention and Control of Solid Waste Pollution, and the Law of PRC on the Prevention and Control of Noise Pollution and the PRC Law on Appraising Environment Impacts.

Labor Laws and Regulations

The Work Safety Law, or the WSL, was adopted at the 28th meeting of the Standing Committee of the Ninth People s Congress on June 29, 2002, and was promulgated for implementation as of November 1, 2002. The WSL is applicable to the work safety for entities engaging in manufacturing and business operation activities within the PRC. Such entities must comply with the WSL and other relevant laws and regulations concerning work safety and strengthen the administration of work safety, establish and perfect the system of responsibility for work safety and ensure safe manufacturing conditions.

The PRC Labor Contract Law was promulgated on June 29, 2007 and became effective on January 1, 2008. On September 3, 2008, the PRC government promulgated the Implementing Rules on the PRC Labor Contract Law. On December 28, 2012, the Standing Committee of the National People s Congress issued the amendments to the PRC Labor Contract Law, which will become effective on July 1, 2013. Pursuant to the PRC Labor Contract Law, employers must enter into written labor contracts with employees. Employers must pay their employees wages equal to or above local minimum wage standards, establish labor safety and workplace sanitation systems, comply with government labor rules and standards and provide employees with appropriate training regarding workplace safety. In addition, the PRC Labor Contract Law imposes more stringent requirements on employers with regard to, among others, severance payment and non-fixed-term employment contracts, time limits for probation periods, as well as the duration and the times that an employee can be placed on a fixed-term employment contract. Violations of the PRC Labor Contract Law and the PRC Labor Law may result in liabilities to employees and subject employer to administrative sanctions including fines or, in the case of serious violations, criminal liability.

Table of Contents

The PRC regulatory authorities have passed a variety of laws and regulations regarding statutory social welfare benefits, including, among others, the PRC Social Insurance Law, the Regulations of Insurance for Occupational Injury, the Regulations of Insurance for Unemployment, the Provisional Insurance Measures for Maternal Employees, and the Interim Provisions on Registration of Social Insurance. Pursuant to these laws and regulations, companies in China have to make sufficient contributions of statutory social welfare benefits for their employees, including medical care insurance, occupational injury insurance, unemployment insurance, maternity insurance, pension benefits and housing funds. Failure to comply with such laws and regulations may result in supplementary payments, surcharges or fines.

Restriction on Foreign Ownership

The principal regulation governing foreign ownership of solar power businesses in the PRC is the Foreign Investment Industrial Guidance Catalogue (effective as of January 30, 2012), or the Catalogue. The Catalogue classifies industries into four categories: encouraged, permitted, restricted and prohibited. As confirmed by the government authorities, Trina China, our operating subsidiary, is engaged in an encouraged industry. Trina China is permitted under the PRC laws to be wholly owned by a foreign company. Trina China is, accordingly, also entitled to certain preferential treatment granted by the PRC government authorities, such as exemption from tariffs on equipment imported for its own use.

Tax

China s parliament, the National People s Congress, adopted the Enterprise Income Tax Law on March 16, 2007. On December 6, 2007, the PRC State Council issued the Implementation Regulations of the Enterprise Income Tax Law, both of which became effective on January 1, 2008. The EIT Law imposes a uniform tax rate of 25% on all PRC enterprises, including foreign-invested enterprises, and eliminates or modifies most of the tax exemptions, reductions and preferential treatments available under the previous tax laws and regulations. Under the EIT Law, enterprises that were established before March 16, 2007 and already enjoy preferential tax treatments will (i) in the case of preferential tax rates, continue to enjoy the tax rates which will be gradually increased to the new tax rates within five years from January 1, 2008 or (ii) in the case of preferential tax exemption or reduction for a specified term, continue to enjoy the preferential tax holiday until the expiration of such term. In addition, certain enterprises may still benefit from a preferential tax rate of 15% under the new EIT Law if they qualify as high and new technology enterprises strongly supported by the State, subject to certain general factors described therein. In September 2008, Trina China obtained the High and New Technology Enterprise Certificate with a valid term of three years starting from 2008. In 2011, Trina China renewed its High and New Technology Enterprise Certificate, effective from 2011 to 2013. Therefore, Trina China is entitled to a preferential income tax rate of 15% from 2008 through 2013 as long as it maintains its qualification as a high and new technology enterprise strongly supported by the State under the EIT Law. Also, in 2011, TST obtained the High and New Technology Enterprise Certificate, effective from 2011 to 2013, and is entitled to a preferential income tax rate of 15% during that period.

Pursuant to the Provisional Regulation of China on Value Added Tax and its implementing rules, all entities and individuals that are engaged in the sale of goods, the provision of processing, repairs and replacement services and the importation of goods in China are generally required to pay value added tax, or VAT, at a rate of 17.0% of the gross sales proceeds received, less any deductible VAT already paid or borne by the taxpayer. Further, when exporting goods, the exporter is entitled to a portion or all of the refund of VAT that it has already paid or borne. Imported raw materials that are used for manufacturing export products and are deposited in bonded warehouses are exempt from import VAT.

Under the EIT Law, enterprises organized under the laws of jurisdictions outside China with de facto management bodies located within China may be considered PRC resident enterprises and therefore subject to a 25% PRC enterprise income tax on their worldwide income. The implementing rules define de facto management body as the management body that exercises full and substantial control and overall

management over the business, productions, personnel, accounts and properties of an enterprise. In addition, SAT Circular 82 provides that a foreign enterprise controlled by a PRC company or a PRC company group will be classified as a resident enterprise with its de facto management bodies located within China if the following requirements are satisfied: (i) the senior management and core management departments in charge of its daily operations function mainly in the PRC; (ii) its financial and human resource decisions are subject to determination or approval by persons or bodies in the PRC; (iii) its major assets, accounting books, company seals, and minutes and files of its board and shareholders meetings are located or kept in the PRC; and (iv) more than half of the enterprise s directors or senior management with voting rights reside in the PRC. On July 27, 2011, the SAT issued the Bulletin 45, which became effective on September 1, 2011, to provide further guidance on the implementation of SAT Circular 82. Bulletin 45 clarifies certain issues related to the determination of PRC resident enterprise status, post determination administration and authorities responsible for determining Offshore incorporated PRC resident enterprise status. Bulletin 45 specifies that when provided with a copy of a Chinese tax resident determination certificate issued by the competent tax authorities from an offshore incorporated PRC resident enterprise, the payer should not withhold 10% income tax when paying Chinese-sourced dividends, interest and royalties to the offshore incorporated PRC resident enterprise.

Table of Contents

Although the SAT Circular 82 only applies to offshore enterprises controlled by PRC enterprises and not those controlled by PRC individuals, foreigners or foreign enterprises, the determining criteria set forth in the Identification Circular may reflect the SAT s general position on how the de facto management body test should be applied in determining the tax resident status of offshore enterprises, regardless of whether they are controlled by PRC or foreign enterprises or individuals.

Under the IITL, which was adopted and promulgated at the third meeting of the Standing Committee of the fifth People s Congress on September 10, 1980 and amended on October 31, 1993, August 30, 1999, October 27, 2005, June 29, December 29, 2007 and June 30, 2011, if we are treated as a PRC resident enterprise, it is possible that non-resident individual investors of our shares or ADSs be subject to PRC individual income tax at a rate of 20% on dividends paid to such investors and any capital gains realized from the transfer of our common shares or ADSs if such dividends or capital gains are deemed income derived from sources within the PRC, except in the case of individuals that qualify for a lower rate under a tax treaty. Under the PRC-U.S. tax treaty, a 10% preferential rate of withholding tax will apply to dividends provided that the recipients are U.S. tax residents that are eligible for the benefits of the PRC-U.S. tax treaty. A non-resident individual is an individual who has no domicile in the PRC and does not stay within the PRC or has stayed within the PRC for less than one year. Pursuant to the IITL and its implementation rules, for purposes of the PRC capital gains tax, the taxable income will be based on the total income obtained from the transfer of our common shares or ADSs minus all the costs and expenses that are permitted under PRC tax laws to be deducted from the income.

Pursuant to SAT Circular 698, issued by the SAT on December 10, 2009, if a non-resident enterprise transfers the equity interests of a PRC resident enterprise indirectly via disposing of the equity interests of an overseas holding company, or Indirect Transfer, and such overseas holding company is located in a tax jurisdiction that: (i) has an effective tax rate less than 12.5% or (ii) does not tax foreign income of its residents, the foreign investor shall report to the competent tax authority of the PRC resident enterprise this Indirect Transfer. Using a substance over form principle, the PRC tax authority may disregard the existence of the overseas holding company if it lacks a reasonable commercial purpose and was established for the purpose of avoiding PRC tax. As a result, gains derived from such Indirect Transfer may be subject to PRC withholding tax at a rate of up to 10%. SAT Circular 698 also provides that, where a non-PRC resident enterprise transfers its equity interests in a PRC resident enterprise to its related parties at a price lower than the fair market value, the relevant tax authority has the power to make a reasonable adjustment to the taxable income of the transaction. SAT Circular 698 is retroactively effective on January 1, 2008.

Foreign Currency Exchange

Pursuant to the Foreign Currency Administration Rules promulgated in 1996 and amended in 1997 and 2008 and various regulations issued by SAFE, and other relevant PRC government authorities, the Renminbi is freely convertible only to the extent of current account items, such as trade-related receipts and payments, interests and dividends. An enterprise can choose to either keep or sell its foreign exchange income under the current account to financial institutions authorized to engage in foreign exchange settlement or sales business. Capital account items, such as direct equity investments, loans and repatriation of investment, require the prior approval from SAFE or its local counterpart for conversion of Renminbi into a foreign currency, such as U.S. dollars, and remittance of the foreign currency outside the PRC.

Table of Contents

Payments for transactions that take place within the PRC must be made in Renminbi. Absent circumstances specified under Chinese laws and regulations, upon approvals from SAFE, an enterprise can choose to either keep or sell its foreign exchange income under capital account to financial institutions authorized to engage in foreign exchange settlement and sales business. On the other hand, foreign-invested enterprises may retain foreign exchange in accounts with designated foreign exchange banks, subject to a cap set by SAFE or its local counterpart.

On August 29, 2008, SAFE promulgated Circular 142, a notice regulating the conversion by a foreign-invested company of foreign currency into Renminbi by restricting how the converted Renminbi may be used. Pursuant to Circular 142, the RMB fund from the settlement of foreign currency capital of a foreign-invested enterprise must be used within the business scope as approved by the examination and approval department of the government, and cannot be used for domestic equity investment unless it is otherwise provided for. Documents certifying the purposes of the RMB fund from the settlement of foreign currency capital, including a business contract, must also be submitted for the settlement of the foreign currency. In addition, SAFE strengthened its oversight of the flow and use of the RMB capital converted from foreign currency registered capital of a foreign-invested company. The use of such RMB capital may not be altered without SAFE s approval, and such RMB capital may not in any case be used to repay RMB loans if the proceeds of such loans have not been used. Violations of the Circular 142 could result in severe monetary fines or penalties. Furthermore, on November 9, 2010 the SAFE promulgated a notice on relevant issues concerning strengthening the administration of foreign exchange business, which requires the authenticity of settlement of net proceeds from an offshore offering to be closely examined and the net proceeds to be settled in the manner described in the offering documents.

Foreign Exchange in Certain Onshore and Offshore Transactions

In October 2005, SAFE promulgated a regulation known as Circular No. 75, which states that if PRC residents use assets or equity interests in their PRC entities as capital contributions to establish offshore companies or inject assets or equity interests of their PRC entities into offshore companies to raise capital overseas, they must register with local SAFE branches with respect to their overseas investments in offshore companies. They must also file amendments to their registrations if their offshore companies experience material events involving capital variation, such as changes in share capital, share transfers, mergers and acquisitions, spin-off transactions, long-term equity or debt investments or uses of assets in China to guarantee offshore obligations. Under this regulation, failure to comply with the registration procedures set forth in such regulation may result in restrictions being imposed on the foreign exchange activities of the relevant PRC entity, including the payment of dividends and other distributions to its offshore parent, as well as restrictions on the capital inflow from the offshore entity to the PRC entity.

In May 2011, SAFE issued Circular 19 which provides for detailed operating procedures and specific instructions for SAFE registration under the Circular 75. According to Circular 19, before SAFE accepts the application for remedial registration under Circular 75, SAFE may impose administrative penalties on the PRC resident individuals and the relevant PRC domestic enterprises if: (i) the relevant offshore enterprise has undergone a material change in its assets or equity interests, (ii) such domestic enterprise made any false statement when applied for the SAFE registration, and/or (iii) the domestic enterprise directly or indirectly controlled by the offshore enterprise has made any overseas payment such as dividend distribution, equity transfer, capital decrease and repayment of shareholder loan since November 1, 2005.

On December 25, 2006, the People s Bank of China promulgated the Measures for Administration of Individual Foreign Exchange. On January 5, 2007, the SAFE promulgated the Implementation Rules of Measures for Administration of Individual Foreign Exchange. On February 15, 2012, the SAFE promulgated the Individual Foreign Exchange Rules. According to the Individual Foreign Exchange Rules, PRC citizens who are granted shares or share options by a company listed on an overseas stock market according to its employee share option or share incentive plan are required to register with the SAFE or its local counterparts.

Dividend Distribution

The principal regulations governing distribution of dividends of wholly foreign-owned enterprises include the Wholly Foreign-owned Enterprise Law (1986), as amended by the Decision on Amending the Law of the People s Republic of China on Wholly Foreign-owned Enterprise (2000), and the Implementing Rules of the Wholly Foreign-owned Enterprise Law (1990), as amended by the Decision of the State Council on Amending the Implementing Rules of the Law of the People s Republic of China on Wholly Foreign-owned Enterprise (2001).

Table of Contents

Under these regulations, foreign invested enterprises in China may pay dividends only out of their accumulated profits, if any, determined in accordance with Chinese accounting standards and regulations. In addition, wholly foreign-owned enterprises in China are required to set aside at least 10% of their respective after-tax profits based on PRC accounting standards each year, if any, to fund its general reserves fund, until the accumulative amount of such reserves reaches 50% of its registered capital. These reserves are not distributable as cash dividends. Wholly foreign-owned enterprises are also required to allocate a portion of its after-tax profits, as determined by its board of directors, to its staff welfare and bonus funds, which may not be distributed to equity owners. As of December 31, 2012, the restricted portion of our PRC subsidiaries net assets was $675.7 million, which consists of their registered capital and statutory reserves.

