JA Solar Holdings Co., Ltd.
Form 20-F
April 30, 2018
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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 (g) OF THE SECURITIES EXCHANGE ACT OF 1934**
	OR
x	**ANNUAL REPORT PURSUANT TO SECTION 13 OR 15(d) OF THE SECURITIES EXCHANGE ACT OF 1934** **For the fiscal year ended December 31, 2017**
	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 001-33290

JA Solar Holdings Co., Ltd.

(Exact name of Registrant as specified in its charter)

The Cayman Islands
(Jurisdiction of incorporation or organization)

Building No.8, Noble Center, Automobile Museum East Road

Fengtai, Beijing 100070

The People s Republic of China
(Address of principal executive offices)

Ms. Ying Li

JA Solar Holdings Co., Ltd.

Building No.8, Noble Center, Automobile Museum East Road

Fengtai, Beijing 100070

The People s Republic of China

Tel: +86-10-63611888

Fax: +86-10-63611999
(Name, Telephone, E-mail and/or Facsimile and Address of Company Contact Person)

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

Title of each class	Name of each exchange on which registered
American depositary shares, each representing five ordinary share, par value US$0.0001 per share	The NASDAQ Stock Market LLC
Ordinary shares, par value US$0.0001 per share*	

* Not for trading but only in connection with the registration of American depositary shares

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

None
(Title of Class)

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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:

237,926,352 ordinary shares, par value US$0.0001 per share, as of December 31, 2017.

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

o Yes x No

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

o Yes x No

Indicate by check mark whether the registrant: (1) has filed all reports required to be filed by Section 13 or 15(d) of the Securities Exchange Act of 1934 during the preceding 12 months (or for such shorter period that the registrant was required to file such reports), and (2) has been subject to such filing requirements for the past 90 days.

x Yes o No

Indicate by check mark whether the registrant has submitted electronically and posted on its 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 such shorter period that the registrant was required to submit and post such files).

x Yes o No

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

Large accelerated filer o	Accelerated filer x	Non-accelerated filer o	Emerging growth company o

If an emerging growth company that prepares its financial statements in accordance with U.S. GAAP, indicate by check mark if the registrant has elected not to use the extended transition period for complying with any new or revised financial accounting standards provided pursuant to Section 13(a) of the Exchange Act. o

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The term new or revised financial accounting standard refers to any update issued by the Financial Accounting Standards Board to its Accounting Standards Codification after April 5, 2012.

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

US GAAP x	International Financial Reporting Standards as issued by the International Accounting Standards Board o	Other o

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

o Item 17 o Item 18

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

o Yes x No

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

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

o Yes o No

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CERTAIN TERMS AND CONVENTIONS

Unless otherwise indicated, in this annual report:

- ADS refers to American depositary shares, each representing five ordinary shares of JA Solar, par value US$0.0001 per share;

- Buyer Group refers to Holdco, Parent, Merger Sub, Mr. Baofang Jin, JASO Top and the Rollover Shareholders collectively;

- China and the PRC refer to the People s Republic of China, excluding, for the purposes of this annual report only, Taiwan and the special administrative regions of Hong Kong and Macau;

- conversion efficiency refers to the ability of solar power products to convert sunlight into electricity; conversion efficiency rate is commonly used in the solar power industry to measure the percentage of light energy from the sun that is actually converted into electricity;

- Hebei Jinglong refers to Jinglong Industry and Commerce Group Co., Ltd., which is controlled by the shareholders of Jinglong BVI;

- Holdco refers to JASO Holdings Limited, an exempted company with limited liability incorporated under the laws of the Cayman Islands;

- JA BVI refers to JA Development Co., Ltd., our directly wholly-owned subsidiary, a British Virgin Islands company;

- JA Donghai refers to Donghai JA Solar Technology Co., Ltd., our indirectly wholly-owned subsidiary in Jiangsu, China;

- JA Dunhuang refers to Dunhuang JA Solar Power Development Co., Ltd., our indirectly wholly-owned subsidiary in Gansu, China;

- JA Fengxian refers to Shanghai JA Solar Technology Co., Ltd., our indirectly wholly-owned subsidiary in Shanghai, China;

- JA Hebei refers to JingAo Solar Co., Ltd., our predecessor and indirectly wholly-owned subsidiary in Hebei, China;

- JA Hefei Technology refers to Hefei JA Solar Technology Co., Ltd., our indirectly wholly-owned subsidiary in Hefei, China;

- JA Lianyungang refers to Jing Hai Yang Semiconductor Material (Donghai) Co., Ltd., our indirectly wholly-owned subsidiary in Jiangsu, China;

- JA Solar, we, us, the company, the Company , our company and our refer to JA Solar Holdings C unless otherwise indicated or as the context may otherwise require, its predecessor entities and its consolidated subsidiaries;

- JA Wafer R&D refers to Donghai JA Solar Technology Co., Ltd., our indirectly wholly-owned subsidiary in Jiangsu, China;

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- JA Yangzhou refers to JA Solar Technology Yangzhou Co., Ltd., our indirectly wholly-owned subsidiary in Jiangsu, China;

- JA Xingtai refers to JA Solar (Xingtai) Co., Ltd., our indirectly wholly-owned subsidiary in Hebei, China;

- JA Malaysia refers to JA Solar Malaysia Sdn. Bhd., our indirectly wholly-owned subsidiary in Penang, Malaysia;

- JASO Top refers to JASO Top Holdings Limited, an exempted company incorporated under the laws of the Cayman Islands company and wholly owned by Mr. Baofang Jin;

- Jinglong BVI refers to Jinglong Group Co., Ltd., a business company incorporated under the laws of the British Virgin Islands company and our largest shareholder;

- Jinglong Group refers to Hebei Jinglong and its consolidated subsidiaries;

- Merger Sub refers to JASO Acquisition Limited, an exempted company with limited liability incorporated under the laws of the Cayman Islands, and a wholly owned subsidiary of Parent;

- Parent refers to JASO Parent Limited, an exempted company with limited liability incorporated under the laws of the Cayman Islands, and a wholly owned subsidiary of Holdco;

- price per watt refers to the price of solar power products, respectively, relative to the number of watts of electricity a solar power product generates;

- rated manufacturing capacity refers to the total amount of solar power products that can be made by a manufacturing line per annum operating at its maximum possible rate and is measured in megawatts, or MW;

- Rollover Shareholder refers to Jinglong BVI, Mr. Chin Tien Huang, Ms. Pak Wai Wong, and Ms. Chi Fung Wong collectively;

- RMB and Renminbi refer to the legal currency of the PRC;

- Solar Silicon Valley refers to Solar Silicon Valley Electronics Science and Technology Co., Ltd., our indirectly wholly-owned subsidiary in Hebei, China;

- U.S. refers to the United States;

- US$ and U.S. dollars refer to the legal currency of the U.S.;

- voltage or volts refers to the rating of the amount of electrical pressure that causes electricity to flow in the power line; and

- watts refers to the measurement of total electrical power, where kilowatts or KW means one thousand watts, megawatts or MW means one million watts and gigawatts or GW means one billion watts.

FORWARD-LOOKING STATEMENTS

This annual report includes forward-looking statements within the meaning of the Private Securities Litigation Reform Act of 1995. All statements, other than statements of historical facts, included in this annual report that address activities, events or developments which we expect or anticipate will or may occur in the future are hereby identified as forward-looking statements for the purpose of the safe harbor provided by Section 27A of the Securities Act of 1933 and Section 21E of the Securities Exchange Act of 1934.

