Canadian Solar Inc.
Form 20-F
April 27, 2012

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**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**

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

**For the fiscal year ended December 31, 2011.**

**OR**

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

**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**

**For the transition period from to**
**Commission file number: 001-33107**

## CANADIAN SOLAR INC.

(Exact name of Registrant as specified in its charter)

**N/A**

(Translation of Registrant's name into English)

**Canada**

(Jurisdiction of incorporation or organization)

**545 Speedvale Avenue West**
**Guelph, Ontario, Canada N1K 1E6**

(Address of principal executive offices)

**Michael G. Potter, Chief Financial Officer**
**545 Speedvale Avenue West**
**Guelph, Ontario, Canada N1K 1E6**
**Tel: (1-519) 837-1881**
**Fax: (1-519) 837-2250**

(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** |
|---|---|
| Common shares with no par value | The NASDAQ Stock Market LLC<br>(The NASDAQ Global Market) |

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

**None**

(Title of Class)

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.

**43,155,767** common shares issued and outstanding which were not subject to restrictions on voting, dividend rights and transferability, as of December 31, 2011.

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

If this report is an annual or transition report, indicate by check mark if the registrant is not required to file reports pursuant to Section 13 or 15(d) of the Securities Exchange Act of 1934. Yes o No ý

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

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 (§ 232.405 of this chapter) during the preceding 12 months (or for such shorter period that the registrant was required to submit and post such files). Yes ý No o

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 ý | 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 ý 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. Item 17 o Item 18 o

If this is an annual report, indicate by check mark whether the registrant is a shell company (as defined in Rule 12b-2 of the Exchange Act). Yes o No ý

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

Indicate by check mark whether the registrant has filed all documents and reports required to be filed by Sections 12, 13 or 15(d) of the Securities Exchange Act of 1934 subsequent to the distribution of securities under a plan confirmed by a court. Yes o No o

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## INTRODUCTION

Unless otherwise indicated, references in this annual report on Form 20-F to:

"CSI," "we," "us," "our company" and "our" are to Canadian Solar Inc., its predecessor entities and its consolidated subsidiaries;

"$," "US$" and "U.S. dollars" are to the legal currency of the United States;

"RMB" and "Renminbi" are to the legal currency of China;

"C$," "CAD" and "Canadian dollars" are to the legal currency of Canada;

"€" and "Euro" are to the legal currency of the European Economic and Monetary Union;

"MW" and "GW" are to megawatts and gigawatts, respectively;

"AC" and "DC" are to alternating current and direct current, respectively;

"PV" is to photovoltaic. The photovoltaic effect is a process by which sunlight is converted into electricity; and

"China" and the "PRC" are to the People's Republic of China, excluding, for the purposes of this annual report on Form 20-F, Taiwan and the special administrative regions of Hong Kong and Macau.

This annual report on Form 20-F includes our audited consolidated financial statements for the years ended December 31, 2009, 2010 and 2011 and as of December 31, 2010 and 2011.

All translations from Renminbi to U.S. dollars were made using the noon buying rate in The City of New York for cable transfers in Renminbi per U.S. dollar as certified for customs purposes by the Federal Reserve Bank of New York. Unless otherwise stated, the translation of Renminbi into U.S. dollars was made by the noon buying rate in effect on December 31, 2011, which was RMB 6.2939 to $1.00. We make no representation that the Renminbi or dollar amounts referred to in this annual report on Form 20-F could have been or could be converted into 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, including our financial condition and results of operations."

## FORWARD-LOOKING INFORMATION

This annual report on Form 20-F contains forward-looking statements that relate to future events, including our future operating results, our prospects and our future financial performance and condition, results of operations, business strategy and financial needs, all of which are largely based on our current expectations and projections. These forward-looking statements are made under the "safe harbor" provisions of the U.S. Private Securities Litigation Reform Act of 1995. You can identify these statements by terminology such as "may," "will," "expect," "anticipate," "future," "intend," "plan," "believe," "estimate," "is/are likely to" or similar expressions. Forward-looking statements involve inherent risks and uncertainties. These forward-looking statements include, among other things, statements relating to:

our expectations regarding the worldwide demand for electricity and the market for solar power;

our beliefs regarding the importance of environmentally friendly power generation;

our expectations regarding governmental support for solar power;

our beliefs regarding the future shortage or availability of high-purity silicon;

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our beliefs regarding our ability to resolve our disputes with suppliers with respect to our long-term supply agreements;

our beliefs regarding the rate at which solar power technologies will be adopted and the continued growth of the solar power industry;

our beliefs regarding the competitiveness of our solar module products;

our expectations with respect to increased revenue growth and improved profitability;

our expectations regarding the benefits to be derived from our supply chain management and vertical integration manufacturing strategy;

our beliefs and expectations regarding the use of upgraded metallurgical grade silicon materials, or UMG-Si, and solar power products made of this material;

our ability to continue developing our in-house solar components production capabilities and our expectations regarding the timing and production capacity of our internal manufacturing programs;

our ability to secure adequate silicon and solar wafers and cells to support our solar module production;

our beliefs regarding the effects of environmental regulation;

our beliefs regarding the changing competitive environment in the solar power industry;

our future business development, results of operations and financial condition; and

competition from other manufacturers of solar power products and conventional energy suppliers.

Known and unknown risks, uncertainties and other factors may cause our actual results, performance or achievements to be materially different from any future results, performance or achievements expressed or implied by forward-looking statements. See "Item 3. Key Information D. Risk Factors" for a discussion of some risk factors that may affect our business and results of operations. These risks are not exhaustive. Other sections of this annual report may include additional factors that could adversely influence our business and financial performance. Moreover, because we operate in an emerging and evolving industry, new risk factors may emerge from time to time. We cannot predict all risk factors, nor can we assess the impact of these factors on our business or the extent to which any factor, or combination of factors, may cause actual result to differ materially from those expressed or implied in any forward-looking statement. We do not undertake any obligation to update or revise the forward-looking statements except as required under applicable law.

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## 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 Data

***Selected Consolidated Financial and Operating Data***

The following selected statement of operations data for the years ended December 31, 2009, 2010 and 2011 and balance sheet data as of December 31, 2010 and 2011 have been derived from our consolidated financial statements, which are included elsewhere in this annual report on Form 20-F. You should read the selected consolidated financial and operating data in conjunction with those financial statements and the related notes and "Item 5. Operating and Financial Review and Prospects" included elsewhere in this annual report on Form 20-F.

Our selected consolidated statement of operations data for the years ended December 31, 2007 and 2008 and our consolidated balance sheet data as of December 31, 2007, 2008 and 2009 were derived from our consolidated financial statements that are not included in this annual report.

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All of our financial statements are prepared and presented in accordance with U.S. generally accepted accounting principles, or U.S. GAAP. Our historical results are not necessarily indicative of results for any future periods.

| | As of December 31, | | | | |
|---|---|---|---|---|---|
| | 2007 | 2008 | 2009 | 2010 | 2011 |
| | (In thousands of US$, except share and per share data, and operating data and percentages) | | | | |
| **Statement of operations data:** | | | | | |
| Net revenues | 302,798 | 705,006 | 630,961 | 1,495,509 | 1,898,922 |
| Income (loss) from Operations | (1,957) | 24,065 | 6,512 | 120,299 | 6,833 |
| Net income (loss) | (175) | (7,534) | 22,778 | 50,828 | (90,903) |
| Net income (loss) attributable to Canadian Solar Inc. | (175) | (7,534) | 22,646 | 50,569 | (90,804) |
| Earnings (loss) per share, basic | (0.01) | (0.24) | 0.61 | 1.18 | (2.11) |
| Shares used in computation, basic | 27,283,305 | 31,566,503 | 37,137,004 | 42,839,356 | 43,076,489 |
| Earnings (loss) per share, diluted | (0.01) | (0.24) | 0.60 | 1.16 | (2.11) |
| Shares used in computation, diluted | 27,283,305 | 31,566,503 | 37,727,138 | 43,678,208 | 43,076,489 |
| Other financial data: | | | | | |
| Gross margin | 7.9% | 10.1% | 12.4% | 15.3% | 9.6% |
| Operating margin | (0.6)% | 3.4% | 1.0% | 8.0% | 0.4% |
| Net margin | (0.1)% | (1.1)% | 3.6% | 3.4% | (4.8)% |
| Selected operating data: | | | | | |
| Products sold (in MW) | | | | | |
| Standard solar modules | 83.4 | 166.5 | 296.6 | 779.1 | 1,265.6 |
| Total solution[1] | | | 0.6 | 24.4 | 56.9 |
| Total | 83.4 | 166.5 | 297.2 | 803.5 | 1,322.5 |
| Average selling price (in $ per watt) | | | | | |
| Standard solar modules | 3.75 | 4.23 | 2.13 | 1.80 | 1.34 |
| Total solution | | | 3.36 | 3.21 | 3.49 |
| **Balance Sheet Data:** | | | | | |
| Total assets | 277,622 | 570,654 | 1,038,703 | 1,423,367 | 1,879,809 |
| Net assets | 134,501 | 332,254 | 466,001 | 534,984 | 466,978 |
| Long-term borrowings | 17,866 | 45,357 | 29,290 | 69,458 | 88,249 |
| Convertible notes | 59,885 | 830 | 866 | 906 | 950 |
| Common shares | 97,454 | 395,154 | 500,322 | 501,146 | 502,403 |
| Number of shares outstanding[2] | 27,320,389 | 35,686,313 | 42,745,360[2] | 42,893,044 | 43,155,767 |

(1) Total solution business includes solar power project development and sales, engineering, procurement and construction, or EPC, service, and sales of solar systems kits.

(2) Excluding 29,125 restricted shares, which were subject to restrictions on voting and dividend rights and transferability, as of December 31, 2009.

***Exchange Rate Information***

Our consolidated financial statements have been prepared in accordance with U.S. GAAP. We conduct our business in an industry that generally uses the U.S. dollar as its currency of reference. Since a substantial amount of our transactions are denominated in U.S. dollars, our management believes that the U.S. dollar is the most appropriate currency to use as our functional currency and as our reporting currency for our consolidated financial statements.

All of our subsidiaries in China use the Renminbi as their functional currency and some of our overseas subsidiaries use the Euro, the Canadian dollar, or the Japanese Yen as their functional

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currency. We record transactions denominated in other currencies at the rates of exchange prevailing when the transactions occur. We translate monetary assets and liabilities denominated in other currencies into U.S. dollars at rates of exchange in effect at the balance sheet dates and record exchange gains and losses in our statements of operations. Accordingly, we translate assets and liabilities using exchange rates in effect at each period end and we use the average exchange rates of the period for the statement of operations. We make no representation that any Renminbi or U.S. dollar amounts could have been, or could be, converted into U.S. dollars or Renminbi, as the case may be, at any particular rate, the rates stated below, or at all. The PRC government imposes controls over its foreign currency reserves in part through direct regulation of the conversion of Renminbi into foreign currencies and through restrictions on foreign trade. On April 20, 2012, the exchange rate, as set forth in the H.10 statistical release of the Federal Reserve Board, was RMB 6.3080 to $1.00.

The following table sets forth information concerning exchange rates between the RMB and the U.S. dollar for the periods indicated.

| | Renminbi per U.S. Dollar Exchange Rate[1] | | | |
|---|---|---|---|---|
| Period | Period End | Average[2] | Low | High |
| | (RMB per $1.00) | | | |
| 2007 | 7.2946 | 7.6058 | 7.8127 | 7.2946 |
| 2008 | 6.8225 | 6.9477 | 7.2946 | 6.7800 |
| 2009 | 6.8259 | 6.8307 | 6.8470 | 6.8176 |
| 2010 | 6.6000 | 6.7603 | 6.8330 | 6.6000 |
| 2011 | 6.2939 | 6.4475 | 6.6364 | 6.2939 |
| October | 6.3547 | 6.3710 | 6.3825 | 6.3534 |
| November | 6.3765 | 6.3564 | 6.3839 | 6.3400 |
| December | 6.2939 | 6.3482 | 6.3733 | 6.2939 |
| 2012 | | | | |
| January | 6.3080 | 6.3119 | 6.3330 | 6.2940 |
| February | 6.2935 | 6.2997 | 6.3120 | 6.2935 |
| March | 6.2975 | 6.3125 | 6.3315 | 6.2975 |
| April (Through April 20) | 6.3080 | 6.3052 | 6.3150 | 6.2975 |

(1) For December 2008 and prior periods, the exchange rate refers to the noon buying rate as reported by the Federal Reserve Bank of New York. For January 2009 and later periods, the exchange rate refers to the exchange rate as set forth in the H.10 statistical release of the Federal Reserve Board.

(2) Annual averages are calculated from month-end rates. Monthly averages are calculated using the average of the daily rates during the relevant period.

**B. Capitalization and Indebtedness**

Not applicable.

**C. Reasons for the Offer and Use of Proceeds**

Not applicable.

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**D. Risk Factors**

**Risks Related to Our Company and Our Industry**

***We may be adversely affected by volatile solar power market and industry conditions; in particular, the demand for our solar power products may decline, which may reduce our revenues and earnings.***

We are influenced by conditions in the solar power market and industry. During 2008 and parts of 2009, the global solar power product industry experienced abrupt declines in demand due to limited availability of funding for downstream buyers of solar power products related to the global economic crisis. The declines in demand combined with an increase in manufacturing capacity resulted in a decline in the prices of solar power products. The decline in prices of solar power products continued during the remainder of 2009, primarily due to decreased prices of polysilicon and reclaimable silicon raw materials. As the effect of the global economic crisis subsided in 2010, the demand for solar power products increased and many manufacturers increased their production capacity accordingly. In 2011, a decrease in payments to solar power producers in the form of feed-in tariffs and other reimbursements, a reduction in available financing, and the excess supply of solar PV modules worldwide put severe downward pressure on solar PV module prices in European as well as other markets. As a result, many solar power producers that purchase solar power products, including solar PV modules from manufacturers like us, were adversely affected and their financial condition has weakened. Although our shipments increased year-over year in 2011, average selling prices for our solar PV modules declined significantly. If the supply of solar PV modules grows faster than demand, and if governments continue to reduce financial support for the solar industry, demand for our products as well as our average selling price to be materially and adversely affected.

The demand for solar power products is influenced by macroeconomic factors, such as global economic conditions, demand for electricity, 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, the solar and other alternative energy industries and the environment. For example, a reduction in oil and coal prices may reduce the demand for alternative energy. The 2009 global economic crisis significantly affected the ability of financial institutions to offer credit in the global market place. The financial risks associated with, and the reluctance of financial institutions to provide funding to, infrastructure projects led to bottlenecks in the growth of PV installations during 2009. The steady recovery of global economic conditions, significant declines in module costs and selling prices and robust government subsidy incentives supporting PV development led to a modest recovery of PV installations in 2010. During 2011, a decrease in solar power prices and a reduction in available financing caused a decrease in the demand for PV projects. Solar power prices decreased as governments, forced by the global debt crisis to implement austerity measures, reduced subsidies, such as feed-in tariffs. Further, many downstream purchasers of solar power products were unable to secure sufficient financing for their PV projects. As a result, many purchasers of solar power products were unable or unwilling to expand their operations. In light of the uncertainty in the global credit and lending environment, we cannot make assurances that financial institutions will continue to offer funding to PV project developers at reasonable costs. An increase in interest rates or a decrease in funding of capital projects within the global financial market could make it difficult to fund PV systems and potentially reduce the demand for PV modules and/or reduce the average selling prices for PV modules. Our business, results of operations, financial conditions and prospect may be materially and adversely affected.

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***If the supply of solar wafers and cells increases in line with increases in the supply of polysilicon, then the corresponding oversupply of solar cells and modules may cause substantial downward pressure on the prices of our products and reduce our revenues and earnings.***

Silicon production capacity has expanded rapidly since 2008. As a result, the solar industry experienced an oversupply of high-purity silicon in 2009, which contributed to an oversupply of solar wafers, cells and modules and resulted in substantial downward pressure on prices throughout the value chain in 2009. According to Solarbuzz, an independent solar energy research and consulting firm, spot prices for polysilicon fell dramatically from a peak of over $120 per kilogram in the first quarter of 2009 to a low of approximately $55 per kilogram at the end of 2009. Similarly, solar module prices fell from a high of approximately $2.74 per watt in the first quarter of 2009 to a low of approximately $1.85 per watt at the end of 2009. Strong demand in 2010 stabilized and strengthened prices across the value chain, particularly in the second half of 2010, with module pricing increasing from approximately $1.65 to approximately $1.90 per watt, cell pricing increasing from approximately $1.25 to approximately $1.40 per watt and wafer pricing increasing from approximately $0.80 to approximately $1.00 per watt. Polysilicon prices increased in 2010 from approximately $50 to $55 per kilogram to approximately $80 to $90 per kilogram. However in 2011, the solar industry again experienced oversupply, and by the end of the year, module pricing was approximately $1.00 per watt, cell pricing was approximately $0.55 per watt and wafer pricing was approximately $0.41 per watt. The overall softening of silicon materials pricing is expected to continue in 2012. If we are unable, on an ongoing basis, to procure silicon, solar wafers and solar cells at prices that decline in line with market prices and the prices that we charge for our solar modules, our revenues and margins could be adversely impacted, either due to higher costs compared to our competitors or due to further write-downs of inventory, or both. In addition, our market share could decline if our competitors are able to price their products more competitively.

***The execution of our growth strategy depends upon the continued availability of third-party financing arrangements for our customers, which is affected by general economic conditions. Tight credit markets could depress demand or prices for solar products, hamper our expansion and materially affect our results of operations.***

The general economy and limited availability of credit and liquidity could materially and adversely affect our business and results of operations. General economic conditions, liquidity, availability and cost of capital could materially and adversely affect our business and results of operations. Most solar power projects, including our own, require financing for development and construction with a mixture of equity and third party funding. The cost of capital affects both the demand and price of solar power systems. A high cost of capital may materially reduce the internal rate of return for solar power projects and therefore put downward pressure on the prices of both solar systems and solar modules, which typically comprise approximately 40% to 50% of solar power project costs.

Furthermore, solar power projects compete for capital with other forms of investment such as bonds. Some classes of investors compare the returns of solar power projects with bond yields and expect a similar or improved internal rate of return, adjusted for risk and liquidity. Higher interest rates could render existing funding more expensive and present an obstacle for potential funding that would otherwise spur the growth of the solar power industry. In addition, higher bond yields could result in increased yield expectations for solar power projects, which would also result in lower system prices. In the event that suitable funding is unavailable, our customers may be unable to pay for products they have agreed to purchase. It may also be difficult to collect payments from customers facing liquidity challenges due to either customer defaults or financial institution defaults on project loans. Constricted credit markets may impede our expansion and materially and adversely affect our results of operations. Concerns about government deficits and debt in the European Union, our major market, have increased bond spreads in certain solar markets, such as Greece, Spain, Italy and Portugal. The cash flow of a solar power project is often derived from government-funded or

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government-backed feed-in tariffs. Consequently, the availability and cost of funding solar power projects is determined in part based on the perceived sovereign credit risk of the country where a particular project is located. Therefore, credit agency downgrades of nations in the European Union could decrease the credit available for solar power projects, increase the expected rate of return compared to bond yields, and increase the cost of debt for solar power projects in countries with a higher perceived sovereign credit risk.

***If governments revise, reduce or eliminate subsidies and economic incentives for solar power, the demand for our products could decline, which could materially and adversely affect our revenues, profits, margins and results of operations.***

The market for on-grid applications, where solar power supplements the electricity a customer purchases from the utility network or sells to a utility under a feed-in tariff, depends largely on the availability and size of government mandates and economic incentives. At present, the cost of solar power exceeds retail electricity rates in many locations. These incentives vary by geographic market. Government bodies in many countries, most notably Germany, Italy, the Czech Republic, the United States, Japan, Canada, South Korea, Greece, France, Australia and Spain, have provided incentives in the form of feed-in tariffs, rebates, tax credits, renewable portfolio standards and other incentives. These governments have implemented mandates to end-users, distributors, system integrators and manufacturers of solar power products to promote the use of solar energy in on-grid applications and to reduce dependency on other forms of energy. Some of these government mandates and economic incentives, such as the German Renewable Energy Law, are scheduled to be reduced and could be altered or eliminated altogether through new legislation. For example, in January, July and October of 2010, Germany introduced reductions in 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. Austerity measures and the rapid growth of the solar industry have forced other European countries, such as Spain, Italy and Greece, to reduce feed-in tariff subsidies for solar power producers, and it is likely that such reductions will continue, possibly until subsidies are phased out completely for solar energy.

While solar power projects may continue to offer attractive internal rates of return, it is unlikely internal rates of return will be as high as they were in 2009 and 2010. If internal rates of return fall below an acceptable rate for project investors, this will cause a decrease in demand and considerable downward pressure on solar system and therefore solar module prices. The reduction, modification or elimination of government mandates and economic incentives in one or more of our markets could materially and adversely affect the growth of such markets or result in increased price competition, either of which could cause our revenues to decline and harm our financial results.

***We have, from time to time, entered into long-term supply agreements with polysilicon and wafer suppliers. Long-term supply agreements may make it difficult for us to adjust our raw material costs should prices decrease. Also, if we chose to prematurely terminate any of these agreements, we may not be able to recover all or any part of the advance payments we have made to these suppliers and we may be subject to litigation. Any of these consequences could materially and adversely affect our operations.***

In 2007 and 2008, due to shortages of polysilicon and silicon wafers, we entered into a number of long-term supply agreements with several silicon and wafer suppliers in an effort to secure raw materials to meet production demand. These suppliers included GCL-Poly Energy Holdings Limited, or GCL, Neo Solar Power Corp., or Neo Solar, Deutsche Solar AG, or Deutsche Solar, Jiangxi LDK Solar Hi-Tech Co., Ltd., or LDK, and a UMG-Si supplier.

In response to the decline in the price of polysilicon, we have been discussing adjustments in the unit price and volume terms under our supply agreements with these suppliers. In 2009, we agreed to

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amend our agreements with certain of them, such as GCL, Neo Solar, LDK and the UMG-Si supplier, to adjust the purchase price that we are required to pay to prevailing market prices at the time we place a purchase order and to reduce the quantity of products that we are required to purchase. In December 2010, we entered into a further amendment agreement with GCL to further adjust the delivery volumes and pricing for the period from 2011 through 2015.

We purchased the contracted volume for year 2009 under our 12-year supply agreement with Deutsche Solar, but we did not purchase the contracted volumes for year 2010 and year 2011. The agreement contains a provision stating that, if we do not order the contracted volume in a given year, Deutsche Solar can invoice us for the difference at the full contract price. We believe that it is more likely than not that the take-or-pay provisions of the agreement are void under German law. In December 2011, Deutsche Solar gave notice to us to terminate the 12-year wafer supply agreement with immediate effect. Deutsche Solar justified the termination with alleged breach of the agreement by us. In the notice, Deutsche Solar reserved its right to claim damage of Euro148.6 million (approximately $192.6 million) in court. The 12-year supply agreement with Deutsche Solar was terminated in 2011. As a result, we reclassified the accrued loss on firm purchase commitments reserve of $27.9 million as of December 31, 2011 to loss contingency accruals. In addition, we made a full bad debt allowance of $17.4 million against the balance of its advance payments to Deutsche Solar as a result of the termination of the long-term supply contract. The accrued amount of $27.9 million represents our best estimate for our loss contingency. Deutsche Solar did not specify the basis for its claimed damage of Euro148.6 million (approximately $192.6 million) on the notice. It is reasonably possible that Deutsche Solar may claim additional damage losses in excess of the accrued amount; however, we are unable to reliably estimate the range of any additional exposure.

Under our supply agreements with certain of our multi-year silicon wafer suppliers, and consistent with historical industry practice, we have made advance payments prior to scheduled delivery dates. The advance payments were made without collateral and are to be credited against the purchase prices payable by us. As of December 31, 2011, the balance of advance payments that we have made to GCL, Deutsche Solar, LDK and the UMG-Si supplier totaled $46.5 million.

In April, 2010, we gave LDK termination notice regarding our two ten-year supply agreements with them. We also initiated arbitration proceedings against LDK seeking a refund of certain advance payments that we made to them. The arbitration process has not yet been resolved. The final judgment will be made in the second half of 2012 as scheduled by the arbitration commission. See "Item 8. Financial Information A. Consolidated Statements and Other Financial Information Legal and Administrative Proceedings." We have recorded a full bad debt allowance against the advance payments that we made to LDK in the amounts of RMB60 million (approximately $8.8 million based on the exchange rate in effect on December 31, 2009) in 2009. Further, due to the default of the UMG-Si supplier in delivering its contracted volumes for 2010 and concerns regarding its financial position, we are not likely to purchase any significant quantity of UMG-Si from this supplier in the future and have taken a full bad debt allowance against the advance payments of RMB64 million (approximately $9.7 million based on the exchange rate in effect on December 31, 2010) to the UMG-Si supplier in 2010. In 2011, we made a full bad debt allowance of €13.4 million (approximately $17.4 million) against the balance of the advance payments that we made to Deutsche Solar as a result of the termination of the long-term supply contract.

If our suppliers bring litigations against us for early termination of these contracts, such events could be costly, may divert management's attention and other resources away from our business, and could have material and adverse effect on our reputation, business, financial condition, results of operations and prospects.

In the future, we may enter into new medium-term and long-term supply agreements. If, during the term of these agreements, the price of materials decreases significantly and we are unable to

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renegotiate favorable terms with our suppliers, 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 than required to meet customer demand, we may incur costs associated with carrying excess inventory. To the extent that 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.

***Existing regulations, 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 and services.***

The market for electricity generation products is heavily influenced by federal, state and local government regulations and policies concerning the electric utility industry in the United States and abroad, as well as policies disseminated by electric utilities. These regulations and policies often relate to electricity pricing and technical interconnection of customer-owned electricity generation, and could deter further investment in the research and development of alternative energy sources as well as customer purchases of solar power technology, which could result in a significant reduction in the potential demand for our solar power products. We expect that our solar power products and installation will continue to be subject to federal, state, local and foreign regulations relating to safety, utility interconnection and metering, construction, environmental protection, and other related matters. Any new regulations or policies pertaining to our solar power products may result in significant additional expenses to us, our resellers and customers, which could cause a significant reduction in demand for our solar power products.

***Our significant international operations expose us to a number of risks, including unfavorable political, regulatory, labor and tax conditions in the countries where we operate.***

We intend to continue to extend our global reach and capture market share through the establishment of manufacturing sites and logistic centers in key global markets. Throughout the process of establishing operating facilities in these markets, we could be exposed to risks, including political, regulatory, labor and tax risks. Furthermore, we may need to make substantial investments in these overseas operations, both initially and on an ongoing basis, in order to attain longer-term sustainable returns. These investments could influence our financial performance before sustainable profitability is recognized.

***Because the markets in which we compete are highly competitive and many of our competitors have greater resources than we do, we may not be able to compete successfully and we may not be able to maintain or increase our market share.***

We have a large number of competitors, including international competitors such as SunPower Corporation, or SunPower, First Solar, Inc., or First Solar, Sharp Solar Corporation, or Sharp Solar, and China-based competitors such as Suntech Power Holdings Co. Ltd., or Suntech, Yingli Green Energy Holding Company Limited, or Yingli, and Trina Solar Limited, or Trina. We expect to face increasing competition in the future. Further, some of our competitors are developing or are currently producing products based on new solar power technologies that may ultimately have costs similar to or lower than our projected costs. Some of our competitors are developing or currently producing products based on thin film PV technology, which requires either no silicon or significantly less silicon to produce than crystalline silicon solar modules, such as the ones that we produce, and are less susceptible to increases in silicon costs. Some of our current and potential competitors have longer operating histories, greater name and brand recognition, and access to larger customer bases, greater resources and significantly greater economies of scale than we do. In addition, our competitors may have stronger relationships or may enter into exclusive relationships with some of the key distributors

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or system integrators to whom we sell our products. As a result, they may be able to respond more quickly to changing customer demands or devote greater resources to the development, promotion and sales of their products. Some of our competitors have more diversified product offerings, which may better position them to withstand a decline in demand for solar power products. Some of our competitors are more vertically integrated than we are, from upstream silicon wafer manufacturing to solar power system integration. This may allow them to capture higher margins or have lower costs. In addition, new competitors or alliances among existing competitors could emerge and rapidly acquire significant market share. If we fail to compete successfully, our business will suffer and we may not be able to maintain or increase our market share.