Mergers and Acquisitions

On August 8, 2006, six PRC regulatory agencies, including the CSRC, promulgated the M&A Rules which became effective on September 8, 2006 and was amended on June 22, 2009. The M&A Rules, among other things, require offshore special purpose vehicles, formed for overseas listing purposes through acquisitions of PRC domestic companies and controlled by PRC enterprises or individuals, to obtain the approval of the CSRC prior to publicly listing their securities on an overseas stock exchange. On September 21, 2006, the CSRC published a notice specifying the documents and materials that are required to be submitted for obtaining CSRC approval. Based on the advice we received from Fangda Partners, our PRC counsel, we did not seek the CSRC approval in connection with our initial public offering as we believe that this regulation does not apply to us and that CSRC approval is not required because (1) Trina is not a special purpose vehicle formed for the purpose of acquiring a PRC domestic company because Trina China was a foreign-invested enterprise before it was acquired by Trina, and, accordingly, Trina China did not fall within the definition of a PRC domestic company as set forth in the M&A Rules; and (2) such acquisition was completed before the M&A Rules became effective. Uncertainty still exists as to how the M&A Rules will be interpreted and implemented, and the opinion of our PRC counsel is subject to any new laws, regulations, rules and their detailed implementations in the future in any form relating to the M&A Rules.

The regulations also established additional procedures and requirements that could make merger and acquisition activities by foreign investors more time-consuming and complex, including requirements in some instances that MOFCOM be notified in advance of any change-of-control transaction in which a foreign investor takes control of a PRC domestic enterprise.

In February 2011, the State Council promulgated Circular 6, a notice on the establishment of the security review system for mergers and acquisitions of domestic enterprises by foreign investors, which became effective on March 3, 2011. To implement Circular 6, MOFCOM promulgated the MOFCOM Security Review Rules on August 25, 2011 which became effective on September 1, 2011. According to Circular 6 and MOFCOM Security Review Rules, a national security review is required for certain mergers and acquisitions by foreign investors of enterprises relating to national defense and certain mergers and acquisitions by which foreign investors may acquire de facto control of domestic enterprises raising national security concerns. When deciding whether a specific merger or acquisition of a domestic enterprise by foreign investors is subject to the national security review, MOFCOM will look into the substance and actual impact of the transaction and the foreign investors are prohibited from bypassing the national security review requirement by structuring transactions through proxies, trusts, indirect investments, leases, loans, control through contractual arrangements or offshore transactions. In addition, if a merger or acquisition by foreign investors which was not submitted for national security review, or was determined to have no impact on national security after such review, but thereafter, due to changed elements, including modification of the merger, change of business activities or acquisition transaction or amendment of the relevant agreements or documents and other changes, involves an enterprise relating to national defense or a change of de facto control of a domestic enterprise raising national security concerns such that it becomes subject to national security review, the foreign investor to such merger or acquisition will be required to file an application for national security review with MOFCOM.

C. Organizational Structure

The following table sets out the details of our subsidiaries as of December 31, 2012.

Table of Contents

Name of Entity	Country of Incorporation	Ownership Interest
Changzhou Trina Solar Energy Co., Ltd.	China	100%
Top Energy International Limited	Hong Kong	100%
Trina Solar Korea Limited	Korea	100%
Trina Solar (Singapore) Pte. Ltd.	Singapore	100%
Trina Solar (Luxembourg) Holdings S.A.R.L.	Luxembourg	100%
Trina Solar (U.S.) Inc.	United States	100%
Trina Solar (U.S.) Holding Inc.	United States	100%
Trina Solar (Germany) GmbH	Germany	100%
Trina Solar (Schweiz) AG	Switzerland	100%
Trina Solar (Luxembourg) S.A.R.L.	Luxembourg	100%
Trina Solar (Spain) S.L.U.	Spain	100%
Trina Solar (Italy) S.r.l.	Italy	100%
Trina Solar (Japan) Limited	Japan	100%
Trina Solar Energy Development Pte. Ltd.	Singapore	100%
Trina Solar (Hong Kong) Enterprise Limited	Hong Kong	100%
Trina Solar (Changzhou) Science and Technology Co., Ltd.	China	100%
Trina Solar Energy (Shanghai) Co., Ltd.	China	100%
Trina Solar (U.S.) Development LLC	United States	100%
TP-CA-SOUTH LLC	United States	100%
Trina Solar (Australia) Pty Ltd.	Australia	100%
Trina Solar Middle East Limited	United Arab Emirates	100%
Trina Solar (Italy) Development SPA	Italy	100%
Trina Solar (France) SAS	France	100%
Upper Deerfield TP1 LLC	United States	100%
Upper Deerfield Solar LLC	United States	100%
LightBeam Power Company Gridley Main, LLC	United States	100%
Placer Solar, LLC	United States	90%
Lucania S.r.l.	Italy	100%
Yan Cheng Trina Solar Science & Technology Co., Ltd	China	100%
Changzhou Trina PV Electricity Generation Sys Ltd	China	100%
GWF Henrietta Solar	United States	100%
Jiangsu Trina Solar Electric Power Development Co., Ltd.	China	100%
Trina Solar (Chile) SPA	United States	100%
Wu Wei Trina Solar Electricity Generation Pte Ltd	China	100%
LightBeam Power Company Gridley Main Two LLC	United States	100%
Top Sun 1 srl	Italy	100%
Top Sun 2 srl	Italy	100%
Trina Solar (Malaysia) SDN.BHD	Malaysia	100%
Trina Solar (United Kingdom) Limited	United Kingdom	100%
Trina Solar (Canada) Inc.	Canada	100%

D. Property, Plants and Equipment

All of our research, development and manufacturing of ingots, wafers, cells and PV modules are conducted at our facilities in Changzhou, China, where we occupy a main campus site area of approximately 545,248 square meters for the facilities currently owned and operated by us and a total reserve site area of approximately 297,696 square meters. We do not currently plan to build new facilities to increase our annual manufacturing capacity of cells, ingots, wafers or modules during 2013. See B. Business Overview Manufacturing for more details. We believe our current and planned facilities will meet our current and foreseeable requirements.

46

Table of Contents

We selectively use automation to enhance the quality and consistency of our finished products and improve efficiency in our manufacturing processes. We use manufacturing equipment purchased primarily from solar equipment suppliers in Europe, North America and Asia, including China and Japan. Other critical equipment is also sourced worldwide. Key equipment used in our manufacturing facilities includes silicon crystal growing furnaces, DSS furnaces, high-precision wafer sawing machines, diffusion furnaces (tube), screen print machine sets and automatic laminators. Set forth below is a list of our major equipment as of December 31, 2012:

Manufacturing Facility	Major Equipment	No. of Units in Operation as of December 31, 2012	Source (Country)
Silicon ingots	Silicon crystal growing furnaces	110	China
	DSS furnaces	166	China, United States
Silicon wafers	Wafer sawing machines	181	Japan, Switzerland
Solar cells	Diffusion furnaces (tube)	61	China, Germany, Netherlands
	Screen print machine sets	64	Italy
PV modules	Automatic laminators	107	China

With respect to encumbrances, as of December 31, 2012, we pledged our equipment of a total carrying value of $564.2 million to secure repayment of our borrowings of $351.6 million.

For a discussion of our capital expenditures targeted for our capacity expansion, see Item 5. Operating and Financial Review and Prospects B. Liquidity and Capital Resources Capital Expenditures.

Item 4A. UNRESOLVED STAFF COMMENTS

None.

Item 5. OPERATING AND FINANCIAL REVIEW AND PROSPECTS

The following discussion of our financial condition and results of operations is based upon and should be read in conjunction with our consolidated financial statements and their related notes included in this annual report. This report contains forward-looking statements. See G. Safe Harbor. In evaluating our business, you should carefully consider the information provided under the caption Item 3. Key Information D. Risk Factors in this annual report. We caution you that our businesses and financial performance are subject to substantial risks and uncertainties.

A. Operating Results

Overview

We are a large-scale integrated solar-power products manufacturer based in China with a global distribution network covering Europe, North and South America and Asia. Since we began our solar-power products business in 2004, we have integrated the manufacturing of ingots, wafers and solar cells for use in our PV module production. Our PV modules provide reliable and environmentally-friendly electric power for residential, commercial, industrial and other applications worldwide.

We produce standard monocrystalline PV modules ranging from 185 W to 210 W in power output and multicrystalline PV modules ranging from 230 W to 310 W in power output. We build our PV modules to general specifications as well as to our customers and end-users specifications. We sell and market our products worldwide, including in a number of European countries, such as Germany, Spain and Italy, where government incentives have accelerated the adoption of solar power. We also target sales in newer and emerging solar power markets, which include China, the United States, the United Kingdom, Australia, India, Israel and Japan, as well as other markets in Asia, Africa, the Middle East, Latin America and the Caribbean Islands. We sell our products to distributors, wholesalers, power plant developers and operators and PV system integrators, including Enerparc AG, SolarCity, Parabel AG, GCL Solar Energy, Inc., Solartechnik Stiens GmbH & Co. KG and Fluor Corporation.

Table of Contents

In 2012, our net sales were $1,296.7 million, compared to $2,047.9 million in 2011 and $1,857.7 million in 2010. We recorded a net loss of $266.6 million in 2012, compared to a net loss of $37.8 million in 2011 and a net income of $311.5 million in 2010.

The most significant factors that affect the financial performance and results of operations of our solar power products business are:

- industry demand;
- government subsidies and economic incentives;
- product pricing;
- vertically integrated manufacturing capabilities;
- availability and prices of polysilicon; and
- solar power projects

Industry Demand

Our business and revenue growth depends on market demand for solar power. Although solar power technology has been used for several decades, the global solar power market has grown significantly only in the past several years. According to Solarbuzz, the global solar power market, as measured by annual volume of modules delivered to installation sites, grew at a compound annual growth rate of approximately 60% from approximately 2.82 GW in 2007 to approximately 29.1 GW in 2012. According to Solarbuzz, annual volume of modules delivered to installation sites may further increase to approximately 45.6 GW in 2015, which we believe will be driven largely by market demand related to falling PV system installation costs, rising grid prices, and government initiatives.

In the fourth quarter of 2008 and the first quarter of 2009, the global solar power industry experienced a precipitous decline in demand 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 decreased demand and prices of polysilicon caused a decline in the prices of solar power products. In 2011, weakened global economic conditions continued to affect the availability of financing in the European markets, which in turn slowed the demand for solar power projects. In 2012, the overall reduction in government support for traditional European feed-in-tariffs

in favor of reduced feed-in-tariffs and power purchase agreements caused a marked decline in the growth rate of global solar demand. These market conditions were exacerbated by an over-supply of solar power products, which adversely affected the prices of solar power products. Consistent with market trend, the average selling price of our PV modules decreased from $1.75 per watt in 2010 to $1.33 per watt in 2011 and $0.78 per watt in 2012. These price erosions have had a negative impact on our revenues and earnings.

The demand for solar power is also influenced by macroeconomic factors such as the global economic downturn, the supply and prices of other energy products, such as oil, coal and natural gas, as well as government regulations and policies concerning the electric utility industry. A decrease in oil prices, for example, may reduce demand for investment in alternative energy. Please see Item 3. Key Information D. Risk Factors for discussions of the risks related to declining industry demand for solar power products.

Government Subsidies and Economic Incentives

We believe that the near-term growth of the market for on-grid applications depends in large part on the availability and size of government subsidies and economic incentives. Today, the cost of solar power substantially exceeds the cost of power provided by the electric utility grid in many locations, when upfront system costs are factored into cost per kilowatt. As a result, 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, and several Middle Eastern and African countries, have provided subsidies and 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. Accordingly, demand for PV modules in our targeted or potential markets is affected significantly by government subsidies and economic incentives. According to Solarbuzz, Germany had the largest PV market in 2012 with a market size of 7.5 GW, which accounted for approximately 26% of the global PV market demand in 2012 and represented an increase of 0.7% from 2011. The United States had a market size of 3.5 GW, an increase of 41.3% from 2011 and accounted for approximately 12% of the global PV market demand in 2012.

Table of Contents

In 2012, Germany, Italy and Spain accounted for 33.1%, 6.1% and 1.3% of our net sales, respectively, compared to 36.9%, 12.8% and 13.2%, respectively, in 2011. Despite expiring or declining incentives in several European countries including Germany, Italy and Spain, our net sales generated from Europe remained approximately 48.0% of our total net sales. We seek to counteract the impact of the expiring incentives by enhancing our brand recognition and shifting some of our sales focus to newer and emerging solar power markets, which include China, the United States, the United Kingdom, Australia, India, Israel and Japan, as well as other markets in Asia, Africa, the Middle East, Latin America and the Caribbean Islands. To enhance our global sales capabilities, we established regional headquarters in Switzerland, San Jose, California and Singapore, as well as sales and business development offices in Tokyo, Seoul, Abu Dhabi, Sydney, Chengdu, Urumqi, Ontario, Canada, and Santiago, Chile.

Furthermore, we believe that although the expiration of incentive policies in several European countries will result in a decrease in the average selling price of solar products globally, global demand will have a positive upward trend. According to Solarbuzz, the average sales price of modules in Europe and the United States will decrease to $0.63 per watt during the fourth quarter of 2013, compared with $0.74 per watt during the fourth quarter of 2012, but volume globally will increase from 29.1 GW in 2012 to 45.6 GW in 2015. We believe reduced feed-in tariffs will force customers to concentrate even more on quality and price, which will be to our advantage given our favorable rankings by third party sources, such as TÜV Reinland, a global independent safety and quality testing agency for PV modules, and Photon International, an international solar power magazine.

Product Pricing

We began selling our PV module products in November 2004. Our PV modules are priced based on the number of watts of electricity they generate as well as the market price per watt for PV modules. We price our standard PV modules based on the prevailing market prices at the time we enter into sales contracts with our customers or when our customers place their purchase orders with us, taking into account the size of the contract or the purchase order, the strength and history of our relationship with each customer, and our silicon-based raw materials costs. In the last several years, the average selling price of our PV modules declined as a result of market trends and conditions. See Industry Demand for more information. The average selling price of our PV modules decreased from $1.75 per watt in 2010 to $1.33 per watt in 2011 and $0.78 per watt in 2012. We plan to mitigate the effects of decreased average selling prices by continuing to lower our silicon and non-silicon processing and supply chain costs, improve our inventory management control and increase sales of high-efficiency and other premium products for which we are able to charge higher prices. We also announced our goal of increasing our downstream systems business to represent approximately 50% of our total annual revenues by 2015.

We conduct our PV module sales typically through short-term contracts with terms of one year or less or, to a lesser extent, long-term sales or framework agreements with terms of generally one to two years. Our short-term contracts provide for an agreed sales volume at a fixed price. Our long-term sales or framework agreements provide for a fixed sales volume or a fixed range of sales volume to be determined generally two to three quarters before the scheduled shipment date. Prices for long-term sales or framework agreements are generally determined one month prior to the start of the quarter of the scheduled shipment date. Compared to short-term contracts, we believe our long-term sales or framework agreements not only provide us with better visibility into future revenues, but also help us enhance our relationships with our customers. Our contracts with customers stipulate different post-delivery payment schedules based on the credit worthiness of the customer. We have also increased our sales to customers using credit sales, generally with payments due within 120 days. Starting from February 2009, a majority of our overseas sales have been insured by Sinosure. The amount of insurance coverage for each transaction is based on a rating assigned by Sinosure to the customer based on such customer s credit history.