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Forward-looking statements typically are identified by words or phrases such as may, will, expect, anticipate, aim, estimate, intend, p believe, potential, continue, is/are likely to or other similar expressions or the negative of these words or expressions. We have based these forward-looking statements largely on our current expectations and projections about future events and financial trends that we believe may affect our financial condition, results of operations, business strategy and financial needs. These forward-looking statements include, among other things, statements relating to:

- our expectations regarding the worldwide demand for electricity and the market for solar energy;
- our beliefs regarding the inability of traditional fossil fuel-based generation technologies to meet the demand for electricity;
- our beliefs regarding the importance of environmentally friendly electricity generation;
- our expectations regarding governmental incentives for the deployment of solar energy;
- our beliefs regarding the solar power industry revenue growth;
- our expectations with respect to advancements in our technologies;
- our beliefs regarding the low-cost advantage of solar power product production in China;
- our beliefs regarding the competitiveness of our solar power products;
- our expectations regarding the scaling of our solar power capacity;
- our expectations with respect to increased revenue growth and our ability to achieve profitability resulting from increases in our production volumes;

- our expectations with respect to our ability to secure raw materials in the future;
- our expectations regarding the price trends of solar power products;
- our expectations with respect to our ability to develop relationships with customers in our target markets;
- our expectations with respect to our ability to secure sufficient funds to meet our cash needs for our operations and to service our indebtedness;
- PRC government policies regarding foreign investments;
- our ability to maintain and strengthen our position as a low-cost vertically-integrated manufacturer of photovoltaic, or PV products;
- our future business development, results of operations and financial condition; and
- competition from other manufacturers of solar power products and conventional energy suppliers.

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

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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

The selected consolidated statements of operations data presented below for the years ended December 31, 2015, 2016 and 2017 and our balance sheet data as of December 31, 2016 and 2017 are derived from our audited consolidated financial statements which are included in this annual report beginning on page F-1. Our consolidated financial statements are prepared and presented in accordance with U.S. generally accepted accounting principles (U.S. GAAP). Our selected consolidated statements of operations data for the years ended December 31, 2013 and 2014 and selected consolidated balance sheet data as of December 31, 2013, 2014 and 2015 have been derived from our audited consolidated financial statements that are not included in this annual report on Form 20-F. Historical results are not necessarily indicative of results to be expected in any future period.

	Year ended December 31,					
	2013	2014	2015	2016	2017	
	(in millions, except for share and per share data)					
	RMB	RMB	RMB	RMB	RMB	US$
Consolidated Statements of Operations and Comprehensive Income/(Loss) Data:						
Revenues						
Solar modules	4,388	9,292	12,689	14,781	18,350	2,821
Solar cells and other products	2,414	1,848	762	800	905	139
Electricity generation			64	156	404	62
Solar products processing	381	156	10			
Total revenues	7,183	11,296	13,525	15,737	19,659	3,022
Cost of revenues						
Solar modules	(3,861)	(7,844)	(10,521)	(12,612)	(16,242)	(2,496)

Solar cells and other products	(2,270)	(1,602)	(675)	(743)	(865)	(133)
Electricity generation			(30)	(88)	(143)	(22)
Solar products processing	(290)	(93)	(7)			
Total cost of revenues	(6,421)	(9,539)	(11,233)	(13,443)	(17,250)	(2,651)
Gross (loss)/profit	762	1,757	2,292	2,294	2,409	371
Operating expenses						
Selling, general and administrative expenses	(765)	(954)	(1,245)	(1,058)	(1,514)	(232)
Research and development expenses	(88)	(140)	(149)	(176)	(160)	(25)
Loss from purchase commitments and contract termination costs				(149)	(16)	(2)
Impairment loss on property, plant and equipment						
Impairment loss on project assets			(33)	(8)	(3)	(1)
Total operating expenses	(853)	(1,094)	(1,427)	(1,391)	(1,693)	(260)
(Loss)/income from operations	(91)	663	865	903	716	111
Change in fair value of derivatives	(52)	84	44	49	(2)	(1)
Convertible notes buy back loss						
Interest expense	(285)	(230)	(249)	(285)	(324)	(50)
Interest income	17	28	26	19	17	3
Foreign exchange (loss)/gain	(44)	(62)	32	81	(70)	(11)
(Loss)/income from equity method investment	(2)	3	6	10	9	1
Other income, net	16	34	48	66	53	8
(Loss)/income before income taxes	(441)	520	772	843	399	61
Income tax benefit/(expense)	15	(73)	(157)	(123)	(99)	(15)
Net (loss)/income	(426)	447	615	720	300	46
Less: (earnings)/loss attributable to the noncontrolling interest	(3)	(23)	9	(36)		
Net (loss)/income attributable to JA Solar Holdings	(429)	424	624	684	300	46
Less: fair value of warrants in excess of net proceeds of equity offering	(44)					
Less: allocation of net income to a participating warrant holder		(77)	(108)			
Net (loss)/income attributable to JA Solar s ordinary shareholders	(473)	347	516	684	300	46
Net (loss)/income per share						
Basic	(2.35)	1.43	2.12	2.92	1.28	0.20
Diluted	(2.35)	1.38	2.12	2.92	1.28	0.20
Net (loss)/income per ADS						
Basic	(11.76)	7.17	10.59	14.59	6.40	0.98
Diluted	(11.76)	6.88	10.58	14.58	6.40	0.98
Weighted average number of shares outstanding:						
Basic	201,317,884	242,192,859	243,506,821	234,290,842	234,331,621	234,331,621
Diluted	201,317,884	242,863,084	243,744,921	234,402,452	234,369,595	234,369,595

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	As of December 31,					
	2013	2014	2015	2016	2017	
	(in millions)					
	RMB	RMB	RMB	RMB	RMB	US$
Consolidated Balance Sheet Data:						
Cash and cash equivalents	2,120	2,155	2,883	2,569	1,473	226
Total current assets	6,352	8,601	10,025	10,265	9,978	1,534
Total assets	11,882	14,484	16,306	19,031	20,832	3,202
Total current liabilities	5,041	6,580	7,175	8,651	9,965	1,532
Total long-term liabilities	2,137	2,437	3,214	3,919	4,101	630
Total liabilities	7,178	9,017	10,389	12,570	14,066	2,162
Total Shareholders equity	4,704	5,467	5,917	6,461	6,766	1,040
Common share capital	170	186	176	176	176	27
Common shares outstanding	227,499,837	252,301,917	237,853,602	237,853,602	237,926,352	237,926,352

	Year ended December 31,					
	2013	2014	2015	2016	2017	
Operating Data:						
Products sold (in MW)	2,072.0	3,057.9	3,937.9	4,920.4	7,501.1	
Average PV cells selling price per watt (in RMB)	2.4	2.3	1.9	1.8	1.3	0.19
Average PV modules selling price per watt (in RMB)	4.0	3.9	3.5	3.2	2.6	0.39

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Exchange Rate Information

Our functional currency is Renminbi. The conversion of RMB into U.S. dollars in this annual report is based on the noon buying rate in New York City for cable transfers in RMB as certified for customs purposes by the Federal Reserve Board. Except as otherwise stated in this annual report, all amounts in this annual report have been translated from RMB to U.S. dollars and from U.S. dollars to RMB at a rate of RMB6.5063 to US$1.00, the noon buying rate in effect as of December 29, 2017. We make no representation that any RMB or U.S. dollar amounts could have been, or could be, converted into U.S. dollars or RMB, as the case may be, at any particular rate, or at all. See Item 3. Key Information D. Risk Factors Risks Related to Doing Business in China Fluctuation in exchange rates could have a material adverse effect on our results of operations and the value of your investment. The PRC government imposes control over its foreign currency reserves in part through direct regulation of the conversion of RMB into foreign exchange and through restrictions on foreign trade. On April 20, 2018, the noon buying rate was RMB6.2945 to US$1.00.