***If sufficient demand for solar power products does not develop or takes longer to develop than we anticipate, our revenues may not continue to increase or may decline, and we may be unable to sustain our profitability.***

The solar power market is at a relatively early stage of development and future demand for solar power products is uncertain. Market data for the solar power industry is not as readily available as for more established industries, where trends are more reliably assessed from data gathered over a longer period. In addition, demand for solar power products in our targeted markets, including Germany, Italy, the U.S., Canada, Japan, France, Spain, South Korea, Australia and China, may not develop or may develop to a lesser extent than we anticipate. Many factors may affect the viability of solar power technology and the demand for solar power products, including:

- the cost-effectiveness, performance and reliability of solar power products compared to conventional and other renewable energy sources and products;
- the availability of government subsidies and incentives to support the development of the solar power industry;
- the cost and availability of capital, including long-term debt and tax equity, for solar projects;
- the success of other alternative energy technologies, such as wind power, hydroelectric power, geothermal power and biomass fuel;
- 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; and
- the lack of favorable regulation for solar power within the electric power industry and broader energy industry.

If solar power technology is not suitable for widespread adoption or if 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.

***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.***

Most of our products are sold to customers outside China. In 2011, sales to customers outside China comprised 93.2% of our total net revenues. The international marketing, distribution and sale of our products expose us to a number of risks, including:

- difficulties staffing and managing overseas operations;
- fluctuations in foreign currency exchange rates;

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- the increased cost of understanding local markets and trends and developing and maintaining an effective marketing and distributing presence in various countries;
- the difficulty of providing customer service and support in various countries;
- the difficulty of managing our sales channels effectively as we expand beyond distributors to include direct sales to systems integrators, end users and installers;
- the difficulties and costs of complying with the different commercial, legal and regulatory requirements in the overseas markets in which we offer our products;
- our failure to develop appropriate risk management and internal control structures tailored to overseas operations;
- our inability to obtain, maintain or enforce intellectual property rights;
- unanticipated changes in prevailing economic conditions and regulatory requirements; and
- 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.

If we are unable to effectively manage these risks, our ability to expand our business abroad could suffer. Furthermore, some of these risks, such as currency fluctuations, could influence our financial performance.

***Imposition of anti-dumping and countervailing orders in one or more markets will result in additional costs to our customers, which could materially or adversely affect our business, results of operations, financial conditions and future prospects.***

The U.S. unit of SolarWorld AG and six other U.S. firms have accused Chinese producers of crystalline silicon photovoltaic, or CSPV, cells and modules of selling their products into the United States at less than fair value, or dumping, and of receiving countervailable subsidies from the Chinese authorities. These firms have asked the U.S. government to impose anti-dumping and countervailing duties on CSPV imports from China. The U.S. Department of Commerce, or USDOC, and the U.S. International Trade Commission, or USITC, have been investigating the validity of these claims. We were identified as one of a number of Chinese exporters of CSPV modules to the U.S. market. We also have affiliate U.S. import operations that import CSPV modules from China.

On December 2, 2011, the USITC issued its preliminary determination that there is "a reasonable indication" that the complaining industry has been materially injured by reason of imports of CSPV cells and modules from China. The USDOC is conducting an investigation into whether such imports have been dumped or are receiving countervailable subsidies. A USDOC preliminary countervailing duty determination was issued on March 19, 2012 and a subsidy rate for Canadian Solar was preliminarily determined at 3.61% on CSPV cells imported from China on or after December 27, 2011. The USDOC has instructed the United States Customs and Border Protection Agency to require a cash deposit or the posting of a bond equal to the estimated preliminary subsidy rates reflected in the USDOC's preliminary subsidies determination. The USDOC also preliminarily determined that the imposition of orders, if any, would apply to imports of solar cells manufactured in China, even where incorporated into modules in and exported to the United States from a third country, but would not apply to modules made in China from solar cells manufactured in a third country. A USDOC preliminary antidumping determination is currently due May 16, 2012. A final decision on the possible imposition of orders, which as a general matter holds the possibility of establishing rates substantially different from preliminary rates, is not expected until late summer, at the earliest.

In addition, media reports indicate that domestic CSPV producers in the European Union and India are considering filing antidumping and countervailing duty petitions in those jurisdictions.

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Imposition of anti-dumping and countervailing orders in one or more markets will result in additional costs to our customers, which could materially and adversely affect our business, results of operations, financial conditions and future prospects.

***The increase in the global supply of solar cells and modules, and increasing industry competition, may cause substantial downward pressure on the prices of such products and declines in our sales or market share, which could adversely and materially affect our results of operations and financial condition.***

Global solar cell and module production capacity increased materially in 2009, 2010 and 2011, and is expected to continue to increase in the future. Many competitors or potential competitors, particularly in China, continue to expand their production, creating a potential oversupply of solar modules and cells in key markets. Increases in solar module production and industry competition will result in substantial downward pressure on the price of solar cells and modules, including Canadian Solar's products. Our average selling price has decreased from $1.80 per watt in 2010 to $1.34 per watt in 2011, in large part because the increase in supply of solar cells and modules was greater than the increase in demand. Increasing competition could also result in us losing sales or market share. Such price reductions and decreases in sales or market share could continue to have a negative impact on our business, results of operations and financial condition.

***Our quarterly operating results may fluctuate from period to period.***

Our quarterly operating results may fluctuate from period to period based on a number of factors, including:

the average selling prices of our solar modules, solar system kits and products;

the rate and cost at which we are able to expand our internal manufacturing capacity;

the availability and price of solar cells and wafers from our suppliers and toll manufacturers;

the availability and price of raw materials, particularly high-purity silicon;

changes in government incentive programs and regulations, particularly in our key and target markets;

the unpredictable volume and timing of customer orders;

the loss of one or more key customers or the significant reduction or postponement of orders;

availability of financing for on-grid and off-grid solar power applications;

acquisition and investment costs;

geopolitical turmoil and natural disasters within any of the countries in which we operate or sell products;

foreign currency fluctuations, particularly in the U.S. dollar, Euro, RMB and CAD;

our ability to establish and expand customer relationships;

changes in our manufacturing costs;

the timing of new products or technology introduced or announced by our competitors;

increases or decreases in electricity rates due to changes in fossil fuel prices or other factors;

allowances for doubtful accounts and advances to suppliers;

inventory write-downs; and

loss on firm purchase commitments under long-term supply agreements.

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We base our planned operating expenses in part on our expectations of future revenues, and a significant portion of our expenses will be fixed in the short-term. If our revenues for a particular quarter are lower than we expect, we may not be able to proportionately reduce our operating expenses, which would harm our operating results for that quarter. This may cause us to miss analysts' estimates or any guidance announced by us. If we fail to meet or exceed analysts' estimates, investor expectations or our own future guidance, even by a small amount, our share price could decline, perhaps substantially.

***Fluctuations in exchange rates could adversely affect our business, including our financial condition and results of operations.***

The majority of our sales are denominated in Euros and U.S. dollars, with the remainder in other currencies such as the Renminbi, Canadian dollar, Japanese yen and British pound. Our Renminbi costs and expenses are primarily related to domestic sourcing of solar cells, silicon wafers and silicon, other raw materials, toll manufacturing fees, labor costs and local overhead expenses. From time to time, we enter into loan arrangements with Chinese commercial banks that are denominated primarily in U.S. dollars or Renminbi. The greater part of our cash and cash equivalents are denominated in Renminbi. Fluctuations in exchange rates, particularly among the U.S. dollar, Euro, Renminbi and Canadian dollar, may affect our net profit margins and may result in fluctuations in foreign exchange and operating gains or losses. We recorded a foreign exchange gain of $7.7 million in 2009 but incurred a foreign exchange loss of $36.3 million and $40.0 million in 2010 and 2011, respectively.

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. In late 2005, China amended its policy of tracking the value of the RMB to the U.S. dollar. The new policy permitted the RMB to fluctuate against a basket of foreign currencies, which has caused the RMB to appreciate by approximately 23.1% against the U.S. dollar. However, since 2008, the RMB has fluctuated against other freely traded currencies. In June 2010, the PRC announced that it would allow greater flexibility for the Renminbi to appreciate against the U.S. dollar, which resulted in further appreciation of Renminbi. We cannot provide any assurances that the policy will not affect the exchange rate between the Renminbi and the U.S. dollar in the future. Since 2008, we hedge part of our foreign currency exposures, mainly in the Euro, against the U.S. dollar using foreign currency forward or option contracts in order to limit our foreign exchange losses. We continued to hedge part of our Euro exposure against the U.S. dollar in 2009, 2010 and 2011 with similar instruments.

The collateral requirements to enter into hedging contracts and the expenses associated with purchasing currency options have increased. There are also notional limits on the size of the hedging transactions that we may enter into with any particular counterparty at any given time. In the second half of 2009, these notional limits were inadequate to cover our expected cash flows for the first and second quarters of 2010. These notional limits were increased in 2010. This allowed us to hedge more of our expected cash flows and balances denominated in foreign currencies, mainly in the Euro. In 2011, our notional limits were sufficient to enable us to hedge part of our expected cash flows and balances denominated in foreign currencies, mainly in the Euro. However, the effectiveness of our hedging program may be limited with respect to cost effectiveness, cash management, exchange rate visibility and downside protection. We recorded a gain on change in foreign currency derivatives of $9.9 million and $1.7 million in 2009 and 2010, respectively, while we incurred a loss on change in foreign currency derivatives of $5.8 million in 2011. The gains or losses on change in foreign currency derivatives are related to our hedging program.

Volatility in foreign exchange rates will hamper, to some extent, our ability to plan our pricing strategy. To the extent that we are unable to pass along increased costs resulting from exchange rate fluctuations to our customers, our profits may materially decrease. As a result, fluctuations in currency

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exchange rates could have a material and adverse effect on our financial condition and results of operations.

***Seasonal variations in demand linked to construction cycles and weather conditions may influence our results of operations.***

Our business is subject to seasonal variations in demand linked to construction cycles and weather conditions. Purchases of solar power products tend to decrease during the winter months in our key markets, such as Germany, due to adverse weather conditions that can complicate the installation of solar power systems. Demand from other countries, such as Canada, the U.S., China and South Korea, may also be subject to significant seasonality. Seasonal variations could adversely affect our results of operations and make them more volatile and unpredictable.

***Our future success depends partly on our ability to significantly expand our capacity to manufacture solar components, which exposes us to a number of risks and uncertainties.***

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

- the need to raise significant additional funds to purchase raw materials and to build additional manufacturing facilities, which we may be unable to obtain on commercially reasonable terms or at all;
- delays and cost overruns as a result of a number of factors, many of which are beyond our control, including delays in equipment delivery by vendors;
- 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 our internal solar components manufacturing capabilities, 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.

***Due to the general economic environment and other factors, we may be unable to generate sufficient cash flows or have access to external financing necessary to fund planned operations and make adequate capital investments.***

We anticipate that our operating and capital expenditures will increase substantially in the foreseeable future. To develop new products, support future growth, achieve operating efficiencies and maintain product quality, we must make significant capital investments in manufacturing technology, facilities and capital equipment, research and development, and product and process technology. We also anticipate that our operating costs will increase as we expand our manufacturing operations, hire additional personnel, make advance payments or pay more for our raw materials, including polysilicon, increase our sales and marketing efforts, invest in joint ventures and acquisitions, and continue our research and development efforts with respect to our products and manufacturing technologies. Certain of our suppliers require performance bonds issued by a bonding agency or letters of credit issued by financial institutions. Obtaining letters of credit requires adequate collateral. Our letter of credit facility is collateralized by restricted cash, which reduces the amount of cash available for operations.

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We incurred significant capital expenditures in 2011 related to improvements of our solar cell manufacturing capacity, technology and other projects. Going forward, we expect that we have to make additional significant capital expenditures to enhance our solar cell and module manufacturing capacity. Our capital expenditures and use of working capital may be greater than we expect if we invest in additional development and construction of solar power plants or decide to accelerate the increase of our manufacturing capacity, both internally and through investments in selected joint ventures. The financing that we require for the construction of solar power plants may not be available on terms acceptable to us. In addition, we could make additional investments in joint ventures or guarantee certain financial obligations of our joint ventures, which could reduce our cash flows, increase our indebtedness and expose us to the credit risk of our joint ventures. If our capital resources are insufficient to satisfy our liquidity requirements, we may seek to market additional equity or debt securities and/or obtain other debt financing. The economic environment and conditions in financial markets may limit our ability to raise equity or debt capital on acceptable terms. Lenders may be unwilling to lend funds that would be required to supplement cash flows to support daily operations. Further, increased debt would result in increased expenses and may give rise to restrictive covenants or collateral requirements. Financing arrangements, including project financing for our solar power plants, may not be available to us, or may not be available in amounts or on terms acceptable to us. We may also seek to sell assets, reduce or delay capital investments, or refinance or restructure our debt. There can be no assurance that we will be able to generate sufficient cash flows, find other sources of capital to fund our operations and solar power plant projects, make adequate capital investments to remain competitive in terms of technology development and cost efficiency required by our projects. If adequate funds and alternative resources are not available on acceptable terms, our ability to fund our operations, develop and construct solar power plants, develop and expand our manufacturing operations and distribution network, maintain our research and development efforts, provide collateral for our projects or otherwise respond to competitive pressures would be significantly impaired. Our inability to do the foregoing could have a material and adverse effect on our business and results of operations.

***We may be unable to obtain adequate capital due to market conditions beyond our control, which may adversely influence our ability to grow our business.***

Our operations are capital intensive. We rely on working capital financing from PRC commercial banks for our daily operations. Although we are currently able to obtain new commercial loans from these PRC commercial banks, we cannot guarantee that we can continue to obtain such loans on commercially reasonable terms or at all. Despite our ability as a publicly traded company to raise capital via public equity and debt issuances, weakness in global capital and debt markets may adversely affect our results of operations if we are unable to access the capital necessary to achieve our performance targets and expansion goals. Our ability to obtain external financing in the future is subject to a variety of uncertainties, including:

- our future financial condition, results of operations and cash flows;
- general market conditions for financing activities by manufacturers of photovoltaic and related products; and
- economic, political and other conditions in the PRC and elsewhere.

If we are unable to obtain funding in a timely manner and on commercially acceptable terms, our growth prospects and future profitability may be adversely affected.

The construction by us of large utility-scale solar power projects may require us to obtain project financing. There can be no assurance that we will be able to obtain such project financing on terms acceptable to us or at all. If we are unable to obtain such project financing, or if it is only available on terms which are not acceptable to us, we may be unable to fully execute our systems business plan. In

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addition, we generally expect to sell our projects by raising project equity capital from tax-oriented, strategic industry and other investors. Such investors may not be available or may only have limited resources, in which case our ability to sell our projects may be prevented or delayed and our business, financial condition, or results of operations may be adversely affected.

***Our dependence on Chinese banks to extend our existing loans and provide additional loans exposes us to funding risks due to changes in PRC macroeconomic policies, which may materially and adversely affect our operations.***

We require significant cash flow and funding to support our operations. For example, there is a significant time lag between the time that we make payments to our suppliers and the time that we collect payments from our customers. As a result, we rely on short-term borrowings to provide working capital for our daily operations. Since the majority of our short-term borrowings come from Chinese banks, we are exposed to lending policy changes by the Chinese banks. In 2011, we successfully extended our short-term borrowings and, as of December 31, 2011, we had outstanding short-term borrowings of $743.7 million with Chinese banks. Between January 1, 2012 and March 31, 2012, we obtained new bank borrowings of approximately $94 million and renewed existing bank facilities of approximately $613 million, the due dates of which were extended beyond December 31, 2012. If the Chinese government changes its macroeconomic policies and forces Chinese banks to tighten their lending practices, we may not be able to extend our short-term borrowings or make additional borrowings in the future. As a result, we may not be able to fund our operations to the same extent as in previous years, which may have a material and adverse effect on our operations.

***Our project development and construction activities may not be successful; projects under development may not receive required permits, property rights, power purchase agreements, interconnection and transmission arrangements; or financing or construction of projects may not commence or continue as scheduled, all of which could increase our costs, delay or cancel a project, and have a material adverse effect on our revenue and profitability.***

The development and construction of solar power plants involve known and unknown risks. We may be required to invest significant amounts of money for land and interconnection rights, preliminary engineering, permitting, legal and other expenses before we can determine whether a project is feasible. Success in developing a particular project is contingent upon, among other things:

securing land rights and related permits, including satisfactory environmental assessments;

receipt of required land use and construction permits and approvals;

receipt of rights to interconnect the project to the electric grid;

payment of interconnection and other deposits (some of which are non-refundable); negotiation of satisfactory EPC agreements; and

obtaining construction finance, including debt, equity and tax credits.

In addition, successful completion of a particular project may be adversely affected by numerous factors, including:

delays in obtaining and maintaining required governmental permits and approvals;

potential challenges from local residents, environmental organizations, and others who may not support the project;

unforeseen engineering problems; subsurface land conditions; construction delays; cost over-runs; labor, equipment and materials supply shortages or disruptions (including labor strikes);

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additional complexities when conducting project development or construction activities in foreign jurisdictions, including operating in accordance with the U.S. Foreign Corrupt Practices Act and applicable local laws and customs; and

force majeure events, including adverse weather conditions and other events out of our control.

If we are unable to complete the development of a solar power project or we fail to meet any agreed upon system-level capacity or energy output guarantees or warranties (including 25 year power output performance guarantees) or other contract terms, or our projects cause grid interference or other damage, the EPC or other agreements related to the project may be terminated and/or we may be subject to significant damages, penalties and other obligations relating to the project, including obligations to repair, replace or supplement materials for the project. In 2012 and beyond, we expect to invest a significant amount of capital to develop projects owned by us or third parties, which may limit the availability of capital to use for other purposes, such as contract damages or repurchase payments.

We may enter into fixed-price EPC agreements in which we act as the general contractor for our customers in connection with the installation of their solar power systems. All essential costs are estimated at the time of entering into the EPC agreement for a particular project, and these costs are reflected in the overall fixed price that we charge our customers for the project. These cost estimates are preliminary and may or may not be covered by contracts between us and the subcontractors, suppliers and other parties involved in the project. In addition, we require qualified, licensed subcontractors to install most of our systems. Shortages of skilled labor could significantly delay a project or otherwise increase our costs. Should miscalculations in planning a project occur, including those due to unexpected increases in commodity prices or labor costs, or delays in execution occur and we are unable to increase the EPC sales price commensurately, we may not achieve our expected margins or we may be required to record a loss in the relevant fiscal period.

***Lack of transmission capacity availability, potential upgrade costs to the transmission grid, and other system constraints could significantly impact our ability to build PV plants and generate solar electricity power sales.***

In order to deliver electricity, our solar power plants need to connect to the transmission grid. The lack of available capacity on the transmission grid could substantially impact our projects and cause reductions in project size, delays in project implementation, increases in costs from transmission upgrades and potential forfeiture of deposits that we may have made with respect to a given project. These transmission issues, as well as issues relating to the availability of large systems such as transformers and switch gear, could significantly impact our ability to build PV plants and generate solar electricity sales.

***Developing solar power projects may require significant upfront investment prior to commencing construction, which could adversely affect our business and results from our operations.***

Our solar power plant development cycles can take many months or years to mature. As a result, we may need to make significant upfront payments for, among other things, land rights andpermitting in advance of commencing construction, and the receipt of any revenue, much of which is not recognized for several additional months following contract signing. Our inability to enter into sales contracts with customers after making such upfront payments could adversely affect our business and results of operations. Furthermore, we may become constrained in our ability to simultaneously fund our other business operations and these system investments through our long project development cycles.

Our liquidity may be adversely affected to the extent the project sale market weakens and we are unable to sell our solar projects at prices and on terms and timing that are acceptable to us.

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***Cancellations of customer orders may make us unable to recoup any prepayments made to suppliers.***

In the past, we were generally required to make prepayments to certain suppliers of silicon wafers and cells and silicon raw materials. Although we require certain customers to make partial prepayments, there is a lag between the due date for the prepayment of purchased silicon wafers and cells and silicon raw materials and the time that our customers make prepayments. The purchase of solar wafers and cells and silicon raw materials through toll manufacturing arrangements has required, and will continue to require us to make significant commitments of working capital beyond the cash flows generated from our operations to support our estimated production output. In the event our customers cancel their orders, we may not be able to recoup prepayments made to suppliers, which could adversely influence our financial condition and results of operations.

***Credit terms offered to some of our customers expose us to the credit risks of such customers and may increase our costs and expenses, which could in turn materially and adversely affect our revenues, liquidity and results of operations.***

We offer some customers unsecured short-term and/or medium-term credit based on our relationships with them and market conditions. As a result, our claims for payments and sales credits rank as unsecured claims, which would expose us to credit risk if our customers become insolvent or bankrupt.

From time to time, we sell our products to high credit risk customers in order to gain early access to emerging or promising markets, increase our market share in existing key markets or because of the prospects of future sales with a rapidly growing customer. There are high credit risks in doing business with these customers because they are often small, young and high-growth companies with significantly unfunded working capital, inadequate balance sheet and credit metrics and limited operating histories. If these customers are not able to obtain satisfactory working capital, maintain adequate cash flow, or obtain construction financing for the projects where our modules are used, they may be unable to pay for the products for which they have submitted purchase orders or of which they have taken delivery. Our legal recourse under such circumstances may be limited if the customer's financial resources are already constrained or if we wish to continue to do business with that customer. For example, we took back solar modules that we had sold and shipped to certain customers that were unable to pay under the terms of our agreements or to provide any security that would have allowed us to extend our payment terms. As a result, we resold the modules to other customers at lower prices, which negatively influenced our revenue and margins. Revenue recognition for this type of customer is deferred until cash is received. If more customers to whom we extend credit are unable to pay for our products, our revenues, liquidity and results of operations could be materially and adversely affected.

***Our dependence on a limited number of silicon wafer and cell and silicon suppliers, and the limited number of suppliers for certain other components, such as silver metallization paste, solar module back-sheet, and ethylene vinyl acetate, encapsulant, could prevent us from delivering our products to our customers in the required quantities or in a timely manner, which could result in order cancellations and decreased revenues.***

We purchase silicon raw materials, which include solar grade silicon, and silicon wafers and solar cells, from a limited number of third-party suppliers. Our largest suppliers by dollar amount purchases accounted for approximately 17.3%, 10.3%, and 20.5% of our total raw materials purchases in 2009, 2010, and 2011, respectively.

Our major suppliers of silicon wafers include GCL and Konca Solar Cell Co., Ltd. Our major suppliers of solar cells include Neo Solar and Motech (Suzhou) Renewable Energy Co., Ltd., among others. These suppliers may not be able to meet our quantity requirements, or keep pace with the price reductions or quality improvements, necessary for us to price our products competitively. Supply may also be interrupted by accidents. For example, in the first three quarters of 2008, we experienced

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serious delays from one of our suppliers of silicon wafers, which in turn caused delays in deliveries and price increases of our solar modules for some of our customers. In the fourth quarter of 2009, the first half of 2010, and the fourth quarter of 2011, we experienced some delivery issues with suppliers of silicon wafers, cells, connectors and encapsulants that caused us to miss shipment deadlines to some of our customers. Delivery problems may also occur with suppliers of other components, such as silver metallization paste, low-iron glass, and solar module back sheet. The failure of a supplier, for whatever reason, to supply silicon wafers, solar cells, silicon raw materials or other essential components that meet our quality, quantity and cost requirements in a timely manner could impair our ability to manufacture our products or increase our costs. The impact could be more severe if we are unable to access alternative sources on a timely basis or on commercially reasonable terms, and could prevent us from delivering our products to our customers in the required quantities and at prices that are profitable. Problems of this kind could cause order cancellations, reduce our market share, harm our reputation and cause legal disputes with our customers.

***We are developing and commercializing higher conversion efficiency cells, such as selective emitter and metal wrap-through cells, in order to produce higher-powered modules, which may command better prices. We cannot assure that we will be able to mass-produce these cells in a cost effective way, if at all.***

Higher efficiency cell structures are becoming a more important cost and brand factor in the solar power industry. Such cells may yield higher power outputs without costing more to produce than lower efficiency cells, thereby lowering the manufactured cost per watt. The ability to manufacture and sell modules made from such cells may also be an important competitive advantage because system owners can obtain a higher yield of electricity from the modules that have a similar infrastructure, footprint and system cost compared to systems with modules using lower efficiency cells. Higher conversion efficiency solar cells and the resulting higher output modules are also one of the considerations in maintaining a price premium over thin-film products. However, while we are making the necessary capital equipment investments to develop higher conversion efficiency products, there is no assurance we will be able to commercialize some or any of these products in a cost effective way, or at all. In the near term, such products may command a modest premium. In the longer term, if our competitors are able to manufacture such products and we cannot do the same, we will be at a competitive disadvantage, which will likely influence our product pricing and therefore our financial performance.

***Since we cannot test our products for the duration of our standard warranty periods, we may be subject to unexpected warranty expense.***

Before June 2009, we typically sold our standard solar modules with a two-year guarantee for defects in materials and workmanship and a 10-year and 25-year warranty against declines of more than 10% and 20%, respectively, from the initial minimum power generation capacity at the time of delivery. In June 2009, we increased our warranty against defects in materials and workmanship to six years. Effective August 1, 2011, we increased our warranty against defects in materials and workmanship to ten years and we guarantee that, for a period of 25 years, our modules will maintain the following performance levels:

during the first year, the actual power output of the module will be no less than 97% of the labeled power output;

from year 2 to year 24, the actual annual power output decline will be no more than 0.7%; and

by the end of year 25, the actual power output of the module will be no less than 80% of the labeled power output.

We believe our warranty periods are consistent with industry practice. Due to the long warranty period, we bear the risk of extensive warranty claims long after we have shipped our products and recognized revenue. We began selling specialty solar modules and products in 2002 and only began

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selling standard solar modules in 2004. Any increase in the defect rate of our products would require us to increase our warranty reserves and would have a corresponding negative impact on our operating results. Although we conduct quality testing and inspection of our solar module products, our solar module products have not been and cannot be tested in an environment simulating the up-to-25-year warranty periods. Similarly, our UMG-Si solar products, while silicon based and theoretically durable and reliable, are relatively new to the market and are subject to the same testing limitations as our other solar products. In particular, unknown issues may surface after extended use. These issues could potentially affect our market reputation and adversely affect our revenues, giving rise to potential warranty claims by our customers. As a result, we may be subject to unexpected warranty costs and associated harm to our financial results as long as 25 years after the sale of our products.

In April 2010, we entered into agreements with a group of insurance companies to reduce some of this risk. Under the policies, the insurance companies cover the liabilities listed on our warranty statement up to certain maximum claim limits and subject to certain deductibles. The warranty insurance is renewable annually. See "Item 4. Information on the Company B. Business Overview Insurance." However, we cannot assure that potential warranty claims will not exceed the scope or amount of coverage under this insurance and, if they do, they could materially and adversely affect our business.

***We may not continue to be successful in developing and maintaining a cost-effective solar cell manufacturing capability.***

We plan to continue expanding our in-house solar cell manufacturing capabilities to support our core solar module manufacturing business. We expanded our annual solar cell production capacity from 800 MW as of December 31, 2010 to 1.5 GW as of December 31, 2011. To remain competitive going forward, we intend to further expand our total annual solar cell production capacity. However, we only have limited and recent operating experience in this area and may face significant product development challenges in the solar cell business. Manufacturing solar cells is a complex process and we may not be able to produce solar cells of sufficient quality to meet our solar module manufacturing standards. Minor deviations in the manufacturing process can cause substantial decreases in yield and in some cases cause no yield output or production to be suspended. We will need to make capital expenditures to purchase manufacturing equipment for solar cell production and will also need to make significant investments in research and development to keep pace with technological advances in solar power technology. The technologies, designs and customer preferences for solar cells can change rapidly, and solar cell product life cycles are shorter than those for solar modules. We also face increased costs to comply with environmental laws and regulations. Any failure to successfully develop and maintain cost-effective solar cell manufacturing capability may have a material and adverse effect on our business and prospects. For example, in the fourth quarter of 2009 and the first half of 2010, we purchased a large percentage of solar cells from third parties. This negatively affected our margins compared with those of our competitors since it is less expensive to produce cells internally than to purchase them. Because third party solar cell purchases are usually made in a period of high demand, prices tend to be higher and availability reduced.

Although we intend to continue direct purchasing of solar cells and toll manufacturing arrangements through a limited number of strategic partners, our relationships with our solar cell suppliers may be disrupted if we engage in the large-scale production of solar cells ourselves. If solar cell suppliers discontinue or reduce the supply of solar cells to us, through direct sales or through toll manufacturing arrangements, and we are not able to compensate for the loss or reduction by manufacturing our own solar cells, our business and results of operations may be adversely affected.