Table of Contents

Flexible Vertically Integrated Manufacturing Capabilities

We believe that our flexible vertical integration strategy has allowed us, and will continue to allow us, to capture value throughout the solar power product value chain. Our flexible vertically integrated business model enables us to:

- reduce excess costs, such as those associated with packaging and transportation, and the breakage loss that usually occurs during shipment between various production locations;
- achieve better quality control of our products;
- shorten production cycle and improve value chain coordination;
- discontinue excess reliance on toll manufacturing;
- capture upstream or downstream profit margins; and
- adjust our capacity expansion plan by outsourcing certain products from third parties when we can obtain good prices.

In 2008 and 2009, we met nearly all of our solar cell needs with our in-house production capabilities. Starting in 2010, we fulfilled some of our ingot and wafer requirements by sourcing and obtaining toll services from our strategic partners. In 2012, we sourced both wafers and cells from our suppliers and strategic partners in order to fill the gap between our PV cell and module manufacturing capacity and our ingot and wafer manufacturing capacity and to achieve import cost advantages to certain markets. As a result, we have developed relationships with various domestic and international suppliers of ingots and wafers.

Availability and Prices of Polysilicon

Polysilicon is an essential raw material for our business. We purchase polysilicon from our network of over ten suppliers. We have entered into long-term contracts with our principal suppliers of polysilicon, including several leading domestic and international producers, to secure favorable pricing for the majority of our raw material costs through long-term supply agreements.

Increases in the price of polysilicon have in the past increased our production costs and impacted our cost of goods sold and net income. According to Solarbuzz, the average long-term supply contract price of polysilicon increased from approximately $60-$65 per kilogram delivered in 2007 to $60-$75 per kilogram in 2008. In addition, according to Solarbuzz, spot prices for solar grade polysilicon were in the range of $230-$375 per kilogram for most of the first half of 2008 and rose to a peak of $450-$475 per kilogram by mid-2008. According to Solarbuzz, the average prices of long-term polysilicon supply contracts were $52-$57 per kilogram, approximately $38 per kilogram and approximately $22-$24 per kilogram during the fourth quarters of 2010, 2011 and 2012, respectively. According to Solarbuzz, spot prices for solar grade polysilicon were $75-$85 per kilogram, approximately $30 per kilogram and approximately $16-$17 per kilogram during the fourth quarters of 2010, 2011 and 2012, respectively.

We purchase polysilicon from silicon distributors and silicon manufacturers by contract. For procurement of polysilicon, we enter into short-term, medium-term and long-term contracts. Our short-term contracts have terms of no more than one year each. The contracts provide for a variable price and fixed quantity and generally require prepayment prior to shipment. Most of the contracts give us the right to reject any shipment by our suppliers that does not meet our quality standards based on grade levels, such as semiconductor grade or solar grade, of the polysilicon. The contracts also specify a time period during which we can inspect the goods to ensure their quality. Our medium-term contracts have terms ranging from one to three years, and our long-term contracts have terms ranging from five to ten years. Our medium-term and long-term suppliers include Jiangsu Zhongneng and GCL (Changzhou), among others. These medium-term and long-term contracts have delivery terms beginning in 2008 and ending in 2020 and generally have fixed quantities and variable prices referenced to prevailing market price or a range of fixed prices subject to negotiation. These contracts also require us to make an advance payment of a certain negotiated amount. As a result of the general decline in the prices 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. In 2011 and 2012, due to fluctuating polysilicon prices, we further successfully renegotiated several medium-term and long-term supply contracts to reduce our purchase price to more closely link our purchase costs with market prices, thereby reducing our costs.

Table of Contents

Suppliers of polysilicon typically require customers to make payments in advance of shipment. Some of our long-term suppliers require us to make a prepayment at a certain percentage of the order value prior to shipping. Due to the availability of polysilicon, prepayment as a percentage of the entire contract has been reducing.

Solar Power Projects

Many solar power projects are being commissioned in Europe, China, the United States and other countries, largely driven by government mandates that require electric utility companies to use renewable energy to produce a certain percentage of their power by a future date. In 2009, we began to develop commercial solar power systems for these solar power projects on our own with the intent to sell them to third-parties upon completion of their development. Once construction on the project is completed, the project begins operating and generating power. Power is sold on the power grid, which may generate revenues for us, depending upon the project structure and whether there is a predetermined or committed purchaser. Once a purchaser for the project has been identified, we then complete the sale to the purchaser.

As of December 31, 2012, we had total solar power projects of approximately $41.0 million, including both projects operated by us and projects either completed or in construction for future sales. We completed construction of a solar power project located in four different sites in the Baslicata region of Italy, which has 2 MW of installed PV systems and has connected to the local electricity grid to generate power with total assets of $9.6 million. We are also in the early stages of development on several other solar power projects, including partially completed projects in the United States and China. We intend to begin construction on projects in China, the United States and the United Kingdom during 2013.

Overview of Financial Results

We evaluate our business using a variety of key financial measures.

Net Sales

Our net sales are net of business tax, VAT and returns and exchanges, as applicable. We began to generate net sales primarily from the sales of PV modules in November 2004. We generated revenues from other products and services such as system integration prior to 2006, but such revenues are not significant after 2006. Factors affecting our net sales include average selling price per watt, market demand for our PV modules, unit volume shipped and our production capacity expansion.

In 2010, 2011 and 2012, sales to our top five customers accounted for approximately 24.9%, 23.3% and 25.1% of our net sales, respectively, and sales to our largest customer accounted for 9.5%, 8.9% and 9.1% of our net sales, respectively.

We have historically sold most of our PV modules to customers located in Europe, in particular Germany, Italy and Spain. In an industry in which demand is significantly impacted by government incentives and policies, Germany, Italy and Spain were historically the largest solar power products markets and through 2012 accounted for the largest concentrations of our sales. In each of the last three years, Germany was the largest solar power products market in the world and accounted for a major portion of our sales. We expect the percentage contribution of our European sales to decrease due to the reduction of feed-in tariffs in mature PV markets, such as Germany, Italy and Spain. We have also expanded our business presence in newer and emerging solar power markets, which include China, the United States, the United Kingdom, Australia, India, Israel, and Japan, as well as other markets in Asia, Africa, the Middle East, Latin America and the Caribbean Islands. Some of these markets have experienced rapid growth due to government incentives and mandates that require electric utility companies to use renewable energy to produce a certain percentage of their power by a future date, and because the decreased costs of grid-scale solar projects make such projects more competitive with conventional energy forms. We expect to continue to expand our customer base geographically in 2013.

Table of Contents

The following table sets forth our total net sales by geographical region, based on record country of sales, for the periods indicated:

	Year Ended December 31,					
	2010		2011		2012	
Region	Total Net sales	Percent	Total Net sales	Percent	Total Net sales	Percent
	(in thousands, except for percentages)					
Europe						
Germany	$ 447,316	24.1%	$ 756,575	36.9%	$ 428,964	33.1%
Italy	409,561	22.0%	262,492	12.8%	79,533	6.1%
Spain	404,131	21.8%	271,071	13.2%	16,744	1.3%
Others	175,114	9.4%	107,396	5.3%	97,667	7.5%
Europe Total	1,436,122	77.3%	1,397,534	68.2%	622,908	48.0%
China	70,782	3.8%	144,739	7.1%	167,953	13.0%
United States	262,300	14.1%	440,299	21.5%	331,213	25.5%
Others	88,485	4.8%	65,330	3.2%	174,581	13.5%
Total	$ 1,857,689	100.0%	$ 2,047,902	100.0%	$ 1,296,655	100.0%

Cost of Goods Sold

Our cost of goods sold consists primarily of:

- *Polysilicon raw materials*. We purchase polysilicon from various suppliers, including silicon distributors, silicon manufacturers, semiconductor manufacturers and silicon processing companies.

- *Other direct materials*. Such materials include direct materials for the production of PV modules such as plastic, metallic pastes, tempered glass, laminate material, connecting systems and aluminum frames.

- *Sourcing costs*. We fulfill some of our wafer requirements by sourcing from strategic partners. We will continue to source wafers through medium-term and long-term supply agreements in order to fill the gap between our PV cell and module manufacturing capacity and our wafer manufacturing capacity.

- *Toll manufacturing*. Prior to 2008, we entered into toll manufacturing arrangements by providing wafers to toll manufacturers for processing and receiving solar cells from them in return. The toll manufacturing cost is capitalized as inventory, and recorded as a part of our cost of goods sold when our finished PV modules are sold. Starting from 2010, we were able to meet nearly all of our solar cell needs with our in-house production capabilities and we discontinued our reliance on toll manufacturers for processing solar cells. In 2010, 2011 and 2012, we fulfilled some of our ingot and wafer requirements by obtaining toll services from our strategic partners.

- *Overhead*. Overhead costs include equipment maintenance and utilities such as electricity and water used in manufacturing.

- *Direct labor*. Direct labor costs include salaries and benefits for our manufacturing personnel.

- *Depreciation of facilities and equipment*. Depreciation of manufacturing facilities and related improvements is provided on a straight-line basis over the estimated useful life of 10 to 20 years and commences from the date the facility is ready for its intended use. Depreciation of manufacturing equipment is provided on a straight-line basis over the estimated useful life of five to ten years, commencing from the date that the equipment is placed into productive use.

Table of Contents

Our cost of goods sold is affected by our ability to control raw material costs, to achieve economies of scale in our operations, and to efficiently manage our supply chain, including our successful execution of our vertical integration strategy and our judicious use of toll manufacturers or third-party wafer suppliers to fill potential shortfalls in production capability along the supply chain.

Gross Margin

Our gross margin is affected by changes in our net sales and cost of goods sold. Our gross margins decreased from 31.5% in 2010 to 16.2% in 2011 and 4.4% in 2012. The margin decrease from 2011 to 2012 was primarily due to decreases in our average sales price that were greater than both decreases in polysilicon purchase prices and reductions in per watt non-silicon manufacturing costs in 2012. The margin decrease from 2010 to 2011 was primarily due to a decrease in average selling price of our PV modules, offset in part by increased shipping volume and decreased polysilicon and non-polysilicon material prices. We may continue to face margin compression in the sales of PV modules if the average selling price of our PV modules continues to decline and we are unable to lower our cost of goods sold due to our existing, higher priced medium-term and long-term contract. As our PV module business expands, we believe additional economies of scale will help to improve our margins to offset negative market trends.

Operating Expenses

Our operating expenses include selling expenses, general and administrative expenses and research and development expenses.

Selling expenses

Selling expenses consist primarily of provisions for product warranties, outbound freight, employee salaries, pensions, share-based compensation expenses and benefits, travel and other sales and marketing expenses. Our PV modules have typically been sold with a five-year warranty for defects in material and 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 to ten 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 accrue the estimated cost of warranty based on 1% of the revenues generated from PV modules, consistent with the average industry level. Our selling expenses as a percentage of net sales increased from 4.1% in 2010 to 4.9% in 2011 and 9.2% in 2012 due to lower revenues as a result of lower average selling price and increased sales efforts, including hiring additional sales personnel, targeting of new markets, establishing representative offices and subsidiaries and additional marketing programs to continue to build our brand. We expect our variable selling expenses to increase in 2013 at a rate consistent with the increase in the volume of our solar module shipments.

General and administrative expenses

General and administrative expenses consist primarily of salaries and benefits for our administrative personnel, compliance related consulting and professional fees and travel expenses. Our general and administrative expenses as a percentage of net sales increased from 3.9% in 2010 to 7.7% in 2011, due to the establishment of local operations in international markets and provision for doubtful receivables for certain customers,

and increased further to 13.6% in 2012, mainly due to lower revenues as a result of lower average selling price and more provision for doubtful receivables for certain specific customers. We expect our general and administrative expenses to decrease in 2013 as we realize the full effects of our organizational restructuring and streamlining performed in the second half of 2012, which included initial headcount reductions and other cost control measures, together with management efforts to mitigate receivable collection risk.

Research and development expenses

Research and development expenses consist primarily of costs of raw materials used in our research and development activities, salaries and benefits for research and development personnel, share-based compensation, outsourced research contracts and prototype and equipment costs relating to the design, development, testing and enhancement of our products and manufacturing process. In 2012, our research efforts focused on high efficiency multi- and mono-crystalline cells, p-type and n-type solar cells, high reliability modules (such as double glass modules), quick-install PV module kits and improved ingot crystallization technologies. In 2011, our research efforts focused on high efficiency cell and module technologies and their manufacturing processes. In 2010, our research efforts focused on further increasing our cell efficiencies and improving the performance of our module. In June 2010, we announced our research agreement with Solar Energy Research Institute of Singapore to develop an all-back-contact high-efficiency silicon wafer solar cell using our monocrystalline wafers. In April 2011, we entered into a three year research agreement with the Australian National University to develop high efficiency n-type silicon solar cells with conversion efficiencies of 20% for mass production. In particular, we have invested significantly in research and development of solar cell technology in order to achieve high conversion efficiency rates required for our advanced solar cells and modules, such as our Honey cell technology. As of December 31, 2012, we had achieved an independently confirmed conversion efficiency of monocrystalline cells of up to 19.9% and multicrystalline cells of up to 19.6% on a third-party laboratory test. We also designed products with specific applications. We have developed a variety of PV solar power product applications based on our existing monocrystalline and multicrystalline technologies. These products and solutions include Trinamount mounting solution, a proprietary system to mount PV modules onto residential and commercial rooftops, Trinasmart, which provides maximizing and monitoring technologies to maximize roof space utilization and overall power output, architecturally-friendly modules of different colors, shapes and sizes, such as black modules, square monocrystalline modules and large-size modules. We will continue to expand and promote innovation in our process technologies of manufacturing ingots, wafers, cells and PV modules. In particular, we plan to focus on improving cell efficiency and reducing our production costs by enhancing manufacturing yields, which enable us to deliver higher-efficiency products at a lower cost. To enhance the quality and performance of our solar products, our research and development efforts also include leveraging on existing and newer technologies and supply chain options to optimize our silicon and non-silicon feedstock and processing costs.

Table of Contents

Share-based Compensation Expenses

We adopted our share incentive plan in July 2006 and a total of 40,464,927 restricted shares and 99,161,181 share options were outstanding as of December 31, 2012. For a description of the restricted shares and share options granted, including the exercise prices and vesting periods thereof, see Item 6. Directors, Senior Management and Employees B. Compensation of Directors and Executive Officers Share Incentive Plan. We are required to recognize share-based compensation as compensation expense in our statement of operations based on the fair value of equity awards on the date of the grant, with the compensation expense recognized on a straight-line basis over the period in which the recipient is required to provide services to us in exchange for the equity award. For restricted shares granted to our employees, we record share-based compensation expense for the excess of the fair value of the restricted shares at the date of the grant over the purchase price that a grantee must pay to acquire the shares during the period in which the shares may be purchased. We have categorized these share-based compensation expenses in our (i) cost of goods sold; (ii) selling expenses; (iii) general and administrative expenses; and (iv) research and development expenses, depending on the job functions of the grantees of our restricted shares and share options.