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

	Exchange Rate			
Period	**Period End**	**Average(l)**	**Low**	**High**
	(RMB per US$1.00)			
2013	6.0537	6.1412	6.0537	6.2438
2014	6.2046	6.1704	6.0402	6.2591
2015	6.4778	6.2869	6.1870	6.4896
2016	6.9430	6.6549	6.4480	6.9580
2017	6.5063	6.7350	6.4774	6.9575
October	6.6328	6.6254	6.5712	6.5633
November	6.6090	6.6200	6.5967	6.6385
December	6.5063	6.5932	6.6210	6.5063
2018				
January	6.2841	6.4233	6.2841	6.5263
February	6.3280	6.3183	6.2649	6.3471
March	6.2726	6.3174	6.2685	6.3565
April (through April 20, 2018)	6.2945	6.2859	6.2655	6.3045

Source: Federal Reserve Statistical Release

(1) Annual averages are calculated by averaging the noon buying rates on the last business day of each month. 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 Business and Industry

Our business is sensitive to domestic and global economic conditions. A severe or prolonged downturn in the global or Chinese economy could materially and adversely affect our business and our financial condition.

Our business is sensitive to domestic and global economic conditions. The global macroeconomic environment is facing new challenges, including the end of quantitative easing by the U.S. Federal Reserve and the economic slowdown in the Eurozone since 2014. The growth of the Chinese economy has slowed down since 2012 and such slowdown may continue. According to the National Bureau of Statistics of China, China s gross domestic product (GDP) growth stayed stable at 6.9% in 2017. The Chinese economy was on a bumpy road over the past few years, demonstrated by various factors such as the stock market volatility and RMB depreciation. There is considerable uncertainty over the long-term effects of the monetary and fiscal policies adopted by the central banks and financial authorities of some of the world s leading economies, including the U.S. and China. Continued concerns about the systemic impact of potential long-term and wide-spread recession, energy costs, geopolitical issues, and the availability and cost of credit have contributed to increased market volatility and diminished expectations for economic growth around the world. The difficult economic outlook has negatively affected business and consumer confidence and contributed to high volatility.

There have been concerns over unrest and terrorist threats in Europe, the Middle East and Africa, which have resulted in volatility in oil and other markets, and over the conflicts involving Ukraine and Syria. There have also been concerns about the relationship among China and other countries, including surrounding Asian countries, which may potentially lead to foreign investors closing down their businesses or withdrawing their investments in China and thus exiting the China market, and other economic effects. Economic conditions in China are sensitive to global economic conditions, as well as changes in domestic economic and political policies and the expected or perceived overall economic growth rate in China. Any severe or prolonged slowdown in the global and/or Chinese economy may have a negative impact on our business, results of operations and financial condition, and continued turbulence in the international markets may adversely affect our ability to access the capital markets to meet liquidity needs.

Changes in international trade policies and trade barriers have adversely affected, and may continue to adversely affect, our ability to export our products to customers in certain countries, or import raw materials from certain countries.

We generate a significant portion of our revenues from sales to customers located outside of China and our customer mix varies geographically from period to period. Trade barriers, such as tariffs, taxes, duties, restrictions and expenses, have adversely affected, and may continue to adversely affect, our ability to export our products to customers in certain countries, especially the European Union and the U.S. For the years ended December 31, 2015, 2016 and 2017, we generated 10.1%, 4.0% and 8.0%, respectively, of our revenue from sales to customers located in the European Union, and during the same periods, we generated 4.0%, 10.0% and 13.4%, respectively, of our revenue from sales to customers located in the U.S.

On September 6, 2012 and November 8, 2012, respectively, the European Commission announced the initiations of anti-dumping and anti-subsidy investigations regarding crystalline silicon PV modules and key components (i.e., cells and wafers) originating from China into the

European Union. On June 4, 2013, the European Commission announced that it would, from June 6, 2013, impose a provisional anti-dumping duty, or AD, of 11.8% to all solar panels, cells and wafers imported from China into the European Union. This provisional AD at 11.8% lasted until August 6, 2013. The European Commission made its decision after forming the opinion that Chinese solar companies in general were selling solar panels to European customers at prices that were far below their normal market value. The PRC Ministry of Commerce, or MOFCOM, refuted the finding by the European Commission. On August 2, 2013, the European Commission accepted a price undertaking offered by Chinese companies exporting solar panels, represented by China Chamber of Commerce for Import and Export of Machinery and Electronic Products, or CCCME. Under such undertaking, crystalline silicon PV modules and key components (i.e., cells) originated in or consigned from China are sold to the European Union above fixed floor prices and subject to quota limitation. Companies that accept such fixed floor prices and quota limitation will not be subject to any anti-dumping and anti-subsidy tariffs. We previously accepted such undertaking and were subject to fixed floor prices and quota limitation. Such fixed floor prices have increased our selling price and had an adverse effect on our ability to secure orders from customers in the European Union.

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Above measures expired when the EU Commission imposed a definitive antidumping duty and a countervailing duty for a period of 18 months on solar cell and module from China on March 1, 2017 following an expiry review investigation. (the AD and CVD Regulation). The AD and CVD Regulation provided for a new MIP mechanism that importation below new MIP shall be subject to duties unless qualified Chinese exporters selling at a price higher than new MIP. Although JA Solar has such qualification thus can choose to sell above new MIP without duties or below new MIP with duties, the new MIP have increased our selling price still and had a continuous diverse effect on our ability to secure orders from the customers in the European Union.

On May 29, 2015, the European Commission opened two investigations into claims that the duties in force for crystalline silicon PV modules or panels from China are being circumvented by transshipment via Taiwan and Malaysia. Circumvention has been found and the European Commission extended the duties in force against China to solar panels and solar cells consigned from Taiwan and Malaysia. On February 11, 2016, the European Commission reached the definitive conclusion of this investigation. According to the definitive conclusion, AD of 53.4% and CVD of 11.5% which are applicable to the imports of crystalline silicon PV modules or panels and cells of the type used in crystalline silicon PV modules or panels from China also extended to imports of crystalline silicon PV modules or panels and cells of the type used in crystalline silicon PV modules or panels consigned from Malaysia and Taiwan whether declared as originating in Malaysia and Taiwan or not.

Furthermore, in December 2012, the U.S. Department of Commerce, or DOC, issued its final determination to impose AD and countervailing duties, or CVD, on crystalline silicon PV cells, whether or not assembled into modules from the PRC, as well as modules assembled from those cells that are exported to the U.S. The combined AD/CVD rate applicable to us was 29.18% when the final order was issued in December 2012. The DOC conducts annual administrative review of the AD/CVD rate that is applicable during the previous year, and based on the updated rate, the U.S. customs adjusts the tariffs paid by the affected companies by refunding the overpayment and requesting payment of the deficiency. In February 2014, DOC initiated its first annual administrative review of the anti-dumping tariff applicable from May 25, 2012 to November 30, 2013 and the anti-subsidy tariff applicable from March 26, 2012 to December 31, 2012. The AD/CVD rate applicable to us remained 29.18% after the first annual review. On August 4, 2015, the U.S. Trade Representative instructed the DOC to implement its determinations under section 129 of the Uruguay Round Agreements Act, which lowered the AD/CVD rate from 29.18% to 28.42%. In February 2015, DOC initiated its second annual administrative review of the anti-dumping tariff applicable from December 1, 2013 to November 30, 2014 and the anti-subsidy tariff applicable from January 1, 2013 to December 31, 2013. We were the mandatory respondent in the second administrative review of the anti-subsidy tariff. The AD/CVD rate applicable to us was 27.72% until the release of the final determination of the third annual administrative review. In February 2016, DOC initiated its third annual administrative review of the anti-dumping tariff applicable from December 1, 2014 to November 30, 2015 and the anti-subsidy tariff applicable from January 1, 2014 to December 31, 2014. The AD/CVD rate applicable to us recently is 27.02%. In February 2017, DOC initiated its fourth annual administrative review of anti-dumping tariff applicable from December 1, 2015 to November 11, 2016 and the anti-subsidy tariff applicable from January 1, 2015 to December 31, 2015. The final determination is expected to be released in June 2018. If the final determination resulted in a rate higher than 27.02%, we will be obligated to pay for the difference between the final rate and 27.02% for products exported during the review period. In February 2018, DOC initiated its fifth annual administrative review of anti-dumping tariff applicable from December 1, 2016 to November 11, 2017 and the anti-subsidy tariff applicable from January 1, 2016 to December 31, 2016. We are participating in the fifth annual review process.