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***It may be difficult to develop our internal production capabilities for silicon ingots and wafers or to achieve acceptable yields and product performance as a result of manufacturing problems.***

We have been increasing our internal production capabilities for the manufacture of silicon ingots and wafers. We completed the initial phase of our silicon ingot and wafer plant in the third quarter of 2008 and reached a nameplate capacity of approximately 228 MW as of December 31, 2011. We have limited prior operational experience in ingot and silicon wafer production and will face significant challenges in further increasing our internal production capabilities. The technology is complex and will require costly equipment and hiring of highly skilled personnel. In addition, we may experience delays in further developing these capabilities and in obtaining the governmental permits required to carry on these operations.

If we are able to develop these production capabilities successfully, we will need to continuously enhance and modify these capabilities in order 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 silicon wafers can cause a percentage of the silicon wafers to be rejected, which would negatively affect our yields. We may experience manufacturing difficulties that cause production delays and lower than expected yields.

Problems in our facilities, including but not limited to production failures, construction delays, human errors, weather conditions, equipment malfunction or process contamination, may limit our ability to manufacture products, which could seriously harm our operations. We are also susceptible to floods, droughts, power losses and similar events beyond our control that would affect our facilities. A disruption in any step of the manufacturing process will require us to repeat each step and recycle the silicon debris, which would adversely affect our yields.

***Our future growth depends in part on our ability to make strategic acquisitions and investments and to establish and maintain strategic relationships, and our failure to do so could have a material and adverse effect on our market penetration and revenue growth.***

We may acquire other businesses, make strategic investments or establish strategic relationships with third parties to improve our market position or expand our products and services. We cannot assure that we will be able to successfully make strategic acquisitions and investments or establish strategic relationships with third parties that will prove to be effective for our business. Our inability to do so could materially and adversely affect our market penetration, our revenue growth and our profitability.

Investments, strategic acquisitions and relationships with third parties could subject us to a number of risks, including risks associated with sharing proprietary information and loss of control of operations that are material to our business. Moreover, strategic acquisitions, investments and relationships may be expensive to implement and subject us to the risk of non-performance by a counterparty, which may in turn lead to monetary losses that materially and adversely affect our business.

***If we are unable to attract, train and retain 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 technical personnel. Recruiting and retaining capable personnel, particularly those with expertise in the solar power industry, are vital to our success. There is substantial competition for qualified technical personnel, and there can be no assurance that we will be able to attract or retain sufficient technical personnel. If we are unable to attract and retain qualified employees, our business may be materially and adversely affected.

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***Our dependence on a limited number of customers and our lack of long-term customer contracts may cause significant fluctuations or declines in our revenues.***

We sell a substantial portion of our solar module products to a limited number of customers, including distributors, system integrators and various manufacturers who either integrate our products into their own products or sell them as part of their product portfolio. Our top five customers by revenues collectively accounted for approximately 57.5%, 26.0% and 29.2% of our net revenues in 2009, 2010 and 2011, respectively. We typically enter into one-year framework sales agreements with our customers, with quarterly firm orders stipulating prices and quantities. We anticipate that our dependence on a limited number of customers will continue for the foreseeable future. Consequently, any of the following events may cause material fluctuations or declines in our revenues:

reduced, delayed or cancelled orders from one or more of our significant customers;

the loss of one or more of our significant customers;

a significant customer's failure to pay for our products on time; and

a significant customer's financial problems or insolvency.

As we continue to expand our business and operations, our top customers continue to change. We cannot assure that we will be able to develop a consistent customer base.

***Product liability claims against us could result in adverse publicity and potentially significant monetary damages.***

We, along with other solar module product manufacturers, are exposed to risks associated with product liability claims if the use of our solar module products results in injury. Since our products generate electricity, it is possible that users could be injured or killed by our products due to product malfunctions, defects, improper installation or other causes. We shipped our first products in March 2002 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. Although we carry limited product liability insurance, we may not have adequate resources to satisfy a judgment if a successful claim is brought against us. The successful assertion of product liability claims against us could result in potentially significant monetary damages and require us to make significant payments. Even if the product liability claims against us are determined in our favor, we may suffer significant damage to our reputation.

***Our founder, Dr. Shawn Qu, has substantial influence over our company and his interests may not be aligned with the interests of our other shareholders.***

As of March 31, 2012, Dr. Shawn Qu, our founder, chairman, president and chief executive officer, beneficially owned 13,030,000 common shares, or 30.2% of our outstanding share capital. As a result, Dr. Qu has substantial influence over our business, including decisions regarding mergers, consolidations and the sale of all or substantially all of our assets, the election of directors and other significant corporate actions. This concentration of ownership may discourage, delay or prevent a change in control of our company, which could deprive our shareholders of an opportunity to receive a premium for their shares as part of a sale of our company and might reduce the price of our common shares.

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

Our success depends on our ability to use and develop our technology and know-how and sell our solar module products without infringing the intellectual property or other rights of third parties. The

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validity and scope of claims relating to solar power technology patents involve complex scientific, legal and factual questions and analyses and are therefore highly uncertain. We may be subject to litigation involving claims of patent infringement or the violation of intellectual property rights of third parties. Defending 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. Additionally, we use both imported and China-made equipment in our production lines, sometimes without sufficient supplier guarantees that our use of such equipment does not infringe third-party intellectual property rights. This creates a potential source of litigation or infringement claims. 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 or require us to seek licenses from third parties, pay ongoing royalties, redesign our products or subject us to injunctions prohibiting the manufacture and sale of our products or the use of our technologies. Protracted litigation could also defer customers or potential customers or limiting their purchase or use of our products until such litigation is resolved.

***Compliance with environmental regulations can be expensive, and noncompliance with these regulations may result in adverse publicity and potentially significant monetary damages, fines and the suspension or even termination of our business operations.***

We are required to comply with all national and local environmental regulations. As we expanded our silicon reclamation program and research and development activities and moved into ingot, wafer and cell manufacturing, we began to generate material levels of noise, wastewater, gaseous wastes and other industrial waste in our business operations. Additionally, as we expanded our internal solar components production capacity, our risk of facility incidents with a potential environmental impact also increased. We believe that we comply with all environmental laws and regulations and have all necessary environmental permits to conduct our business as it is presently conducted. However, if more stringent regulations are adopted in the future, the costs of complying with these new regulations could be substantial. 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 our use of or to restrict adequately the discharge of, hazardous substances could subject us to potentially significant monetary damages, fines or suspensions of our business operations.

Our solar modules and products must comply with the environmental regulations of the jurisdictions in which they are installed, and we may incur expenses to design and manufacture our products to comply with such regulations. For example, we increased our expenditures to comply with the European Union's Restriction of Hazardous Substances Directive, which took effect in July 2006, by reducing the amount of lead and other restricted substances in our solar module products. Furthermore, we may need to comply with the European Union's Waste Electrical and Electronic Equipment Directive if solar modules and products are re-classified as consumer electronics under the directive or if our customers located in other markets demand that they comply with this directive. This would require us to implement manufacturing process changes, such as changing the soldering materials used in module manufacturing, in order to continue to sell our products in these markets. If compliance is unduly expensive or unduly difficult, we may lose market share and our financial results may be adversely affected.

***We may not be successful in establishing our brand name in important markets and the products we sell under our brand name may compete with the products we manufacture on an original equipment manufacturer, or OEM, basis for our customers.***

We sell our products primarily under our own brand name but also on an OEM basis. In certain markets, our brand may not be as prominent as other more established solar power vendors, and there can be no assurance that the "CSI" or "CanadianSolar" brand name or any of our possible future

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brand names will gain acceptance among customers. Moreover, because the range of products that we sell under our own brands and those we manufacture for our OEM customers may be substantially similar, we cannot assure that we will not directly or indirectly compete with our OEM customers, which could negatively affect our relationship with them.

***Failure to protect our intellectual property rights in connection with new specialty solar modules and products may undermine our competitive position.***

As we develop and bring to market new specialty solar modules and products, we may need to increase our expenditures to protect our intellectual property. Our failure to protect our intellectual property rights may undermine our competitive position. We currently have 118 patents and 81 patent applications pending in the PRC for products that contribute a relatively small percentage of our net revenues. We have two United States patents, issued in November 2009 and February 2010. We also have three patent applications pending in Europe. We applied for registration of the "CanadianSolar" trademark in the United States in March 2009 and subsequently in a number of other jurisdictions, including Australia, Canada, Europe, India, South Korea, Japan and the United Arab Emirates, among which, the trademark "CanadianSolar" filed in Australia, Canada, Europe, South Korea, Japan, the United Arab Emirates and Hong Kong have been registered. We also have 20 registered trademarks and 36 trademark applications pending in the PRC, and 19 registered trademarks and 30 trademark applications pending outside of China. These intellectual property rights afford only limited protection and the actions we take to protect our rights as we develop new specialty solar modules and products may not be adequate. Policing the unauthorized use of proprietary technology can be difficult and expensive. In addition, litigation, which can be costly and divert management attention, 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.

***If our internal control over financial reporting or disclosure controls and procedures are not effective, there may be errors in our financial statements that could require a restatement or our filing may not be timely and investors may lose confidence in our reported financial information, which could lead to a decline in our stock price.***

We are subject to the reporting obligations under U.S. securities laws. The Securities and Exchange Commission, or SEC, as required by Section 404 of the Sarbanes-Oxley Act of 2002, adopted rules requiring every public company to include a management report on its internal control over financial reporting in its annual report, which contains management's assessment of the effectiveness of its internal control over financial reporting. In addition, an independent registered public accounting firm must report on the effectiveness of the company's internal controls over financial reporting. Our management identified material weaknesses in our internal controls over financial reporting in 2009 and concluded that our disclosure controls and procedures were not effective as of December 31, 2009. In 2010, we implemented additional controls and made improvements to existing controls to remediate these material weaknesses and as of December 31, 2010, our management concluded that our internal control over financial reporting was effective. As of December 31, 2011, our management concluded that our internal control over financial reporting was effective as well. However, we cannot assure that material weaknesses in our internal controls over financial reporting will not be identified in the future. Any material weaknesses in our internal controls could cause us not to meet our periodic reporting obligations in a timely manner or result in material misstatements in our financial statements. Material weaknesses in our internal controls over financial reporting could also cause investors to lose confidence in our reported financial information, leading to a decline in our share price.

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***We face risks related to an SEC subpoena and private securities litigation.***

We received a subpoena from the SEC requesting documents relating to, among other things, certain sales transactions in 2009. We cannot predict when the SEC will complete its investigation or what its outcome will be.

In addition, our company and certain of our directors and executive officers have been named as defendants in six shareholder class action lawsuits filed in the United States District Court for the Southern District of New York and one filed in the United States District court for the Northern District of California. These lawsuits have been consolidated into one class action and the consolidated complaint did not name our directors as defendants. See "Item 8. Financial Information A. Consolidated Statements and Other Financial Information Legal and Administrative Proceedings." We are generally obligated, to the extent permitted by law, to indemnify our directors and officers who are named defendants in these lawsuits. Although we believe the allegations are without merit and the potential loss is remote, we may be required to pay judgments or settlements and incur expenses in aggregate amounts that could have a material and adverse effect on our financial condition or results of operations.

**Risks Related to Doing Business in China**

***The enforcement of the new labor contract law and increases in labor costs in the PRC may adversely affect our business and our profitability.***

A new Labor Contract Law came into effect on January 1, 2008, and the Implementation Rules thereunder were promulgated and became effective on September 18, 2008. The Labor Contract Law and the Implementation Rules imposed more stringent requirements on employers with regard to executing written employment contracts, hiring temporary employees, and dismissing employees. In addition, under the Regulations on Paid Annual Leave for Employees, which came into effect on January 1, 2008, and their Implementation Measures, which were promulgated and became effective on September 18, 2008, employees who have served for more than one year with an employer are entitled to a paid vacation ranging from five to 15 days, depending on their length of service. Employees who waive such vacation time at the request of the employer shall be compensated for each vacation day waived at a rate equal to three times their normal daily salary. Our labor costs are expected to continue to increase due to these new laws and regulations. Higher labor costs and labor disputes with our employees stemming from these new rules and regulations could adversely affect our business, financial condition, and results of operations.

***A change in our effective tax rate can have a significant adverse impact on our business.***

A number of factors may adversely impact our future effective tax rates, such as the jurisdictions in which our profits are determined to be earned and taxed; changes in the valuation of our deferred tax assets and liabilities; adjustments to estimated taxes upon finalization of various tax returns; adjustments to the interpretation of transfer pricing standards; changes in available tax credits; changes in stock-based compensation expenses; changes in tax laws or the interpretation of such tax laws (for example, proposals for fundamental U.S. international tax reform); changes in U.S. GAAP; expiration or the inability to renew tax rulings or tax holiday incentives; and the repatriation of non-U.S. earnings for which we have not previously provided for U.S. taxes. A change in our effective tax rate due to any of these factors may adversely influence our future results from operations.

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***Our subsidiaries will lose certain tax benefits over the next several years and we expect to pay additional PRC taxes as a result, which could have a material and adverse impact on our financial condition and results of operations.***

On January 1, 2008, the Enterprise Income Tax Law, or the EIT Law, came into effect in China. Under the EIT Law, both foreign-invested enterprises and domestic enterprises are subject to a uniform enterprise income tax rate of 25%. There is a transition period for enterprises that were established prior to March 16, 2007 (the promulgation date of the EIT Law) and were given preferential tax treatment under the previous tax law. Enterprises that were subject to an enterprise income tax rate lower than 25% will have the new uniform enterprise income tax rate of 25% phased in over a five-year period from the effective date of the EIT Law. Enterprises that were entitled to exemptions or reductions from the standard income tax rate for a fixed term may continue to enjoy such treatment until the fixed term expires, subject to certain limitations. The EIT Law provides for preferential tax treatment for certain categories of industries and projects that are strongly supported and encouraged by the state. For example, enterprises classified as a "High and New Technology Enterprise," or HNTE, are entitled to a 15% enterprise income tax rate provided that such HNTE satisfies other applicable statutory requirements.

Our subsidiary, CSI Solartronics (Changshu) Co., Ltd., or CSI Solartronics, has been recognized as an HNTE. However, because it does not satisfy certain requirements for the reduced 15% enterprise income tax rate, CSI Solartronics is still subject to a 25% enterprise income tax rate. CSI Solar Manufacture Inc., or CSI Manufacturing, was subject to a reduced enterprise income tax rate of 12.5% to the end of 2009, when its tax holiday expired. CSI Cells Co. Ltd., or CSI Cells, is subject to a reduced enterprise income tax rate of 12.5% until the end of 2011, when its tax holiday expires. Canadian Solar Manufacturing (Changshu) Inc. (formerly known as Changshu CSI Advanced Solar Inc.), or CSI Changshu Manufacturing, was exempt from tax for 2009 and will be subject to a reduced enterprise tax rate of 12.5% for 2010, 2011 and 2012, at which time its tax holiday will expire as well. As the preferential tax benefits currently enjoyed by our PRC subsidiaries expire, their effective tax rates will increase significantly.

***There are significant uncertainties in our tax liabilities regarding our income under the new Enterprise Income Tax Law.***

We are a Canadian company with substantially all of our manufacturing operations in China. Under the EIT Law and its implementation regulations, both of which became effective on January 1, 2008, enterprises established outside China whose "effective management" is located in China are considered PRC tax residents and will generally be subject to the uniform 25% enterprise income tax rate on their global income. Under the implementation regulations, the term "effective management" is defined as substantial and overall management and control over aspects such as the production and business, personnel, accounts and properties of an enterprise. Currently there are no detailed rules or precedents governing the procedures and specific criteria for determining a company's effective management, which are applicable to us. As a substantial number of the members of our management team are located in China, we may be considered as a PRC tax resident under the EIT Law and, therefore, subject to the uniform 25% enterprise income tax rate on our global income. If our global income is subject to PRC enterprise income tax at the rate of 25%, our financial condition and results of operation may be materially and adversely affected.

***Dividends payable by us to our non-Chinese shareholders and gains on the sale of our common shares may become subject to PRC enterprise income tax liabilities.***

The implementation regulations of the EIT Law provide that (i) if the enterprise that distributes dividends is domiciled in the PRC or (ii) if gains are realized from transferring equity interests of enterprises domiciled in the PRC, then such dividends or capital gains shall be treated as China-sourced

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income. Also, income sourced within China is determined based on the following principles for equity interest transfers and dividends: (x) for income from transfers of equity interests, source is determined in accordance with the place where the invested enterprise is located; and (y) for income from equity interests such as dividends and profit distributions, source is determined in accordance with the place of the enterprise which makes the distribution.

Currently there are no detailed rules or precedents governing the procedures and specific criteria for determining what it means to be domiciled in the PRC. As a result, it is not clear how the concept of "China domicile" will be interpreted under the EIT Law. The concept of domicile may be interpreted simply as the jurisdiction where the enterprise is a tax resident. Therefore, if we are considered a PRC tax resident enterprise for tax purposes, any dividends we pay to our overseas shareholders as well as any gains realized by such shareholders from the transfer of our common shares may be regarded as China-sourced income and, consequently, be subject to PRC withholding tax at a rate of up to 10%. The investment returns of our overseas investors, and the value of their investments in us, may be materially and adversely affected if any dividends we pay to them, or any gains realized by them on the transfer of our common shares are subject to PRC withholding tax.

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

Certain portions of our revenue 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, if any, in respect of our common shares. Under China's existing foreign exchange regulations, our PRC subsidiaries are able to pay dividends in foreign currencies without prior approval from the State Administration of Foreign Exchange, or SAFE, by complying with certain procedural requirements. However, we cannot assure that the PRC government will not take further measures in the future to restrict access to foreign currencies for current account transactions.

Foreign exchange transactions by our PRC subsidiaries under most capital accounts continue to be subject to significant foreign exchange controls and require the approval of PRC governmental authorities. In particular, if we finance our PRC subsidiaries by means of additional capital contributions, certain government authorities, including the Ministry of Commerce or its local counterparts, must approve these capital contributions. These limitations could affect the ability of our PRC subsidiaries to obtain foreign exchange through equity financing.

***Uncertainties with respect to the Chinese legal system could materially and adversely affect us.***

We conduct substantially all of our manufacturing operations through our subsidiaries in China. These subsidiaries 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 is still developing, both in terms of the legal process and the interpretations of many laws, regulations and rules may be inconsistent and enforcement of these laws, regulations and rules may also be inconsistent, which may limit legal protections available to us. In addition, any litigation in China may be protracted and may result in substantial costs and divert our resources and the attention of our management.

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**Risks Related to Our Common Shares**

***The market price for our common stocks may be volatile.***

The market price for our common shares has been highly volatile and subject to wide fluctuations. During the period from November 9, 2006, the first day on which our common shares were listed on the Nasdaq Global Market, until December 31, 2011, the market price of our common shares ranged from $2.07 to $51.80 per share. The closing market price of our common shares on December 31, 2011 was $2.66 per share. The market price of our common shares may continue to be volatile and subject to wide fluctuations in response to a wide variety of factors, including the following:

- announcements of technological or competitive developments;
- regulatory developments in our target markets affecting us, our customers or 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 companies;
- the departure of executive officers and key research personnel;
- patent litigation and other intellectual property disputes;
- litigation and other disputes with our long-term suppliers;
- fluctuations in the exchange rates between the U.S. dollar, the Euro and the RMB;
- SEC investigations or private securities litigation;
- the release or expiration of lock-up or other transfer restrictions on our outstanding common shares; and
- sales or anticipated sales of additional common shares.

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 and adverse effect on the market price of our common shares.

***Substantial future sales of our common shares in the public market, or the perception that such sales could occur, could cause the price of our common shares to decline.***

Sales of our common shares in the public market, or the perception that such sales could occur, could cause the market price of our common shares to decline. As of December 31, 2011, we had 43,155,767 common shares outstanding. The number of common shares outstanding and available for sale will increase when the remaining holders of our convertible notes receive common shares upon the conversion

of their notes, or the holders of options to acquire our common shares upon the exercise of their options, subject to volume, holding period and other restrictions as applicable under Rule 144 and Rule 701 under the Securities Act of 1933, as amended, or the Securities Act. To the extent these shares are sold into the market, the market price of our common shares could decline.

***Your right to participate in any future rights offerings may be limited, which may cause dilution to your holdings.***

We may from time to time distribute rights to our shareholders, including rights to acquire our securities. However, we cannot make these rights available in the United States unless we register the rights and the securities to which the rights relate to under the Securities Act or an exemption from the registration requirements is available. We are under no obligation to file a registration statement with respect to any such rights or securities or to endeavor to cause a registration statement to be declared effective. Moreover, we may not be able to establish an exemption from registration under the Securities Act. Accordingly, you may be unable to participate in our rights offerings and may experience dilution in your holdings.

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***Our articles of continuance contain anti-takeover provisions that could adversely affect the rights of holders of our common shares.***

The following provisions in our amended articles of continuance may deprive our shareholders of the opportunity to sell their shares at a premium over the prevailing market price by delaying or preventing a change of control of our company:

Our board of directors has the authority, without approval from the shareholders, to issue an unlimited number of preferred shares in one or more series. Our board of directors may establish the number of shares to be included in each such series and may fix the designations, preferences, powers and other rights of the shares of a series of preferred shares.

Our board of directors is entitled to fix and may change the number of directors within the minimum and maximum number of directors provided for in our articles. Our board of directors may appoint one or more additional directors to hold office for a term expiring no later than the close of the next annual meeting of shareholders, subject to the limitation that the total number of directors so appointed may not exceed one-third of the number of directors elected at the previous annual meeting of shareholders.

***You may have difficulty enforcing judgments obtained against us.***

We are a corporation organized under the laws of Canada and a substantial portion of our assets is located outside of the United States. A substantial portion of our current business operations is conducted in the PRC. In addition, a majority 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 is 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. court 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, many of whom are not residents of the United States and whose assets are located in significant part outside of the United States. In addition, there is uncertainty as to whether the courts of Canada or the PRC would recognize or enforce judgments of U.S. courts against us or such persons predicated upon the civil liability provisions of the securities laws of the United States or any state. In addition, it is uncertain whether such Canadian or PRC courts would be competent to hear original actions brought in Canada or the PRC against us or such persons predicated upon the securities laws of the United States or any state.

***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 common shares.***

Based on the market price of our common shares, 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, 2011. 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. A separate determination must be made 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 will generally be determined by reference to the market price of our common shares, fluctuations in the market price of the common 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

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States Federal Income Taxation") holds a common 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"

***The audit report included in this annual report was prepared by auditors who are not inspected by the Public Company Accounting Oversight Board and, as a result, you are deprived of the benefits of such inspection***

The independent registered public accounting firm that issues the audit reports 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 (United States), 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 laws of the United States and professional standards. Because our auditors are located in the PRC, a jurisdiction where the PCAOB is currently unable to conduct inspections without the approval of the PRC authorities, our auditors are not currently inspected by the PCAOB.

Inspections of other firms that the PCAOB has conducted 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 our auditor's audits and its quality control procedures. As a result, investors may be deprived of the benefits of PCAOB inspections.

The inability of the PCAOB to conduct inspections of auditors in China makes it more difficult to evaluate the effectiveness of our auditor's audit procedures or quality control procedures as compared to auditors outside of 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.

## ITEM 4. *INFORMATION ON THE COMPANY*

### A. History and Development of the Company

Our legal and commercial name is Canadian Solar Inc. We were incorporated under the laws of the Province of Ontario, Canada in October 2001. We changed our jurisdiction by continuing under the Canadian federal corporate statute, the Canada Business Corporations Act, or CBCA, effective June 1, 2006. As a result, we are governed by the CBCA.

We have formed the following significant subsidiaries, all of which are incorporated in China and wholly owned except as otherwise noted:

CSI Solartronics (Changshu) Co., Ltd., or CSI Solartronics, incorporated in November 2001, which has operations located in Changshu, China, where we conduct development of solar power project;

CSI Solar Technologies Inc., or CSI Technologies, incorporated in August 2003, which has operations located in Changshu, China, where we conduct solar module product development;

CSI Solar Manufacture Inc., or CSI Manufacturing, incorporated in January 2005, which has operations located in Suzhou, China, where we manufacture primarily standard solar modules;

CSI Solar New Energy (Suzhou) Co., Ltd., or CSI New Energy, incorporated in December 2005, which has operations located in Suzhou, China where we will manufacture solar cells;

Canadian Solar Manufacturing (Luoyang) Inc. (formerly known as CSI Central Power Co. Ltd.), or CSI Luoyang Manufacturing, incorporated in February 2006, which has operations located in Luoyang, China, where we manufacture solar module products, solar ingots and solar wafers;

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Canadian Solar Manufacturing (Changshu) Inc. (formerly known as Changshu CSI Advanced Solar Inc.), or CSI Changshu Manufacturing, incorporated in August 2006, which has operations located in Changshu, China, where we manufacture solar modules;

CSI Cells Co., Ltd., or CSI Cells, incorporated in August 2006, which has operations located in Suzhou, China, where we manufacture solar cells;

Canadian Solar (USA) Inc., incorporated in Delaware, USA in June 2007, through which we carry out marketing and sales activities in the United States;

CSI Project Consulting GmbH, or CSI Germany Projects, incorporated in Germany in May 2009, a 70% owned subsidiary through which we invested in CVB Solar GmbH, a German solar power project. In January 2011, CSI Germany Projects sold all of its interest in CVB Solar GmbH to its joint venture partner;

Canadian Solar Japan K.K., or CSI Japan, incorporated in Japan as a wholly owned subsidiary in June 2009, through which we conduct marketing and sales activities in Japan; between December 2009 and May 2010, we sold an aggregate of 28% of the outstanding capital stock of CSI Japan to two Japanese companies; in August 2010, we increased our capital contribution in CSI Japan. We currently hold 90.67% of CSI Japan;

Canadian Solar Solutions Inc., or CSSI, incorporated in Ontario, Canada in June 2009, through which we conduct marketing and sales activities in Canada. CSSI itself has a number of wholly-owned and non-wholly-owned subsidiaries, all of which were incorporated in Ontario, Canada in November 2009, through which we conduct project development activities in Canada;

CSI Solar Power (China) Inc. incorporated in July 2009, which is located in Suzhou, China and serves as a holding company for our subsidiaries in China;

Canadian Solar EMEA GmbH, (formerly known as Canadian Solar (Deutschland) GmbH), incorporated in Germany in August 2009, through which we conduct marketing and sales activities in Europe;

Canadian Solar Manufacturing (Ontario) Inc., or CSI Ontario Manufacturing, incorporated in Ontario, Canada in June 2010, through which we conduct solar module manufacturing activities in Canada;

Canadian Solar (Australia) Pty., Ltd., incorporated in New South Wales, Australia in February 2011, though which we conduct marketing and sales activities in Australia;

Canadian Solar International Limited, incorporated in Hong Kong in March 2011, through which we carry out sales and marketing activities;

Canadian Solar O&M (Ontario) Inc., incorporated in Ontario, Canada in May 2011, through which we operate and maintain solar farms;

SunE Sky GP First Light III Ltd., incorporated in Ontario, Canada in May 2011, through which we develop solar power project;

SunE Sky First Light III Ltd., incorporated in Ontario, Canada in May 2011, through which we develop solar power project;

CSI-Cenergy Holdings, LLC, incorporated in California, USA, in July 2011, through which we develop solar power project;

Suzhou Sanysolar Materials Technology Co., Ltd., incorporated in August 2011 in Suzhou, China where we produce solar module materials;

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Canadian Solar South East Asia Pte., Ltd., incorporated in Singapore in September 2011, through which we carry out sales and marketing activities in South-East Asia area; and

Canadian Solar Manufacturing (Suzhou) Inc., or CSI Suzhou Manufacturing, incorporated in Suzhou, China in February 2012. CSI Suzhou Manufacturing is a joint venture formed by us and two Suzhou-based companies, Suzhou Science & Technology Town Co., and Suzhou New District Economic Development Group Corporation for the purpose of building and operating a 600 MW cell production facility and a 600 MW module production facility, located in Suzhou, China.

See "Item 4. Information on the Company C. Organizational Structure" for additional information on our corporate structure.

Our principal executive office is located at 545 Speedvale Avenue West, Guelph, Ontario, Canada N1K 1E6. Our telephone number at this address is (1-519) 837-1881 and our fax number is (1-519) 837-2250.