The following table sets forth the allocation of our share-based compensation expenses both in absolute amount and as a percentage of total share-based compensation expenses.

	Year Ended December 31,					
	2010		2011		2012	
	(in thousands, except for percentages)					
Cost of goods sold	$ 63	1.1%	$ 58	0.7%	$ 49	0.8%
Selling expenses	484	8.1%	683	8.6%	628	10.5%
General and administrative expenses	5,131	86.1%	6,895	86.7%	5,029	83.8%
Research and development expenses	278	4.7%	322	4.0%	293	4.9%
Total share-based compensation expenses	$ 5,955	100.0%	$ 7,958	100.0%	$ 5,999	100.0%

Taxation

We operate mainly in the PRC, Hong Kong, Singapore, Switzerland, United States and Japan.

The EIT Law, which became effective on January 1, 2008, imposes a uniform tax rate of 25% on all PRC enterprises, including foreign-invested enterprises, and eliminates or modifies most of the tax exemptions, reductions and preferential treatments available under the previous tax laws and regulations. Under the EIT Law, enterprises that were established before March 16, 2007 and already enjoy preferential tax treatments will (i) in the case of preferential tax rates, continue to enjoy those tax rates which will be gradually increased to the new tax rates within five years from January 1, 2008 or (ii) in the case of preferential tax exemption or reduction for a specified term, continue to enjoy the preferential tax holiday until the expiration of such term.

Table of Contents

In addition, certain enterprises may still benefit from a preferential tax rate of 15% under the new EIT Law if they qualify as high and new technology enterprises strongly supported by the State, subject to certain general factors described therein. In September 2008, Trina China obtained the High and New Technology Enterprise Certificate with a valid term of three years starting from 2008. In 2011, Trina China renewed its High and New Technology Enterprise Certificate, effective from 2011 to 2013. Therefore, Trina China is entitled to a preferential income tax rate of 15% from 2008 through 2013 as long as it maintains its qualification as a high and new technology enterprise strongly supported by the State under the EIT Law. Also, in 2011, TST obtained the High and New Technology Enterprise certificate, effective from 2011 to 2013, and is entitled to a preferential income tax rate of 15% during that period.

Under the current laws of the Cayman Islands, our company is not subject to tax on income or capital gain.

Our wholly-owned subsidiary, Trina Solar (Hong Kong) Enterprise Limited was subject to Hong Kong profit tax at a rate of 16.5% in 2010, 2011 and 2012, respectively. No Hong Kong profit tax has been provided as our subsidiary has not had assessable profit that was earned in or derived from Hong Kong during the years presented.

Our wholly-owned subsidiaries, Trina Solar (Singapore) Pte. Ltd., and Trina Solar Energy Development Pte. Ltd., were subject to Singapore profit tax at a rate of 17% in 2010, 2011, respectively. In 2012, Trina Solar (Singapore) Pte. Ltd. is subject to Singapore profit tax at a rate of 17% and Trina Solar Energy Development Pte. Ltd. is subject to a preferential Singapore profit tax at an effective rate of 5%, respectively. No Singapore profit tax has been provided as our subsidiaries did not have assessable profit that was earned in or derived from Singapore during the year presented.

Our wholly-owned subsidiary, Trina Solar (Schweiz) AG was subject to Switzerland profit tax at preferential tax rate of 10.12% in 2010 and 7.65% in 2011 and 2012, respectively.

The statutory tax rate in Luxemburg is 28.8%. Our wholly-owned subsidiary, Trina Solar (Luxembourg) S.A.R.L., has filed all necessary documents to obtain the ruling of participation exemption on the gain in Luxembourg. Subject to the participation exemption ruling agreed by the tax bureau, the capital gains tax rate derived from the disposal of projects is 0%.

Our wholly-owned subsidiaries, Trina Solar (U.S.) Inc., Trina Solar (U.S.) Development LLC and TP-CA-SOUTH LLC were subject to U.S. profit tax at a rate of 40% in each of 2010, 2011 and 2012.

Our wholly-owned subsidiary, Trina Solar (Japan) Limited was subject to Japan profit tax at a rate of 40% in each of 2010, 2011 and 2012.

Our wholly-owned subsidiary, Trina Solar (Germany) GmbH was subject to Germany profit tax at a rate of 32.9% in each of 2010, 2011 and 2012.

Our wholly-owned subsidiary, Trina Solar (Italy) S.R.L. was subject to Italian profit tax at a rate of 31.4% in each of 2010, 2011 and 2012.

Our wholly-owned subsidiary, Trina Solar (Spain) S.L.U. was subject to Spanish profit tax at a rate of 30.0% in each of 2010, 2011 and 2012.

We make an assessment of the level of authority for each of our uncertain tax positions (including the potential application of interests and penalties) based on their technical merits, and have measured the unrecognized benefits associated with such tax positions. As of December 31, 2010, the amount of gross unrecognized tax benefits was $2.3 million. The aforementioned liability is recorded in liability for uncertain tax positions in the consolidated balance sheet. In accordance with our policies, we accrue and classify interest and penalties related to unrecognized tax benefits as a component of our income tax provision. In 2011, the unrecognized tax benefits were settled pursuant to an Advance Pricing Agreement between Trina China and Trina Solar (Schweiz) AG which was approved by the local tax bureau. As of December 31, 2012, the amount of gross unrecognized tax benefits was nil.

Table of Contents

Critical Accounting Policies

We prepare our consolidated financial statements in accordance with U.S. GAAP which requires us to make judgments, estimates and assumptions that affect (i) the reported amounts of our assets and liabilities, (ii) the disclosure of our contingent assets and liabilities at the end of each reporting period and (iii) the reported amounts of revenues and expenses during each reporting period. We continually evaluate these estimates based on our own historical experience, knowledge and assessment of current business and other conditions, our expectations regarding the future based on available information and reasonable assumptions, which together form our basis for making judgments about matters that are not readily apparent from other sources. Since the use of estimates is an integral component of the financial reporting process, our actual results could differ from those estimates. Some of our accounting policies require a higher degree of judgment than others in their application.

When reading our consolidated financial statements, you should consider (i) our selection of critical accounting policies, (ii) the judgment and other uncertainties affecting the application of such policies and (iii) the sensitivity of reported results to changes in conditions and assumptions. We believe the following accounting policies involve the most significant judgments and estimates used in the preparation of our consolidated financial statements.

Revenue Recognition

We recognize revenues for product sales when persuasive evidence of an arrangement exists, delivery of the product has occurred and title and risk of loss has passed to the customer, the sales price is fixed or determinable, and the collectability of the resulting receivable is reasonably assured. Our sales agreements typically contain our customary product warranties but usually do not contain post-shipment obligations or any return or credit provisions. We recognize sales of our PV modules based on the terms of the specific sales contract. Generally, we recognize sales when we have delivered our products to our customers designated point of shipment, which may include commercial docks or commercial shipping vessels.

In 2009, in response to the financing constraints, our customers requested longer credit terms. As a result, we began granting extended credit terms to customers with whom we had positive historical collection experience and overall creditworthiness. In addition, some of our customers pay us through drawn upon acceptance, open account and letter of credit terms, which typically take 90 to 120 days to process in order for us to be paid. To assess the creditworthiness of our customers, we generally obtain credit information from reputable third-party sources, including Dunn & Bradstreet and insurance companies that ultimately insure us against customer credit default. Our senior management also performs on-site customer visits, monitors customer payments and adjusts customer credit limits as appropriate. Using the information collected, we further evaluate the potential effect of a delay in financing on the customers liquidity and financial position, their ability to draw down financing as well as their ability and intention to pay should it not obtain the related financing. Based on this analysis, we determine what credit terms, if any, to offer to each customer individually. If our assessment indicates a likelihood of collection risk, we do not sell the products or sell on a cash or prepayment basis. Therefore, based on our strict credit assessment, we attempt to conduct business with those customers we believe have the ability and intent to pay.

Revenue recognition for a given solar power project is dependent on the structure of the agreement and our intention on holding the project asset. For all our existing project assets, we have gained control of land or land rights. If we hold the project asset with the intention of developing it for sale, it accounts for the project following the provisions of real estate accounting. Under the provisions of real estate accounting, we recognize revenue and the corresponding costs once the sale is consummated, the buyer s initial and any continuing investments

are adequate, the resulting receivables are not subject to subordination and we have transferred the customary risk and rewards of ownership to the buyer. In general, the sale is consummated upon the execution of an agreement documenting the terms of the sale and a minimum initial payment by the buyer to substantiate the transfer of risk to the buyer. As a result, depending on the value of the initial and continuing payment commitment by the buyer, we generally align the revenue recognition and release of project assets to cost of sale with the receipt of payment from the buyer. If we hold the project developed for use, the project asset is deemed as an operating asset, and the revenue from connection to the grid, as well as any other revenue generated by the solar power project prior to its sale, would be classified as operating revenue for the Company. Once the operating asset is sold to the buyer, the proceeds from the sale of the solar power project would be classified as gain/loss on sale of asset.

Table of Contents

Warranty Cost

It is customary in our business and industry to warrant or guarantee the performance of our solar module products at certain levels of power output for extended periods. Our PV modules have typically been sold with a five-year warranty for defects in material and workmanship and a minimum power output warranty of up to 25 years following the date of delivery or installation. In 2011, we extended the product workmanship warranty to ten 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. If a solar module is defective, we will either repair or replace the module at our discretion. Warranty costs primarily consist of replacement costs for parts and materials and labor costs for maintenance personnel.

We maintain warranty reserves (recorded as accrued warranty costs) to cover potential liabilities that could arise from our warranties. Due to our limited solar module manufacturing history, we do not have a significant history of warranty claims. Our accrued warranty cost reflects our best estimate of the probability of incurring warranty claims and costs associated with those warranty claims. These significant estimates are determined based on a number of factors, primarily including (1) an ongoing analysis of our actual historical costs incurred in connection with our warranty claims, (2) an assessment of our competitors accrual and claim history and (3) analysis of academic research results, available from industry research publications and papers, and other assumptions that we believe to be reasonable under the circumstances. Based on the results of analysis and technical testing, the revision to our warranty policy in June 2011 did not have a material effect on our warranty accrual rate. We acknowledge that such estimates are subjective and we will continue to analyze our claim history and the performance of our products compared to our competitors and future academic research results to determine whether the accrual is appropriate. To the extent that actual warranty costs differ from the estimates, or our expectations of future costs change, we will prospectively revise our accrual rate and/or the accrual balance. Such adjustments could have a material effect on our consolidated results of operations. For example, an increase or decrease of 0.1% accrual rate (i.e., to 1.1% or 0.9%) would have resulted in an in corresponding increase or decrease in warranty expense of $1.2 million for the year ended December 31, 2012.

Impairment of Long-lived Assets

We evaluate our long-lived assets for impairment whenever events or changes in circumstances indicate that the carrying amount of an asset may not be recoverable. These events include but are not limited to significant current period operation or cash flow losses associated with the use of a long-lived asset or group of assets combined with a history of such losses, significant changes in the manner of use of assets and significant negative industry or economic trends. If circumstances require a long-lived asset or asset group be tested for possible impairment, we first compare undiscounted cash flows expected to be generated by that asset or asset group to its carrying amount. If the carrying amount of the long-lived asset or asset group is not recoverable on an undiscounted cash flow basis, an impairment is recognized to the extent that the carrying amount exceeds its fair value. The determination of fair value of the intangible and long lived assets acquired involves certain judgments and estimates. These judgments can include, but are not limited to, the cash flows that an asset is expected to generate in the future. Future cash flows can be affected by factors such as changes in global economies, business plans and forecast, regulatory developments, technological improvements, and operating results. Any impairment write-downs would be treated as permanent reductions in the carrying amounts of the assets and a charge to operations would be recognized. We did not recognize any loss on impairment of long-lived assets for the years ended December 31, 2010, 2011 and 2012.

Generally, our actual shipments for a given year are lower than the year-ending annual manufacturing capacity for that year. We believe that there is sufficient evidence that demand for our PV products will increase. We view under-utilization of our capacity as a potential indicator of impairment, and we will continue to evaluate our capacity utilization in determining whether our assets are recoverable. However, we have effectively utilized most, if not all, of our capacity in the past and have had to outsource some of our production in order to meet demand.

Allowance for Doubtful Accounts and Provision for Losses of Advances to Suppliers

Before conducting business with customers, we assess and evaluate customer creditworthiness which was primarily based on information provided by third party credit rating agencies, validation of the project specifications with the customers and their financing banks, and customer onsite visits by senior management. We review the collectability of accounts receivable on a quarterly basis and provide allowances when there is doubt as to collectability. In addition to the specific allowance applied on the balance of individual customers, we group the remaining receivables without specific allowance based on overdue aging. An estimated loss percentage is then applied to each overdue aging group based on historical collection experiences, previous loss history and current credit conditions. During the fiscal years of 2011 and 2012 when the solar industry has been experiencing continuous declines in selling price and stagnated operating and financing cash flows, we have been focusing our assessment and evaluation much more on certain specific customers with significant doubt to the collectability of their past due balances based on a number of factors, including the long-overdue aging of the receivables, the customer s current ability to pay, past payment patterns and their failure to adhere to previously negotiated repayment schedules, as well as the market conditions in Europe and United States, and how those conditions may affect the relevant customers. Based on such assessment, we made provision for doubtful recoveries totaling $5.4 million, $26.6 million and $61.4 million during the years ended December 31, 2010, 2011 and 2012, respectively, against the accounts receivable.

Table of Contents

With respect to advances to suppliers, who are primarily suppliers of silicon and wafer raw materials, we perform ongoing credit evaluations of our suppliers financial conditions. Some of our suppliers require prepayments and our prepayments are recorded either as current portion of advances to suppliers, if they are expected to be utilized within 12 months of each balance sheet date, or as advances to suppliers, net of current portion, if they represent the portion expected to be utilized after 12 months. Based on such assessment, we made provision for potential losses of advances to suppliers totaling $0.2 million, $9.5 million and $2.8 million during the years ended December 31, 2010, 2011 and 2012 against the advances to suppliers, respectively, for balances paid to vendors who did not conduct delivery as scheduled so that we consider the recoverability is remote. We generally do not require collateral or security against advances to suppliers.