In January 2014, DOC initiated a parallel anti-dumping investigation on imports of certain crystalline silicon PV products from China and Taiwan and a parallel anti-subsidy investigation on imports of certain crystalline silicon PV products from China. On December 23, 2014, DOC announced its final affirmative determinations that imports of certain crystalline silicon PV products from Taiwan have been sold in the U.S. at dumping margins ranging from 11.45% to 27.55%. The AD/CVD rate was also subject to annual administrative review. In February 2016, DOC initiated its first annual administrative review of the anti-dumping tariff applicable from July 31, 2014 to January 31, 2016 and its second annual administrative review of the anti-dumping tariff applicable from February 1, 2016 to January 31, 2017. If the final determination resulted in a higher rate, we will be obligated to pay for the difference between the final rate and the rate applied for products exported during the review period. Certain of our PV modules have been imported to the U.S. were assembled from PV cells supplied by a Taiwan-based supplier. The AD rate applicable to such Taiwan-based supplier was 11.45% and is currently 4.2 %. If the final determination resulted in a rate higher than 4.2%, we will be obligated to pay for the difference between the final rate and 4.2% for products using such supplier s PV cells. The final determination of the first review will be released in the middle of 2018.

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On January 23, 2018, the U.S. President issued a proclamation that imposes a safeguard measure on imports of certain photovoltaic cells and modules, including those from China and South Asia. The safeguard duties will last for 4 years from February 7, 2018 at a rate of 30% for the first year, 25% for the second year, 20% for the third year and 15% for the fourth year. Our production both in and outside China were covered by this measure and thus we suffer diverse effect on our ability to secure orders from the customers in the U.S.

The parallel AD/CVD rate applicable to us and above safeguard measure has had and will continue to have an adverse effect on our sales to the U.S., and our ability to continue sourcing cells from suppliers overseas (including Taiwan) for our modules to be sold to the U.S. is also limited. The annual administrative review process has created great uncertainty on the amount of tariffs paid by us, thus continuing to have an impact on our sales to the U.S.

We are actively taking measures to alleviate the negative effects caused by the tariffs, including exploring new markets and securing additional orders from customers located outside of the U.S. and the European Union. However, if our efforts to develop new markets fail and we are not able to gain additional orders from other customers to replace orders from those in the European Union and the U.S., our revenue could be materially and adversely affected.

Australia has also initiated anti-dumping investigations against crystalline silicon solar panels imported from China. On October 6, 2015, the Australian Anti-dumping Commission decided to terminate this investigation and did not impose any anti-dumping tariffs on imported solar panels. The final determination was revoked by Australia Anti-Dumping Review Panel on January 8, 2016 and the investigation was resumed in 2016. After re-investigation, the Australian Anti-dumping Commission announced on October 18, 2016 to terminate such investigation on the ground that the damages caused by PV products imported from China are negligible.

On December 5, 2014, Canada initiated anti-dumping and countervailing investigations on imports of crystalline silicon PV modules from China. Based on the final determination issued by Canada Border Services Agency on June 3, 2015. JA Hefei Technology was determined to be subject to an AD rate of 48.4% and a CVD rate of RMB0.011 per watt.

On July 1, 2016, Turkey s Ministry of Economy initiated an anti-dumping investigation on imports of crystalline silicon PV modules from China. The final result was announced on April 1, 2017. Turkey s Ministry of Economy decided to impose anti-dumping tariffs on solar panel (PV module) products exported from China for a period of five years. The tax rates applicable to Chinese exporters of solar panel range from US$20 per square meter to US$25 per square meter.

On July 21, 2017, Indian Department of Commerce (Directorate General of Anti-Dumping & Allied Duties, Ministry of Commerce & Industry) initiated an anti-dumping investigation concerning imports of Solar Cells, whether or not assembled partially or fully in modules or panels or on glass or some other suitable substrates originating in or exported from China and Malaysia. We submitted the exporter s questionnaire in September, 2017 and participated the verification dated from January 4 to January 6, 2018. On March 23, 2018, Indian Ministry of Commerce & Industry determined to terminate the investigation.

On December 19, 2017, Indian Ministry of Finance (Directorate General of Safeguards, Customs and Central Excise) initiated a safeguard investigation concerning import of Solar Cells, whether or not assembled in modules or panels. On January 5, 2018, Indian Ministry of Finance recommended a provisional safeguard duty at the rate 70% ad valorem on the imports of solar cells whether or not assembled in modules or panels. The final decision is not reached yet. We are participating the joint defense led by CCCME.

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Furthermore, we import some of our raw materials, including polysilicon, from suppliers located outside of China, such as the European Union, the U.S. and South Korea. MOFCOM initiated investigations on solar grade polysilicon imported from the U.S. and the European Union in July 2012 and November 2012, respectively. In July 2013, MOFCOM announced a preliminary ruling that it found exporters in the U.S. and South Korea dumped their products on the PRC market and caused material harm to China s domestic solar industry and decided that it planned to impose provisional AD on solar-grade polysilicon imported from the U.S. and South Korea. In January 2014, MOFCOM upheld its previous ruling that investigated products from South Korea and the U.S. are subject to import tariffs at different rates with the highest rate being 48.7% and 57%, respectively. South Korean polysilicon producer OCI Company Ltd., or OCI, is one of our main suppliers and its products are subject to a tariff of 2.4%. On March 18, 2014, MOFCOM and Wacker Chemie AG, or Wacker, one of our main suppliers, reached an understanding concerning the export of polysilicon by Wacker to China. Pursuant to such understanding, Wacker undertook not to sell polysilicon produced at its European plants to China below a specific minimum price, in return, Wacker was exempt from AD and CVD imposed by MOFCOM. Various import tariffs and limitations imposed on foreign polysilicon suppliers may lead to the increased prices of products from domestic suppliers in the future. We may not be able to pass on such cost increase to our customers, and our earnings may be negatively affected. For 2015, 2016 and 2017, we sourced 98.0 %, 87.9% and 72.0%, respectively, of our polysilicon purchases from suppliers located in the European Union and South Korea. On November 22, 2016, MOFCOM initiated a mid-term review of anti-dumping measures applicable to imported solar grade polysilicon originating in South Korea. The final result of the investigation was released on November 22, 2017, the investigated Korean enterprises are subject to AD rates ranging from 4.4% to 113.8%.

In addition, there have been trade fractions between U.S. and China recently. If the situation deteriorates, we may face more uncertainties in terms of international trade and our results of operation may be adversely affected.

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

We are affected by solar power market and industry trends. Industry-wide oversupply of solar power products has caused a substantial decline in prices of solar power products and industry-wide oversupply may continue to exist over the next few years. Competitiveness among conventional energy companies and renewable energy companies has adversely affected and may continue to affect the price of solar power products. We expect that cost reduction in the solar power industry will continue and prices of our products may be materially and adversely affected.