Our principal place of business is located at No. 199 Lushan Road, Suzhou New District, Suzhou, Jiangsu 215129, People's Republic of China.

All inquiries to us should be directed at the address and telephone number of our principal executive offices set forth above. Our website is www.canadiansolar.com. The information contained on or accessible through our website does not form part of this annual report.

## B. Business Overview

### *Overview*

We design, develop, and manufacture solar wafers, cells and solar module products that convert sunlight into electricity for a variety of uses. We are incorporated in Canada and conduct most of our manufacturing operations in China. Our products include a range of standard solar modules built to general specifications for use in a wide range of residential, commercial and industrial solar power generation systems. We also design and produce specialty solar modules and products based on our customers' requirements. Specialty solar modules and products consist of customized solar modules that our customers incorporate into their own products, such as solar-powered bus stop lighting, and complete specialty products, such as portable solar home systems and solar-powered car battery chargers. We sell our products under our "CanadianSolar" brand name and to OEM customers under their brand names. We also sell solar system kits and implement solar power development projects.

We believe we offer one of the broadest crystalline silicon solar module product lines in the industry. Our product lines range from modules of medium power, to high efficiency, high-power output mono-crystalline modules, as well as a range of specialty products. We currently sell our products to a diverse customer base in various markets worldwide, including Germany, Spain, Italy, France, the Czech Republic, the U.S., Canada, China, Japan and India, among others. We sell our standard solar modules to distributors and system integrators, as well as to solar projects.

We employ a flexible (or virtual) vertically integrated business model that combines internal manufacturing capacity with direct material purchases and outsourced toll-manufacturing relationships for both cells and wafers. Under this model, we rarely outsource module production and have no internal polysilicon production. We believe this approach provides us with certain competitive advantages and allows us to benefit from the increased margin available to fully integrated solar manufacturers while reducing the capital expenditures required for a full, vertically integrated, business model. We also believe that this approach provides us with greater flexibility to respond to short-term demand increases, provided module components are available at reasonable prices, and to take advantage of the availability of low-cost outsourced manufacturing capacity in the long term.

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Over the past several quarters we have taken steps to become more vertically integrated at the cell to module production steps of the manufacturing value chain. As of December 31, 2011, we had:

2.1 GW of total annual solar module manufacturing capacity, 218 MW of which is located in Ontario, Canada with the balance located in China.

1.5 GW of total annual solar cell manufacturing capacity in China.

And 228 MW of total annual ingot and wafer manufacturing capacity in China.

We intend to use substantially all of the silicon wafers that we manufacture to supply our own solar cell plant and to use substantially all of the solar cells that we manufacture to produce our own solar module products.

We are focused on reducing our production costs by improving solar cell conversion efficiency, enhancing manufacturing yields and reducing raw material costs. In January 2009, we established a new solar cell efficiency research center to develop more efficient cell structures, and we have been making ongoing improvements in solar cell conversion efficiency and product cost control. We began shipping new products, such as higher efficiency modules, in late 2011 and expect to increase the sales volumes of these products during 2012.

In the fourth quarter of 2009, we began the conversion of our first cell line to Enhanced Selective Emitter, or ESE, production, and we started to ship ESE-based module products in March 2010. We continued to install additional ESE production lines throughout 2010 and 2011, and by December 31, 2011 our total ESE capacity was 280 MW.

In the third quarter of 2011, we began the conversion of some of our cell lines to Efficient Long-Term Photovoltaic Solution, or ELPS, production. We have now started to ship ELPS-based modules. We expect to build our capacity for ELPS-based cells and modules to 280MW by the end of 2012.

***Our Products***

We design, develop, manufacture and sell solar cell and solar module products, which consist of standard solar modules, specialty solar modules, solar system kits and products.

*Standard Solar Modules*

Our standard solar modules are arrays of interconnected solar cells encapsulated in weatherproof frames. We produce a wide variety of standard solar modules, ranging from 0.2 W to in excess of 300 W in power and using multi-crystalline or mono-crystalline cells in several different formats, including general purpose 60 pieces × 6" cell and 72 pieces × 5" cell formats, small modules for specialty products (see below) and larger formats for ground-mounted projects. Larger formats include a 72 pieces × 6 cell format and a 96 pieces × 5" cell format. In 2009, most of our products employed 6" multi-crystalline cells. In 2010, we started shipping a higher percentage of modules assembled with 6" monocrystalline cells. We have applied for and received quality and safety certifications for modules with improved frames for rail-less mounting systems, an AC module and higher-powered modules in standard formats, such as a 60 pieces × 6" cell, 260 W module. We expect such modules to be substantially cheaper to install because they require less labor and materials, especially in rooftop applications. In the third quarter of 2011, we began assembling modules using ELPS, a wrap-through cell architecture, on a commercial basis, which are entirely soldered on the backside of the cell. These modules can achieve module conversion efficiencies in excess of 17%. We may also benefit from raw materials savings, the use of conductive adhesives instead of solder, and more cost-effective automation. These products are built to general specifications for a wide range of residential, commercial and industrial solar power generation systems. We design our standard solar modules to be durable under

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harsh weather conditions and easy to transport and install. We sell our standard solar modules under our brand name and to OEM customers under their brand names. Since we began selling our solar module products in March 2002, we have increased our annual module production capacity from 2.0 MW to 2.1 GW as of December 31, 2011.

*Specialty Solar Modules and Products*

As part of our strategy to broaden our products portfolio and address a wider cross section of the solar power market, we have been actively developing our building integrated photovoltaic, or BIPV, product line. Our BIPV products have various advantages over standard solar modules, including improved aesthetics, direct integration into building structures and the ability to be used in a wider range of applications, including residential and commercial roofing and architectural glazing. We used our BIPV products and systems in our BIPV solar glass roofing system project in Luoyang and we supplied BIPV products and systems for facilities at the Beijing Olympic Games. We believe that the demand for BIPV solutions will grow in our key markets, including China, Europe and North America. We plan to work closely with our customers to design and develop specialty solar modules and products that meet their individual requirements.

*Solar Cells*

We completed four solar cell production lines in 2007, and our total annual solar cell nameplate production capacity reached 1.5 GW by December 31, 2011. Going forward we expect to continue to increase our cell capacity in line with the growth in demand for solar PV modules. We intend to use substantially all of our solar cells to manufacture our own solar module products.

We make our solar cells from both mono-crystalline and multi-crystalline silicon wafers through multiple manufacturing steps, including surface texturization, diffusion, plasma-enhanced chemical vapor deposition and surface metallization. A functional solar cell generates a flow of electricity when exposed to light. The metal on the cell surface collects and carries away the current to the external circuitry.

*Solar System Kits*

In 2010, we began selling solar system kits in the Canadian and Japanese markets. A solar system kit is a ready-to-install package consisting of solar modules produced by us and third party supplied components such as inverters, racking system and other accessories. A typical residential rooftop solar system generates approximately 3.0 KW AC output. A commercial rooftop solar system generates between 30 KW to 500 KW AC output. Both are mounted on the rooftop of buildings.

*Solar Power Development Projects*

We also implement solar power development projects. Prior to 2008, we completed projects in Western China and conducted solar power forums in Beijing, Xining, Suzhou and Luoyang.

In early 2010, we began to ship CE certified 11 to 14 kW two-axis trackers for ground-mounted applications. We are also developing single-axis trackers and smaller trackers intended for smaller ground-mounted installations.

In the second half of 2009, we began implementing solar farm projects and partnering with solar farm project developers. Once completed, these projects are sold to end-buyers. In December 2009, we completed a solar farm project in Germany and we started to construct a similar project in Canada in 2011 and expect to complete more in 2012.

In December 2011, we entered into a sales agreement with TransCanada Corporation, or TransCanada, an energy infrastructure company in North America. Under this agreement, TransCanada

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will acquire from us a 86 MW AC solar project portfolio for approximately C$470 million ($470 million). We intend to build and deliver these solar power plants in the course of the next 12 to 15 months.

*Solar System EPC Contracting and Subcontracting*

In late 2010, we entered into a number of EPC contracting arrangements with solar project development partners in Canada. Under these arrangements, the solar farm project developer owns the project and we are contracted to perform the engineering design, procurement and construction work for the project. Under the EPC arrangements, we have the discretion to either perform the EPC work ourselves or subcontract the EPC work to other suitable EPC contractors. In 2011 we generated revenues of $112.4 million from EPC contracts and expect to fulfill more EPC contracts in 2012.

***Supply Chain Management***

Our business depends on our ability to obtain a stable and cost-effective supply of polysilicon, silicon wafers and solar cells. Our major wafer suppliers include GCL and Konca Solar Cell Co., Ltd. Similarly, we primarily purchase solar cells from large cell manufacturers in Taiwan. Though this strategy may reduce our gross margin, it has allowed us to commit less capital in the form of pre-payments to polysilicon manufacturers compared to other solar module producers of our size and to reduce capital expenditures for ingot and wafer capacity.

The shortage of high-purity silicon, silicon wafers and solar cells began to ease during the third quarter of 2008, and the industry experienced an oversupply of silicon materials from the fourth quarter of 2008 to the third quarter of 2009. From the fourth quarter of 2009 through the fourth quarter of 2010, solar cells were in short supply and, in the third quarter of 2010, silicon wafer and polysilicon supply was tighter. However, these raw materials began to decrease in price during the fourth quarter of 2010 and we moved back into an oversupply environment in 2011. See "Item 3. Key Information  D. Risk Factors  Risks Related to Our Company and Our Industry  We have, from time to time, entered into long-term supply agreements with polysilicon and wafer suppliers. Long-term supply agreements may make it difficult for us to adjust our raw material costs should prices decrease. Also, if we chose to prematurely terminate any of these agreements, we may not be able to recover all or any part of the advance payments we have made to these suppliers and we may be subject to litigation. Any of these consequences could materially and adversely affect our operations.

From 2009 through to the third quarter of 2010, polysilicon remained relatively inexpensive at $45 to $55 per kilogram. In late 2010, polysilicon increased to approximately $80 to $90 per kilogram but decreased to approximately $27 per kilogram by December 31, 2011 due to oversupply in the marketplace. In 2012, we expect that there will continue to be a modest oversupply of polysilicon materials and that polysilicon prices will remain low. We plan to continue to purchase most of our silicon wafers and all of our polysilicon requirement externally. We are currently diversifying our wafer and polysilicon suppliers, particularly with top tier international suppliers.

*Silicon Raw Materials and Solar Wafers*

Silicon feedstock, which consists of high-purity solar grade silicon is the starting point of the silicon based solar PV module supply chain.

In 2007, we entered into a 12-year wafer supply agreement with Deutsche Solar, under which we are required to purchase wafers at agreed upon prices and in accordance with a pre-determined schedule, commencing January 1, 2009. Under the agreement, if we do not order the contracted volume in a given year, Deutsche Solar can invoice us for the difference at the full contract price. We purchased the contracted volumes for 2009 under the supply agreement, but did not purchase the contracted volumes for year 2010 and year 2011. We believe that the supply agreement was terminated

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by the end of 2011. As a result, we reclassified the accrued loss on firm purchase commitments reserve of $27.9 million as of December 31, 2011 to loss contingency accruals. As of December 31, 2011, the balance of our advance payments to Deutsche Solar was $17.4 million. In 2011, we made a full bad debt allowance of $17.4 million against the balance of our advance payments to Deutsche Solar as a result of the termination of the long-term supply contract and therefore the net advance payments to Deutsche Solar recorded in the consolidated balance sheets as of December 31, 2011 was nil.

In 2007, we entered into a three-year agreement with LDK under which we purchased specified quantities of silicon wafers and LDK converted our reclaimed silicon feedstock into wafers under a toll manufacturing arrangement. In 2008, we entered into two ten-year wafer supply agreements with LDK, under which we were required to purchase specified volumes of wafers at pre-determined prices each year, commencing January 1, 2009. We have given LDK termination notice regarding these agreements and we initiated arbitration proceedings against LDK in which we are seeking a refund of certain advance payments that we made to them. LDK made a number of counter-claims in these proceedings. The scheduled final judgment will be made in the second half of 2012 by the arbitration commission. See "Item 8. Financial Information  A. Consolidated Statements and Other Financial Information  Legal and Administrative Proceedings." As of December 31, 2011, the balance of our advance payments to LDK was $9.5 million. A full bad debt allowance against the advance payments has been recorded in 2009 and therefore the net advance payments to LDK recorded in the consolidated balance sheets as of December 31, 2011 was nil.

We entered into an agreement with GCL in 2008 for a six-year term commencing in 2010 pursuant to which we agreed to purchase specified quantities of silicon wafers. In 2009, we amended this agreement with GCL to adjust purchase prices based on prevailing market prices at the time we place each purchase order and to revise terms with respect to the quantity of products we are required to purchase. In December 2010, we further amended this agreement with GCL to confirm purchases for 2011 and indicative purchases for 2012 to 2015. The amendments include purchase prices, volume and other terms. Our advance payments to GCL under the long-term silicon wafer agreement will be credited against purchases commencing in 2012.

In addition, we have entered into long-term agreements with suppliers such as a UMG-Si supplier and Neo Solar. In July 2008, we entered into a three-year supply agreement with a supplier for the supply of UMG-Si silicon. In October 2008, the parties amended the term to five years, from 2009 to 2013. However, due to its default on scheduled material deliveries in 2010 and the supplier's financial position, we are not likely to purchase any significant quantity of UMG-Si from the supplier in the future and have taken a full bad debt allowance against the advance payments in 2010 and therefore the net advance payment to the supplier recorded in the consolidated balance sheets as of December 31, 2011 was nil.

We also amended our agreement with Neo Solar in 2009 to adjust the purchase price based on prevailing market prices at the time each purchase order is placed under the agreement.

See "Item 3. Key Information  D. Risk Factors  Risks Related to Our Company and Our Industry  We have, from time to time, entered into long-term supply agreements with polysilicon and wafer suppliers. Long-term supply agreements may make it difficult for us to adjust our raw material costs should prices decrease. Also, if we chose to prematurely terminate any of these agreements, we may not be able to recover all or any part of the advance payments we have made to these suppliers and we may be subject to litigation. Any of these consequences could materially and adversely affect our operations.

*Solar Cells*

In addition to manufacturing our own solar cells and toll manufacturing arrangements with our solar cell suppliers, we purchase solar cells from a number of international and local suppliers,

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including Neo Solar and Motech (Suzhou) Renewable Energy Co., Ltd. Although we have established relationships with cell suppliers, we experienced a shortage of solar cell supplies in late 2009 and 2010. As we expand our business, we expect to increase our solar cell manufacturing capacity and diversify our solar cell supply channel to ensure we have the flexibility to adapt to future changes in the supply of, and demand for, solar cells.

*UMG-Si Cells*

We entered into a research partnership and supply contract with a UMG-Si supplier in 2007 to develop a reliable source of UMG-Si. This was a viable and profitable business in 2008 and for the first half of 2009. However, due to its default on scheduled material deliveries in 2010, concerns regarding the supplier's financial position, and the current much lower prevailing market prices of high-purity silicon, we are unlikely to purchase UMG-Si cells at significant quantities in the near future.

***Solar Module Manufacturing***

We assemble our solar modules by interconnecting multiple solar cells by tabbing and stringing them into a desired electrical configuration. We lay the interconnected cells, laminate them in a vacuum, cure them by heating and package them in a protective lightweight anodized aluminum frame. We seal and weatherproof our solar modules to withstand high levels of ultraviolet radiation, moisture and extreme temperatures.

We selectively use automation to enhance the quality and consistency of our finished products and to improve the efficiency of our manufacturing processes. Key equipment in our manufacturing process includes automatic laminators, simulators and solar cell testers. The design of our assembly lines provides flexibility to adjust the ratio of automated equipment to skilled labor in order to maximize quality and efficiency. We purchase our manufacturing equipment primarily from Chinese suppliers. Our proximity to these Chinese manufacturers is an advantage because they typically sell manufacturing equipment at more competitive prices than similar international equipment manufacturers. We source critical testing equipment from international manufacturers.

***Quality Control and Certifications***

We have registered our quality control system according to the requirements of ISO 9001:2000 and ISO/TS 16949 standards. The latter quality control standard originated from the QS 9000 and VDA quality systems and is now the world-wide quality system standard for the automotive industry. TUV Rheinland Group, a leading international service company that documents the safety and quality of products, systems and services, audits our quality systems. We inspect and test incoming raw materials to ensure their quality. We monitor our manufacturing processes to ensure quality control and we inspect finished products by conducting reliability and other tests.

We have obtained IEC 61215 and IEC 61730 (previously TUV Class II safety) European standards for sales in Europe. We also obtained certifications of CAN ORD-UL 1703 and UL 1703 in March 2007, which allow us to sell products in North America. In 2009, we obtained the necessary certifications to sell our modules in Japan, South Korea and Great Britain and to several of the Chinese solar programs, including Golden Sun. We have obtained IEC and UL certifications for higher-powered modules of 280 W and above, a solar laminate for BIPV applications in France with TUV certification. In 2011, we completed IEC61215/61730 and UL1703 certification for modules designed to be assembled from metal wrap-through cells, and extended laminate certification in North American market. Our certified portfolio was also increased with the addition of model CS5P-P and several small models. Power outputs for our product portfolio were further increased through the qualification of quasi-mono wafers. In 2011, we also completed DLG ammoniac resistance testing as well as obtained the salt mist certification for our leading module CS6P-P. In 2012, we intend to obtain certifications such as half-cell modules, double glasses and DC-to-AC/DC-to-DC module designs. Our efforts for general improvements on module and component designs will be continued with corresponding certification extension. With the emergence of new markets, new certification schemes are also expected, such as INMETRO for Brazil.

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Our PV test laboratory is registered with the ISO 17025 quality improvement program, and has been accepted for the Mutual Data Acceptance Program by the CSA in Canada, VDE in Germany and by CGC in China. The PV test laboratory allows us to conduct some product certification testing in-house, which should decrease time-to-market and certification costs.

***Markets and Customers***

We sell our standard solar modules primarily to distributors, system integrators and OEM customers. Our distributor customers include companies that are exclusive solar component and system distributors and engineering and design firms that include our standard solar modules in their system installations. Our system integrator customers typically design and sell complete, integrated systems that include our standard solar modules along with other system components. We sell our solar modules and products to various manufacturers who either integrate these products into their own products or sell and market them as part of their product portfolio. Our standard solar module customers include leading solar distributors and system integrators. Our specialty solar module and products customers include manufacturers who incorporate our customized solar modules in their bus stop, road lighting and marine lighting products.

A small number of customers have historically accounted for a major portion of our net revenues. In 2009, 2010 and 2011, our top five customers by revenues collectively accounted for approximately 57.5%, 26.0% and 29.2%, respectively, of our net revenues. Sales to our largest customer in those years accounted for 24.0%, 11.0% and 6.6%, respectively, of our total revenues.

The following table sets forth, for the periods indicated, certain information relating to our total net revenues derived from our customers categorized by their geographic location for the periods indicated:

| | Years Ended December 31, | | | | | |
|---|---|---|---|---|---|---|
| | 2009 | | 2010 | | 2011 | |
| Region | Total Net Revenues | % | Total Net Revenues | % | Total Net Revenues | % |
| | (In thousands of US$, except for percentages) | | | | | |
| Europe | 523,087 | 82.9 | 1,193,449 | 79.8 | 1,233,201 | 65.0 |
| Asia and others | 70,966 | 11.3 | 186,366 | 12.5 | 330,803 | 17.4 |
| America | 36,908 | 5.8 | 115,694 | 7.7 | 334,918 | 17.6 |
| Total net revenues | 630,961 | 100.0 | 1,495,509 | 100.0 | 1,898,922 | 100.0 |

As we expand our manufacturing capacity and enhance our brand name, we continue to develop new customer relationships in a wider range of geographic markets to decrease our market concentration and dependence. In 2011, we significantly increased our total number of customers, gained market share in both Europe and the U.S. and achieved a leading market share in India and Canada. We aim to increase our sales in our existing major markets, including Germany, Italy, the United Kingdom, Spain, the United States, Canada, France, Japan, South Korea and China, while exploring other emerging solar markets, including South-East Asia, Africa, the Middle East and South America. These markets have been significantly influenced by past and current government subsidies and incentives. While we expect to expand our markets, we expect that the European markets will remain our major markets in the near future.

*Germany.* The renewable energy laws in Germany require electricity transmission grid operators to connect various renewable energy sources to their electricity transmission grids and to purchase all electricity generated by such sources at guaranteed feed-in tariffs. Additional regulatory support measures include investment cost subsidies, low-interest loans and tax relief to end users of renewable energy.

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Germany's renewable energy policy has had a strong solar power focus, which contributed to Germany's surpassing Japan in 2004 as the leading solar power market in terms of annual megawatt installation growth. According to Solarbuzz, the German market shrunk by 3.7% in 2011, from 7.74 GW at the end of 2010 to 7.45 GW at the end of 2011. Our products are used in large, ground-mounted solar power fields, commercial rooftops and residential rooftops. As of December 31, 2011, the feed-in tariff in Germany was between €0.211 per kWh and €0.243 per kWh for ground-mounted systems and between €0.216 and €0.287 per kWh for rooftop systems. The German feed-in tariff was reduced by approximately 9-10% at the end of 2010, and was reduced again by approximately 9-10% at the end of 2011. In addition to scheduled reductions, Germany implemented a two-step feed-in tariff reduction for roof-top and greenfield systems, which were to be enacted in July and October 2010. The two step reduction decreased the feed-in tariffs for roof-top systems by 13% on July 1, 2010 and by an additional 3% reduction on October 1, 2010. Furthermore, the annual FIT will decrease more quickly than the base of 9% per year if annual installations exceed 3.5 GW. This means that solar system tariffs and solar system prices will likely fall more quickly than previously anticipated. In 2012, the German feed-in tariffs is expected to be between €0.179 per kWh and €0.188 per kWh for ground-mounted systems and between €0.183 and €0.244 per kWh for rooftop systems.

*Spain.* According to Solarbuzz, the Spanish market installed 483 MW in 2011, similar to the 2010 market of 496 MW. In Spain, the feed-in tariff for solar power energy is fully guaranteed for the first 25 years of system operation and 80% thereafter. The 2011 market segmentation for power and application surface was 24 MW as roof mounted of less than or equal to 20 kW; 245 MW as roof mounted of greater than 20 kW and less than or equal to 2 MW; and 214 MW ground mounted of less than or equal to 10 MW. The Spanish feed-in tariff for applications of less than 100 kWh was initially €0.4404 per kWh for the first 25 years of system operation and €0.3523 per kWh thereafter for systems installed until September 2008. The current Spanish feed-in tariff is between €0.125/kWh and €0.274/kWh, depending on the system size, type and quarterly digressions. Funding for the national PV program during 2010 was regulated by Royal Decree RD1578/2008. The quarterly quota calls allocate awards and modify feed-in tariff rates according to fulfillment of quota. The Renewable Energy Plan (PER 2012-2020) reduced significantly the renewable energy content planned for 2020 from previous plans. Further cuts in the PV target plan are expected in 2012 to about 7 GW PV capacities by 2020, down from the previously 8.5 GW in the NREAP.

*Czech Republic.* According to Solarbuzz, the Czech Republic market decreased approximately 96% from 1,420 MW in 2010 to 51 MW in 2011, which includes about 0.5 MW off-grid installations. The country's initial legal basis for establishing feed-in tariff rates for electricity from renewable energy sources was set by the Renewable Energy Law on August 1, 2005. The respective remuneration rates became effective on January 1, 2006. The PV funding scheme in the Czech Republic is based on two alternative funding mechanisms, a feed-in tariff system and a green bonus scheme. The feed-in tariffs (and green premium rates) for the next calendar year are determined by the Energy Regulatory Office in November each year. The feed-in tariff rate for existing installations increases each year typically between 2% and 4%, depending on the consumer price index. There is no fixed annual reduction of tariffs for newly installed systems. In 2011, PV systems connected to the grid during the year received 7.5 CZK/kWh (€0.298/kWh) if their nominal power was up to 30 kW and 5.9 CZK/kWh (€0.235/kWh) if their nominal power was above 30 kW and no more than 100 kW, and 5.5 CZK/kWh (€0.219/kWh) if their nominal power was above 100 kW. As with the feed-in tariffs, the green bonus rates are also paid over a 20-year duration, and the tariffs for already existing systems are adjusted annually. The green bonus remuneration has also depended on the system size from 2009. In 2011, installations of up to 30 kW built in the same year were remunerated at 6.5 CZK/kWh (€0.259/kWh); systems above 30 kW and less than or equal to 100 kW were paid at 4.9 CZK/kWh (€0.195/kWh);

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systems above 100 kW were paid at 4.5 CZK/kWh (€0.179/kWh). In March 2010, the government enacted a law that allowed a reduction of the incentive tariffs for newly installed systems to exceed 5% per year. In addition, it implemented a third system size category. PV systems of up to 30 kW connected in 2011 are being remunerated at 7.50 CZK/kWh (€0.298/kWh), installations of above 30 kW and up to 100 kW receive 5.90 CZK (€0.235/kWh), and PV systems above 100 kW receive a rate of 5.5 CZK/kWh (€0.219/kWh). Due to the substantial reduction of funding options in 2011, the Czech PV market is now projected to fall well below 0.5 GW. After March 2011, it is expected to be dominated by roof or BIPV installations of up to 30 kW.

*Italy.* According to Solarbuzz, the Italian solar market grew by 22% from 5,090 MW in 2010 to reach 6,210 MW in 2011. This number comprises 4 MW off-grid installations. At the end of 2011, the Italian feed-in tariff for systems range from €0.172 per kWh, for larger ground-mounted systems, to €0.298 per kWh for smaller BIPV systems, a relatively modest decline from the previous year's rates. Furthermore, system owners may also benefit from self-consumption with a reduced electrical bill. The Italian market saw an enormous boost in large installations in 2009, 2010 and 2011 and the Italian government is expected to implement much lower FIT in order to control the market growth. In 2012, the Italian feed-in tariff is expected to be approximately €0.148 to €0.274 per kWh in the first half of the year, and to decline further in the second half year.

*United States.* According to Solarbuzz, the US market increased from 949 MW in 2010 to 2,001 MW in 2011, while its share in the global market slightly increased to 7% in 2011 from 5% in 2010. Over 10 states in the U.S. offer significant incentives, with California offering the most preferential incentives. In January 2006, the California Public Utilities Commission enacted the California Solar Initiative, a $2.9 billion program that subsidizes solar power systems by $2.80 per watt. Due to excessive demand, this subsidy was reduced to $2.50 per watt. Combined with federal tax credits for solar power usage, the subsidy may account for as much as 50% of the cost of a solar power system. The program will last until 2016 and is expected to dramatically increase the use of solar power for on-grid applications in California. Incentives in other US states include state renewable energy credits, capital subsidies and in some states, such as Vermont, feed-in tariff. Many states and various federal departments are also subject to renewable energy portfolio standards that mandate minimum percentages of renewable energy production by utilities. By the end of 2011, 29 states and Washington DC currently have enacted mandatory RPS policies while 16 states had voluntary renewable goals. Finally, the U.S. federal government passed several renewable energy provisions totaling more than $70 billion in the American Recovery and Reinvestment Act, including a 30% investment tax credit, accelerated five-year system depreciation and an expansion of Department of Energy loan guarantees. These provisions were further expanded in 2010 to include a cash grant in lieu of the investment tax credit and were uncapped with respect to system size (the previous maximum rebate was $2,000) to allow larger organizations such as utilities to take advantage of the tax credit or cash in-lieu of the grant for large scale projects. The constrained appetite for tax equity may limit the effectiveness of some of these provisions, such as accelerated depreciation.

*China.* According to Solarbuzz, the Chinese market witnessed a 417% growth in installations in 2011 to 2,750 MW, up from 532 MW in 2010. China's Renewable Energy Law, which went into effect on January 1, 2006, authorizes the relevant authorities to set favorable prices for the purchase of on-grid electricity generated by solar power and provides other financial incentives for the development of renewable energy projects. China's top-level controlling agency on energy policy has been the government's central planning agency, National Development and Reform Commission of PRC, or the NDRC, with the ancillary National Energy Administration specifically focusing on energy supply and production. The National Energy Commission, a new

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ministerial level regulatory organization headed by Premier Wen, was established in January 2010 to oversee all energy related sectors in China.

On March 23, 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 Interim Measures, to support the development of solar PV technology in China. Local governments are encouraged to issue and implement supporting policies. Under the Interim Measures, a subsidy, which is set at RMB20 per watt, peaked in 2009, which covers solar PV technology integrated into building construction.