Share-based Compensation

We have granted restricted shares and share options to our directors, officers and employees. Share-based payment compensation is based on grant-date fair value and is recognized in our consolidated financial statements over the requisite service period, which is generally the vesting period. We grant our restricted shares at their fair value which generally represents the fair value of an unrestricted share. For share options, determining the value of our share-based compensation expense in future periods requires the input of highly subjective assumptions, including the expected terms of the options, the price volatility of our underlying shares, the risk free interest rate, the expected dividend rate, as well as estimated forfeitures of the options. We estimate our forfeitures based on past employee retention rates, our expectations of future retention rates, and we will prospectively revise our forfeiture rates based on actual history. Our compensation charges may change based on changes to our actual forfeitures.

Inventories

We report inventories at the lower of cost or market. We determine cost on a weighted-average basis. These costs include direct material, direct labor, tolling manufacturing costs, and fixed and variable indirect manufacturing costs, including depreciation and amortization, and our outsourced wafers and cells.

We regularly review the cost of inventory against our estimated market value and record a lower of cost or market write-down if any inventories have a cost in excess of market value. Market value does not exceed the net realizable value of the inventory, which is the estimated selling price of our inventory in the ordinary course of business, less reasonably predicable costs of completion and disposal. The evaluation of net realizable value takes into consideration a number of factors including actual consumption of our finished goods compared to forecasted market demand, actual selling prices as agreed in our sales contracts and orders on hand for finished goods, the anticipated changes in the market selling price of our finished goods, seasonality fluctuations, and conversion costs in our production.

In addition, we regularly evaluate the quantity and value of our inventory in light of current market conditions and market trends and record write-downs for any quantities in excess of demand and for any product obsolescence. This evaluation considers historic usage, expected demand, market price, new product development schedules, the effect new products might have on the sale of existing products, product obsolescence, customer concentrations, product merchantability and other factors. We also write off silicon materials that may not meet our required specifications for inclusion in our manufacturing process. These materials are periodically sold for scrap.

Based on such estimates, we had inventory write-downs totaling $10.2 million, $22.2 million and $39.6 million in the years ended December 31, 2010, 2011 and 2012, respectively.

Table of Contents

To date, the majority of the inventory write-downs were due to the rapid decline in the market price of PV modules. We may not be able to reasonably predict the price trend of PV modules. If the price of PV modules continues to decrease, we may have to take additional write-downs on inventory in the future. Additionally, market conditions are subject to change and actual consumption of our inventory could differ from forecasted demand. Historically, our estimates of future demand have been materially accurate and, as a result, we were not required to make significant revision to such estimates. Our inventories have a long life cycle and obsolescence has not historically been a significant factor in their valuation.

We have entered into purchase commitments through certain medium-term and long-term supply contracts to acquire materials from our suppliers to secure adequate and stable supply of silicon feedstock and wafer. Our commitments generally specify volume to be delivered on a periodic frequency within each fiscal year with the purchase price determined based on either variable price with reference to prevailing market price or a range of fixed prices subject to negotiation. We evaluate these commitments and record a loss if the anticipated purchase price is higher than the market value of those raw materials. The estimation of market value is using the same lower of cost or market approach as that used to value inventory. We have historically negotiated several medium-term and long-term supply contracts successfully so as to reduce our purchase price to more closely link our purchase costs with market price which is below the market value used to value the inventory. As a result, we did not recognize any loss on the commitments for the years ended December 31, 2010, 2011 and 2012.

Project Assets

Project assets consist primarily of costs relating to solar power projects in various stages of development that are capitalized prior to the sale of the solar power project. These costs include modules, installation and other development costs, such as legal, consulting and permitting. While the project assets are not constructed for any specific customers, we intend to sell the project assets upon their completion.

We review project assets for impairment whenever events or changes in circumstances indicate that the carrying amount may not be recoverable. We consider the project commercially viable if it is anticipated to be sellable for a profit once it is either fully developed or constructed. We also consider a partially developed or partially constructed project commercially viable if the anticipated selling price is higher than the carrying value of the related project assets plus the estimated cost to completion. In determining whether or not the project assets are recoverable, we consider a number of factors, including changes in environmental, ecological, permitting, or regulatory conditions that may change for the project since the start of development. Such changes may cause the cost of the project to increase or the selling price of the project to decrease. We did not recognize any impairment loss on project assets for the years ended December 31, 2010, 2011 and 2012.

Income Taxes

Deferred income taxes are recognized for temporary differences between the tax basis of assets and liabilities and their reported amounts in the financial statements, net operating loss carry forwards by applying enacted statutory tax rates applicable to future years. Deferred tax assets are reduced by a valuation allowance when, in our opinion, it is more likely than not that some portion or all of the deferred tax assets will not be realized. All available evidence, both positive and negative, shall be considered to determine whether a valuation allowance for deferred tax assets is needed. In 2010, 2011 and 2012, our deferred tax assets were reduced by a valuation allowance amounting to $2.9 million, $0.2 million and $45.2 million. The significant amount of valuation allowance provided in 2012 is based on our evaluation of both positive and negative evidence available to us, including the net losses in recent years for our major operating subsidiaries, and our projection of future taxable income of those subsidiaries. Current income taxes are provided for in accordance with the laws of the relevant taxing authorities. The components of the deferred tax assets and liabilities are individually classified as current and non-current based on the characteristics of the underlying assets

and liabilities.

We recognize a tax benefit associated with an uncertain tax position when, in our judgment, it is more likely than not that the position will be sustained upon examination by a taxing authority. For a tax position that meets the more-likely-than-not recognition threshold, we initially and subsequently measure the tax benefit as the largest amount that we judge to have a greater than 50% likelihood of being realized upon ultimate settlement with a taxing authority. Our liability associated with unrecognized tax benefits is adjusted periodically due to changing circumstances, such as the progress of the tax audits, case law developments and new or emerging legislation. Such adjustments are recognized entirely in the period in which they are identified. Our effective tax rate includes the net impact of changes in the liability for unrecognized tax benefits and subsequent adjustments as considered appropriate by management. We classify interest and penalties recognized on the liability for unrecognized tax benefits as income tax expense.

Table of Contents

Derivative Financial Instruments

Our primary objective for holding derivative financial instruments is to manage currency risk. We record derivative instruments as assets or liabilities, measured at fair value. The recognition of gains or losses resulting from changes in fair values of those derivative instruments is based on the use of each derivative instrument and whether it qualifies for hedge accounting.

We have entered into a series of forward foreign currency exchange contracts with several commercial banks to protect against volatility of future cash flows caused by the changes in foreign exchange rates associated with the outstanding accounts receivable. The forward foreign currency exchange contracts do not qualify for hedge accounting and, as a result, the changes in fair value of the derivatives are recognized in the statement of operations. In 2010, 2011 and 2012, we recorded a gain of $9.5 million, a loss of $11.4 million and a gain of $8.5 million, respectively. These losses and gains are included in the line item Derivatives gain (loss) in the consolidated statements of operations.

When available, we measure the fair value of financial instruments based on quoted market prices in active markets, valuation techniques that use observable market-based inputs or unobservable inputs that are corroborated by market data. When observable market prices are not readily available, we generally estimate the fair value using valuation techniques that rely on alternate market data or inputs that are generally less readily observable from objective sources and are estimated based on pertinent information available at the time of the applicable reporting periods.

Results of Operations

The following table sets forth a summary, for the periods indicated, of our consolidated results of operations and each item expressed as a percentage of our total net sales. Our historical results presented below are not necessarily indicative of the results that may be expected for any future period.

	Year Ended December 31,					
	2010		2011		2012	
	(in thousands, except for percentages)					
Net sales	$ 1,857,689	100%	$ 2,047,902	100.0%	$ 1,296,655	100.0%
Cost of goods sold	1,273,328	68.5%	1,715,260	83.8%	1,239,412	95.6%
Gross profit	584,361	31.5%	332,642	16.2%	57,243	4.4%
Operating expenses:						
Selling expenses	75,677	4.1%	100,427	4.9%	118,885	9.2%
General and administrative expenses	72,711	3.9%	157,129	7.7%	176,719	13.6%
Research and development expenses	18,625	1.0%	44,120	2.1%	26,511	2.0%
Total operating expenses	167,013	9.0%	301,676	14.7%	322,115	24.8%
Income (loss) from operations	417,348	22.5%	30,966	1.5%	(264,872)	(20.4)%
Foreign exchange (loss) gain	(36,156)	(1.9)%	(27,435)	(1.3)%	908	0.1%
Interest expense	(33,952)	(1.8)%	(35,021)	(1.7)%	(51,887)	(4.0)%

Interest income	2,590	0.1%	3,056	0.1%	8,552	0.6%
Derivatives gain (loss)	9,476	0.5%	(11,393)	(0.6)%	8,542	0.6%
Other income, net	216	0.0%	9,317	0.5%	6,797	0.5%
Income (loss) before income taxes	359,522	19.4%	(30,510)	(1.5)%	(291,960)	(22.6)%
Income tax (expense) benefit	(48,069)	(2.6)%	(7,310)	(0.3)%	25,405	2.0%
Net income (loss) from operations	311,453	16.8%	(37,820)	(1.8)%	(266,555)	(20.6)%

Table of Contents

Year Ended December 31, 2012 Compared to Year Ended December 31, 2011

Net Sales. Our total net sales decreased by $751.2 million, or 36.7%, from $2,047.9 million in 2011 to $1,296.7 million in 2012, primarily due to lower average selling price of PV modules, which decreased from $1.33 per watt in 2011 to $0.78 per watt in 2012.

Cost of Goods Sold. Our cost of goods sold decreased by $475.8 million, or 27.7%, from $1,715.3 million in 2011 to $1,239.4 million in 2012, primarily due to lower polysilicon and non-silicon raw material prices. As a percentage of our total net sales, our cost of goods sold increased from 83.8% to 95.6% during the same periods.

Gross Profit. As a result of the foregoing, our gross profit decreased by $275.4 million, or 82.8%, from $332.6 million in 2011 to $57.2 million in 2012. Our gross margin decreased from 16.2% to 4.4% during the same period, primarily due to decreases in our average selling price that were greater than both decreases in polysilicon purchase prices and reductions in per watt non-silicon manufacturing costs in 2012.

Operating Expenses. Our operating expenses increased by $20.4 million, or 6.8%, from $301.7 million in 2011 to $322.1 million in 2012. The increase in operating expenses was due to increases in selling expenses and general and administrative expenses. As a percentage of total net sales, operating expenses increased from 14.7% in 2011 to 24.8% in 2012. Share-based compensation expenses allocated to our selling expenses, general and administrative expenses and research and development expenses in 2012 were $0.6 million, $5.0 million and $0.3 million, respectively, based on the respective departments where such employees worked at the time of the grant.

Selling Expenses. Our selling expenses increased by $18.5 million, or 18.4%, from $100.4 million in 2011 to $118.9 million in 2012, primarily due to increases in salary and overall shipping costs due to greater sales volume. Selling expenses as a percentage of net sales increased from 4.9% to 9.2%. The increase of selling expenses was primarily due to additional marketing expenses incurred with our increased sales efforts and the expansion of our sales team by hiring additional sales personnel, expenses incurred in our targeting to new markets and establishing new representative offices and subsidiaries, and additional marketing programs to continue our brand.

General and Administrative Expenses. Our general and administrative expenses increased by $19.6 million, or 12.5%, from $157.1 million in 2011 to $176.7 million in 2012. General and administrative expenses as a percentage of net sales increased from 7.7% to 13.6%. The increase in our general and administrative expenses is mainly as a result of higher amount of provision for doubtful receivables offset by the lower administrative personnel costs, which included both salary and welfare expenses, as a result of our efforts to reallocate and reduce our manager-level headcount.

Research and Development Expenses. Our research and development expenses decreased by $17.6 million, or 39.9%, from $44.1 million in 2011 to $26.5 million in 2012, primarily due to the implementation of cost control measures, including the transition to increased self-developed research projects, the selective reduction of investment in utilization of external research institutes and resource consolidation. Research and development expenses as a percentage of net sales decreased from 2.1% to 2.0%.

Foreign Exchange (Loss Gain). We had a foreign exchange gain of $0.9 million in 2012, compared to a foreign exchange loss of $27.4 million in 2011. The gain was primarily due to slight appreciation of the Euro against the U.S. dollar in 2012 compared to the continuous depreciation of Euro against U.S. dollar in 2011.

Interest Expenses, Net. Our interest expenses, net, increased from $32.0 million in 2011 to $43.3 million in 2012, primarily due to increased average loan balance.

Derivatives Gain (Loss). In 2012, we had a derivatives gain of $8.5 million, compared to a loss of $11.4 million in 2011, primarily due to foreign currency forward contracts between the Euro and the U.S. dollar used to mitigate the effects of exchange rate volatility. See Critical Accounting Policies Derivative Financial Instruments for more details.

Income Tax Expenses (Benefit). Our income tax expenses decreased by $32.7 million, or 447.6%, from $7.3 million in 2011 to an income tax benefit of $25.4 million in 2012, primarily due to the recognition of deferred income tax benefit resulted from the net operating losses incurred in 2012. Our effective income tax rate was 8.7% and a negative 24.0% for the years ended December 31, 2012 and 2011, respectively. Our effective income tax rate for the year ended December 31, 2012 was lower than the PRC statutory enterprise income tax rate of 25%, primarily due to the recognition of $45.2 million valuation allowance on deferred income tax assets as we determined that not all of the deferred income tax assets could be realized.

Table of Contents

Net Income (Loss). As a result of the foregoing, our net loss increased from a loss of $37.8 million in 2011 to $266.6 million in 2012, representing a increase of 604.8%. Our net margin decreased from negative 1.8% in 2011 to negative 20.6% in 2012, primarily due to decreased gross profits and higher operating expenses.

Year Ended December 31, 2011 Compared to Year Ended December 31, 2010

Net Sales. Our total net sales increased by $190.2 million, or 10.2%, from $1,857.7 million in 2010 to $2,047.9 million in 2011, primarily due to increased shipments from 1,057.0 MW in 2010 to 1,511.8 MW in 2011, an increase of 43.1%, offset by a decrease in average selling price of our PV modules. Our average selling price decreased from $1.75 per watt in 2010 to $1.33 per watt in 2011. The decrease in the average selling price of our PV modules in 2011 was primarily due to changes in government subsidies and economic incentives in many markets, including Germany, our largest market, as well as Italy and Spain, over-supply of solar power products due to increased manufacturing capacity and reduced silicon raw material costs.

Cost of Goods Sold. Our cost of goods sold increased by $442.0 million, or 34.7%, from $1,273.3 million in 2010 to $1,715.3 million in 2011, primarily due to increased production and shipments, offset by decreased prices of polysilicon-based raw materials. As a percentage of our total net sales, our cost of goods sold increased from 68.5% to 83.8% during the same periods.