The demand for solar power products is also influenced by macroeconomic factors, including global economic development, credit markets, 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. If negative market and industry trends continue in the future, the prices of our solar power products could further decrease and our business and results of operations may be materially and adversely affected.

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

Demand for our products depends substantially on government incentives aimed to promote greater use of solar power. Countries that provided significant incentives for solar power include Germany, Spain, Italy, Greece, the U.S., Canada, Japan and China, among others. In many of the countries that constitute our major markets, solar power systems, particularly those for on-grid applications, would not be commercially viable without government incentives because the cost of generating electricity from solar power currently exceeds the cost of generating electricity from conventional or other non-solar renewable energy sources.

The scope of government incentives for solar power depends, to a large extent, on political and policy developments relating to environmental concerns in a given country. Policy shifts could reduce or eliminate these government economic incentives altogether. For example, the rapid growth of the German, Spanish and Italian solar power markets in 2010 was largely due to the government policies of those countries that set feed-in tariff terms at attractive rates. However, the escalation of the European sovereign debt crisis in 2011 affected the fiscal ability of several governments to offer incentives for the solar power industry. Each of Japan and Germany used to be one of our largest overseas markets. However, our sales to Japan and Germany have significantly decreased over the past years, primarily due to decline in customer demands resulted from their reduction of feed-in tariff. The current U.S. administration may create regulatory uncertainty in the renewable energy industry, including the solar industry. As a result, our business, operating and financial results could be adversely impacted. Members of the current U.S. administration have made public announcements that indicate the administration may not be supportive of various clean energy programs and initiatives designed to curb climate change and that it may be supportive of reducing the corporate tax rate and modifying policies or regulations enacted by the previous administration that placed limitations on coal and gas electricity generation, mining, and exploration. If the current U.S. administration or the U.S. Congress takes action in support of any such policies, we would be subject to significant risks. Any further significant reduction in the scope or discontinuation of government incentive programs, especially in markets significant to our business, could cause demand for our products and our revenues to decline, and have a material and adverse effect on our business, financial condition, results of operations and prospects.

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The market for electricity generation products is also heavily influenced by government regulations and policies concerning the electric utility industry, as well as internal policies of electric utilities companies. These regulations and policies often relate to electricity pricing, safety, utility interconnection, metering and related matters. End users purchases of alternative energy sources, including solar power products, could be deterred by unfavorable changes in regulations and policies, which could result in a significant reduction in the potential demand for our solar power products. For example, public utility companies commonly charge fees to larger, industrial customers for disconnecting from the electricity transmission grid or for having the capacity to use power from the electricity transmission grid for back-up purposes. These fees could increase end users costs of using our solar power products and make products that use our solar power products less desirable, thereby having an adverse effect on our business, financial condition, results of operations and prospects.

Our growth depends on the financial capabilities of our customers, third-party financing arrangements for end-users of our products, and is affected by general economic conditions.

We have extended credit to many new and existing customers or provided them with improved credit terms, including increasing credit limits and extending the time period before payments are due, ultimately increasing our accounts receivable and exposure to credit risks of our customers. Some of our customers are new customers with whom we have not historically had extensive business dealings. Starting from May 2011, we began to insure part of our overseas sales through China Export & Credit Insurance Corporation, or Sinosure. As of December 31, 2017, 42.3% of our total overseas accounts receivable was insured by Sinosure. The amount of insurance coverage for each transaction is based on a rating assigned by Sinosure to the customer based on such customer s credit history. However, we cannot assure you that all our accounts receivable are sufficiently covered or that Sinosure will be able to make payments on our claims. Our balance of provision for doubtful accounts was RMB259.8 million, RMB188.3 million and RMB227.8 million (US$35.0 million) in 2015, 2016 and 2017, respectively. During the year ended December 31, 2017, for sales of solar modules, we generally provide credit terms of up to 180 days to customers with good credit-worthiness as determined by our credit assessment. The failure of any of our new or existing customers to meet their payment obligations would deteriorate our working capital and materially and adversely affect our financial position, liquidity and results of operations.

Furthermore, our products are components of solar power and energy systems, which are used in both on-grid applications and off-grid applications. Government agencies and the private sector have, from time to time, provided financing on preferential terms to promote the use of solar energy in both on-grid and off-grid applications. We believe that the availability and cost of such financing programs could have a significant effect on the level of sales of solar power products. If existing financing programs for on-grid and off-grid applications are eliminated or if financing in general become inaccessible or inadequate, the growth of the market for on-grid and off-grid applications may be materially and adversely affected, which could cause sales of our solar power products to decline significantly.

If there is a general reduction in available credit to would-be borrowers, customers may be unable or unwilling to finance the cost of our products, or parties that have historically provided this financing may cease to do so, or only do so on terms that are substantially less favorable for us or our customers. In addition, an increase in interest rates would likely increase the cost of financing to end users of our products and could reduce their profits and expected returns on investment in our products. A prolonged disruption in the ability of our significant customers or downstream players to access sources of liquidity could cause serious disruptions to or an overall deterioration in their businesses. This could lead to a significant reduction in their future orders for our products and cause their inability or failure to meet their payment obligations to us, any of which could have a material adverse effect on our business, financial condition, results of operations and prospects.

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In light of our significant international operations, we face risks associated with manufacturing, marketing, distribution and sales of our products overseas, and if we are unable to effectively manage these risks, they could impair our ability to grow our business overall.

Historically, revenues from customers in China represented a significant portion of our overall revenues. Since 2010, in connection with our overseas marketing efforts as well as commercial manufacturing and selling of solar modules, we have substantially increased the portion of our products sold to customers outside China and our revenues from customers outside China have remained above 51.5% of our total revenues. We have expanded our sales network to over ninety countries over the world, including the U.S., Japan, United Kingdom and India, and established our manufacturing facilities in Malaysia and Vietnam. We also plan to continue expanding our business in the overseas market. The stability and viability of any existing, new or potential overseas markets are subject to many uncertainties and may expose us to a number of risks, including:

- trade barriers such as export requirements, tariffs, taxes, foreign exchange restrictions and other restrictions and expenses, which could increase the prices of our products and make us less competitive in some countries;

- fluctuations in currency exchange rates and potential loss in foreign currency conversion;

- difficulty in engaging distributors and other appropriate partners who are knowledgeable about, and can function effectively in, overseas markets, and maintaining good cooperative relationships with them;

- increased costs associated with maintaining the ability to understand local markets and follow their trends, as well as develop and maintain effective marketing and distribution presence in various countries;

- increased costs associated with providing customer service and support in these markets;

- difficulty and costs relating to compliance with the different commercial and legal requirements of the overseas markets in which we offer our products;

- failure to develop appropriate risk management and internal control structures tailored to overseas operations;

- failure to complete construction of our overseas facilities as planned;

- failure to obtain or maintain certifications for our products in these markets;

- failure to obtain, maintain or enforce intellectual property rights; and

- increased costs associated with doing business in foreign jurisdictions.

If we are unable to effectively manage these risks, we may not be able to successfully grow our business as we have planned. Furthermore, we have implemented policies and procedures designed to facilitate compliance with laws and regulations in foreign jurisdictions applicable to us, but there can be no assurance that our employees, contractors, or agents will not violate such laws and regulations or our policies. Any such violations could individually or in the aggregate materially and adversely affect our financial condition or operating results.

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Increases in electricity costs or a shortage or disruption in electricity supply may adversely affect our business.

We consume a significant amount of electricity in our operations. Electricity prices in China are expected to increase in the long term. As a result, our electricity costs may become substantially higher than our overseas competitors, which could diminish our competitive advantage and adversely affect our business, financial condition and results of operations. Moreover, with the rapid development of the PRC economy, demand for electricity has continued to increase. There have been shortages or disruptions in electricity supply in various regions across China, especially during peak seasons, such as the summer, or when there are severe weather conditions. We cannot assure you that there will not be any disruptions or shortages in our electricity supply or that there will be sufficient electricity available to us to meet our future requirements. Increases in electricity costs and shortages or disruptions in electricity supply may significantly disrupt our normal operations, cause us to incur additional costs and adversely affect our profitability.