China finances its off-grid solar installations through the now-completed township program and the current village program. The five-year plan from 2006 to 2010 was targeted to provide electricity to 29,000 villages, mainly in western China. The Ministry of Housing and Urban-Rural Development (formerly, the Ministry of Construction) has promulgated directives encouraging the development and use of solar power in urban and rural areas. Various local authorities have also introduced initiatives to encourage the adoption of renewable energy, including solar power.

We believe that we are well positioned to take advantage of growth opportunities in the Chinese solar power market, which has the potential to become one of the fastest growing markets for solar power. In addition to project approvals of 640 MW under the Golden Sun Program and 91 MW in the Solar Rooftop Program in 2009, programs like Renewable Energy Applications in Buildings and National Green Energy Demonstration County are re-enforcing the project pipeline.

Beginning in March 2009, several policy initiatives were announced, including open bidding for a 20-year operating license for a 10 MW solar power plant project in Gansu Province of China and the "Golden Sun" program, which subsidizes the capital expenses of solar projects by approximately US$2.00 per watt. A number of provincial incentives were announced as well. However, the central government has not approved a definitive implementation scheme or any of the provincial schemes.

The 2010 "Golden Sun" project list was released in November 2010 with 120 new projects totaling 272 MW. The "Golden Sun" program will approve another 320 MW of rooftop PV projects in 2011, and the total new installation, including rooftop and ground-mounted projects, in 2011 will be approximately 500-700 MW based on the estimates by the China Photovoltaic Society. The subsidies provided by the government will cover 50% of the total PV project cost.

*Canada.* According to Solarbuzz, the Canadian market in 2010 was dominated by installations in the Province of Ontario, emanating from the now defunct Renewable Energy Standard Offer Program, or RESOP, and the newer feed-in tariff policy inaugurated in 2009. In all, Ontario accounted for more than 98% of the installed PV capacity in the country in 2011 with 170 MW of solar PV installations. Of this, utility-scale RESOP installations represented approximately 113 MW of installed capacity with the remainder coming from small-scale systems driven by Ontario's feed-in tariff.
Ontario market growth in 2010 was a remnant of RESOP, a program that offered renewable energy projects up to 10 MW a guaranteed tariff of C$0.42/kWh for 20 years. The program closed in May 2008 due to overwhelming uptake and projects in the pipeline were frozen until May 2009 when Ontario passed the Green Energy Act and with it a new feed-in tariff program. Both programs are administered by the Ontario Power Authority, or OPA, which is responsible for setting rates, regulations, and monitoring all feed-in tariff activity. The proposed price for solar power under the Ontario feed-in tariff program ranges from C$0.443 to C$0.80 per kWh depending on the system size and type.

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*Japan.* According to Solarbuzz, the Japanese market grew from 960 MW in 2010 to 1245 MW in 2011, as a result of the nationwide residential incentive program and the introduction of a Japanese version of a feed-in tariff in 2009. The Japanese government has announced a long-term goal of increasing installed solar power capacity by between 20 and 55 times, which would require 28 GW or more of solar power capacity by 2020. Japan is a signatory to the Kyoto Protocol, which requires it to reduce greenhouse gas emissions by 6% from the 1990 baseline level by 2012 and by 20% by 2020. Japan currently funds a number of programs supporting domestic solar power installations and has announced a plan to begin installing solar power systems on federal buildings through 2012. As Japan will not likely reach its renewable energy (including solar) targets, Japan is increasing its incentives for solar power installations. To refuel the declining domestic market, the federal government brought back the nationwide residential subsidy in 2009. The residential program was re-launched in January 2009 under a fiscal year 2008 supplemental budget of ¥9.0 billion. For fiscal year 2011, the residential incentive program had a funding of ¥34.9 billion to cover about 160,000 projects and the application period was open between April and December 2011. The residential program provides a subsidy of ¥48 per watt, and to promote further cost reduction, this subsidy is only applicable to a PV system with a total installed cost of less than ¥650 per watt. Besides the upfront cash incentives, the federal government crafted a net feed-in tariff policy, requiring electric power utilities to buy excess electricity generated by PV systems at a premium rate. Residential PV owners, for example, were paid for 10 years a rate of ¥48/kWh, compared to the average of ¥24/kWh under the previous net billing arrangement. For fiscal year 2010, the government kept the net feed-in tariff rates at the 2009 level (¥48/kWh for residential and ¥24/kWh for non-residential).

*Australia.* According to Solarbuzz, in 2011, the Australian market grew from 265 MW in 2010 to 753 MW in 2011, representing a growth rate of more than 284%. The largest state market by far in 2011 was Queensland, which grew more than 150% from 2010 to 2011 in PV installations, mostly due to its feed-in tariff program, and is projected to continue growing into 2012. New South Wales also saw a significant amount of capacity installed during 2011, again due to its feed-in tariff program. The on-grid residential segment continued to dominate the market as the largest customer group. The main federal incentive active during 2010 was the Solar Credits program, which provided a renewable energy credit multiplier for the first 1.5 kW of small-scale renewable energy systems. The result of the program was an upfront rebate of between 4,000 Australian dollars and 6,200 Australian dollars for 1.5 kW systems depending on location. The Solar Credits program was the successor of the Solar Homes and Communities Program, or SHCP, which offered an Australian dollar 8 per watt rebate on the first 1,000 W of a solar PV system. The SHCP was cancelled in June 2009 but continued to impact 2010 market size due to the significant backlog of installations. The Solar Credits Program is part of the Renewable Energy Target, which is set to ensure that Australia will generate 45,000 GWh (20%) of its energy from renewable sources by 2020. Due to the uncertain nature of federal incentive programs, the states/territories have launched their own programs to drive PV demand. The programs that drive the vast majority of systems are feed-in tariffs. These feed-in tariffs mainly affected the residential segment as each program has different eligibility requirements that work to minimize system sizes or specify directly that the rates are only accessible by residential customers. Along with changes to programs affecting small-scale residential systems, the past year also brought news of funding changes for utility-scale projects. The biggest news came in January 2011 and concerned the Solar Flagships program. The Australia government revised its Solar Flagships program, which was originally scheduled to install 150 MW of utility-scale solar PV and 250 MW of CSP plants by 2016. As well, every region intends to have a PV specific feed-in tariff or net-metering policy in 2010.

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***Sales and Marketing***

*Standard Solar Modules*

We market and sell our standard solar modules worldwide, primarily through a direct sales force and via market-focused sales agents. Our direct sales personnel or sales agent representatives cover our markets in Europe, North America and Asia. Our marketing activities include trade shows, conferences, sales training, product launch events, advertising and public relations campaigns. Working closely with our sales and product development teams, our marketing team is also responsible for collecting market intelligence and supporting our sales team's lead generation efforts. We have marketing staff in the U.S., China, Europe, Canada, Japan and South Korea.

We sell our products primarily under three types of arrangements: (i) sales contracts to distributors, (ii) sales to systems integrators, EPCs and project developers ("project" customers) and (iii) OEM/tolling manufacturing arrangements.

*Sales contracts to distributors and project customers.* We enter into annual sales and/or distribution agreements with most of our key customers. We typically use either letters of credit or wire money transfers prior to shipping to secure payment. We also provide short-term credit sales ranging from 21 to 45 days. For some customers, we provide medium-term credit sales from 30 to 120 days. We actively use credit insurance coverage for credit sales.

*OEM/tolling manufacturing arrangements.* Under these arrangements, we purchase silicon wafers and solar cells from customers, and then sell solar module products back to the same customers, who then sell those products under their own brands. In addition, we have been using our own solar cells or cells that we purchase to make modules for a limited number of strategic customers who brand the finished solar module products with their own labels. Since 2009, this has been the primary OEM arrangement.

*Solar System Kits.* In 2010, we commenced the sale of solar system kits. Solar systems kits are packaged, pre-specified components required for a third party to construct a system on behalf of the end buyer. In 2011, we sold 56.9 MW of systems kits in China, Japan and Canada.

*Specialty Solar Modules and Products*

We target our sales and marketing efforts for our specialty solar modules and products at companies in selected industry sectors, including the automotive, telecommunications and light-emitting diode, or LED, lighting sectors. As standard solar modules increasingly become commoditized and technology advancements allow solar power to be used in more off-grid applications, we will expand our sales and marketing focus on our specialty solar modules and products and capabilities. Our sales and marketing team works with our specialty solar modules and products development team to take into account changing customer preferences and demands to ensure that our sales and marketing team is able to effectively communicate to customers our product development changes and innovations. We intend to establish additional relationships in other market sectors as the specialty solar modules and products market expands.

*Solar Power Development Projects*

In the second half of 2009, we began partnering with solar farm project developers to develop and construct solar farm projects. In late 2009, we completed a solar farm project in Germany.

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In November 2009, we and our partners submitted a significant number of feed-in-tariff applications to the OPA in Ontario, Canada. In April 2010, the OPA awarded us and our partners contract offers for 176MW AC of open-field solar power generation projects. The projects were developed in partnership with several leading renewable energy developers in the Ontario market. In December 2011, we entered into a sales agreement with TransCanada whereby TransCanada will acquire from us an 86 MW AC solar project portfolio for approximately C$470 million ($470 million). Initial designs of these projects are being completed and the projects are being processed through Ontario's Renewable Energy Approval, or REA, permitting stage. If final REA approval is obtained from the OPA, we expect that these projects will be completed in 2012 and 2013.

In April 2012, we entered into a purchase and international joint venture agreement, with Canada's largest owner and developer of solar projects, SkyPower Limited, or SkyPower, to build and deploy solar energy solutions in Ontario, and to jointly develop solar projects internationally in selected emerging markets. Under the agreement, we will acquire a majority interest in 16 solar projects representing approximately 190 to 200 MW DC from SkyPower. Each of these projects was awarded a 20-year power purchase contract by the OPA. 15 of these contracts were issued under Ontario's Feed-In-Tariff Program, and one was issued as part of Ontario's Renewable Energy Standard Offer Program. These projects are in the advanced REA permitting stage. We expect to commence construction of these projects in 2013 and to have them fully operational in 2014. These projects are expected to generate over C$800 million (US$800 million) in revenue for Canadian Solar. We and SkyPower also agreed to form 50/50 international joint venture focused on developing solar power plants in selected emerging markets.

We plan to continue to pursue additional solar power development project opportunities in 2012.

*Solar System EPC contracting and subcontracting*

From late 2010, we entered into a number of EPC contracting arrangements with solar project development partners in Canada. Under these arrangements, the solar farm project developer owns the projects and we are contracted to perform the EPC work. We have the discretion to either perform all of the EPC arrangements or subcontract any part of the EPC arrangements to another suitable EPC contractor. In 2011 we began generating significant revenues from EPC contracts and expect to complete more EPC contracts in 2012.

By the end of 2011, we completed approximately 23 MW of solar system EPC contracts in China, and approximately 31 MW of solar system EPC contracts in Ontario, Canada. The EPC contracts in China were completed through our affiliated company, Suzhou Gaochuangte New Energy Co., Ltd., or Gaochuangte, in which we own a 40% equity interest.

***Customer Support and Service***

We typically sell our standard solar modules with a ten-year warranty against defects in materials and workmanship and a linear power performance warranty that guarantees that the actual power output of our modules will be no less than 97% of the labeled power output during the first year and will decline by no more than 0.7% annually so that, by the end of year 25, the actual power output will be no less than 80% of the labeled power output.

Our customer support and service function grew in 2011. We expanded our customer resources four fold, and established two functional support groups to address technical inquiries and warranty related issues. Our current structure enhances our abilities to handle our customer's questions and concerns in a timely and professional manner. There has been an increase in claims, but this increase has been in line with our higher sales volumes, and due to the resolution of legacy issues through the warranty process.

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For 2012, we have renewed our product warranty insurance coverage to provide additional security to our customers. See " Insurance" below. The customer support and service function will continue to expand and to improve services to our customers. With our entry in the Ontario market for solar systems and the introduction of our Smart Module product in the North America market, a new segment in the support and service function will be created to address technical inquiries and product related issues for these two new business lines.

***Competition***

The market for solar module products is competitive and evolving. We compete with international companies such as SunPower, First Solar and Sharp Solar, and China-based companies such as Suntech, Yingli and Trina. Some of our competitors are also developing or producing products based on alternative solar technologies, such as thin film PV materials, that may ultimately have costs similar to, or lower than, our projected costs. Solar modules produced using thin film materials, such as cadmium telluride and copper indium gallium selenide technology, are generally less efficient, with module conversion efficiencies ranging from approximately 5% to approximately 11% according to company filings, but require significantly less or no silicon to produce than crystalline silicon solar modules, such as our products, and are less susceptible to increases in silicon costs. Some of our competitors have also become vertically integrated, from upstream polysilicon manufacturing to solar system integration. Higher conversion efficiency cells are also becoming an important product. Some international competitors, such as Sanyo Electric Co., Ltd. and SunPower, have well-known high-efficiency module product brands. We are developing competing high-efficiency products, as are several other Chinese manufacturers. We may also face increased competition from manufacturers from other sectors such as Samsung Corporation or Hanwha Group, several of which have already started production of solar modules or acquired companies that do so. In addition, the solar power market in general competes with other sources of renewable and alternative energy and conventional power generation. We believe that the key competitive factors in the market for solar module products include:

price;

the ability to deliver products to customers on time and in the required volumes;

product quality and associated service issues;

nameplate power and other performance parameters of the module, such as power tolerances;

value-added services such as system design and installation;

value-added features such as those that make a module easier or cheaper to install;

additional system components such a mounting systems, delivered as a package or bundle;

brand equity and any good reputation resulting from the above items, including the willingness of banks to finance projects using a particular module supplier;

customer relationships and distribution channels; and

the aesthetic appearance of solar module products.

In the immediate future, we believe that our ability to compete depends on delivering a cost-effective product in a timely manner and developing and maintaining a strong brand name based on high quality products and strong relationships with downstream customers. It also depends on our ability to effectively manage our cash flow and balance sheet and to maintain our relationships with the financial institutions that fund solar projects. Consolidation of the solar industry is already occurring and is expected to continue in the near future. We believe that such consolidation will benefit our company in the long-term. We believe that the key to compete successfully in the long-term is to produce

innovative, high quality products at competitive prices and develop an integrated sales

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approach that includes services, ancillary products, such as mounting systems and inverters, and value-added product features. We believe that a good marketing program and the strong relationships that we are building with customers and suppliers will support us in this competitive environment.

***Insurance***

We maintain property risk insurance policies with reputable insurance companies to cover our equipment, facilities and buildings, including improvements, office furniture and inventory. These insurance policies cover losses due to fire, floods and other natural disasters. Our manufacturing facilities in China are also covered by business interruption insurance. However, significant damage to any of our manufacturing facilities, whether as a result of fire or other causes, could still have a material and adverse effect on our results of operations. We have maintained general commercial and product liability coverage at the same levels since 2009. We have also been actively working with China Export & Credit Insurance Corporation, or Sinosure, since early 2008. Credit insurance is designed to offset the collection risk of our account receivables for customers within the credit limits approved by Sinosure. Risks related to marine, air and inland transit for the export of our products and domestic transportation of materials and products are covered under cargo transportation insurance. We also maintain director and officer liability insurance. We consider our overall insurance coverage to be adequate. We currently take a 1% warranty provision against our revenue on solar modules and 0.8% warranty provision against our revenue on solar system kits.

Beginning in April 2010, we began purchasing product warranty insurance policies underwritten by A-rated insurance companies on an annual basis to back up our product warranties. These insurance policies apply to our warranty against defects in workmanship and material and our warranty relating to power output. The costs of these policies are amortized over the 25 year coverage period provided under the policies. We believe that our warranty improves the marketability of our products and our customers are willing to pay more for products with warranties backed by insurance.

***Environmental Matters***

Except for as disclosed in the "Item 3. Key Information  D. Risk Factors  Risks Related to Doing Business in China", we believe we have obtained the environmental permits necessary to conduct the business currently carried on by us at our existing manufacturing facilities. We have conducted environmental studies in conjunction with our solar power development projects to assess and reduce the environmental impact of our facilities.

Our products must comply with the environmental regulations of the jurisdictions in which they are installed. We make efforts to ensure that our products comply with the European Union's Restriction of Hazardous Substances Directive, which took effect in July 2006, by reducing the amount of lead and other restricted substances used in our solar module products.

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.

***Government Regulation***

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

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*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 revised in December 2009. The revised Renewable Energy Law, which became effective on April 1, 2010, sets forth policies to encourage the development and use of solar energy and other non-fossil energy and their 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 photovoltaic 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 subject to certain regulations of the relevant authorities.

In November 2005, the NDRC promulgated the Renewable Energy Industry Development Guidance Catalogue, in which solar power figured prominently. In January 2006, the NDRC promulgated two implementation directives with respect to the Renewable Energy Law. In January 2007, the NDRC promulgated another related implementation directive. These directives set forth specific measures for setting the price of electricity generated by solar and other renewable power generation systems, for sharing additional expenses, and for allocating administrative and supervisory authority among different government agencies at the national and provincial levels. They also stipulate the responsibilities of electricity grid companies and power generation companies with respect to the implementation of the Renewable Energy Law.

In August 2007, the NDRC promulgated the Medium and Long-Term Development Plan for the Renewable Energy Industry. This plan sets forth national policy to provide financial allowance and preferential tax regulations for the renewable energy industry. A similar demonstration of the PRC government's commitment to renewable energy was also stipulated in the Eleventh Five-Year Plan for Renewable Energy Development, which was promulgated by the NDRC in March 2008. The Outline of the Twelfth Five-Year Plan for National Economic and Social Development of the PRC, which was approved by the National People's Congress in March 2011, also demonstrates a commitment to promote the development of renewable energy to enhance the competitiveness of the renewable energy industry.

China's Ministry of Housing and Urban-Rural Development (formerly, the Ministry of Construction) also issued a directive in June 2005 which seeks to expand the use of solar energy in residential and commercial buildings and encourages the increased application of solar energy in different townships. Similarly, China's State Council promulgated a directive in July 2005, which sets forth specific measures to conserve energy resources. In November 2005, China's Ministry of Housing and Urban-Rural Development promulgated the Administrative Provisions on Energy Conservation for Civil Constructions which encourages the development of solar energy. In August 2006, the State Council issued the Decision on Strengthening the Work of Energy Conservation which encourages the great development of the solar energy and other renewable energy. In addition, on April 1, 2008, the PRC Energy Conservation Law came into effect. Among other objectives, this law encourages the installation of solar power facilities in buildings to improve energy-efficiency. In July 2009, China's Ministry of Finance and Ministry of Housing and Urban-Rural Development jointly promulgated "the Urban Demonstration Implementation Program of the Renewable Energy Building Construction" and "the Implementation Program of Acceleration in Rural Application of the Renewable Energy Building Construction" to support the development of the new energy industry and the new energy-saving industry.

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

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Construction, or the Interim Measures, to support the development of solar photovoltaic technology in China. Local governments are encouraged to issue and implement supporting policies. Under the Interim Measures, a subsidy, which is set at RMB20 per Watt-peak for 2009, will cover solar PV technology integrated into building construction. The Interim Measures do not apply to projects completed before the promulgation date of the Interim Measures. Also in March 2009, China's Ministry of Finance and Ministry of Housing and Urban-Rural Development jointly promulgated the Implementation Opinion on Acceleration in the Application of Solar Photovoltaic Technology in Building Construction. On March 8, 2011, China's Ministry of Finance and Ministry of Housing and Urban-Rural Development jointly promulgated the Notice on Further Application of Renewable Energy in Building Construction, which aims to raise the percentage of renewable energy used in buildings.

In July 2009, China's Ministry of Finance and Ministry of Science and Technology and Resource Bureau of the NDRC jointly published an announcement containing the guidelines for the "Golden Sun" demonstration program. Under the program, the PRC government will provide a 50%-70% subsidy for the capital costs of PV systems and the relevant power transmission and distribution systems for up to 20 MW of PV system projects in each province, with the aim to industrialize and expand the scale of China's solar power industry. The program requires that each PV project must have a minimum capacity of 300 kW, be completed within one year and have an operational term of not less than 20 years. On September 21, 2010 and November 19, 2010, China's Ministry of Finance, Ministry of Science and Technology, Ministry of Housing and Urban-Rural Development and the Resource Bureau of the NDRC published two announcements regarding the "Golden Sun" demonstration program to specify the terms for bid solicitation for key equipment and the standards for subsidies and supervision and management of projects.

In September 2009, the PRC State Council approved and circulated the Opinions of the National Development and Reform Commission and other Nine Governmental Authorities on Restraining the Production Capacity Surplus and Duplicate Construction in Certain Industries and Guiding the Industries for Healthy Development. These opinions concluded that polysilicon production capacity in China has exceeded the demand and adopted the policy of imposing more stringent requirements on the construction of new polysilicon manufacturing projects in China. These opinions also stated in general terms that the government should encourage polysilicon manufacturers to enhance cooperation and affiliation with downstream solar product manufacturers to extend their product lines. However, these opinions do not provide any detailed measures for the implementation of this policy. As we are not a polysilicon manufacturer and do not expect to manufacture polysilicon in the future, we believe the issuance and circulation of these opinions will not have any material impact on our business or our silicon wafer, solar cell and solar module capacity expansion plans.

In July 2011, the NDRC issued the Circular on Improving the On-Grid Price Policy for Photovoltaic Power, which aims to stimulate the photovoltaic power industry by regulating the price of photovoltaic power.

*Environmental Regulations*

As we have expanded our ingot, silicon wafer and solar cell manufacturing capacities, we have begun to generate material levels of noise, wastewater, gaseous wastes and other industrial waste. Additionally, as we expand our internal solar components production capacity, our risk of facility incidents that would negatively affect the environment also increases. We are subject to a variety of governmental regulations related to the storage, use and disposal of hazardous materials. The major environmental regulations applicable to us include the PRC Environmental Protection Law, the PRC Law on the Prevention and Control of Noise Pollution, the PRC Law on the Prevention and Control of Air Pollution, the PRC Law on the Prevention and Control of Water Pollution, the PRC Law on the Prevention and Control of Solid Waste Pollution, the PRC Law on Evaluation of Environmental Affects and the Regulations on the Administration of Construction Project Environmental Protection.

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Further, some of our PRC subsidiaries are located in Suzhou, China, which is adjacent to Taihu Lake, a nationally renowned and protected body of water. As a result, production at these subsidiaries is subject to the Regulation of Jiangsu Province on Preventing Water Pollution in Taihu Lake, which became effective in June 2008 and was further revised on September 29, 2010 and February 1, 2012, and the Implementation Plan of Jiangsu Province on Comprehensive Treatment of Water Environment in Taihu Lake Basin, which was promulgated in February 2009. Because of these two new regulations, the environmental protection requirements imposed on nearby manufacturing projects, especially new projects, have increased noticeably, and Jiangsu Province has stopped approving construction of new manufacturing projects that increase the amount of nitrogen and phosphorus released into Taihu Lake.

*Admission of Foreign Investment*

The principal regulation governing foreign ownership of solar power businesses in the PRC is the Foreign Investment Industrial Guidance Catalogue. Under the current catalogue, which was amended in 2011 and became effective January 30, 2012, the solar power related business is classified as an "encouraged foreign investment industry." Companies that operate in encouraged foreign investment industries and satisfy applicable statutory requirements are eligible for preferential treatment, including exemption from customs and input value added taxes, or VAT, and priority consideration in obtaining land use rights.

While the 2004 catalogue only applied to the construction and operation of solar power stations, the 2007 catalogue expanded its application also applies to the production of solar cell manufacturing machines, the production of solar powered air conditioning, heating and drying systems and the manufacture of solar cells, and the current catalogue also covers the manufacture of solar battery, solar light collector glass and etc.

*Administration of Foreign Invested Companies*

The establishment, approval, registered capital requirement and day-to-day operational matters of wholly foreign-owned enterprises, are regulated by the Wholly Foreign-Owned Enterprise Law of the PRC, effective in 1986 and amended in 2000, and the Implementation Rules of the Wholly Foreign-owned Enterprise Law of the PRC, effective in 1990 and amended in 2001. The establishment, operation and management of corporate entities in China are governed by the Company Law of the PRC, or the Company Law, effective in 1994 and amended in 1999, 2004 and 2005. The Company Law is applicable to our PRC subsidiaries unless PRC laws on foreign investment stipulate otherwise.

*Income and VAT Taxes*

PRC enterprise income tax is calculated based on taxable income determined under PRC accounting principles. Our major operating subsidiaries, CSI Solartronics, CSI Manufacturing, CSI Cells, CSI Technologies, CSI Changshu Manufacturing and CSI Luoyang Manufacturing, are governed by the EIT Law, which became effective from January 1, 2008.

Under the EIT Law, both foreign-invested enterprises and domestic enterprises are subject to a uniform enterprise income tax rate of 25%. There is a transition period for enterprises that were given preferential tax treatment under the previous tax law. Enterprises that were subject to an enterprise income tax rate lower than 25% will have the new uniform enterprise income tax rate of 25% phased in over a five-year period from the effective date of the EIT Law. Enterprises that were entitled to exemptions or reductions from the standard income tax rate for a fixed term may continue to enjoy such treatment until the fixed term expires, subject to certain limitations.

The EIT Law provides for preferential tax treatment for certain categories of industries and projects that are strongly supported and encouraged by the state. For example, enterprises classified as HNTEs are entitled to a 15% enterprise income tax rate, provided that such HNTEs satisfy other

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applicable statutory requirements. Our subsidiary CSI Solartronics has been recognized as an HNTE. However, because CSI Solartronics does not meet certain requirements for the reduced 15% enterprise income tax rate, it is still subject to a 25% enterprise income tax rate.

CSI Manufacturing was subject to a reduced enterprise income tax rate of 12.5% until the end of 2009, when its tax holiday expired, and it is currently subject to an EIT rate of 25%. CSI Cells and CSI Luoyang Manufacturing are subject to a reduced enterprise income tax rate of 12.5% until the end of 2011, when their tax holidays expire. CSI Changshu Manufacturing and CSI Technologies were exempt from EIT for 2009 and will be subject to a reduced enterprise tax rate of 12.5% from 2010 through to and including 2012, at which time their tax holidays will expire as well. As the preferential tax benefits currently enjoyed by our PRC subsidiaries expire, their effective tax rates will increase significantly.

The EIT Law also provides that enterprises established outside China whose "effective management" is located in China are considered PRC tax residents and will generally be subject to the uniform 25% enterprise income tax rate on their global income. Under the implementation regulations, the term "effective management" is defined as substantial and overall management and control over such aspects as the production and business, personnel, accounts and properties of an enterprise. Currently there are no detailed rules or precedents governing the procedures and specific criteria for determining an enterprise's effective management, which are applicable to us. As a substantial number of the members of our management team are located in China, we may be considered a PRC tax resident under the EIT Law and, therefore, subject to the uniform 25% enterprise income tax rate on our global income.

Under the EIT Law and implementing regulations issued by the State Council, PRC withholding tax at the rate of 10% is applicable to interest and dividends payable to investors from companies that are not "resident enterprises" in the PRC, to the extent such interest or dividends have their sources within the PRC. If our Canadian parent entity is deemed a PRC tax resident under the EIT Law based on the location of our effective management, dividends distributed from our PRC subsidiaries to our Canadian parent entity could be exempt from Chinese dividend withholding tax. However, in that case, dividends from us to our shareholders may be regarded as China-sourced income and, consequently, be subject to Chinese withholding tax at the rate of 10%, or at a lower treaty rate if applicable. Similarly, if we are considered a PRC tax resident, any gain realized by our shareholders from the transfer of our common shares is also subject to Chinese withholding tax at the rate of 10% if such gain is regarded as income derived from sources within the PRC. It is unclear whether any dividends that we pay on our common shares or any gains that our shareholders may realize from the transfer of our common shares would be treated as income derived from sources within the PRC and subject to PRC tax.

Pursuant to a November 2008 amendment to the Provisional Regulation of the PRC on Value Added Tax issued by the PRC State Council, all entities and individuals that are engaged in the sale of goods, the provision of repairs and replacement services and the importation of goods in China are required to pay VAT. Gross proceeds from sales and importation of goods and provision of services are generally subject to VAT at a rate of 17%, with exceptions for certain categories of goods that are taxed at a rate of 13%. When exporting goods, the exporter is entitled to a refund of a portion or all of the VAT that it has already paid or borne.