Gross Profit. As a result of the foregoing, our gross profit decreased by $251.8 million, or 43.1%, from $584.4 million in 2010 to $332.6 million in 2011. Our gross margin decreased from 31.5% to 16.2% during the same period, primarily due to the decrease in average selling prices per watt exceeded the decreases in polysilicon purchase prices and non-silicon manufacturing costs per watt in 2011.

Operating Expenses. Our operating expenses increased by $134.7 million, or 80.6%, from $167.0 million in 2010 to $301.7 million in 2011. The increase in operating expenses was due to increases in selling expenses, general and administrative expenses and research and development expenses. As a percentage of total net sales, operating expenses increased from 9.0% in 2010 to 14.7% in 2011. Share-based compensation expenses allocated to our selling expenses, general and administrative expenses and research and development expenses in 2011 were $0.7 million, $6.9 million and $0.3 million, respectively, based on the respective departments where such employees worked at the time of the grant.

Selling Expenses. Our selling expenses increased by $24.7 million, or 32.7%, from $75.7 million in 2010 to $100.4 million in 2011, primarily due to increases in salary and overall shipping costs due to greater sales volume as well as our overseas expansion efforts. Selling expenses as a percentage of net sales increased from 4.1% to 4.9%.

General and Administrative Expenses. Our general and administrative expenses increased by $84.4 million, or 116.1%, from $72.7 million in 2010 to $157.1 million in 2011. The increase in general and administrative expenses was primarily due to increased salaries and benefits and costs related to the development and expansion of our overseas offices, including increasing our sales and marketing team from 90 employees as of December 31, 2010 to 154 by December 31, 2011, as well as allowances for doubtful receivables for certain customers. General and administrative expenses as a percentage of net sales increased from 3.9% to 7.7%.

Research and Development Expenses. Our research and development expenses increased by $25.5 million, or 136.9%, from $18.6 million in 2010 to $44.1 million in 2011, primarily due to increased headcount of our research and development personnel, salaries and investments in research and development projects. Research and development expenses as a percentage of net sales increased from 1.0% to 2.1%.

Foreign Exchange Gain (Loss). We had a foreign exchange loss of $27.4 million in 2011, compared to a foreign exchange loss of $36.2 million in 2010. The loss was primarily due to the depreciation of the Euro against the U.S. dollar.

Table of Contents

Interest Expenses, Net. Our interest expenses, net, increased from $31.4 million in 2010 to $32.0 million in 2011.

Derivatives Gain (Loss). In 2011, we had a derivatives gain of $11.4 million, compared to a gain of $9.5 million in 2010, primarily due to foreign currency forward contracts between the Euro and the U.S. dollar used to mitigate the effects of exchange rate volatility. See Critical Accounting Policies Derivative Financial Instruments for more details.

Income Tax Expenses. Our income tax expenses decreased by $40.8 million, or 84.8%, from $48.1 million in 2010 to $7.3 million in 2011, primarily due to our decreased profitability.

Net Income (Loss). As a result of the foregoing, our net income decreased from $311.5 million in 2010 to a loss of $37.8 million in 2011, representing a decrease of 112.1%. Our net margin decreased from 16.8% in 2010 to negative 1.8% in 2011, primarily due to decreased gross profits and increased operating expenses.

B. Liquidity and Capital Resources

We finance our operations primarily through short-term and long-term borrowings, proceeds from public offerings, including our convertible senior notes offering in July 2008, our follow-on offerings of ADSs in July 2009 and March 2010, and, to a lesser extent, cash generated from operations. We believe that our current cash and cash equivalents, short-term and long-term borrowings and anticipated cash flows from operations and the renewal of short-term bank borrowings will be sufficient to meet our anticipated cash needs, including our cash needs for working capital and capital expenditures, for at least the next 12 months. We may, however, require additional cash due to changing business conditions or other future developments, including any investments or acquisitions we may decide to pursue. If our existing cash is insufficient to meet our requirements, we may seek to sell additional equity or debt securities or borrow additional loans from banks. However, the current financial downturn affecting the financial markets and banking system may significantly restrict our ability to obtain financing in the capital markets or from financial institutions. We cannot assure you that financing will be available in the amounts we need or on terms acceptable to us, if at all. The sale of additional equity securities, including convertible debt securities, would dilute our earnings per share. The incurrence of debt would divert cash for working capital and capital expenditures to service debt obligations and could result in operating and financial covenants that restrict our operations and our ability to pay dividends to our shareholders.

As of December 31, 2012, we had $807.3 million in cash and cash equivalents, $110.9 million in restricted cash and $1,374.6 million in outstanding borrowings (inclusive of convertible senior notes outstanding of $83.6 million). Our cash and cash equivalents primarily consist of cash on hand and demand deposits with original maturities of three months or less that are placed with banks and other financial institutions. We plan to use the cash available as of December 31, 2012, for potential future capital expenditures, including but not limited to the maintenance and enhancement of existing facilities, potential project systems related investments, and for working capital and other day-to-day operating purposes.

Our bank borrowing facilities include both short-term and long-term bank borrowings. We had total bank borrowing facilities of $1,461.9 million with various banks, of which $1,291.0 million had been drawn down with the remaining $170.9 million unused as of December 31, 2012. We have historically renewed or rolled over our short-term bank borrowings upon the maturity date. In addition to bank borrowing

facilities, as of December 31, 2012, we also have facilities for trade financing in the amount of $1,332.0 million, of which $240.8 million has been used, as well as $83.6 million in principal amount of 4% convertible senior notes outstanding. For details on our borrowings, please see Borrowings.

In the past, we had significant working capital commitments for purchases of polysilicon and wafers. Our prepayments to suppliers were recorded either as current portion advances to suppliers, if they were expected to be utilized within 12 months of each balance sheet date, or as advances to suppliers, net of current portion, if they represented the portion expected to be utilized after 12 months. As of December 31, 2012, we had advances to suppliers, net of current portion, of $87.0 million, compared to $120.1 million as of December 31, 2011, due to that we are decreasing our use of long-term supply contracts that require prepayments to meet our needs for silicon-based raw materials. We also had the current portion of advances to suppliers of $57.8 million as of December 31, 2012, a decrease from $63.5 million as of December 31, 2011. We generally make prepayments without receiving collateral. As a result, our claims for such prepayments would rank only as an unsecured claim, which exposes us to the credit risks of these suppliers in the event of their insolvency or bankruptcy. Going forward, we expect our advances to suppliers to decline as the polysilicon supply market further improves, offset by greater volume purchases as we expand our manufacturing capacity.

Table of Contents

We do not currently plan to build new facilities to increase our annual manufacturing capacity of cells, ingots, wafers or modules during 2013 and plan to incur capital expenditures of up to $65 million to maintain or enhance our existing manufacturing facilities for new products, increased module efficiencies and systems-related initiatives. See Capital Expenditures. However, as we take into account market views concerning customer demand and the commercial lending environment, which is essential for the financing of PV system installations in our respective sales markets as well as our strategy to expand while preserving liquidity, we may later decide to expand our capacity during 2013 or at a future date.

With the decrease of revenue as a result of declining average selling price, we expect that our accounts receivable and inventories, two of the principal components of our current assets, will continue to be maintained at an appropriate level facilitating our working capital management, though the accounts receivable is expected to increase with more credit sales. We require prepayments from certain customers, depending on the credit status of the customers, market demand and the term of the contracts, but have been required to accept reduced prepayments from customers and may continue to see reductions in the amounts of prepayment we are able to obtain. We also allow some of our customers to pay all or a major portion of the purchase price by letters of credit. Until the letters of credit are drawn in accordance with their terms, the amount earned is recorded as accounts receivable.

Cash Flows and Working Capital

The following table sets forth a summary of our cash flows for the periods indicated:

	Year Ended December 31,		
	2010	2011	2012
	(in thousands)		
Net cash provided by (used in) operating activities	$ 263,929	$ 21,927	$ (178,199)
Net cash used in investing activities	(102,852)	(402,525)	(170,586)
Net cash provided by financing activities	186,046	443,446	342,266
Effect of exchange rate changes	(433)	1,184	(2,985)
Net change in cash and cash equivalents	346,690	64,032	(9,504)
Cash and cash equivalents at the beginning of the year	406,058	752,748	816,780
Cash and cash equivalents at the end of the year	$ 752,748	$ 816,780	$ 807,276

Operating Activities

Net cash used in operating activities amounted to $178.2 million in 2012. The net cash used in operating activities in 2012 was primarily due to (i) a net loss of $266.6 million, (ii) an increase in inventory of $64.5 million, due to our capacity expansion and slower turnover of finished goods and (iii) a decrease in accrued expenses and other current liabilities of $44.7 million, due to the timing of payments. Net cash used was partially offset by (a) depreciation and amortization of $111.1 million, (b) an increase in the allowance for accounts receivable of $61.4 million and (c) an inventory write-down of $39.6 million.

Net cash provided by operating activities amounted to $21.9 million in 2011. The net cash provided by operating activities in 2011 was primarily due to non-cash adjustments including depreciation of $69.8 million and an increase in accrued expenses and other current liabilities of $67.0

million, offset in part by (i) an increase in inventory of $192.9 million due to our capacity expansion and finished goods held by oversea subsidiaries, (ii) an increase in accounts receivable of $115.8 million due to increased sales and extension of credit terms, (iii) an increase in accounts payable of $221.8 million due to increase in purchases of raw materials as a result of our increased sales and extension of credit terms, and (iv) a decrease in income tax payable of $29.7 million due to that we made payments to PRC tax authorities based upon profits during the first half of 2011 followed by substantial losses during the second half of 2011.

Net cash provided by operating activities amounted to $263.9 million in 2010. The net cash provided by operating activities in 2010 was primarily due to higher net income offset by (i) an increase in accounts receivable of $94.8 million due to increased sales, (ii) an increase in advances to suppliers of $28.2 million due to increase in prepayments to our polysilicon suppliers to secure polysilicon feedstock, and (iii) an increase in project assets of $33.0 million due to the development of solar power projects in Europe.

Table of Contents

Investing Activities

Net cash used in investing activities amounted to $170.6 million in 2012. The net cash used in investing activities in 2012 was primarily a result of capital expenditures for property, plant and equipment of $141.1 million for capacity expansion in first half of 2012, and an increased in restricted cash of $31.3 million.

Net cash used in investing activities amounted to $402.5 million in 2011. The net cash used in investing activities in 2011 was primarily a result of an increase in property, plant and equipment expenditures of $418.1 million, comprised mainly of purchases of cell production equipment, offset in part by an increased in restricted cash of $41.6 million.

Net cash used in investing activities amounted to $102.9 million in 2010. The net cash used in investing activities in 2010 was primarily a result of an increase in property, plant and equipment expenditures of $144.1 million, comprised mainly of purchases of cell, ingot and wafer production equipment, and a decrease in restricted cash of $34.0 million.

Financing Activities

Net cash provided by financing activities amounted to $342.3 million in 2012, which is primarily generated from proceeds of $1,126.3 million from bank borrowings (short-term and long-term), offset by repayment of $745.0 million in bank borrowings and $39.1 million cash payment for repurchasing convertible senior notes.

Net cash provided by financing activities amounted to $443.4 million in 2011, which consisted primarily of proceeds of $220.2 million from long-term bank borrowings and net proceeds (net of repayment) of short-term bank borrowings of $230.8 million.

Net cash provided by financing activities amounted to $186.0 million in 2010, which consisted primarily of net proceeds received from our follow-on public offering of $176.3 million completed in March 2010 and proceeds of $117.5 million from long-term bank borrowings, offset by net repayment of short-term bank borrowings of $108.8 million.

Restrictions on Cash Dividends

For a discussion on the ability of our subsidiaries to transfer funds to our company, and the impact this has on our ability to meet our cash obligations, see Item 3. Key Information D. Risk Factors Risks Related to Doing Business in China Our ability to make distributions and other payments to our shareholders depends to a significant extent upon the distribution of earnings and other payments made by Trina China and TST, and Item 3. Key Information D. Risk Factors Risks Related to Doing Business in China The dividends we receive from our PRC subsidiaries and our global income may be subject to PRC tax under the EIT law, which would have a material adverse effect on our results of operations;

our foreign ADS holders may be subject to a PRC withholding tax upon the dividends payable by us and upon gains realized on the sale of our ADSs, if we are classified as a PRC resident enterprise.

Borrowings

We had short-term borrowings of $303.3 million and $711.8 million as of December 31, 2011 and 2012. The average interest rate on short term borrowings was 3.65% and 3.88% per annum for the years ended December 31, 2011 and 2012, respectively. The funds borrowed under short-term arrangements are repayable within one year. As of December 31, 2012, two short-term loans were secured by the plant and machinery of Trina China with a carrying value of $133.4 million.

We had current portion of long term borrowings of $86.2 million and $164.0 million and we had long-term borrowings, excluding current portion, of $520.2 million and $415.2 million as of December 31, 2011 and 2012, respectively. Certain of our long term borrowings contain restrictive covenants, and, except as disclosed below, as of December 31, 2012, we were in compliance with these covenants.

Table of Contents

In July 2008, we completed an offering of $138 million of 4% convertible senior notes. The debt issuance costs of $11.7 million are being amortized over the life of the convertible senior notes using the interest method. Holders of our convertible senior notes may require us to repurchase all or a portion of the notes upon the occurrence of certain change in control events. The notes are convertible at any time prior to maturity, which is on July 15, 2013, unless previously redeemed at the option of the holders into our ADSs at a conversion price of $16.94 per ADS, subject to certain adjustments. We used the net proceeds received from the offering to expand our manufacturing lines for the production of silicon ingots, wafers, solar cells and PV modules, to purchase raw materials and other general corporate purposes. In connection with the convertible senior notes offering, we also offered 8,146,388 ADSs in an ADS borrowing facility. The ADS borrower will be required to return the borrowed ADSs by the scheduled maturity date of the notes in July 2013. In July 2011 and in accordance with the terms of the convertible senior notes, we tendered a put right purchase offer to our holders of convertible senior notes, and after this purchase, $137,680,000 principal amount of the convertible senior notes remained outstanding. In 2011 and 2012, we repurchased a portion of the convertible senior notes with an aggregate principle amount of $9,924,000 and $44,174,000, which resulted in a gain of $2,341,290 and $5,091,424, respectively. After the repurchase, $83,582,000 principal amount of the convertible senior notes remains outstanding, as of December 31, 2012.