Decrease of oil price may reduce demand for investment in alternative energy, which may have a negative impact on the deployment of renewable energy and in turn have a negative impact on companies in the renewable energy industry, including us.

Crude oil price has dropped significantly since June 2014, which may reduce demand for investment in alternative energy. Historically, high oil price is one of the key drivers for renewable energy, with the decline of oil prices, the deployment of renewable energy may be affected and projects in the renewable energy may be delayed or even derailed. There are different voices on whether renewable energy will be affected and the extent of such impact, although companies in the renewable energy sector, including us, have not been materially and adversely affected by the decline of oil price, we cannot assure you that the renewable energy will not be adversely affected, and if affected, the impact will be minimal. If the renewable energy sector is adversely affected in general, our business and results of operations will also be adversely affected to some extent.

Difficulties in identifying, consummating and integrating acquisitions and alliances and potential write-offs in connection with our investment or acquisitions may have a material and adverse effect on our business and results of operations.

As part of our growth strategy, we have acquired, and may in the future acquire, companies that are complementary to our business. From time to time, we may also make alternative investments and enter into strategic partnerships or alliances as we see fit. Past and future acquisitions, partnerships or alliances may expose us to potential risks, including risks related to:

- the integration of new operations and the retention of customers and personnel;
- the potential write-offs in connection with acquisitions;
- unforeseen or hidden liabilities;

- the diversion of resources from our existing business and technology;
- failure to achieve synergies with our existing business as anticipated and generate revenues as anticipated;
- failure of the newly acquired business, technologies, services and products to perform as anticipated;
- inability to generate sufficient revenue to offset additional costs and expenses;
- breach or termination of key agreements by the counterparties;
- the costs of acquisitions; or

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- the potential loss of or harm to relationships with our employees, customers or suppliers resulting from our integration of new businesses.

Any of the potential risks listed above could have a material and adverse effect on our ability to manage our business and our results of operations.

We may encounter various risks and uncertainties in our project development business, all of which could increase our costs, delay or cancel a project, and have a material adverse effect on our results of operations and business prospects.

The project development business involves various risks and uncertainties. We may be required to invest significant amounts of capital for land and interconnection rights, preliminary engineering, licenses and permits, legal and other expenses before we can determine whether a project is feasible. Developing and completing a particular project face various risks and uncertainties, including without limitation to the following:

- failure to identify suitable sites in a timely manner;
- failure to win a competitive bidding for new projects;
- failure to secure and receive required governmental permits, licenses and approvals, such as land use rights, construction permits and approvals, as well as satisfactory environmental assessments;
- potential challenges from local residents, environmental organizations, and others who may not support the project;
- failure to obtain construction financing, including debt, equity and tax credits;
- failure to receive rights to interconnect to the electric grid;
- curtailment by utilities or grid operating companies;

- unable to pay interconnection and other deposits (some of which are non-refundable);

- failure to negotiate satisfactory EPC agreements;

- unforeseen engineering problems, construction delays, subsurface land conditions, cost over-runs, shortage of labor, equipment and materials supply;

- disruptions (including labor strikes);

- 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 fail to address the above risks and uncertainties, our costs may be increased and construction of our projects may be delayed or even canceled; therefore, our financial condition, results of operations and growth prospects may be materially and adversely affected.

We rely on local grid companies for grid connection and grid companies may not have adequate transmission capacity or may be unwilling to purchase and transmit electricity generated by our solar power plants.

In order to deliver electricity, the solar power plants need to connect to the transmission grid. We must obtain consents from local grid companies to connect our solar power plants to their power grids before constructing an on-grid integrated solar system. Such consent depends on a number of external factors, including the availability of existing grids with adequate transmission capacity, progress of grid construction or system upgrades, the distance between our preferred sites and the local grids, availability of large systems such as transformers and switch gear, and the costs of additional interconnection facilities. Many of these factors are beyond our control. We may not be able to obtain all necessary consents for our new solar power system integration projects in a timely manner, or at all. These factors could significantly impact our ability to build solar power plants, connect them to the grid, successfully complete customer acceptance testing, and receive payment for such solar power plants. In addition, even if we are able to get the consents from local grid companies and connect our solar power plants to their power grids, we may experience delays in receiving payments and applicable subsidies, which are not directly paid to us.

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Further, under the current regulatory framework in the PRC, grid companies generally must purchase and dispatch all electricity generated by renewable energy producers within the coverage of their grids. Solar power stations with grid connection voltage of not more than 10 Kilovolts and installation capacity of not more than 6 MW are all allowed to apply for connection to large grid, with State Grid Corporation of China offering free connection service throughout the entire process. In case of PV power generation projects connected to public grids, grid companies are responsible for investment and construction of the connection projects and related modification of public grids, and for PV power generation projects connected to users end through the public grid, grid companies are responsible for investment and construction of public grids modification related to the connection. However, we cannot assure you that local grid companies will comply with these obligations at all times or at all. In addition, solar power plants and other renewable energy facilities of our competitors located near our solar power system integration projects may compete with us to secure grid connections. Grid companies may not have adequate transmission capacity or may be unwilling to purchase and transmit electricity generated by our solar power plants. We may not be able to dispatch electricity when our solar power system integration projects commence operations, which could have a material adverse effect on our revenue and results of operations.

Curtailment of power purchases by the grid could significantly impact our project sales price and our ability to generate revenues from electricity generation.

Due to various reasons, such as a mismatch between output and demand of power and the grid s dispatch among different sources of energy within its network, the electricity generated by our solar power plants may be prevented from feeding into the grid even if our solar power plants are connected to the transmission grid. Grid curtailment exists in both China and foreign countries, such as Japan. Grid curtailment also varies among different regions in China, but mainly occurring in China s northwest regions, such as Gansu and Qinghai provinces. As a result, our project sales price could be materially and adversely affected, the electricity that has already been generated will be wasted and we will not generate revenue from electricity generation, we may also be forced to reduce our output, all of which will significantly affect our results of operations.

Solar power plants can only receive government subsidies after they are listed in the Subsidy Catalog.

With respect to our solar power projects in China, our rights to receive central government subsidies can only be realized when the solar power projects are listed in the Renewable Energy Electricity Subsidy Catalog, or the Subsidy Catalog, issued by the Ministry of Finance, or MOF, the National Development and Reform Commission, or NDRC, and the National Energy Administration, or NEA, from time to time. In order to be included in the Subsidy Catalog, applications should be made with the local counterparts of MOF, NDRC and NEA, which will conduct a preliminary review of the solar power projects and then report to the MOF, NDRC and NEA through their respective internal reporting channel. The MOF, NDRC and NEA will then conduct their review and determine whether to list the projects in the Subsidy Catalog.

On August 24, 2016, the MOF, NDRC and NEA published the 6th Subsidy Catalog. One of our solar power plants is included in the 6th Subsidy Catalog. Two of our solar power plants have applied for being listed in the 7th Subsidy Catalog, which has not been published yet. As of December 31, 2017, we had RMB394.2 million (US$60.6 million) in accounts receivable, representing unpaid subsidies to be paid. If we cannot receive subsidies for our projects as expected, our financial condition may be materially adversely affected.

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We may be required to make significant upfront investment prior to commencing construction of solar power projects, which could adversely affect our business and results of operations.

It may take many months or years before our solar power plant development cycles can mature. As a result, we may be required to invest significant amounts of capital for land and interconnection rights, preliminary engineering, licenses and permits, legal and other expenses in advance of commencing construction, and the receipt of any revenue, much of which is not recognized for several additional months following contract signing.