In December 2008, the Ministry of Finance and the State Administration of Taxation jointly issued implementation rules for the VAT effective from January 1, 2009. Under the new rules, fixed assets (mainly including equipment and manufacturing facilities) are now eligible for credit for input VAT. Previously, input VAT on fixed assets purchases was not deductible from the current period's output VAT derived from the sales of goods, but had to be included in the cost of the assets. The new rule permits this deduction except in the case of equipment purchased for non-taxable projects or tax-exempted projects where the deduction of input VAT is not allowed. However, the qualified fixed assets could also be eligible for input VAT if the fixed assets are used for both taxable projects and non-taxable

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projects or tax-exempted projects. Presently, no further detailed rules clarify under what circumstance the fixed assets are considered as being used for both taxable and non-taxable or tax exempt projects. Because of the new VAT rules, our PRC subsidiaries may benefit from future input VAT credit on our capital expenditures.

Under the former rules, equipment imported for qualified projects was entitled to an import VAT exemption and domestic equipment purchased for qualified projects were entitled to a VAT refund. However, such exemption and refund were both eliminated as of January 1, 2009.

*Foreign Currency Exchange*

Foreign currency exchange regulation in China is primarily governed by the Foreign Currency Administration Rules (1996), as amended in 2008, and the Settlement, Sale and Payment of Foreign Exchange Administration Rules (1996), or the Settlement Rules.

Currently, the Renminbi is convertible for current account items, including the distribution of dividends, interest payments, trade and service-related foreign exchange transactions. Conversion of the Renminbi for most capital account items, such as direct investment, security investment and repatriation of investment, however, is still subject to the approval of SAFE.

Under the Settlement Rules, foreign-invested enterprises may buy, sell and/or remit foreign currencies only at those banks authorized to conduct foreign exchange business after providing valid commercial documents and, in the case of most capital account item transactions, obtaining approval from SAFE. Capital investments by foreign-invested enterprises outside of China are also subject to limitations, which include approvals by the Ministry of Commerce, SAFE and the State Reform and Development Commission.

*Dividend Distribution*

The principal regulations governing distribution of dividends paid by wholly foreign owned enterprises include the Wholly Foreign-Owned Enterprise Law of the PRC, effective in 1986 and amended in 2000, the Implementation Rules of the Wholly Foreign-Owned Enterprise Law of the PRC, effective in 1990 and amended in 2001, the Company Law effective in 1999 and amended in 2005 and the New EIT Law and its implementation rules, both effective in 2008.

Under these laws, foreign-invested enterprises in China may pay dividends only out of their accumulated profits, if any, determined in accordance with PRC accounting standards and regulations. In addition, a wholly foreign owned enterprise in China is required to set aside at least 10% of its after-tax profits determined in accordance with PRC accounting standards each year to its general reserves until the accumulative amount of such reserves reach 50% of its registered capital. These reserves are not distributable as cash dividends. The board of directors of a foreign-invested enterprise has the discretion to allocate a portion of its after-tax profits to staff welfare and bonus funds, which may not be distributed to equity owners except in the event of liquidation.

*Employment*

The major laws and regulations governing the employment relationship, including wage and hour requirements, working and safety conditions, social insurance, housing funds and other welfare. The PRC Labor Law which became effective on January 1, 1995 and amended on August 27, 2009, the Labor Contract Law of the People's Republic of China, which became effective on January 1, 2008, and its Implementing Regulation, which became effective on September 18, 2008, permit workers in both state-owned and private enterprises in the PRC to bargain collectively. The PRC Labor Law and the PRC Labor Contract Law provide for collective contracts to be developed through collaboration between the labor unions (or worker representatives in the absence of a union) and management that

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specify such matters as working conditions, wage scales, and hours of work. The PRC Labor Contract Law and its Implementing Regulation impose certain requirements with respect to human resources management, including, among other things, signing labor contracts with employees, terminating labor contracts, paying remuneration and compensation and making social insurance contributions. In addition, the PRC Labor Contract Law requires employers to provide remuneration packages that meet the relevant local minimum standards. The PRC Labor Contract Law has enhanced rights for the nation's workers, including permitting open-ended labor contracts and severance payments. It requires employers to provide written contracts to their workers, restricts the use of temporary labor and makes it harder for employers to lay off employees. It also requires that employees with fixed-term contracts be entitled to an indefinite-term contract after a fixed-term contract is renewed twice or the employee has worked for the employer for a consecutive ten-year period.

Under applicable PRC laws, rules and regulations, including the Social Insurance Law promulgated by the Standing Committee of the National People's Congress and effective as of July 1, 2011, the Rules on Implementing the Social Insurance Law issued by Ministry of Human Resource and Social Security and effective as of July 1, 2011, the Interim Regulations on the Collection and Payment of Social Security Funds promulgated by the State Council and effective as of January 22, 1999, the Interim Measures Concerning Maternity Insurance promulgated by the Ministry of Labor and effective as of January 1, 1995, the Regulations on Occupational Injury Insurance promulgated by the State Council and effective as of January 1, 2004 and amended on December 20, 2010, and the Regulations on the Administration of Housing Accumulation Funds promulgated by the State Council and effective as of April 3, 1999 and amended on March 24, 2002, employers are required to contribute, on behalf of their employees, to a number of social security funds, including funds for basic pension insurance, unemployment insurance, basic medical insurance, occupational injury insurance, maternity leave insurance, and to housing accumulation funds. These payments are made to local administrative authorities and any employer who fails to contribute may be fined and ordered to remediate on payments within a stipulated time period.

## C. Organizational Structure

The following table sets forth our company's organizational structure, including the place of formation, our ownership interest in each of our significant subsidiaries.

| Name of entity | Country of incorporation | Ownership interest |
|---|---|---|
| CSI Solartronics (Changshu) Co., Ltd. | PRC | 100% |
| CSI Solar Technologies Inc. | PRC | 100% |
| CSI Solar Manufacture Inc. | PRC | 100% |
| CSI Solar New Energy (Suzhou) Co., Ltd. | PRC | 100% |
| Canadian Solar Manufacturing (Luoyang) Inc. | PRC | 100% |
| Canadian Solar Manufacturing (Changshu) Inc. | PRC | 100% |
| CSI Cells Co., Ltd. | PRC | 100% |
| Canadian Solar (USA) Inc. | USA | 100% |
| CSI Project Consulting GmbH | Germany | 70% |
| Canadian Solar Japan K.K. | Japan | 90.67% |
| Canadian Solar Solutions Inc. | Canada | 100% |
| CSI Solar Power (China) Inc. | PRC | 100% |
| Canadian Solar EMEA GmbH | Germany | 100% |
| Canadian Solar Manufacturing (Ontario) Inc. | Canada | 100% |
| Canadian Solar (Australia) Pty., Ltd. | Australia | 100% |
| Canadian Solar International Ltd. | Hong Kong | 100% |
| Canadian Solar O&M (Ontraio) Inc. | Canada | 100% |
| SunE Sky GP First Light III Ltd. | Canada | 100% |
| SunE Sky First Light III LP | Canada | 100% |
| CSI-Cenergy Holdings LLC | USA | 62.5% |
| Suzhou Sanysolar Materials Technology Co., Ltd. | PRC | 80% |
| Canadian Solar South East Asia Pte., Ltd. | Singapore | 100% |
| Canadian Solar Manufacturing (Suzhou) Inc. | PRC | 61% |

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See "Item 4. Information on the Company A. History and Development of the Company" for additional information on our corporate structure.

**D. Property, Plant and Equipment**

The following is a summary of our properties, including information on our manufacturing facilities and office buildings:

CSI Changshu Manufacturing rents approximately 31,119 square meters of floor area in Changshu, including 13,889 square meters for manufacturing facilities under a lease effective from June 1, 2011 to May 31, 2012, 8,852 square meters for manufacturing facilities under a lease effective from October 1, 2011 to September 30, 2012, and 8,378 square meters for manufacturing facilities under a lease effective from April 1, 2010 to March 31, 2013.

CSI Luoyang Manufacturing holds a land use rights certificate for approximately 35,345 square meters of land in Luoyang (Phase I), on which we have constructed a manufacturing facility for module manufacturing and an office building. The floor area of all workshops and office buildings in Phase I is approximately 6,761 square meters. The property ownership certificate was granted in June 2008. In 2008, CSI Luoyang Manufacturing obtained the land use rights for approximately 79,685 square meters of adjacent land (Phase II), on which we have constructed wafer manufacturing facilities. The floor area of Phase II is 30,071 square meters. We expect to receive the property ownership certificate upon passing the required inspection after the completion of construction.

CSI Cells holds a land use rights certificate for approximately 65,661 square meters of land in Suzhou. We completed the construction of our first solar cell manufacturing facilities on this site in the first quarter of 2007. The Phase I manufacturing facility has a 14,077 square meter workshop and office building, for which we obtained the property ownership certificate. The Phase II cell manufacturing facilities, with 30,102 square meters of workshop space, were completed in 2009. The Phase III cell manufacturing facilities, with a total floor area of approximately 21,448 square meters of manufacturing and office space, was completed in August 2011. We expect to receive the property ownership certificate upon passing the required inspection.

CSI Changshu Manufacturing holds a land use rights certificate for approximately 40,000 square meters of land in Changshu, on which we have built a module manufacturing facility of approximately 23,671 square meters. Production in this facility began in April 2008. We also constructed a canteen and a dormitory for employees in September 2010 with a total floor area of 11,283 square meters. The property ownership certificate was granted in March 2011.

CSI Changshu Manufacturing also holds a land use rights certificate for approximately 180,000 square meters of land in Changshu, on which we have built two module manufacturing facilities, three warehouses and other buildings with a total floor area of approximately 62,093 square meters (Phase I). Production in this facility began in August 2008 and construction of the central warehouses was completed in April 2010. Phase I occupies 78,320 square meters of land. We completed the construction of Phase II manufacturing facilities with an additional warehouse and four other buildings, which has approximately 46,507 square meters of floor area and occupies 22,442 square meters of land, in the first half of 2011. Phase III manufacturing facilities on the remaining land are still in the design and planning stage.

CSI New Energy holds a land use rights certificate for approximately 10,000 square meters of land in Suzhou.

CSI Ontario Manufacturing has leased approximately 14,851 square meters of manufacturing facilities in Guelph, Ontario, Canada for a term of 10 years commencing August 1, 2010. It also

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leases a warehouse of 7,912 square meters and an office building of 570 square meters on the same premises for the same term.

**ITEM 4A.** ***UNRESOLVED STAFF COMMENTS***

None.

**ITEM 5.** ***OPERATING AND FINANCIAL REVIEW AND PROSPECTS***

*The following discussion and analysis of our financial condition and results of operations should be read in conjunction with our consolidated financial statements and the related notes included elsewhere in this annual report on Form 20-F. This discussion may contain forward-looking statements based upon current expectations that involve risks and uncertainties. Our actual results may differ materially from those anticipated in these forward-looking statements as a result of various factors, including those set forth under "Item 3. Key Information D. Risk Factors" or in other parts of this annual report on Form 20-F.*

**A. Operating Results**

The most significant factors that affect our financial performance and results of operations are:

- government subsidies and the availability of financing for solar projects;
- industry and seasonal demand;
- product pricing;
- the cost of solar cells and wafers and silicon raw materials relative to the selling prices of modules and the impact of certain of our long-term purchase commitments; and
- foreign exchange.

***Government Subsidies and the Availability of Financing for Solar Projects***

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 and financing for solar projects. For a detailed discussion of government subsidies and incentives, possible changes in government policy and associated risks to our business, see "Item 3. Key Information D. Risk Factors Risks Related to Our Company and Our Industry If governments revise, reduce or eliminate subsidies and economic incentives for solar power, the demand for our products could decline, which could materially and adversely affect our revenues, profits, margins and results of operations." and "Item 4. Information on the Company B. Business Overview Markets and Customers."

Additionally, the continuing weak global economy and uncertain global economic outlook, especially in Europe, could limit the availability of debt or equity for solar power projects, or increase the cost thereof, and adversely impact our customers' ability to finance the purchase of our products or to construct solar power projects. See "Item 3. Key Information D. Risk Factors Risks Related to Our Company and Our Industry The execution of our growth strategy depends upon the continued availability of third-party financing arrangements for our customers, which is affected by general economic conditions. Tight credit markets could depress demand or prices for solar products, hamper our expansion and materially affect our results of operations."

***Industry and Seasonal Demand***

Our business and revenue growth depend on the demand for solar power. Although solar power technology has been used for several decades, the solar power market has only started to grow significantly in the past few years. See "Item 4. Information on the Company B. Business Overview"

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for a more detailed discussion of the factors driving the growth of the solar power industry and the challenges that it faces. In addition, industry demand is affected by seasonality. Demand tends to be lower in winter, primarily because adverse weather conditions complicate the installation of solar power systems, particularly in Germany, one of our key markets. For example, our sales to Germany slowed significantly in the fourth quarter of 2008 and the first quarter of 2009 due to changes in seasonal demand, together with inventory clearing efforts by some solar module producers and a significant reduction of subsidies in Spain, coupled with the global financial crisis. However, the demand from other key markets may offset seasonal fluctuations from time to time. In anticipation of strong demand for systems in 2010, distributors continued to purchase modules late in the fourth quarter of 2009 and early in the first quarter of 2010, even though this is traditionally the slowest season for solar installations. Weakened global economic conditions continued to affect the availability of financing in the European markets in 2011, which in turn slowed the demand for solar power projects. If governments around the world continue to approve subsidies that encourage the use of solar energy, we expect to be able to take advantage of the diversity of global markets to mitigate some of the effects of seasonality on our business results in the future.

See "Item 3. Key Information  D. Risk Factors  Risks Related to Our Company and Our Industry  If sufficient demand for solar power products does not develop or takes longer to develop than we anticipate, our revenues may not continue to increase or may even decline, and we may be unable to sustain our profitability."

***Product Pricing***

Prior to 2004, all of our net revenues were generated from sales of specialty solar modules and products. We began selling standard solar modules in 2004. By the end of 2006, sales of standard solar modules represented 96.8% of our net revenues, excluding silicon materials sales. In 2009 and 2010, sales of standard solar modules represented 98.7% and 93.7%, respectively, of our net revenues, with the remainder coming primarily from the sale of silicon materials. In 2011, sales of standard solar modules represented 88.7% of our net revenues, with the remainder coming primarily from sale of solar system kits.

Our standard solar modules are priced based on either the actual flash test result or the nameplate capacity of our panels, expressed in Watts-peak. The actual price per watt is affected by overall demand in the solar power industry and increasingly also by the total power of the module. Higher-powered modules usually command slightly higher prices per watt. We price our standard solar modules based on the prevailing market price at the time we enter into sales contracts with our customers, taking into account the size of the contract, the strength and history of our relationship with each customer and our silicon wafer, solar cell and silicon raw materials costs. During the first few years of our operations, the average selling prices for standard solar modules rose year-to-year across the industry, primarily because of high demand. Correspondingly, the average selling price of our standard solar module products ranged between $3.62 to $4.23 during 2004 and 2008. Following a peak in the third quarter of 2008, the industry-wide average selling price of solar modules has declined sharply, as market demand has declined and competition increased due to the worldwide credit crisis, reduction in subsidies in certain solar markets, and increased manufacturing output. In 2009, the average selling price of our standard solar modules continued to fall, with an average selling price of $1.93 per watt in the fourth quarter of 2009. Thereafter, the average selling price of our standard solar modules has generally continued to fall due to an oversupply of solar modules and, in the fourth quarter of 2011, the average selling price was $1.02 per watt.

***Price of Solar Cells and Wafers and Silicon Raw Materials***

We produce solar modules, which are an array of interconnected solar cells encased in a weatherproof frame, and products that use solar modules. Solar cells are the most important

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component of solar modules. Our solar cells are currently made from mono-crystalline and multi-crystalline silicon wafers through multiple manufacturing steps. Silicon wafers are the most important material for making solar cells. We have been attempting to re-negotiate our supply agreements in line with market pricing for raw materials. However, if we are unable to procure silicon, wafers and cells at prices that decline in line with our solar module pricing, our revenues and margins could be adversely impacted, either due to relatively high costs compared to our competitors or further write-downs of inventory, or both. Our market share could decline if competitors are able to offer better pricing than we are. See "Item 3. Key Information D. Risk Factors Risks Related to Our Company and Our Industry We have, from time to time, entered into long-term supply agreements with polysilicon and wafer suppliers. Long-term supply agreements may make it difficult for us to adjust our raw material costs should prices decrease. Also, if we chose to prematurely terminate any of these agreements, we may not be able to recover all or any part of the advance payments we have made to these suppliers and we may be subject to litigation. Any of these consequences could materially and adversely affect our operations." Currently, we secure a large percentage of our supply of solar wafers through purchasing, and through limited tolling arrangements. We also purchase large quantities of solar cells directly from our suppliers.

***Foreign Exchange***

The majority of our sales are denominated in Euros and U.S. dollars, with the remainder in other currencies such as the Renminbi, Canadian dollar, Japanese yen, and British pound. Our Renminbi costs and expenses are primarily related to domestic sourcing of solar cells, silicon wafers and silicon, other raw materials, toll manufacturing fees, labor costs and local overhead expenses. From time to time, we enter into loan arrangements with Chinese commercial banks that are denominated primarily in U.S. dollars or Renminbi. The greater part of our cash and cash equivalents are denominated in Renminbi. Fluctuations in exchange rates, particularly among the U.S. dollar, Euro, Renminbi and Canadian dollar, may affect our net profit margins and may result in fluctuations in foreign exchange and operating gains or losses. Since 2008, we hedge part of our foreign currency exposures, mainly in the Euro, against the U.S. dollar using foreign currency forward or option contracts in order to limit our foreign exchange losses. However, the effectiveness of our hedging program may be limited with respect to cost effectiveness, cash management, exchange rate visibility and downside protection. We recorded a foreign exchange gain of $7.7 million in 2009 but incurred a foreign exchange loss of $36.3 million and $40.0 million in 2010 and 2011, respectively. For our hedging program, we recorded a gain on change in foreign currency derivatives of $9.9 million and $1.7 million in 2009 and 2010, respectively, while we incurred a loss on change in foreign currency derivatives of $5.8 million in 2011.

***Overview of Financial Results***

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

*Net Revenues*

We generate revenues primarily from the sale of solar module products, consisting of standard solar modules, specialty solar modules, solar system kits and products. Solar module products accounted for 98.7%, 93.7% and 88.7% of our net revenues in 2009, 2010 and 2011, respectively. We continue to explore value-added services for purchasers of solar systems or solar power projects, including facilitating project financing, EPC contracting and investment activities. We believe this will help us to improve our solar module market penetration by the addition of a sales channel and possibly increase our margins from the associated value-added services, such as systems integration and sales of packages or kits of solar power project components. The main factors affecting our net revenues include average selling prices per watt and unit volume shipped, which depend on product supply and demand. Our net revenues are net of business tax, VAT, returns and exchanges.

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*Cost of Revenues*

Our cost of revenues consists primarily of the costs of:

- solar cells;
- silicon wafers;
- high purity and solar grade silicon materials;
- materials used in solar cell production, such as metallic pastes;
- installation components in solar system kits, such as inverters and racking systems;
- other materials for the production of solar modules such as glass, aluminum frames, EVA (ethylene vinyl acetate, an encapsulant used to seal the module), junction boxes and polymer back sheets;
- production labor, including salaries and benefits for manufacturing personnel;
- warranty costs;
- overhead, including utilities, production equipment maintenance, share-based compensation expenses for options granted to employees in our manufacturing department and other support expenses associated with the manufacture of our solar power products;
- depreciation and amortization of manufacturing equipment and facilities, which are increasing as we expand our manufacturing capabilities;
- inventory write-downs; and
- loss on firm purchase commitments under long-term supply agreements.

Solar wafers and cells and silicon raw materials make up the major portion of our cost of revenues. Where we manufacture solar wafers in our own manufacturing facilities, the cost of the solar wafers consists of:

- the costs of purchasing high purity and solar grade silicon raw materials;
- labor costs incurred in manufacturing solar wafers;
- the costs of other materials and utilities we use for manufacturing solar wafers; and

depreciation charges incurred for our solar wafer manufacturing facility, equipment and building.

Where we manufacture solar cells in our own manufacturing facilities, the cost of the solar cells consists of:

the costs of purchasing solar wafers;

labor costs incurred in manufacturing solar cells;

the costs of other materials and utilities we use for manufacturing the solar cells; and

depreciation charges incurred for our solar cell manufacturing facility, equipment and building.

In 2009, 2010 and 2011, we obtained some of our solar wafers and cells through toll manufacturing arrangements, under which we source and provide silicon feedstock to suppliers of ingots, wafers and cells. These suppliers convert these silicon raw materials into the solar wafers and cells that we use for our production of solar modules. The costs of solar wafers and cells that we obtain through these toll manufacturing arrangements consists of:

costs of purchasing the silicon feedstock;

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labor costs incurred in inventory management;

labor costs incurred in blending the silicon feedstock as part of our silicon feedstock blending program; and

tolling fees charged by our suppliers under the tolling arrangements.

The payments we make to our suppliers for the solar wafers and cells and the payments our suppliers make to us for the silicon feedstock that we source and provide are generally settled separately under these tolling arrangements. We do not include payments we receive for providing silicon feedstock as part of these toll manufacturing arrangements in our net revenues.

In 2010, we began selling solar system kits. Solar modules make up a substantial portion of the cost of revenue on solar system kits. The cost of revenue on these solar modules is the cost of revenue on solar modules manufactured by us. The other components that make up the cost of solar system kits comprise of the costs of purchased inverters, racking systems, and other installation components.

Our cost of revenues also includes warranty costs. We accrue 1.0% of our net revenues on solar modules and 0.8% on solar system kits as warranty costs at the time revenues are recognized. Before June 2009, we typically sold our standard solar modules with a two-year warranty against defects in materials and workmanship and a 10-year and 25-year warranty against declines of more than 10% and 20%, respectively, from the initial minimum power generation capacity at the time of delivery. In June 2009, we increased our warranty against defects in materials and workmanship to six years. Effective August 1, 2011, we increased our warranty against defects in materials and workmanship to ten years and we guarantee that, for a period of 25 years, our modules will maintain the following performance levels:

during the first year, the actual power output of the module will be no less than 97% of the labeled power output;

from year 2 to year 24, the actual annual power output decline of the module will be no more than 0.7%; and

by the end of year 25, the actual power output of the module will be no less than 80% of the labeled power output.

We have the right to repair or replace solar modules, at our option, under the terms of the warranty policy. We maintain warranty reserves to cover potential liabilities that could arise under these guarantees and warranties. In April 2010, we entered into agreements with a group of insurance companies to back up these warranties. Under the policies, the insurance companies have agreed to cover the liabilities listed on our warranty statement up to certain maximum claim limits and subject to certain deductibles. The warranty insurance is renewable annually. See "Item 4. Information on the Company B. Business Overview Insurance."

Our cost of revenues has historically increased due to the increase of our net revenues. Because we were more easily able to sell inventory produced in 2010 and because both our average selling prices of modules and costs of solar cells and wafers and silicon raw materials were more stable, write-downs of inventory significantly decreased in 2010 compared to 2009 even though inventories increased. The increase of write-downs of inventory in 2011 was primarily due to the sharp decline of our average selling prices of modules even though the inventory moderately increased from December 31, 2010 to December 31, 2011. Write-downs of inventory included in our cost of revenue were $12.5 million, $2.1 million and $8.5 million in 2009, 2010 and 2011, respectively. We recorded a loss on firm purchase commitments of $13.8 million, $1.6 million and $10.6 million for the years ended December 31, 2009, 2010 and 2011, respectively. The losses were computed using the lower of cost or market method. In December 2011, Deutsche Solar gave notice to us to terminate the 12-year wafer supply agreement with immediate effect. Deutsche Solar justified the termination with alleged breach of the agreement by

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us. In the notice, Deutsche Solar reserved its right to claim damage of Euro148.6 million (approximately $192.6 million) in court. The 12-year supply agreement with Deutsche Solar was terminated in 2011. As a result, we reclassified the accrued loss on firm purchase commitments reserve of $27.9 million as of December 31, 2011 to loss contingency accruals. In addition, we made a full bad debt allowance of $17.4 million against the balance of its advance payments to Deutsche Solar as a result of the termination of the long-term supply contract. The accrued amount of $27.9 million represents our best estimate for our loss contingency. Deutsche Solar did not specify the basis for its claimed damage of Euro148.6 million (approximately $192.6 million) on the notice. It is reasonably possible that Deutsche Solar may claim additional damage losses in excess of the accrued amount; however, we are unable to reliably estimate the range of any additional exposure. See "Item 3. Key Information D. Risk Factors Risks Related to Our Company and Our Industry We have, from time to time, entered into long-term supply agreements with polysilicon and wafer suppliers. Long-term supply agreements may make it difficult for us to adjust our raw material costs should prices decrease. Also, if we chose to prematurely terminate any of these agreements, we may not be able to recover all or any part of the advance payments we have made to these suppliers and we may be subject to litigation. Any of these consequences could materially and adversely affect our operations."

*Gross Profit/Gross Margin*

Our gross profit is affected by a number of factors, including the average selling price of our products, our product mix, loss on firm purchase commitments under long-term supply agreements, and our ability to cost-effectively manage our supply chain.

Our gross margin increased from 12.4% in 2009 to 15.3% in 2010, primarily because of greater vertical integration, especially from internally produced cells. Our gross margin decreased to 9.6% in 2011, primarily due to a decrease in the average selling price of our solar modules, offset in part by decreased polysilicon and non-polysilicon materials prices.

*Operating Expenses*

Our operating expenses include selling expenses, general and administrative expenses, and research development expenses. Our operating expenses have increased in recent years as our business has grown rapidly. We expect this trend to continue as our net revenues grow in the future. On a percentage basis, however, we expect our operating expenses to decline or remain constant with the growth of our operations.

*Selling Expenses*

Selling expenses consist primarily of salaries, transportation and customs expenses for delivery of our products, sales commissions for our sales personnel and sales agents, advertising, promotional and trade show expenses, and other sales and marketing expenses. Since the second quarter of 2006, selling expenses have included share-based compensation expenses for options and restricted shares granted to our sales and marketing personnel. As we expand our business, we will increase our sales and marketing efforts and target companies in selected industry sectors in response to evolving industry trends. We expect as we increase our sales volume our selling expenses will increase as we hire additional sales personnel, target more markets and initiate additional marketing programs to reach our goal of continuing to be a leading global brand.

*General and Administrative Expenses*

General and administrative expenses consist primarily of salaries and benefits for our administrative and finance personnel, consulting and professional service fees, government and administration fees and insurance fees. Since the second quarter of 2006, our general and

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administrative expenses have included share-based compensation expenses for options and restricted shares granted to our general and administrative personnel, directors and consultants. We expect our general and administrative expenses to increase to support the anticipated growth of our business, such as hire additional personnel, upgrade our information technology infrastructure, and compliance-related costs. However, assuming our net revenues increase at our anticipated rate, we expect that our general and administrative expenses will remain constant or decrease as a percentage of our net revenues. Non-recurring general and administrative expenses increased significantly in 2010 because of increased legal, accounting and other professional fees in relation to our audit committee investigation and the shareholder class action lawsuits. In 2011, the expenses for legal and professional services were $12.1 million, compared to $16.2 million in 2010. In 2011, we recovered $4.4 million of the costs incurred in 2010 under our director and officer liability insurance policy. We expense our legal and professional service fees as incurred. See "Item 8. Financial Information A. Consolidated Statements and Other Financial Information Legal and Administrative Proceedings".

*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 and prototype and equipment costs related to the design, development, testing and enhancement of our products and our silicon reclamation program. Since the second quarter of 2006, our research and development activities have included share-based compensation expenses for options and restricted shares granted to our research and development employees. We continue to increase our expenses on research and development. These expenses are primarily related to our ongoing efforts to improve our ingot and wafer, solar cell and module manufacturing processes.

We expect to devote more efforts to research and development in the future. We also expect that our research and development expenses will increase as we hire additional research and development personnel, expand and promote innovation in our products portfolio, and devote more resources towards using new technologies and alternative materials to grow ingots, cut wafers and manufacture solar cells and solar system accessories such as inverters.

*Share-based Compensation Expenses*

Under our share incentive plan, as of December 31, 2011, we had outstanding:

2,844,200 stock options;

499,540 restricted share units; and

353,280 restricted shares.