On September 8, 2009, Trina China entered into a five-year credit facility with a syndicate of banks, or the Facility, including both Renminbi facility and US dollar facility of RMB1,524.6 million ($242.0 million) and $80.0 million, respectively, of which RMB1,292.0 million ($205.1 million) and $80.0 million are designated solely for the expansion of our production capacity, and the remaining amount to be used to supplement working capital requirements once the capacity expansion is completed. The Facility can be drawn down either in Renminbi or US dollar. As of December 31, 2011 and 2012, we had fully drawn down the capacity expansion portion under the Facility and had a loan balance of $254.0 million and $184.6 million, respectively. The remaining Renminbi Facility of RMB232.6 million ($36.9 million) can only be drawn down on or after completion of capacity expansion. The weighted-average interest rate for borrowings under the facility is 6.50% and 6.43% for the years ended December 31, 2011 and 2012, respectively. Interest is payable quarterly or biannually in arrears for loans denominated in RMB and US dollars, respectively. The interest rate on RMB-denominated borrowings is 110% of the prevailing base lending rate pronounced by People s Bank of China for loans of similar duration. The interest rate on US dollar-denominated borrowings is the prevailing six-month US London Interbank Offered Rate plus 300 basis points. As of December 31, 2012, the Facility is guaranteed by Trina as well as by the property, plant and equipment with carrying value of $283.4 million and the related land use rights of $14.3 million. For purposes of the expansion, we are required to match the Facility draw-down with an equal amount of cash from sources other than the Facility. The Facility contains certain financial covenants which require that specified debt to total assets ratio, net profit ratio and income to interest ratio to be maintained. As of December 31, 2011, Trina China violated the net profit ratio and income to interest ratio covenants. Trina China obtained a waiver letter from the Agriculture Bank of China, the leading bank in the syndicated loan, on February 8, 2012 to waive the covenants for the entire facility period.

On January 11, 2010, Trina Solar (Luxembourg) S.A.R.L., or Trina Luxembourg, entered into a fifteen-year facility with China Development Bank, or the TLB CDB Facility, of Euro 100.0 million, which is designated solely for the construction of certain planned PV projects. Trina Luxembourg had drawn down Euro 50.0 million and the remaining Euro 50.0 million had expired on March 14, 2011. The TLB CDB Facility is guaranteed by Trina China and the Company is required to match the TLB CDB Facility draw-down with the construction of those specified PV projects. Trina Luxembourg had a loan balance outstanding as of December 31, 2011 and 2012 of Euro 41.3 million ($53.4 million) and Euro 13.1 million ($17.3 million), respectively. The weighted-average interest rate for the borrowings was 4.66% and 4.26% for the years ended December 31, 2011 and 2012, respectively, and is computed as the prevailing six-month EUR LIBOR plus 300 basis points. There are no loan covenants with respect to this facility.

On May 17, 2011, Trina China entered into a three year credit facility with the Export-Import Bank of China, or the Ex-Imp Facility, amounting to $40.0 million, which is designated solely for capital expenditure purposes. As of December 31, 2012, the Company had drawn down $14.0 million and the remaining $26.0 million had expired due to the completion of underlying capital project. Trina China had a loan balance outstanding as of December 31, 2011 and 2012 of $14.0 million and $10.5 million, respectively. The interest rate is the prevailing six-month US LIBOR plus 380 basis points, which is 4.59% and 4.47% in 2011 and 2012, respectively. As of December 31, 2012, the Ex-Imp facility is guaranteed by Trina as well as by the property, plant and equipment with a carrying value of $30.7 million. The facility contains a debt payment

coverage ratio covenant. Trina China was in compliance with the covenant as of December 31, 2011 and 2012.

Table of Contents

On June 29, 2011, Trina China entered into a three-year credit facility with China Development Bank, or the TCZ CDB Facility, of $180.0 million, which is designated for the working capital. As of December 31, 2011 and 2012, the Company had fully drawn down the TCZ CDB Facility. Trina China had a loan balance outstanding of $180.0 million as of December 31, 2011 and 2012 respectively. The interest rate is the prevailing three-month US LIBOR plus 300 basis points, which is 3.25% and 3.47% in 2011 and 2012, respectively. The TCZ CDB facility contains certain financial covenants which require that specified current ratio, quick ratio, debt to asset ratio, debt repayment coverage ratio, interest coverage ratio, contingent liability ratio, current assets turnover and accounts receivable turnover be maintained. As of December 31, 2012, Trina China violated the required threshold of relevant covenants of debt to asset ratio, current assets turnover and accounts receivable turnover. Trina China obtained a written letter from CDB stating that the bank waives Trina China s covenants breach by revising those relevant covenants. As of December 31, 2012, Trina China was in compliance with the revised covenants. Management have evaluated Trina China s compliance with those revised covenants through the calendar year of 2013 and determined that it is not probable that Trina China will violate those revised covenants for a period of one year from December 31, 2012.

On December 7, 2011, TST entered into a three-year structured term loan facility with Standard Chartered Bank (Hong Kong) Limited, or the SC Facility, of $100.0 million, which can be drawn down in single or multiple tranches within the first 12 months either in Hong Kong dollars or U.S. dollars. Each tranche is for a term of up to 36 months from the initial drawdown date, and may be extended for up to another two years at TST s discretion. The SC Facility is designated solely for the Company s East Campus construction, which is expected to add approximately 500 MW of cell and module capacity to facilitate the Company s high-efficiency Honey cell technology. As of December 312011 and 2012, the Company had fully drawn down the SC Facility. TST had a loan balance outstanding of $100.0 million as of December 31, 2011 and 2012 respectively. The interest rate is the Hong Kong Interbank Offered Rate plus 2.25%, which is 2.61% and 2.63% in 2011 and 2012, respectively. The SC Facility is guaranteed by Trina as well as by the property, plant and equipment for which this borrowing is used to construct with carrying value of $116.8 million as of December 31, 2012. The SC Facility contains certain financial covenants which require that specified gearing, net tangible assets value and EBITDA-to-interest ratio be maintained. TST was in compliance with the covenants as of December 31, 2011 and 2012.

On December 23, 2011, Trina China entered into a three-year credit facility with Agriculture Bank of China, or the ABC Facility, of RMB30.0 ($4.8 million) million at an interest rate of 6.65% per year, which is designed solely for the MW Square Crystal Silicon Heterojunction Solar Battery Research, Development and Industrialization Project . As of December 31, 2011 and 2012, the Company had fully drawn down the facility. Trina China had a loan balance outstanding of $4.8 million as of December 31, 2011 and 2012, respectively. As of December 31, 2012, the ABC Facility is secured by the land use rights with carrying value of $2.3 million. There are no covenants in the facility.

On December 31, 2012, Trina Solar (Luxembourg) Holdings S.A.R.L., or TLH, entered into a three-year credit facility with China Development Bank of $80.0 million which is designated for working capital. As of December 31, 2012, the Company had fully drawn down the facility. TLH had a loan balance outstanding of $80.0 million as of December 31, 2012. The interest rate is the prevailing six-month US LIBOR plus 370 basis points which is 4.21% in 2012. The facility is guaranteed by Trina. The facility contains financial covenants and TLH was in compliance with the covenants as of December 31, 2012.

We have historically been able to repay our total borrowings as they became due mostly from cash from operations, proceeds from additional short-term and long-term borrowings or renewing the loans upon maturity. We may also seek additional debt or equity financing to repay the remaining portion of our borrowings. As we continue to ramp up our current and planned operations in order to complete our vertical integration and expansion strategies, we also expect to generate cash from our expanded operations to repay a portion of our borrowings.

Capital Expenditures

We had capital expenditures of $148.8 million, $418.2 million and $141.1 million in 2010, 2011 and 2012, respectively. Our capital expenditures were used primarily for purchases of equipment and facilities for the production of ingots, wafers, cells and modules. As of December 31, 2012, we had an annual manufacturing capacity of ingots and wafers of approximately 1,200 MW and cells and modules of approximately 1,900 MW. We do not currently plan to build new facilities to increase our annual manufacturing capacity of cells, ingots, wafers or modules during 2013 and plan to incur capital expenditures of up to $65 million to maintain or enhance our existing manufacturing facilities for new products, increased module efficiencies and system-related initiatives. However, as we take into account market views concerning customer demand and the commercial lending environment, which is essential for the financing of PV system installations in our respective sales markets as well as our strategy to expand while preserving liquidity, we may later decide to expand our capacity during 2013 or at a future date.

Table of Contents

Contingencies

On October 11, 2012, the trustee of Solyndra LLC, a manufacturer of solar panels based in California, filed a lawsuit against us, including our subsidiary Trina Solar (U.S.), Inc., and other Chinese manufacturers of PV solar panels in the U.S. District Court in California. The plaintiff has asserted antitrust and related state-law claims against the defendants in this lawsuit. The plaintiff s complaint alleges that defendants have violated Section 1 of the Sherman Antitrust Act by conspiring among each other and with additional co-conspirators to fix prices of solar panels by dumping products in the United States and to destroy fair competition in the U.S. market. The plaintiff similarly alleges conspiracy to fix prices and predatory pricing under California s Cartwright Act and Unfair Practices Act. In addition, the plaintiff has brought state-law claims of tortious interference with existing agreements and tortious interference with prospective economic advantage, alleging that the defendants interfered with Solyndra s existing agreements with its customers by selling their products to Solyndra s customers at below-cost prices. The defendants have not yet filed an answer or responsive pleading. At this early stage, the Company is not able to assess the exposure in connection with the lawsuit.

Recent Accounting Pronouncements

In May 2011, the Financial Accounting Standards Board, or FASB, issued Accounting Standards Update, or ASU, 2011-04, Amendments to Achieve Common Fair Value Measurement and Disclosure Requirements in U.S. GAAP and IFRSs, which amended accounting guidance related to fair value measurements and disclosures with the purpose of converging the fair value measurement and disclosure guidance issued by the FASB and the International Accounting Standards Board. The guidance is effective for reporting periods beginning after December 15, 2011. The guidance includes amendments that clarify the intent of the application of existing fair value measurement requirements along with amendments that change a particular principle or requirement for fair value measurements and disclosures. We adopted the new guidance on January 1, 2012. The adoption did not have a material impact on its Consolidated Financial Statements or related disclosures.

In June 2011, the FASB issued ASU 2011-05, Presentation of Comprehensive Income, or ASU 2011-05, which amended accounting guidance related to presentation of comprehensive income. The standards update is intended to help financial statement users better understand the causes of an entity s change in financial position and results of operation. The amendment eliminates the option to present components of other comprehensive income as part of the statement of changes in stockholders equity. The amendment requires that all non-owner changes in stockholders equity be presented either in a single continuous statement of comprehensive income or in two separate but consecutive statements. The guidance also requires that reclassification adjustments for items that are reclassified from other comprehensive income to net income be presented on the face of the financial statement where the components of net income and other comprehensive income are presented. In December 2011, the FASB issued ASU 2011-12, Deferral of the Effective Date for Amendments to the Presentation of Items Out of Accumulated Other Comprehensive Income in Accounting Standards Update No. 2011-05, or ASU 2011-12, which defers only those changes in ASU 2011-05 that relate to the presentation of reclassification adjustments out of accumulated other comprehensive income. ASU 2011-05 and ASU 2011-12 are effective for reporting periods beginning after December 15, 2011. We adopted the new guidance on January 1, 2012.

In February 2013, the FASB issued ASU 2013-02, Reporting of Amounts Reclassified out of Accumulated Other Comprehensive Income, or ASU 2013-02. The standard requires that companies present either in a single note or parenthetically on the face of the financial statements, the effect of significant amounts reclassified from each component of accumulated other comprehensive income based on its source (e.g., the release due to cash flow hedges from interest rate contracts) and the income statement line items affected by the reclassification (e.g., interest income or interest expense). If a component is not required to be reclassified to net income in its entirety (e.g., the net periodic pension cost), companies would instead cross reference to the related footnote for additional information (e.g., the pension footnote). ASU 2013-02 is effective for interim and annual reporting periods beginning after December 15, 2012. We will adopt the provisions of the new guidance. The adoption will not have a material impact on our consolidated financial statements or related disclosures.

Table of Contents

C. Research and Development, Patents and Licenses, etc.

We focus our research and development efforts towards improving our ingot, wafer, solar cell and solar module manufacturing capabilities. We seek to reduce manufacturing costs and improve the performance of our products. As of December 31, 2012, we had a total of 425 employees involved in our research and development activities. Among them, 79 employees are under our technology development department and are dedicated to research and development. We also have a team of 346 employees under our engineering department and responsible for manufacturing technology development and further fine-tuning our production processes.

Our research and development department is divided into teams responsible for research in each stage of the solar power product value chain, such as ingot, wafer, solar cell and module production and system integration. We also have a technology committee, which meets regularly to review current development progress and identify new research and development areas. Our technology committee is led by our senior management and comprised of both our employees and external solar energy experts.

Our research and development efforts will be further enhanced by the R&D laboratory in the PV Park, a research and development center that focuses on developing PV technologies, including utilizing of alternative materials, increasing cell conversion efficiencies and conducting assembly and system research. The location of our R&D laboratory will allow us to more easily conduct technology exchanges with PV experts from world leading companies, research institutes and emerging technology companies also located within the PV Park. We completed construction of our R&D laboratory during the second quarter of 2012 and began utilizing the new facility in March 2012. We have also formed a world-class academic committee dedicated to creating a technology platform for the development of PV technologies. We are one of the two solar companies in China commissioned by the PRC government to establish and operate research and development centers.

Our research efforts are currently focused on four main product areas, namely ingots, wafers, solar cells and PV modules. We focus on improving cell efficiency and reducing our production costs by enhancing manufacturing yields, which enable us to deliver higher-efficiency products at a lower cost. To enhance the quality and performance of our solar products, our research and development efforts also include leveraging on existing and newer technologies and supply chain options to optimize our silicon and non-silicon feedstock and processing costs. In the fourth quarter of 2012, our average silicon usage was approximately 5.4 grams per watt, compared to approximately 5.8 and 5.9 grams per watt in the fourth quarters of 2011 and 2010, respectively.

Currently, we slice monocrystalline and multicrystalline wafers to approximately 180 micron thickness, while maintaining a low breakage rate. A thickness of 180 microns is preferred by customers because thinner wafers are not as durable and are subject to cell micro-cracking. Given the current historically low costs of polysilicon, any potential cost savings from thinner slicing would be minimal and not valued by the market.

For the assembly of modules, our research and development team works closely with our manufacturing team and customers to improve our solar module and system designs. We have designed products with specific applications. We have developed a variety of PV solar power product applications based on our existing monocrystalline and multicrystalline technologies. These products include architecturally-friendly modules of different colors, shapes and sizes, such as black modules and large-size modules. In April 2010, we announced our new utility-scale TSM-PC14 solar module, our most powerful module to date with expected power output targets ranging from 265 W to 295 W. In July 2011, we began shipping Trinamount mounting solution, a proprietary system to mount PV modules onto residential and commercial rooftops.

In July 2012, we launched Trinasmart, which provides maximizing and monitoring technologies to maximize roof space and overall power output. Trinasmart s proprietary intelligent technology is integrated into the module junction box, which allows monitoring and control of the PV array at the module level. We have also entered into collaborative relationships with developers and manufacturers of balance of system technologies, with the goal of lowering the overall unit cost of solar energy produced when combined with our module products.