Furthermore, we may not be able 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 sales market weakens or we are not able to successfully complete the customer acceptance testing due to various reasons, such as technical difficulties, equipment failure, or adverse weather, and we are unable to sell our solar projects at prices and on terms and timing that are acceptable to us. Accordingly, our business and results of operations may be materially and adversely affected.

Prepayment arrangements for procurement of silicon wafers and/or polysilicon from our major suppliers expose us to the credit risks of such suppliers and may also significantly increase our costs and expenses, either of which could in turn have a material adverse effect on our financial condition, results of operations and liquidity.

We face significant specific counterparty risk under long-term supply contracts when dealing with suppliers without a long, stable production and financial history. We make prepayments to these suppliers for procurement of polysilicon, ingots or wafers without receiving collateral to secure such payments. In the event any such supplier experiences financial difficulties, or even bankruptcy, it may be difficult or impossible, or may require substantial time and expenses, for us to recover any or all of our prepayments.

For example, in 2011, one of our long-term suppliers failed to deliver silicon wafers pursuant to the applicable contracts, and we recorded a provision of prepayment and other payment due totaling RMB42.2 million. We reached a settlement with such supplier in August 2013, under which such supplier agreed to pay us RMB21 million and we finally recovered RMB6,351,200 in September 2014 pursuant to a court allocation plan.

These efforts incurred legal expenses and distracted our management. In addition, legal actions are required to recover our prepayments. Our claims for prepayments would rank as unsecured claims, which expose us to the credit risks of our suppliers in the case of an insolvency or bankruptcy of such suppliers. Under such circumstances, our claims against the suppliers would rank below those of secured creditors, which would undermine our chances of obtaining the return of the prepayments. Accordingly, if a supplier to which we make prepayment defaults on its obligations under a supply contract, we may not be able to recover all or a portion of our outstanding prepayment, which may have a material adverse effect on our financial condition, results of operations and liquidity.

Our ability to adjust our raw materials costs may be limited as a result of our entering into long-term supply agreements with some of our polysilicon and silicon wafer suppliers, and it may be difficult for us to respond in a timely manner to rapidly changing market conditions, which could materially and adversely affect our cost of revenues and profitability.

In order to secure adequate and timely supply of polysilicon and silicon wafers, we entered into a number of long-term supply agreements for polysilicon, ingots and wafers with a limited number of suppliers. Some agreements provide for fixed pricing or pricing adjustable within a relatively small range of plus or minus 5% to 10%, substantial prepayment obligations, and/or firm purchase commitments that require us to pay for the supply whether or not we accept delivery. Since the second half of 2008, the prices of polysilicon and silicon wafers have fluctuated significantly due to the overall volatile market condition. In this regard, we have renegotiated the unit price and volume terms of many of our long-term supply agreements and have entered into amendments for many of them, but we may not always adjust terms to fully take advantage of market changes. In view of the significant volatility of the polysilicon prices during the past few years, we plan to continue to renegotiate the unit price and volume terms of our long-term supply agreements, but if prices of polysilicon or silicon wafers we pay to our suppliers continue to be higher than the market prices after such re-negotiations, we may be placed at a competitive disadvantage versus our competitors, and our cost of revenues as well as profitability would be materially and adversely affected. In addition, if demand for our solar power products decreases and such agreements require us to purchase more raw materials than required to meet our demand, we may incur costs associated with carrying excess inventory, which may have a material adverse effect on our cash flow; or if we fail to resell the raw materials at a price higher than our purchase price, our results of operations may be materially and adversely affected. To the extent we are not able to pass these increased costs to our customers, our business and results of operations may also be materially and adversely affected.

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In order to settle the lawsuit brought by Hemlock Semiconductor Pte. Ltd., or Hemlock, against JA Yangzhou with respect to a long-term supply agreement, or the Original Supply Agreement, dated as of May 4, 2011, as amended, by and between Hemlock and JA Yangzhou, JA BVI, JA Yangzhou and Hemlock Semiconductor Operations LLC, or Hemlock Operations, entered into a new long-term supply agreement, or the New Supply Agreement, on October 31, 2016, under which we agreed to purchase a certain amount of solar grade polycrystalline silicon products from Hemlock Operations on a quarterly basis until October 31, 2026. If we breach any of our obligations under the New Supply Agreement, we may be subject to claims brought by Hemlock. As a result, our ability to renegotiate the unit price and volume may be limited and our business and results of operations may be materially and adversely affected if we breach any of our obligations under the New Supply Agreement. We fulfilled the obligation under the New Supply Agreement and did not record any contingency liabilities as of December 31, 2017.

Disposal of outdated production lines can result in an increased impairment on property, plant and equipment, which may have a negative impact on our results of operations.

With our business development, we may introduce new manufacturing equipment with higher production efficiency rates to replace old manufacturing equipment or we may eliminate outdated production capacity from time to time. If we continue to retire outdated production lines or replace outdated manufacturing equipment with new manufacturing equipment in the future, we may incur increased impairment loss on property, plant and equipment, which may have a negative impact on our results of operations.

We may require a significant amount of cash to fund our future capital expenditure requirements and working capital needs; if we cannot obtain additional sources of liquidity when we need it, our growth prospects and future profitability may be materially and adversely affected.

We expect that we will need a significant amount of cash to fund our future capital expenditures. Besides capital expenditures, we have significant working capital commitments because suppliers of silicon wafers and polysilicon usually require us to make prepayments in advance of shipments. Future acquisitions, market changes or other developments may also cause us to require additional funds. Historically, we have relied on equity and debt offerings, borrowings and operating cash flow to finance our capital expenditure and working capital requirements. If we cannot generate sufficient operating cash flow to fund our capital expenditure and working capital needs, we may seek to sell additional equity or debt securities or borrow from lending institutions, which may not be available when needed. Our existing borrowings may decrease if our existing loans are canceled or not renewed. Since the end of 2016, approximately RMB1,428.2 million (US$219.5 million) of our borrowings matured and were not extended or renewed. See Risk Factors Risks Related to Our Business and Industry We have substantial indebtedness and may incur substantial additional indebtedness in the future, which could adversely affect our financial health and our ability to generate sufficient cash to satisfy our outstanding and future debt obligations.

In addition, we require our customers to make prepayments to us to help us reduce the amount of funds that we need to finance our working capital requirements. The balance of prepayments we received from our customers decreased from RMB691.9 million as of December 31, 2015 to RMB610.7 million as of December 31, 2016, and increase to RMB719.0 million (US$110.5 million) as of December 31, 2017.

We expect that we may need to obtain additional financing to meet our working capital requirements. Our ability to obtain external financing is subject to a number of uncertainties, including:

- our future financial condition, results of operations and cash flows;

- the state of global credit markets;
- general market conditions for financing activities by companies in our industry; and
- economic, political and other conditions in China and elsewhere.

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If we are unable to obtain funding in a timely manner or on commercially acceptable terms, or at all, our growth prospects and future profitability may be materially and adversely affected. In addition, the sale of additional equity securities, including convertible debt securities, would dilute our existing shareholders. The incurrence of debt would result in increased interest rate risk, 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 any. A shortage of such funds could in turn impose limitations on our ability to plan for, or react effectively to, changing market conditions or to expand through organic and acquisitive growth, thereby reducing our competitiveness.

We have substantial indebtedness and may incur substantial additional indebtedness in the future, which could adversely affect our financial health and our ability to generate sufficient cash to satisfy our outstanding and future debt obligations.