For a description of the restricted shares, options, and restricted share units granted, including the exercise prices and vesting periods, see "Item 6. Directors, Senior Management and Employees B. Compensation of Directors and Executive Officers Share-based Compensation Share Incentive Plan". We recognize share-based compensation to employees as expenses in our statement of operations based on the fair value of the equity awarded on the date of the grant. The compensation expense is recognized over the period in which the recipient is required to provide service in exchange for the equity award.

We have made an estimate of expected forfeitures and are recognizing compensation costs only for those equity awards that we expect to vest. We estimate our forfeitures based on past employee retention rates and our expectations of future retention rates. We will prospectively revise our forfeiture rates based on actual history. Our share-based compensation expenses may change based on changes to our actual forfeitures.

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For the year ended December 31, 2011, we recorded share-based compensation expenses of approximately $4.1 million, compared to approximately $3.9 million for the year ended December 31, 2010. We have categorized these share-based compensation expenses in our:

- cost of revenues;
- selling expenses;
- general and administrative expenses; and
- research and development expenses,

depending on the job functions of the individuals to whom we granted the options, restricted stock units or restricted shares. The following table sets forth, for the periods indicated, the allocation of our share-based compensation expenses both in absolute amount and as a percentage of total share-based compensation expenses.

| | Years Ended December 31, | | | | | |
|---|---|---|---|---|---|---|
| | 2009 | | 2010 | | 2011 | |
| | (In thousands of US$, except for percentages) | | | | | |
| Share-based compensation expenses included in: | | | | | | |
| Cost of revenues | 412 | 7.6% | 231 | 6.0% | 686 | 16.9% |
| Selling expenses | 733 | 13.5 | 509 | 13.1 | 683 | 16.8 |
| General and administrative expenses | 3,772 | 69.4 | 2,873 | 74.1 | 2,442 | 60.1 |
| Research and development expenses | 519 | 9.5 | 264 | 6.8 | 250 | 6.2 |
| Total share-based compensation expenses | 5,436 | 100.0% | 3,877 | 100.0% | 4,061 | 100.0% |

We expect to incur additional share-based compensation expenses as we expand our operations. For example, we anticipate that selling expenses will increase as we hire additional sales personnel to further expand our worldwide marketing activities in line with the expected growth of our operations.

*Interest Expenses*

Interest expenses consist primarily of interest incurred with respect to our short and long-term loans from Chinese commercial banks and the 6% convertible notes we issued privately to qualified institutional investors. Due to our significant use of long-term and short-term loans, interest expense has increased from $9.5 million in 2009 to $22.2 million in 2010. Our interest expense increased to $43.8 million in 2011 due to additional bank borrowings and higher borrowing rates.

*Gain (Loss) on Change in Fair Value of Derivatives*

The gains on change in fair value of derivatives in our 2009, 2010 and 2011 financial statements were associated with hedging part of our expected cash flows and balances denominated in foreign currencies, mainly in the Euro. During the years ended December 31, 2009 and 2010, the gain on change in fair value of these foreign currency derivatives amounted to $9.9 million and $1.7 million, respectively. In 2011, we incurred a loss on change in fair value of these foreign currency derivatives of $5.8 million. We recorded a foreign currency derivative liability of $0.5 million in 2009, both a foreign currency derivative asset of $2.2 million and a foreign currency derivative liability of $2.5 million in 2010 and a foreign currency derivative asset of $2.7 million in 2011.

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*Foreign Exchange Gain (Loss)*

We recorded a foreign currency exchange loss of $36.3 million in 2010, mainly due to the depreciation of the Euro against the U.S. dollar during 2010, compared to a foreign currency exchange gain of $7.7 million in 2009. In 2011, we recorded a foreign exchange loss of $40.0 million, mainly due to depreciation of the Euro and appreciation of the Renminbi. Our accounts receivable are mainly denominated in U.S. dollars and Euros, while the U.S. dollar is our functional and reporting currency. In November and December 2009, the Euro exchange rate declined from $1.51 to €1.00 to slightly over $1.43 to €1.00, while in 2010 the Euro exchange rate varied between $1.19 to €1.00 and $1.42 to €1.00. In 2011, the Euro exchange rate varied between $1.29 to €1.00 and $1.49 to €1.00. This impacted the value of our Euro denominated accounts receivable and other Euro denominated assets.

*Income Tax Expense*

We recognize deferred tax assets and liabilities for temporary differences between the financial statement and income tax bases of assets and liabilities. Valuation allowances are provided against deferred tax assets when management cannot conclude that it is more likely than not that some portion or all deferred tax assets will be realized.

We are governed by the CBCA, a federal statute of Canada and are registered to carry on business in Ontario, which subject us to both Canadian federal and Ontario provincial corporate income taxes. Our combined tax rates were 33.0%, 31.0% and 28.25% for the years ended 2009, 2010 and 2011, respectively.

PRC enterprise income tax is calculated based on taxable income determined under PRC accounting principles. Our major operating subsidiaries, CSI Solartronics, CSI Manufacturing, CSI Cells, CSI Luoyang Manufacturing, CSI Technologies and CSI Changshu Manufacturing, are subject to taxation in China. CSI Solartronics has been recognized as an HNTE. However, because CSI Solartronics does not meet certain requirements for the reduced 15% enterprise income tax rate, CSI Solartronics is still subject to a 25% enterprise income tax rate. CSI Cells and CSI Luoyang Manufacturing are subject to a reduced enterprise income tax rate of 12.5% until the end of 2011, when their tax holidays expire. CSI Technologies and CSI Changshu Manufacturing are subject to a reduced enterprise income tax rate of 12.5% until the end of 2012, when their tax holidays will expire. CSI Manufacturing is subject to a standard 25% enterprise income tax rate. As the preferential tax benefits currently enjoyed by our PRC subsidiaries expire, their effective tax rates will increase significantly.

The EIT Law also provides that enterprises established outside China whose "effective management" is located in China are considered PRC tax residents and will generally be subject to the uniform 25% enterprise income tax rate on their global income. Under the implementation regulations, the term "effective management" is defined as substantial and overall management and control over such aspects as the production and business, personnel, accounts and properties of an enterprise. Currently there are no detailed rules or precedents governing the procedures and specific criteria for determining an enterprise's effective management. As a substantial number of the members of our management team are located in China, we may be considered a PRC tax resident under the EIT Law and, therefore, subject to the uniform 25% enterprise income tax rate as it relates to our global income.

Under the EIT Law and implementing regulations issued by the State Council, the PRC withholding tax rate of 10% is generally applicable to interest and dividends payable to investors that are not "resident enterprises" in the PRC, to the extent such interest or dividends have their sources within the PRC. We consider the undistributed earnings of our PRC subsidiaries (approximately $200.1 million at December 31, 2011) to be indefinitely reinvested in China, and consequently we have made no provision for withholding taxes for those amounts.

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***Critical Accounting Policies***

We prepare 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 fiscal period and (iii) the reported amounts of revenues and expenses during each fiscal period. We regularly 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 reviewing our financial statements, the following should be considered: (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 financial statements.

*Revenue Recognition*

Sales of modules, system kits and silicon materials are recorded when products are delivered and title and risk of loss or damage has passed to the customers. Sales to customers are recorded net of estimated returns. A system kit is a ready-to-install package consisting of solar modules produced by us and the third party supplied components, such as inverters, racking system, tracker and other accessories. We only recognize revenues when prices to the seller are fixed or determinable and collectability is reasonably assured. If collectability is not reasonably assured, we recognize revenue only upon collection of cash. Revenues also include reimbursements of shipping and handling costs of products sold to customers. Sales agreements typically contain the customary product warranties but do not contain any post-shipment obligations nor any return or credit provisions.

A majority of our contracts provide that products are shipped under the terms free on board, or FOB, ex-works or cost, insurance and freight, or CIF. Under FOB terms, we fulfill our obligation to deliver when the goods have passed over the ship's rail at the named port of shipment. The customer bears all costs and risks of loss or damage to the goods from that point. Under ex-works terms, we fulfill our obligation to deliver when we have made the goods available at our premises to the customer. The customer bears all costs and risks involved in taking the goods from our premises to the desired destination. Under CIF terms, we must pay the costs, marine insurance and freight necessary to bring the goods to the named port of destination. The risk of loss of or damage to the goods, and any additional costs due to events occurring after the time the goods have been delivered on board the vessel, is transferred to the customer when the goods pass the ship's rail in the port of shipment.

We use the percentage of completion method to recognize revenue from systems integration projects for which we provide EPC services under an EPC contract when the contract price is fixed or determinable. We use the cost-to-cost method to measure the percentage of completion and recognize revenue based on the estimated progress to completion. We periodically revise our profit estimates based on changes in facts, and immediately recognize any losses that are identified on contracts. Incurred costs include all direct material, labor, subcontractor cost, and other associated costs. We recognize job material costs as incurred costs when the job materials have been permanently attached or fitted to the solar power systems as required by the engineering design. The construction periods normally extend beyond six months and less than one year.

We enter into buy/sell arrangements with certain raw material vendors pursuant to which we sell finished goods, comprising either solar cells or solar modules, in exchange for raw materials, typically

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silicon wafers. These arrangements are made with counterparties in the same line of business and are executed as a means of securing a consistent supply of raw materials. The transactions are recorded in revenues and cost of revenues at fair value on a gross basis.

We enter into toll manufacturing arrangements in which we receive solar wafers and return finished modules. We recognize a service fee as revenue when the processed modules are delivered.

On occasion, we have permitted certain customers to return products for reasons that were not covered by our warranty. We periodically make estimates of our sales returns based on historical experience, and record such estimate as a reduction of revenue. As of December 31, 2009, 2010 and 2011, we had a sales return reserve of $8.5 million, $8.9 million and $6.2 million, respectively. Actual returns could differ from these estimates.

Sometimes we grant extended credit terms to customers with whom we had positive historical collection experience and who have overall creditworthiness. In addition, some of our customers pay us through drawn upon acceptances, open accounts and letter of credit terms, which typically take 30 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. 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 they not obtain the related financing. Based on this analysis, we determine what credit terms, if any, to offer to each customer individually. Based on the procedures that we perform around customer credit and collectability, we will recognize revenue by using the accrual basis or cash basis depending upon whether the collectability continues to be reasonably assured. If we believe that collectability is not reasonably assured, we do not recognize the revenue until cash payment is received from the customer. As of December 31, 2009, 2010 and 2011, we had inventories of $21.0 million, $18.8 million and $23.2 million, respectively, relating to sales to customers where revenues were not recognized because the collection of payment was not reasonably assured.

*Warranty Cost*

Before June 2009, we typically sold our standard solar modules and products with up to a two-year guarantee for defects in materials and workmanship and a 10-year and 25-year warranty against declines of more than 10% and 20%, respectively, from the initial minimum power generation capacity at the time of delivery. In June 2009, we increased our warranty against defects in materials and workmanship to six years. Effective August 1, 2011, we increased our warranty against defects in materials and workmanship to ten years and we guarantee that for a period of 25 years, our modules will maintain the following performance levels:

during the first year, the actual power output of the module will be no less than 97% of the labeled power output;

from year 2 to year 24, the actual annual power output decline of the module will be no more than 0.7%; and

by the end of year 25, the actual power output of the module will be no less than 80% of the labeled power output.

We have the right to repair or replace solar modules, at our option, under the terms of the warranty policy. We maintain warranty reserves to cover potential liabilities that could arise under these guarantees and warranties. Due to limited warranty claims to date, we accrue the estimated costs of warranties based on an assessment of our competitors' accrual history, industry-standard accelerated testing, estimates of failure rates from our quality review, and other assumptions that we believe to be reasonable under the circumstances. Actual warranty costs are accumulated and charged against the

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accrued warranty liability. To the extent that accrual warranty costs differ from the estimates, we will prospectively revise our accrual rate. There was no prospective reversion for each period presented. We currently take a 1% warranty provision against our revenue for sales of solar modules and 0.8% for solar system kits.

In April 2010, we entered into agreements with a group of insurance companies to back up our warranties. Under the policies, the insurance companies have agreed to cover the liabilities listed on our warranty statement up to certain maximum claim limits and subject to certain deductibles. Insurance premiums are recorded as other non-current assets and amortized over the 25-year term of the insurance policy. The use of insurance may alter the costs of our warranty program.

*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. When these events occur, we measure impairment by comparing the carrying amount of the assets to future undiscounted net cash flows expected to result from the use of the assets and their eventual disposition. If the sum of the expected undiscounted cash flow is less than the carrying amount of the assets, we will recognize an impairment loss based on the fair value of the assets. There was no impairment charge recognized during the years ended December 31, 2009, 2010 and 2011.

*Allowance for Doubtful Accounts*

We conduct credit evaluations of our customers and generally do not require collateral or other security from them. We establish allowances for doubtful accounts primarily based upon the age of our receivables and factors surrounding the credit risk of specific customers. As of December 31, 2009, 2010 and 2011, an allowance for doubtful accounts of $18.0 million, $8.0 million and $9.5 million, respectively, was established for certain customers where management expected a credit risk on the collection of accounts receivable balances. We made a provision of $10 million related to a particular customer in 2009 due to the fact that the customer's account was more than 90 days overdue and the customer had communicated to us that it was unable to pay. We recovered the full overdue payment in 2010 after having taken legal proceedings against the customer. This is the primary reason for the significant reversal of the allowance for doubtful accounts in 2010. Of the $10 million balance, $2 million was covered by Sinosure but no cash has been received from Sinosure as the balance has been recovered from the customer. From mid-2009, we started to purchase insurance from Sinosure for accounts receivable to mitigate collection risks from some customers. We establish allowances for all doubtful accounts according to our allowance policy regardless of whether such accounts are covered by Sinosure insurance. For the amounts recoverable from Sinosure, we recorded $7.1 million, $4.2 million and $5.3 million in prepaid expenses and other current assets as of December 31, 2009, 2010 and 2011, respectively. With respect to advances to suppliers, primarily suppliers of solar cells, solar wafers and silicon raw materials, we perform ongoing credit evaluations of their financial condition. We generally do not require collateral or security against advances to suppliers, as they tend to be recurring supply partners. However, we maintained a reserve for potential credit losses for advances to suppliers as of December 31, 2009, 2010 and 2011 of $11.0 million, $19.4 million and $38.1 million, respectively. The reserves as of December 31, 2011 include allowances on advances to LDK of $9.5 million, allowances on advances to an UMG-Si supplier of $10.2 million and allowances on advances to Deutsche Solar of $17.4 million.

*Inventories*

Inventories are stated at the lower of cost or market. Cost is determined by the weighted average method. Cost of inventories consists of costs of direct materials, and where applicable, direct labor

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costs, tolling costs and any overhead that we incur in bringing the inventories to their present location and condition.

Adjustments are recorded to write down the cost of obsolete and excess inventories to the estimated market value based on historical and forecast demand. The write-down of inventories for the years ended December 31, 2009, 2010 and 2011 were $12.5 million, $2.1 million and $8.5 million, respectively.

In the past, we entered into firm purchase commitments to acquire materials from our suppliers. A firm purchase commitment represents an agreement that specifies all significant terms, including the price and timing of the transactions, and includes a disincentive for non-performance that is sufficiently large to make performance probable, such as a take-or-pay provision which requires us to pay for committed volumes regardless of whether we actually acquire the materials. We evaluate these agreements and record a loss, if any, on firm purchase commitments using the same lower of cost or market approach that is used to value inventory. The computation of the loss on firm purchase commitments is subject to several estimates, including primarily the ultimate selling price of the finished goods of which these raw materials comprise a part, and is therefore inherently uncertain. Further, we only record the expected loss as it relates to the following fiscal period, as we are unable to reasonably estimate future market prices beyond one year. As a result, changes in the cost of materials or sales price of modules will directly affect the computation of the estimated loss on firm purchase commitments and our consolidated financial statements in the following years. We purchased the minimum contracted volume for year 2009 under our 12-year supply agreement with Deutsche Solar. We did not, however, purchase the minimum contracted volumes for year 2010 and year 2011. The agreement contains a provision stating that if we do not order the contracted volume in a given year, Deutsche Solar can invoice us for the difference at the full contract price. We believe that it is more likely than not that the take-or-pay provisions of the agreement are void under German law. In December 2011, Deutsche Solar gave notice to us to terminate the 12-year wafer supply agreement with immediate effect. Deutsche Solar justified the termination with alleged breach of the agreement by us. In the notice, Deutsche Solar reserved its right to claim damage of Euro148.6 million (approximately $192.6 million) in court. The 12-year supply agreement with Deutsche Solar was terminated in 2011. As a result, we reclassified the accrued loss on firm purchase commitments reserve of $27.9 million as of December 31, 2011 to loss contingency accruals. In addition, we made a full bad debt allowance of $17.4 million against the balance of its advance payments to Deutsche Solar as a result of the termination of the long-term supply contract. The accrued amount of $27.9 million represents our best estimate for our loss contingency. Deutsche Solar did not specify the basis for its claimed damage of Euro 148.6 million (approximately $192.6 million) on the notice. It is reasonably possible that Deutsche Solar may claim additional damage losses in excess of the accrued amount; however, we are unable to reliably estimate the range of any additional exposure.

Finally, we believe that the supply agreement was terminated in 2011 and, as a result, we are no longer obligated to purchase (and pay for) wafers for year 2012 and after.

We outsource portions of our manufacturing process, including converting silicon into ingots, cutting ingots into wafers, and converting wafers into solar cells, to various third-party manufacturers. These outsourcing arrangements may or may not include the transfer of title of the raw material inventory (silicon, ingots or wafers) to third-party manufacturers. Such raw materials are recorded as raw materials inventory when purchased from suppliers. For those outsourcing arrangements in which the title is not transferred, we maintain such inventory on our balance sheet as raw materials inventory while it is in the physical possession of the third-party manufacturer. Upon receipt of the processed inventory, it is reclassified as work-in-process inventory and a processing fee is paid to the third-party manufacturer.

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For those outsourcing arrangements, characterized as sales, where title (including risk of loss) is transferred to the third-party manufacturer, through raw materials sales contracts and processed inventory purchase contracts that were entered into simultaneously, we are constructively obligated to repurchase the inventory once it has been processed. In this case, the raw material inventory is classified as raw material inventory while in physical possession of the third-party manufacturer. The cash received is classified as advances from customers on the balance sheet and not as revenue or deferred revenue. Outsourcing arrangements, which require prepayment for repurchase of the processed inventory, are classified as advances to suppliers on the balance sheet. There is no right of offset for these advances from customers and advances to suppliers; they remain on the balance sheet until the processed inventory is repurchased.

*Fair Value of Derivative and Financial Instruments*

The carrying value of cash and cash equivalents, trade receivables, advances to suppliers, accounts payable and short-term borrowings approximate their fair values due to the short-term maturity of these instruments. Long-term bank borrowings approximate their fair value since the contracts were entered into with floating market interest rates.

The book value of our investment in an UMG-Si supplier was $3.0 million as of December 31, 2010. Due to the supplier's financial position and default on scheduled material delivery in 2010, we made an investment impairment of $3.0 million. The impairment reduced the carrying value of the investment in our balance sheet to nil as at December 31, 2010.

Our primary objective for holding derivative and financial instruments is to manage foreign currency risk. We record derivative and financial instruments as assets or liabilities, measured at fair value. The recognition of gains or losses resulting from changes in fair value of those derivatives and financial instruments is based on the use of each derivative and financial instrument and whether or not they qualify for hedge accounting. We entered into certain foreign currency derivative contracts to hedge part of our foreign currency exposures, mainly in the Euro, against the U.S. dollar using foreign exchange forward or option contracts. The foreign currency derivative contracts did not qualify for hedge accounting and, as a result, changes in their fair value are recognized in the statement of operations. We recorded a gain on foreign currency derivative contracts of $9.9 million, $1.7 million and a loss of $5.8 million for the years ended December 31, 2009, 2010 and 2011, respectively.

Changes to any of the assumptions used in the valuation model could materially impact the valuation results. Our foreign currency derivative instruments relate to foreign exchange forward or option contracts involving major currencies such as the Euro and the U.S. dollar. Since our derivative and financial instruments are not traded on an exchange, they are valued using valuation models. Interest rate yield curves and foreign exchange rates are the significant inputs for these valuation models. These inputs are observable in active markets over the terms of the instruments we hold, and accordingly, the fair value measurements are classified as Level 2 in the fair value hierarchy. We consider the effect of our own credit standing and that of our counterparties in the valuation of our derivative and financial instruments. A more detailed discussion on fair value measurement is reflected in Note 7 to our consolidated financial statements included elsewhere in this annual report.

*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 tax loss carry forward and credits by applying enacted statutory tax rates applicable to future years. Deferred tax assets are reduced by a valuation allowance when, in the opinion of management, it is more likely than not that some portion or all of the deferred tax assets will not be realized. Current income taxes are provided for in accordance with the laws of the relevant taxing jurisdictions. The components of the deferred tax

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assets and liabilities are individually classified as current and non-current based on the characteristics of the underlying assets and liabilities, or the expected timing of their use when they do not relate to a specific asset or liability.

*Share-based Compensation*

We have granted share-based compensation in the forms of restricted shares, options and restricted share units to our directors, officers and employees. The value of 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 less a discount calculated based on the length of time the share is restricted. For share options, we use the binominal model. Determining the value of our share-based compensation expense in future periods requires the input of highly subjective assumptions, including the expected life of the options, the price volatility of our underlying shares, the risk free interest rate, the expected dividend rate, and the 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.

*Recently Issued Accounting Pronouncements*

In May 2011, the Financial Accounting Standards Board, or FASB, issued ASU 2011-04, "Fair Value Measurement (Topic 820): Amendments to Achieve Common Fair Value Measurement and Disclosure Requirements in U.S. GAAP and IFRSs". This ASU is the result of joint efforts by the FASB and International Accounting Standards Board to develop a single, converged fair value framework. The guidance is largely consistent with existing fair value measurement principles under U.S. GAAP. The guidance expands the existing disclosure requirements for fair value measurements and makes other amendments. The guidance is to be applied prospectively and is effective for interim and annual periods beginning after December 15, 2011. Early application is not permitted. We do not expect the adoption of this pronouncement will have a significant effect on our consolidated financial statements.

In June 2011, the FASB issued ASU 2011-05, "Comprehensive Income (Topic 220), Presentation of Comprehensive Income". The ASU revises the manner in which entities present comprehensive income in their financial statements. The new guidance removes the presentation options in ASC 220, "Comprehensive Income," and requires entities to report components of comprehensive income in either (1) a continuous statement of comprehensive income or (2) two separate but consecutive statements. The ASU does not change the items that must be reported in other comprehensive income. In December 2011, the FASB issued ASU 2011-12, Deferral of the Effective Date for Amendments to the Presentation of Reclassifications of Items Out of Accumulated Other Comprehensive Income in Accounting Standards Update No. 2011-05. This ASU defers the requirement in ASU 2011-05 that entities present reclassification adjustments for each component of accumulated other comprehensive income, or AOCI, in both net income and other comprehensive income on the face of the financial statements. ASU 2011-12 requires entities to continue to present amounts reclassified out of AOCI on the face of the financial statements or disclose those amounts in the notes to the financial statements. The effective date of ASU 2011-12 is consistent with ASU 2011-05, which is effective for fiscal years, and interim periods within those years, beginning after December 15, 2011 for public entities. The adoption of this ASU will change our presentation of comprehensive income in our consolidated financial statements.

In September 2011, the FASB issued ASU 2011-08, "Intangibles  Goodwill and Other (Topic 350): Testing Goodwill for Impairment". This ASU permits an entity to first assess qualitative factors to determine whether it is more likely than not that the fair value of a reporting unit is less than its

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carrying amount as a basis for determining whether it is necessary to perform the two-step goodwill impairment test described in Topic 350. The more-likely-than-not threshold is defined as having a likelihood of more than 50 percent. The amendments in this ASU apply to all entities, both public and nonpublic, that have goodwill reported in their financial statements. The amendments are effective for annual and interim goodwill impairment tests performed for fiscal years beginning after December 15, 2011. Early adoption is permitted, including for annual and interim goodwill impairment tests performed as of a date before September 15, 2011, if an entity's financial statements for the most recent annual or interim period have not yet been issued or, for nonpublic entities, have not yet been made available for issuance. We do not expect the adoption of this pronouncement will have a significant effect on our consolidated financial statements.

On December 16, 2011, the FASB issued ASU 2011-11, "Balance Sheet (Topic 210): Disclosures about Offsetting Assets and Liabilities," which contains new disclosure requirements regarding the nature of an entity's rights of setoff and related arrangements associated with its financial instruments and derivative instruments. The new disclosures are designed to make financial statements that are prepared under U.S. GAAP more comparable to those prepared under IFRSs. To facilitate the comparison between financial statements prepared under U.S. GAAP and IFRSs, the new disclosures will give financial statement users information about both gross and net exposures. The new disclosure requirements are effective for annual reporting periods beginning on or after January 1, 2013, and interim periods therein; retrospective application is required. We do not believe that the adoption of this ASU will have a material effect on our consolidated financial statements.

***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 revenues. Our historical results presented below are not necessarily indicative of the results that may be expected for any future period.

| | For the years ended December 31, | | | | | |
|---|---|---|---|---|---|---|
| | 2009 | | 2010 | | 2011 | |
| | (in thousands of US$, except percentages) | | | | | |
| Net revenues | $ 630,961 | 100.0% | $ 1,495,509 | 100.0% | $ 1,898,922 | 100.0% |
| Cost of revenues | 552,856 | 87.6% | 1,266,737 | 84.7% | 1,716,640 | 90.4% |
| Gross profit | 78,105 | 12.4% | 228,772 | 15.3% | 182,282 | 9.6% |
| Operating expenses: | | | | | | |
| Selling expenses | 22,089 | 3.5% | 47,109 | 3.2% | 69,341 | 3.7% |
| General and administrative expenses | 46,324 | 7.3% | 54,520 | 3.6% | 86,269 | 4.5% |
| Research and development expenses | 3,180 | 0.5% | 6,843 | 0.5% | 19,839 | 1.0% |
| Total operating expenses | 71,593 | 11.3% | 108,472 | 7.3% | 175,449 | 9.2% |
| Income from continuing operations | 6,512 | 1.0% | 120,300 | 8.0% | 6,833 | 0.4% |
| Other income (expenses) | | | | | | |
| Interest expenses | (9,459) | (1.5)% | (22,164) | (1.5)% | (43,844) | (2.3)% |
| Interest income | 5,084 | 0.8% | 6,936 | 0.5% | 8,447 | 0.4% |
| Gain(loss) on change in fair value of derivatives | 9,870 | 1.6% | 1,657 | 0.1% | (5,751) | (0.3)% |
| Investment income (loss) | 1,788 | 0.3% | (2,854) | (0.2)% | (41) | (0.0)% |
| Foreign exchange gain (loss) | 7,681 | 1.2% | (36,293) | (2.4)% | (40,007) | (2.1)% |
| Income(loss) before income taxes | 21,476 | 3.4% | 67,582 | 4.5% | (74,363) | (3.9)% |
| Income tax (expense) benefit | 1,302 | 0.2% | (16,754) | (1.1)% | (16,540) | (0.9)% |
| Net income (loss) | 22,778 | 3.6% | 50,828 | 3.4% | (90,903) | (4.8)% |
| Less: Net income attributable to non-controlling interest | 132 | | 259 | | (99) | (0.0)% |
| Net income (loss) attributable to Canadian Solar Inc. | 22,646 | 3.6% | 50,569 | 3.4% | (90,804) | (4.8)% |

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

*Net Revenues.* Our total net revenues increased by $403.4 million, or 27.0%, from $1,495.5 million in 2010 to $1,898.9 million in 2011. Increase in net revenues from non-European markets contributed $365.9 million to increase in our total net revenues in 2011. Our net revenues increased primarily due to increased shipments from 803.5 MW in 2010 to 1,322.5 MW in 2011, an increase of 64.6%, offset by decreased average selling prices of our standard solar modules from $1.80 per watt in 2010 to $1.34 per watt in 2011.

Our shipments to European markets increased by 216.4 MW from 665.9 MW in 2010 to 882.3 MW in 2011. And our shipments to non-European markets increased by 302.7 MW from 137.6 MW in 2010 to 440.3 MW in 2011. The increase in shipments in non-European markets primarily came from China, U.S. and India among others as we increased our marketing efforts and expanded our customer base in these markets.

We periodically make estimates of our sales returns based on historical experience and record such estimates as a reduction of revenues. As of December 31, 2010 and 2011, we had a sales return reserve of $8.9 million and $6.2 million, respectively. Actual returns could differ from these estimates.