We have invested significantly in research and development of solar cell technology in order to achieve high conversion efficiency rates required for our advanced solar cells and modules. We achieved conversion efficiencies of up to 19.9% in monocrystalline solar cells and 19.6% in multicrystalline solar cells in 2012 on a third party laboratory test, and plan to increase the efficiencies to up to 21.5% and 20.0%, respectively, by the end of 2013. In June 2010, we announced our research agreement with Solar Energy Research Institute of Singapore to develop an all-back-contact high-efficiency silicon wafer solar cell using our monocrystalline wafers. We have a team of 27 employees dedicated to the development and implementation of this process technology. We also plan to make additional efforts to realize the technical and cost synergies of having in-house vertically integrated manufacturing capabilities. Further, in April 2011, we entered into a three year research agreement with the Australian National University to develop high efficiency n-type silicon solar cells with conversion efficiencies of 20% for mass production.

Table of Contents

In each of the three years ended December 31, 2010, 2011 and 2012, our research and development expenditures were $18.6 million, $44.1 million and $26.5 million, respectively, representing 1.0%, 2.1% and 2.0% of our total revenues for those periods. We will continue to drive and promote innovation in our process technologies of manufacturing ingots, wafers, cells and PV modules. Accordingly, we expect our research and development expenses to remain significant as we advance our research and development projects.

D. Trend Information

Other than as disclosed elsewhere in this annual report, we are not aware of any trends, uncertainties, demands, commitments or events for the period from January 1, 2012 to December 31, 2012 that are reasonably likely to have a material adverse effect on our net sales, income, profitability, liquidity or capital resources, or that caused the disclosed financial information to be not necessarily indicative of future operating results or financial conditions.

E. Off-Balance Sheet Arrangements

Other than our purchase obligations for raw materials and equipment, we have not entered into any financial guarantees or other commitments to guarantee the payment obligations of third parties. We have not entered into any derivative contracts that are indexed to our shares and classified as shareholders equity, or that are not reflected in our consolidated financial statements. Furthermore, we do not have any retained or contingent interest in assets transferred to an unconsolidated entity that serves as credit, liquidity or market risk support to such entity. We do not have any variable interest in any unconsolidated entity that provides financing, liquidity, market risk or credit support to us or that engages in leasing, hedging or research and development services with us. There are no off-balance sheet arrangements that have or are reasonably likely to have a current or future effect on our financial condition, net sales or expenses, results of operations, liquidity, capital expenditures or capital resources that are material to you and other investors.

F. Contractual Obligations and Commercial Commitments

The following table sets forth our contractual obligations and commercial commitments as of December 31, 2012:

	Payment Due by Period				
	Total	Less than 1 Year	1-3 Years	3-5 Years	More than 5 Years
			(in thousands)		
Long-term borrowings(1)	$ 628,893	$ 190,799	$ 438,094	$	$
Short-term borrowings	739,390	739,390			
Purchase obligations(2)	259,957	76,290	84,467	67,200	32,000
Convertible senior notes(3)	85,252	85,252			
Total	$ 1,713,492	$ 1,091,731	$ 522,561	$ 67,200	$ 32,000

(1) Includes interests that are derived using an average rate of 4.62% per annum for long-term borrowings.

(2) Consists of raw material and equipment purchase commitments and operating lease commitments. The raw material purchase commitment includes only the fixed and determinable portion under take-or-pay agreements, and does not include purchase commitments for which we are committed to purchase a specific volume amount but the purchase price is not fixed or determinable since the price is based upon the prevailing market price near the time of purchase.

(3) Includes interests that are derived using the coupon rate of 4% per annum for convertible senior notes. The convertible senior notes will mature on July 15, 2013.

Table of Contents

G. Safe Harbor

This annual report on Form 20-F contains forward-looking statements that relate to future events, including our future operating results and conditions, our prospects and our future financial performance and condition, all of which are largely based on our current expectations and projections. The forward-looking statements are contained principally in the sections entitled Item 3. Key Information D. Risk Factors, Item 4. Information on the Company and Item 5. Operating and Financial Review and Prospects. These statements are made under the safe harbor provisions of the U.S. Private Securities Litigation Reform Act of 1995.

You can identify these forward-looking statements by terminology such as may, will, expect, anticipate, future, intend, plan, believe, is/are likely to or other and similar expressions. Forward-looking statements involve inherent risks and uncertainties. A number of factors could cause actual results to differ materially from those contained in any forward-looking statement, including but not limited to the following: expectations regarding the worldwide demand for electricity and the market for solar energy; the company s beliefs regarding the effects of environmental regulation, the lack of infrastructure reliability and long-term fossil fuel supply constraints; the importance of environmentally friendly power generation; expectations regarding governmental support for the deployment of solar energy; expectations regarding the scaling of the company s manufacturing capacity; expectations with respect to the company s ability to secure raw materials in the future; future business development, results of operations and financial condition; and competition from other manufacturers of PV products and conventional energy suppliers.

This annual report on Form 20-F also contains data related to the PV market worldwide and in China taken from third party reports. The PV market may not grow at the rates projected by the market data, or at all. The failure of the market to grow at the projected rates may have a material adverse effect on our business and the market price of our ADSs. In addition, the rapidly changing nature of the PV market subjects any projections or estimates relating to the growth prospects or future condition of our market to significant uncertainties. If any one or more of the assumptions underlying the market data turns out to be incorrect, actual results may differ from the projections based on these assumptions. You should not place undue reliance on these forward-looking statements.

The forward-looking statements made in this annual report on Form 20-F relate only to events or information as of the date on which the statements are made in this annual report on Form 20-F. Except as required by law, we undertake no obligation to update or revise publicly any forward-looking statements, whether as a result of new information, future events or otherwise, after the date on which the statements are made or to reflect the occurrence of unanticipated events. You should read this annual report on Form 20-F completely and with the understanding that our actual future results may be materially different from what we expect.

Item 6. DIRECTORS, SENIOR MANAGEMENT AND EMPLOYEES

A. Directors and Senior Management

The following table sets forth information regarding our directors and executive officers as of the date of this annual report.

Directors and Executive Officers	Age	Position/Title
Jifan Gao	48	Chairman and Chief Executive Officer
Liping Qiu	48	Independent Director
Jerome Corcoran	63	Independent Director
Qian Zhao	44	Independent Director
Yeung Kwok On	51	Independent Director
Henry Wai Kwan Chow	67	Independent Director
Terry Wang	53	Chief Financial Officer
Yang Shao	47	Chief Human Resources Officer
Zhiguo Zhu	50	Senior Vice President of Module Business Unit
Qiang Huang	39	Senior Vice President of Blue Ocean Business Unit
Jim Wang	51	Vice President of European and American PV Systems Business Unit
Jiqing Gao	45	Vice President of China and APMEA PV Systems Business Unit
Benjamin Hill	42	President of Europe Region
Mark Mendenhall	54	President of Americas Region
Haiyan Sun	51	President of APMEA Region
Qi Lin	50	President of China Region

Table of Contents

Directors

Mr. Jifan Gao founded our company in 1998. He has been our chairman and chief executive officer since January 1998. From August 2001 to October 2006, Mr. Gao served as the chairman of Changzhou Tianhe Investment Co., Ltd., a Chinese company that invests in new energy technologies, and he served as the chairman of Changzhou Tianhe New Energy Institute Co., Ltd., a Chinese company that is engaged in R&D and consulting services for new energy technologies, from May 2003 to October 2006. Mr. Gao also served as the vice chairman of Changzhou Minsheng Financing Guarantee Co., Ltd, a Chinese company that provides guarantee, investment and consulting services, from June 2004 to October 2006. Prior to founding our company, Mr. Gao was the founder and the head of Wujin Xiehe Fine Chemical Factory, a Chinese company that manufactures detergents for metal surfaces, from 1992 through 1997. From 1989 to 1992, Mr. Gao was one of the co-founders and the head of Guangdong Shunde Fuyou Detergent Factory. Mr. Gao currently serves as the executive member of the China Renewable Energy Society and as the standing vice chairman of the China New Energy Chamber of Commerce of the All-China Federation of Industry and Commerce. Mr. Gao is also an executive member of China Photovoltaic Society, an international director of Semiconductor Equipment and Materials International and a vice chairman of the executive committee of Asian Photovoltaic Industry Association. Mr. Gao has published and presented several articles and papers in solar power related magazines and conferences. Mr. Gao received his master s degree in physical chemistry from Jilin University in 1988 and his bachelor s degree in chemistry from Nanjing University in 1985.

Independent Directors

Mr. Liping Qiu has been a director of our company since May 2006. He is a co-founder of Milestone Capital, a China-focused private equity investment company, and the general partner of Milestone China Opportunities Fund I and Fund II, L.P., a partnership that invests primarily in high-growth Chinese companies, since 2002. In 2001, Mr. Qiu was Bear Stearns s Beijing Office Representative, responsible for investment banking operations in China. From 1997 to 2000, Mr. Qiu worked at Merrill Lynch s direct investment group and corporate finance group in Beijing and Hong Kong. Mr. Qiu received his bachelor s degree and master s degree in engineering from the National University of Defense Technology of China in 1984 and 1986, respectively.

Mr. Jerome Corcoran has been an independent director of our company since December 2006. From 1995 to 1998, Mr. Corcoran was a managing director at Merrill Lynch s China Private Equity Group in Beijing, China. From 1989 to 1994, Mr. Corcoran served as a managing director and the head of international investment banking of Merrill Lynch in New York and London. Mr. Corcoran retired from his investment banking career in 1998 and has been managing his personal wealth since his retirement. Mr. Corcoran received his bachelor s degree in political philosophy from Loyola University in 1971 and his MBA degree from St John s University in 1974.

Mr. Qian Zhao has been an independent director of our company since May 2007. Mr. Zhao is a founding partner of CXC China Sustainable Growth Fund, a private equity fund that makes investments in China-based companies. He is also a managing director of CXC Capital, Inc., which is the management company of CXC China Sustainable Growth Fund. Mr. Zhao co-founded Haiwen & Partners, a preeminent China corporate finance law firm in Beijing, and was a senior partner of the law firm. He worked in Sullivan & Cromwell LLP s New York office from 1996 to 2000, and Skadden, Arps, Slate, Meagher & Flom LLP and Affiliates Beijing office from 2000 to 2003. He is admitted to practice law in both China and New York. Mr. Zhao received his J.D. degree from New York University School of Law in 1998 and his LL.B from University of International Business & Economics, Beijing in 1990. Mr. Zhao has also served on the board of SouFun Holdings Limited since 2010 and on the board of Camelot Information System Inc. since October 2011.

Table of Contents

Dr. Yeung Kwok On has been an independent director of our company since August 2010. Dr. Yeung is the Philips Chair Professor of Human Resource Management and Director of the Centre of Organization and People Excellence at China Europe International Business School. He was the founding director of CEO Learning Consortium, a learning platform where CEOs from more than 30 leading firms in China joined together to share the best practices on issues critical to business growth and success in China. Between January 1999 and June 2002, Dr. Yeung served as chief learning officer and chief human resources officer of Acer Group. Dr. Yeung currently serves as a member of the board of directors at Kingdee International Software Group and SITC, both of which are listed on the Hong Kong Stock Exchange, and as an independent director of three private companies. He was also elected as ex-officio board member for Human Resource Planning Society, the leading association for senior human resources executives in the United States. Dr. Yeung also teaches regularly in executive programs in association with Harvard, INSEAD, and The University of Michigan. Dr. Yeung received his bachelor s and master s degrees in management from the University of Hong Kong and Ph.D. in human resource management from the University of Michigan.

Mr. Henry Wai Kwan Chow has been an independent director of our company since July 1, 2012. Prior to his retirement from IBM in 2009, Mr. Chow served in numerous executive positions in the Asia Pacific region, and was most recently general manager and then chairman of the IBM Greater China Group. He also served on IBM s Worldwide Management Council and IBM s Strategy Team, a group of senior IBM executives responsible for advising, reviewing, and formulating IBM s strategy. Mr. Chow currently serves as a non-executive director to Advanced Micro Devices, Inc., a semiconductor company based in the United States, and also as a member of the European Advisory Committee of Bridgepoint Investment Ltd., a British private equity company. Mr. Chow received a bachelor s degree in electrical engineering from the University of Hong Kong.

Executive Officers

Mr. Terry Wang has been our chief financial officer since June 2008. He served as our senior vice president of finance from January 2008 to June 2008. Mr. Wang has 20 years of extensive experience in international financial operations and management in technology and manufacturing industries. Prior to joining us, Mr. Wang served as the executive vice president of finance of Spreadtrum Communications, Inc., a fabless semiconductor company listed on NASDAQ, from 2004 to 2007. Before that, Mr. Wang served as CFO of a silicon valley-based technology company and controller at one of the largest NASDAQ-listed semiconductor assembly and testing companies. Since April 2011, Mr. Wang has also served as independent director and audit committee chairman for 21Vianet.com, a NASDAQ-listed Internet data center services provider in China. Mr. Wang is a Certified Management Accountant, is certified in financial management and holds an MBA in finance from the University of Wisconsin.

Ms. Yang Shao has been our chief human resources officer since September 2010. Ms. Shao has more than 18 years of global experience in Fortune 500 companies and expertise in key human resources areas, including corporate and international recruitment, performance management and organization development. Prior to joining us, Ms. Shao worked at Colgate-Palmolive (New York) in various roles, including the position of global employee relations & engagement director, from 2002 to 2010. Prior to joining Colgate-Palmolive, Ms. Shao worked at Bristol-Myers Squibb from 2001 to 2002 and The Dun & Bradstreet Corporation from 1993 to 2001, serving roles relating to human resources, marketing and business development. Ms. Shao received a doctorate degree in social and organizational psychology from Rutgers University in 1995 and received an Executive Education in Marketing Management at the Graduate School of Business of Columbia University in New York in 2000.

Mr. Zhiguo Zhu has been our senior vice president of Module Business Unit since January 2012. Mr. Zhu served as our vice president of finance from February 2011 to December 2011. He has over 20 years of professional experience in finance and general management with leading global and Chinese companies. Prior to joining us, Mr. Zhu was the global finance operation controller and internal control and audit director and chief financial officer at Haier Group from June 2009 to January 2011. From May 2004 to June 2009, he worked at Lucent Technologies, including serving as a regional chief financial officer and vice president of Lucent Technologies (China) and a chief financial

officer of Lucent Technologies (Qingdao) from 2008 to 2009. He also worked at China Track Group from 2002 to 2004 as finance controller and deputy general manager. From 1996 to 2002, Mr. Zhu worked for Howden Power and Howden Hua Engineering Company as financial controller and acting general manager. Mr. Zhu received a bachelor s degree in engineering from Tsinghua University in 1984, a master s degree from University of Shanghai Science and Technology in 1987 and an MBA from Imperial College London in 1995.