*Cost of Revenues.* Our cost of revenues increased by $449.9 million, or 35.5%, from $1,266.7 million in 2010 to $1,716.6 million in 2011. The increase in our cost of revenues was in line with the increase in our net revenues for the year, offset by a decrease in raw materials costs for the year due to market supply competition on wafers and solar cells. Cost of revenues as a percentage of our total net revenues increased from 84.7% in 2010 to 90.4% in 2011.

We recorded a loss on firm purchase commitments of $1.6 million and $10.6 million for the years ended December 31, 2010 and 2011, respectively. The 12-year supply agreement with Deutsche Solar was terminated by the end of 2011. As a result, we reclassified the accrued loss on firm purchase commitments of $27.9 million as of December 31, 2011 to loss contingency accruals.

Our inventory write-downs for year 2010 and year 2011 were $2.1 million and $8.5 million, respectively.

*Gross Profit.* As a result of the foregoing, our gross profit decreased by $46.5 million, or 20.3%, from $228.8 million in 2010 to $182.3 million in 2011. Our gross profit margin decreased from 15.3% in 2010 to 9.6% in 2011.

*Operating Expenses.* Our operating expenses increased by $67.0 million, or 61.7%, from $108.5 million in 2010 to $175.4 million in 2011. Operating expenses as a percentage of our total net revenues increased from 7.3% in 2010 to 9.2% in 2011.

*Selling Expenses.* Our selling expenses increased by $22.2 million, or 47.2%, from $47.1 million in 2010 to $69.3 million in 2011. The increase in our selling expenses was due to increases in shipping and handling costs by $8.1 million, sales commissions and payroll costs by $5.4 million, and advertising and promotion costs by $5.3 million, all in line with the increased shipments and personnel. Selling expenses as a percentage of our net total revenues increased from 3.2% in 2010 to 3.7% in 2011.

*General and Administrative Expenses.* Our general and administrative expenses increased by $31.7 million, or 58.2%, from $54.5 million in 2010 to $86.3 million in 2011. The increase in our general and administrative expenses was primarily due to an increase in allowance for doubtful accounts by $20.2 million, or 673.3%, from $3.0 million in 2010 to $23.2 million in 2011, including a $17.4 million allowance related to advances to Deutsche Solar, and an increase in salary and benefits expenses by $8.0 million, or 46.8%, from $16.9 million in 2010 to $24.9 million in 2011.

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*Research and Development Expenses.* Our research and development expenses increased by $13.0 million, or 190.0%, from $6.8 million in 2010 to $19.8 million in 2011. The increase in research and development expenses was primarily due to the development of our next-generation, high-efficiency cells, expanded and other innovative product development initiatives and the expansion of our research and development team. We expect our research and development expenses will continue to increase in 2012 as we continue to undertake technology development related to future product offerings. Research and development expenses as a percentage of our total net revenues were approximately 0.5% and 1.0% in 2010 and 2011, respectively.

*Interest Expenses, Net.* Our interest expenses, net increased by $20.2 million, or 132.4%, from $15.2 million in 2010 to $35.4 million in 2011. The increase in our interest expenses from $22.2 million in 2010 to $43.8 million in 2011, or 97.8% was due to a significant increase in bank borrowings to finance our increased working capital requirements and our daily operations during 2011. Interest expense is expected to increase in the near future in line with increased bank borrowings. Interest income increased from $6.9 million in 2010 to $8.4 million in 2011, or 21.8%, mainly due to increased restricted cash and higher rates.

*Gain/( Loss) On Change in Fair Value of Derivatives.* In 2011, we recorded a loss on change in fair value of derivatives of $5.8 million, compared to a gain of $1.7 million in 2010. The gain or loss on change in fair value of derivatives represents a gain or loss on the foreign currency hedges that we established on part of our expected cash flows and balances denominated in foreign currencies, mainly in the Euro, by means of foreign currency forward or option contracts.

*Investment Income/(Loss).* We recorded an investment loss of $41,163 in 2011 compared to investment loss of $2.8 million in 2010. The investment loss in 2010 was mainly due to the impairment of an investment in a UMG-Si supplier amounting to $3.0 million.

*Foreign Exchange Loss.* We recorded a foreign exchange loss of $40.0 million in 2011, compared to a foreign exchange loss of $36.3 million in 2010. These foreign exchange losses were mainly due to the depreciation of the Euro and appreciation of the Renminbi against the U.S. dollar.

*Income Tax Benefit (Expenses).* Our income tax expense was $16.5 million in 2011, compared to $16.8 million in 2010. Although we experienced loss in 2011, the income tax expenses remained stable mainly due to our tax structure where revenues for certain Chinese subsidiaries from overseas trading companies are on a cost plus basis, and can result in taxes being owed in some jurisdictions even when we incurred an overall loss.

*Net Income Attributable To Non-Controlling Interest.* The net income attributable to non-controlling interest represented the share of net income by the non-controlling shareholders in our Japanese, German and US subsidiaries.

*Net Income (Loss) Attributable To Canadian Solar Inc.* As a result of the foregoing, the net income attributable to Canadian Solar Inc. decreased by $141.4 million, or 279.6%, from $50.6 million in 2010, to negative $90.8 million in 2011.

***Year Ended December 31, 2010 Compared to Year Ended December 31, 2009***

*Net Revenues.* Our total net revenues increased by $864.6 million, or 137.0%, from $630.9 million in 2009 to $1,495.5 million in 2010. Our net revenues increased primarily due to increased shipments from 297.2 MW in 2009 to 803.5 MW in 2010, an increase of 170.4%, offset by decreased average selling prices of our standard solar modules from $2.13 per watt in 2009 to $1.80 per watt in 2010.

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We periodically make estimates of our sales returns based on historical experience and record such estimates as a reduction of revenues. As of December 31, 2009 and 2010, we had sales return reserve of $8.5 million and $8.9 million, respectively. Actual returns could differ from these estimates.

*Cost of Revenues.* Our cost of revenues increased by $713.9 million, or 129.1%, from $552.9 million in 2009 to $1,266.7 million in 2010. The increase in our cost of revenues was in line with the increase in net revenues for the year, offset by a decrease in raw materials prices for the year due to market supply competition on wafers and solar cells. Cost of revenues as a percentage of our total net revenues decreased from 87.6% in 2009 to 84.7% in 2010.

A loss on firm purchase commitments of $13.8 million and $1.6 million under our long-term wafer supply agreement with Deutsche Solar was recorded in 2009 and 2010, respectively. Our inventory write-downs for 2009 and 2010 were $12.5 million and $2.1 million, respectively.

*Gross Profit.* As a result of the foregoing, our gross profit increased by $150.7 million, or 193.0%, from $78.1 million in 2009 to $228.8 million in 2010. Our gross profit margin increased from 12.4% in 2009 to 15.3% in 2010.

*Operating Expenses.* Our operating expenses increased by $36.9 million, or 51.5%, from $71.6 million in 2009 to $108.5 million in 2010. Operating expenses as a percentage of our total net revenues decreased from 11.3% in 2009 to 7.3% in 2010.

*Selling Expenses.* Our selling expenses increased by $25.0 million, or 113.3%, from $22.1 million in 2009 to $47.1 million in 2010. The increase in our selling expenses was due to increases in freight charges, sales commissions and payroll, and advertising and promotion costs in line with the increased shipments and personnel, increasing our brand awareness in 2010. Selling expenses as a percentage of our net total revenues decreased from 3.5% in 2009 to 3.2% in 2010.

*General and Administrative Expenses.* Our general and administrative expenses increased by $8.2 million, or 17.7%, from $46.3 million in 2009 to $54.5 million in 2010. The increase in our general and administrative expenses was due to increases in personnel costs in line with the increase in the size of our organization and increased compliance related consulting and professional fees, offset by a decrease in allowance for doubtful accounts from tighter credit controls introduced in 2010. General and administrative expenses as a percentage of our total net revenues decreased from 7.3% in 2009 to 3.6% in 2010. The general and administrative expenses included an allowance for doubtful accounts was $18.1 million for the year ended December 31, 2009, compared to $3.0 million for the year ended December 31, 2010.

*Research and Development Expenses.* Our research and development expenses increased by $3.6 million, or 115.2%, from $3.2 million in 2009 to $6.8 million in 2010. The increase in research and development expenses was due to increased headcount of our research and development personnel, salaries and investments in research and development of new cell types. We expect our expenditures for research and development efforts continue to increase in 2011 as we continue to undertake technology development related to future product offerings with the established solar module and solar cell testing center and solar cell research laboratory. Research and development expenses as a percentage of our total net revenues remained the same at approximately 0.5% in 2009 and 2010.

*Interest Expenses, Net.* Our interest expenses, net increased by $10.8 million, or 248.1%, from $4.4 million in 2009 to $15.2 million in 2010. The increase in our interest expenses from $9.5 million in 2009 to $22.2 million in 2010, or 134.3% was due to a significant increase in bank borrowings, both short-term and long-term, to finance our working capital requirements and our daily operations during 2010. Interest income increased from $5.1 million in 2009 to $6.9 million in 2010, or 36.4%, mainly due to an increase in deposits in the bank, including guarantee deposits.

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*Gain On Change in Fair Value of Derivatives.* In 2009, we recorded a gain on change in fair value of derivatives of $9.9 million, compared to a gain of $1.7 million in 2010. The gains on change in fair value of derivatives mainly represent gains on the foreign currency hedges that we established on part of our Euro cash flows by means of foreign currency forward or option contracts.

*Investment Income/(Loss).* We recorded an investment loss of $2.9 million in 2010 compared to investment income of $1.8 million in 2009. The investment loss in 2010 was mainly due to the impairment of an investment in an UMG-Si supplier amounting to $3.0 million.

*Foreign Exchange Gain.* We recorded a foreign exchange gain of $7.7 million in 2009, compared to a foreign exchange loss of $36.3 million in 2010. The appreciation of the Euro, in which many of our sales are denominated, against the U.S. dollar in 2009 resulted in the foreign exchange gain in 2009. In contrast, the foreign exchange loss in 2010 was mainly due to the depreciation of the Euro against the U.S. dollar.

*Income Tax Benefit (Expenses).* Our income tax benefit was $1.3 million in 2009, compared to income tax expenses of $16.8 million in 2010. The increase of income tax expenses in 2010 was mainly due to an increase in taxable income from our growth during the year, particularly a substantial increase in taxable income for operations outside China, which are subject to U.S. and Canadian income tax rates. The increase in income tax expenses was also attributable to the increase of tax rates by some of our Chinese subsidiaries, which ended their tax exemption periods in 2009, and only enjoyed transitional tax rates, which were half of the statutory rates, in 2010.

*Net Income Attributable To Non-Controlling Interest.* The net income attributable to non-controlling interest represented the share of net income by the non-controlling shareholders in our Japanese subsidiary.

*Net Income (Loss) Attributable To Canadian Solar Inc.* As a result of the foregoing, the net income attributable to Canadian Solar Inc. increased by $28.0 million, or 123.3%, from $22.6 million in 2009, to $50.6 million in 2010.

## B. Liquidity and Capital Resources

### *Cash Flows and Working Capital*

In 2011, we financed our operations primarily through cash flows from operations and short-term and long-term borrowings. As of December 31, 2011, we had $344 million in cash and cash equivalents. Our cash and cash equivalents consist primarily of cash on hand, bank balances and demand deposits with original maturities of three months or less that are outstanding and placed with banks. As of March 31, 2012, we had contractual bank lines with aggregated limit of approximately $607 million, of which $290 million are available to us beyond December 31, 2012. In addition, we had non-contractual bank lines with aggregated limit of approximately $1,168 million, of which $575 million are available to us beyond December 31, 2012. Non-contractual bank lines represent non-legally binding facility limits granted by banks, which could be changed unilaterally at banks' own discretion. As of March 31, 2012, among all contractual and non-contractual bank lines, we had drawn down approximately $88 million of long-term borrowings, of which $83 million was secured by charges on land use right and property, plant and equipment, and approximately $862 million of short-term borrowings, of which $79 million was secured by charges on inventory, land use right, and property, plant and equipment. The long-term borrowings mature at various times during 2013 and 2015 and bear interest at rates of between 5.66% and 6.90% per annum. The short-term borrowings mature at various times during 2012 and the first quarter of 2013 and bear interest at rates of between 0.64% and 7.26% per annum. Our bank lines contain no specific extension terms but, historically, we have been able to obtain new short-term loans on terms similar to those of the maturing short-term loans shortly before they mature. If we are unable

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to extend or renew our bank lines, we may be forced to curtail our planned capital expenditures or operating expenses.

We are generally required to make prepayments to certain suppliers of silicon wafers, cells and silicon raw materials. Even though we require some customers to make partial prepayments, there is typically a lag between the time our prepayment for silicon wafers, cells and silicon raw materials are due and the time our customers submit those prepayments. The purchase of solar wafers and cells and silicon raw materials through toll manufacturing arrangements has required, and will continue to require, us to make significant commitments of working capital beyond that generated from our cash flows from operations to support our estimated production output.

We expect that our accounts receivable and inventories, two of the principal components of our current assets, will increase in line with increases in our net revenues. Due to market competition, in many cases, we offer credit terms to our customers ranging from 30 days up to 120 days with small advance payments ranging from 5% to 20% of the sale prices. The prepayments are recorded as current liabilities under advances from customers, and amounted to $9.0 million as of December 31, 2010 and $65.2 million as of December 31, 2011. As the market demand for our products has changed and as we have diversified our geographical markets, we have increased and may continue to increase credit term sales to creditworthy customers after careful review of their credit standings and accept export credit insurance by Sinosure.

Our inventories have increased due to the rapid growth of our operations and business. Our inventory turnover days increased from 63 days in 2010 to 65 days in 2011.

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

| | As of December 31, | | |
|---|---|---|---|
| | **2009** | **2010** | **2011** |
| | **(in thousands of US$)** | | |
| Net cash provided by (used in) operating activities | 50,915 | (58,487) | 60,124 |
| Net cash used in investing activities | (234,568) | (133,989) | (193,577) |
| Net cash provided by financing activities | 228,173 | 312,629 | 177,748 |
| Net increase in cash and cash equivalents | 44,450 | 128,541 | 55,343 |
| Cash and cash equivalents at the beginning of the year | 115,661 | 160,111 | 288,652 |
| Cash and cash equivalents at the end of the year | 160,111 | 288,652 | 343,995 |

***Operating Activities***

Net cash used in operating activities of $58.5 million in 2010 has increased to net cash provided by operating activities of $60.1 million in 2011. The increase change from 2010 to 2011 was primarily due to strengthened working capital management which led to increases in accounts payable, short-term notes payable and advances from customers, partially offset by increases in accounts receivable.

Net cash provided by operating activities of $50.9 million in 2009 decreased to net cash used in operating activities of $58.5 million in 2010. The change from 2009 to 2010 was due to a significant increase in inventories as our business expanded. In addition, we experienced shorter payment terms from our suppliers as a result of short supplies in the solar market, resulting in sharp decreases in both accounts and short-term notes payable.

***Investing Activities***

Net cash used in investing activities increased from $134.0 million in 2010 to $193.6 million in 2011. The increase was primarily due to an increase in property, plant and equipment as a result of

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improvements of our solar cell manufacturing capacity, technology and other projects offset in part by a decrease in restricted cash in 2011.

Net cash used in investing activities decreased from $234.6 million in 2009 to $134.0 million in 2010. The decrease was primarily due to a significant reduction in the use of restricted cash to secure bank notes payable in our operating activities offset in part an increase in property, plant and equipment as a result of the expansion of our manufacturing facilities in 2010.

***Financing Activities***

Net cash provided by financing activities decreased from $312.6 million in 2010 to $177.7 million in 2011, primarily as a result of reduced net proceeds from short-term borrowings in 2011.

Net cash provided by financing activities increased from $228.2 million in 2009 to $312.6 million in 2010, primarily due to proceeds from long-term and short-term bank borrowings.

We believe that our current cash and cash equivalents, anticipated cash flow from operations and existing banking facilities will be sufficient to meet our anticipated cash needs, including our cash needs for working capital and capital expenditures, for the next 12 months ending December 31, 2012 under our current market guidance. 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. The availability of commercial loans from Chinese commercial banks may be affected by administrative policies of the PRC government, which in turn may affect our plans for business expansion. If our existing cash or the availability of commercial bank borrowings is insufficient to meet our requirements, we may seek to sell additional equity securities or debt securities or borrow from other sources. We cannot assure that financing will be available in the amounts we need or on terms acceptable to us, if at all. The issuance of additional equity securities, including convertible debt securities, would dilute the holdings our shareholders. 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. If we are unable to obtain additional equity or debt financing as required, our business operations and prospects may suffer.

***Capital Expenditures***

We made capital expenditures of$72.2 million, $134.3 million and $205.4 million in 2009, 2010 and 2011, respectively. Our capital expenditures were used primarily to expand our manufacturing capacity for ingot, wafer, solar cells and solar modules. As of December 31, 2011, we have a total capital commitment of approximately $3.1 million.

***Restricted Net Assets***

Our PRC subsidiaries are required under PRC laws and regulations to make appropriations from net income as determined under accounting principles generally accepted in the PRC, or PRC GAAP, to non-distributable reserves, which include a general reserve, staff welfare and bonus reserve. The general reserve is required to be made at not less than 10% of the profit after tax as determined under PRC GAAP. Our board of directors determines the staff welfare and bonus reserve. The general reserve is used to offset future extraordinary losses. Our PRC subsidiaries may, upon a resolution of the board of directors, convert the general reserve into capital. The staff welfare and bonus reserve is used for the collective welfare of the employees of the PRC subsidiaries. These reserves represent appropriations of the retained earnings determined under PRC law. In addition to the general reserve, our PRC subsidiaries are required to obtain approval from the local government authorities prior to decreasing and distributing any registered share capital to their shareholders. Accordingly, both the appropriations to general reserve and the registered share capital of our PRC subsidiaries are

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considered as restricted net assets. These restricted net assets amounted to $258.9 million, $491.2 million and $354.0 million as of December 31, 2009, 2010 and 2011, respectively.

Our operations in China are subject to certain restrictions on the transfer and use of cash within the Company. Transfers of cash between our PRC subsidiaries and the Canadian parent company are restricted to normal trade business payments and any further capital contribution from the Canadian parent company only under China's existing foreign currency regulations. Foreign exchange transactions by our PRC subsidiaries under most capital accounts continue to be subject to significant foreign exchange controls and require the approval of PRC governmental authorities. In particular, if we finance our PRC subsidiaries by means of additional capital contributions, certain government authorities, including the Ministry of Commerce or its local counterparts, must approve these capital contributions. These limitations could affect the ability of our Chinese subsidiaries to obtain foreign exchange through equity financing.

As of December 31, 2011, $200.1 million of undistributed earnings in our PRC subsidiaries are considered to be indefinitely reinvested so that no provision of withholding taxes has been provided in our consolidated financial statements. Our PRC subsidiaries are required to make appropriations of at least 10% of net income, as determined under accounting principles generally accepted in the PRC, to a non-distributable general reserve. After making this appropriation, the balance of the $200.1 million of undistributed earnings is distributable. Should our PRC subsidiaries subsequently distribute the distributable earnings, they are subject to applicable withholding taxes to the PRC State Administration of Tax.

**C. Research and Development**

We have significantly expanded our research and development activities since 2009. We have two new research and development centers with state-of-the-art equipment, the Center for Solar Cell Research and the Center for Photovoltaic Testing and Reliability Analysis. The Center for Solar Cell Research is focused on developing new high efficiency solar cells and advanced low cost solar cell processing technologies. The Center for Photovoltaic Testing and Reliability Analysis is focused on photovoltaic module testing, photovoltaic module components testing and qualifications, and photovoltaic module performance and reliability testing and analysis. As of December 31, 2011, we had approximately 171 employees in research, product development and engineering.

Our research and development activities have generally focused on the following areas:

- improving the conversion efficiency of solar cells and developing new cell structures and technologies for high conversion efficiency;
- developing modules with improved design and assembly methods employing metal wrap-through cells. Such modules will employ conductive adhesives on a metal foil back-sheet instead of employing conventional soldering techniques on a plastic back-sheet;
- improving manufacturing yield and reliability of solar modules and reducing manufacturing costs;
- developing modules with improved power conversion devices integrated into the construction of the module including a variety of micro-inverters and DC-to-DC power converters;
- testing, data tracing and analysis for module performance and reliability;
- designing and developing more efficient specialty solar modules and products to meet customer requirements;
- developing new methods and equipment for analysis and quality control of incoming materials (such as polysilicon, wafers and cells);

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developing new technologies in ingot growth and characterization, wafering, cell processing and module manufacturing that make use of low-cost alternative silicon materials such as solar grade silicon; and

improving the wafer quality and production yield for both conventional wafer and e-wafer processing.

Our research and development team works closely with our manufacturing teams and our suppliers, partners and our customers. We have also established collaborative research and development relationships with a number of companies, universities and research institutes, including DuPont, Shanghai Jiaotong University and the University of Toronto.

Going forward, we will focus on the following research and development initiatives that we believe will enhance our competitiveness:

*High efficiency cells.* We have developed ESE and metal wrap-through cells, which we have begun commercializing. We are focusing our current research and development on N-type, heterojunction intrinsic thin-layer and other high efficiency cell designs. On a test basis, we have produced an N-type bi-facial cell; however, we do not plan to commercially produce this product until a later date. Such cell structures are believed to lower the overall cost of manufacturing solar modules, making the resulting modules cheaper to install. Higher-powered modules might also command a modest premium.

*Solar grade silicon materials technologies and high efficiency cell technologies.* We began the mass production of solar grade silicon crystalline modules, namely e-Modules, in April 2008, and have been working on improving new technologies in ingot, wafer, cell and module manufacturing using solar grade silicon. With our continuous efforts to optimize solar grade silicon material preparation, ingot growth, wafering and cell processing, we anticipate additional increases in our solar grade silicon cell efficiency, and expect that with our new solar grade silicon cell design, our solar grade silicon cell could reach conversion efficiency close to that of conventional multi-crystalline cells.

*Solar module manufacturing technologies.* With the opening of our Center for Photovoltaic Testing and Reliability Analysis, we intend to focus on developing state-of-the-art testing and diagnostic techniques that improve solar module production yield, efficiency, performance and durability.

*Product development of specialty solar modules and products.* We are expanding our product development capabilities for specialty solar modules and products to position ourselves for the expected growth in this area of the solar power market. For example, we are collaborating with a research institute in China to develop a concentrator module technology and a glass curtain wall company based in China to develop BIPV technology. In 2008, we completed a BIPV project in our Luoyang plant. We also supplied BIPV modules and other BIPV related design elements for a project for the Beijing Olympic Games.

*Power system integration and solar application products.* We recently began to explore power system integration products and expanded our research and development efforts in solar application products. We plan to hire additional engineering staff and increase investment in these areas.

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**D. Trend Information**

Other than as disclosed elsewhere in this annual report on Form 20-F, we are not aware of any trends, uncertainties, demands, commitments or events that are reasonably likely to have a material adverse effect on our net revenues, 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**

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 shareholder's 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.

**F. Tabular Disclosure of Contractual Obligations**

***Contractual Obligations and Commercial Commitments***

The following table sets forth our contractual obligations and commercial commitments as of December 31, 2011:

| | | Payment Due by Period | | | |
|---|---|---|---|---|---|
| | Total | Less Than 1 Year | 1 - 3 Years | 3 - 5 Years | More Than 5 Years |
| | | (In thousands of US$) | | | |
| Short-term debt obligations | 743,687 | 743,687 | | | |
| Interest related to short-term debt obligations[1] | 11,553 | 11,553 | | | |
| Operating lease obligations | 16,882 | 4,136 | 5,328 | 4,347 | 3,071 |
| Purchase obligations[2] | 1,343,892 | 299,038 | 618,841 | 426.013 | |
| Convertible notes[3] | 1,360 | 60 | 120 | 120 | 1,060 |
| Other long-term borrowing[4] | 88,249 | | 71,355 | 16,894 | |
| Interest related to long-term debt[5] | 16,223 | 5,948 | 9,692 | 583 | |
| Total | 2,221,846 | 1,064,422 | 705,336 | 447,957 | 4,131 |

Notes:

(1) Interest rates range from 0.85% to 7.26% per annum for short-term debt.

(2) Includes commitments to purchase production equipment of $3.1 million and commitments to purchase solar cells, wafers and silicon raw materials of $1,340.8 million.

(3) Assumes redemption of $1.0 million aggregate principal amount of 6.0% convertible senior notes due on December 15, 2017, and assumes none of the convertible senior notes will be converted into ordinary shares prior to their scheduled due date in December 2017. The holders of our convertible senior notes may require us to repurchase the convertible senior notes as early as December 2012. This amount also includes interest payable until December 2017.

(4) The other long-term borrowings mainly consist of the following items: unsecured commercial loans with Agricultural Bank of China of $4.8 million; secured commercial loans with Agricultural Bank

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of China of $35.9 million, Bank of Communication of $34.1 million, and with Export and Import Bank of Nanjing of $13.5 million.

(5) Interest rates range from 5.66% to 6.90% per annum for long-term borrowings.

The above table excludes uncertain tax liabilities of $12.3 million, as we are unable to reasonably estimate the timing of future payments due to uncertainties in the timing of the effective settlement of these tax positions. For additional information, see the notes to our consolidated financial statements, included herein.

In April 2012, we have entered into a purchase agreement with SkyPower to acquire a majority interest in 16 solar projects for a total consideration of approximately CAD185 million ($185 million), of which $69.8 million will be paid once the closing conditions are met, $69.8 million is due on May 31, 2012 and the balance is to be paid as the solar projects reach certain milestones.

Other than the contractual obligations and commercial commitments set forth above, we did not have any long-term debt obligations, operating lease obligations, purchase obligations or other long-term liabilities as of December 31, 2011.

**G. Safe Harbor**

This annual report on Form 20-F contains forward-looking statements that relate to future events, including our future operating results, our prospects and our future financial performance and condition, results of operations, business strategy and financial needs, all of which are largely based on our current expectations and projections. 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," "estimate," "is/are likely to" or similar expressions. Forward-looking statements involve inherent risks and uncertainties. These forward-looking statements include, among other things, statements relating to:

- our expectations regarding the worldwide supply and demand for solar power products and the market demand for our products;
- our beliefs regarding the importance of environmentally friendly power generation;
- our expectations regarding governmental support for solar power;
- our beliefs regarding the fluctuation in availability of silicon, solar wafers and solar cells;
- our beliefs regarding our ability to resolve our disputes with suppliers with respect to our long-term supply agreements;
- our beliefs regarding the continued growth of the solar power industry;
- our beliefs regarding the competitiveness of our solar module products;
- our expectations with respect to increased revenue growth and improved profitability;
- our expectations regarding the benefits to be derived from our supply chain management and vertical integration manufacturing strategy;

our beliefs and expectations regarding the use of UMG-Si and solar power products made of this material;

our ability to continue developing our in-house solar components production capabilities and our expectations regarding the timing and production capacity of our internal manufacturing programs;

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our ability to secure adequate silicon and solar cells to support our solar module production;

our beliefs regarding the effects of environmental regulation;

our beliefs regarding the changing competitive landscape in the solar power industry;

our future business development, results of operations and financial condition; and

competition from other manufacturers of solar power products and conventional energy suppliers.

Known and unknown risks, uncertainties and other factors may cause our actual results, performance or achievements to be materially different from any future results, performance or achievements expressed or implied by forward-looking statements. See "Item 3. Key Information
D. Risk Factors" for a discussion of some risk factors that may affect our business and results of operations. These risks are not exhaustive. Other sections of this annual report may include additional factors that could adversely influence our business and financial performance. Moreover, because we operate in an emerging and evolving industry, new risk factors may emerge from time to time. We cannot predict all risk factors, nor can we assess the impact of these factors on our business or the extent to which any factor, or combination of factors, may cause actual result to differ materially from those expressed or implied in any forward-looking statement. We do not undertake any obligation to update or revise the forward-looking statements except as required under applicable law.

## 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 on Form 20-F.*

| Name | Age | Position/Title |
|---|---|---|
| Shawn (Xiaohua) Qu | 48 | Chairman of the Board, President and Chief Executive Officer |
| Robert McDermott | 70 | Lead Independent Director |
| Lars-Eric Johansson | 65 | Independent Director |
| Harry E. Ruda | 53 | Independent Director |
| Michael G. Potter* | 45 | Senior Vice President, Chief Financial Officer and Director |
| Charlotte Xi Klein | 56 | Senior Vice President, Global Operations |
| Yan Zhuang | 48 | Senior Vice President, Global Sales and Marketing |