As of December 31, 2017, our short-term borrowings and current portion of long-term borrowings were RMB2,910.9 million (US$447.4 million) and RMB996.0 million (US$153.1 million), respectively, and our long-term borrowings (excluding current portions) were RMB2.1 billion (US$0.3 billion).

Our substantial indebtedness could have important consequences to you. For example, it could:

- limit our ability to satisfy our obligations under our debt;
- increase our vulnerability to adverse general economic and industry conditions;
- require us to dedicate a substantial portion of our cash flow from operations to servicing and repaying our indebtedness, thereby reducing the availability of our cash flow to fund working capital, capital expenditures and other general corporate purposes;
- limit our flexibility in planning for or reacting to changes in our businesses and the industry in which we operate;
- place us at a competitive disadvantage compared to our competitors that have less debt;
- limit, along with the financial and other restrictive covenants of our indebtedness, among other things, our ability to borrow additional funds; and

- increase the cost of additional financing.

In the future, we may from time to time incur substantial additional indebtedness and contingent liabilities. If we incur additional debt, the risks that we face as a result of our already substantial indebtedness and leverage could intensify.

Our ability to generate sufficient cash to satisfy our outstanding and future debt obligations will depend upon our future operating performance, which will be affected by prevailing economic conditions and financial, business and other factors, many of which are beyond our control. Banks may lower our credit lines or reject our loan applications, and we cannot assure you that our existing credit facilities will not be canceled, or will be renewed in the future on reasonable commercial terms or at all. As a result, we may not generate or obtain sufficient cash flow to meet our anticipated operating expenses and to service our debt obligation as they become due. If we are unable to service our indebtedness, we will be forced to adopt an alternative strategy that may include actions such as reducing or delaying capital expenditures, selling assets, restructuring or refinancing our indebtedness or seeking equity capital. These strategies may not be instituted on satisfactory terms, if at all.

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Our efforts to further develop our technology and know-how through increased research and development of crystalline silicon technology may not yield satisfactory results, if any.

The solar power industry is rapidly evolving and becoming more competitive. We will need to invest significant financial resources in research and development to keep pace with technological advances in the solar power industry and to effectively compete in the future. We have expended and may continue to expend significant financial resources in research and development of crystalline silicon and commercialization of new technologies to effectively compete with other market players in the future. However, research and development activities are inherently uncertain, and we might encounter practical difficulties in commercializing our research results. A variety of competing PV technologies that other companies may develop could prove to be more cost-effective and have better performance than solar power products that we develop. Therefore, our development efforts may be rendered obsolete by the technological advances of others.

Breakthroughs in PV technologies that do not use crystalline silicon could mean that companies such as us that rely entirely on crystalline silicon would encounter a sudden, sharp drop in sales. One of the alternative technologies in the production of solar cells is thin film technology. The use of thin film technology in the production of solar cells would significantly reduce the consumption of silicon materials and manufacturing costs while some thin film technology may not use silicon materials at all. New developments in commercialization of thin film technology, e.g. Perovskite solar cells, may render our existing technologies obsolete and our products uncompetitive, which would result in loss in our profitability and market share and could materially and adversely affect our business, financial condition and results of operations.

A small number of our customers account for a significant portion of our revenues.

A significant portion of our revenues is derived from a small number of customers. Our three largest customers for the three years ended December 31, 2015, 2016 and 2017 accounted for 23.3%, 14.6% and 14.4%, respectively, of our total revenues.

Our results of operations and financial condition will continue to depend on, among others, the following:

- our ability to continue to obtain orders from these customers;
- the financial condition and success of these customers; and
- the commercial success of our customers products which incorporate our solar power products.

Our ability to maintain close relationships with these key customers is essential to our strategies and to the ongoing growth of our business. We cannot guarantee that we will be able to retain any of our largest customers or any other customers. We have in the past been, and may in the future be, requested to reduce prices, and in an industry downturn, order cancellations may be expected. Any material delay, cancellation or reduction of orders from our major customers could cause our net sales to decline significantly and, in any such event, our results of operations may be materially and adversely affected.

Our results of operations and financial condition also depend on the financial condition and commercial success of these customers. If one or more of our customers were to become insolvent or otherwise were unable to pay for the services provided or products supplied by us, this could have a material adverse effect on our business, financial condition, results of operations and future prospects.

Cancellation of customer orders could cause our operating results to fluctuate.

We have signed long-term sales arrangements with certain customers and required them to make prepayments. However, even though we charge a prepayment under many contracts, our customers may still cancel or reschedule purchase orders with us on relatively short notice. Cancellations or rescheduling of customer orders could result in delay or loss of anticipated sales without allowing us sufficient time to reduce, or delay the incurrence of, our corresponding inventory and operating expenses. In addition, changes in forecasts or the timing of orders from these or other customers expose us to the risks of inventory shortages or excess inventory. These circumstances, in addition to variations in average selling prices, and the fact that our supply agreements are generally long-term in nature and many of our other operating costs are fixed, in turn could cause our operating results to fluctuate and may result in a material adverse effect in our business.

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We compete in a highly competitive market and many of our competitors have greater resources.

The solar power market is intensely competitive and rapidly evolving. We expect to face increased competition, which may result in price reductions, reduced margins or loss of market share. Although we have expanded into silicon wafer manufacturing and solar module business since the fourth quarter of 2009, some of our competitors have become vertically integrated for a longer period of time than us. We expect to compete with future entrants to the PV market that offer new technological solutions. Furthermore, many of our competitors are developing or currently producing products based on new PV technologies, including thin film, ribbon, sheet and nano technologies, which they believe will ultimately cost the same as or less than crystalline silicon technologies used by us. In addition, the entire PV industry also faces competition from conventional and non-solar renewable energy technologies. Due to the relatively high manufacturing costs compared to many other energy sources, solar energy is generally not competitive without government incentive programs.

Many of our existing and potential competitors have substantially greater financial, technical, manufacturing and other resources than we do. Our competitors greater size and longer operating history in some cases provide them with a competitive advantage with respect to manufacturing costs because of their economies of scale and their ability to purchase raw materials at lower prices. Many of our competitors also have greater brand name recognition, more established distribution networks and larger customer bases. In addition, many of our competitors have well-established relationships with our existing and potential customers and have extensive knowledge of our target markets. As a result, they may be able to devote greater resources to the research, development, promotion and sale of their products and respond more quickly to evolving industry standards and changes in market conditions. Our failure to adapt to changing market conditions and to compete successfully with existing or new competitors may materially and adversely affect our financial condition, results of operations and business prospects.

Problems with product quality or product performance may cause us to incur warranty expenses, damage our market reputation and prevent us from achieving increased sales and market share, or result in a decrease in our revenues and market share.

Our solar power products may contain defects that are not detected until after they are shipped or installed. These defects could cause us to incur significant re-engineering costs, divert the attention of our engineering personnel from product development efforts, lead to returns of, or requests to return our products and significantly affect our customer relations and business reputation. If we deliver solar power products with errors or defects, or if there is a perception that our solar power products contain errors or defects, our credibility and the market acceptance and sales of our products could be harmed.

With respect to our solar module business, in 2017, we extended our product warranty period from ten years to twelve years, warranting that the modules will be free from defects in materials and workmanship from the time of delivery. As of the date of this annual report, we have not encountered any material guaranty claims since we first started manufacture and sell solar modules in the fourth quarter of 2009. Starting from the third quarter of 2012, we began to provide a 25-year linear performance warranty against declines of electricity generation capacity from the time of delivery. Starting from August 2015, we began to provide a 30-year performance warranty for our newly launched double-glass module, which guarantees no greater than 2.5% power degradation for multicrystalline module or 3% power degradation for monocrystalline module in the first year, followed by a linear annual degradation rate of less than 0.5% for both multicrystalline and monocrystalline module. As a result of these warranties, we bear the risk of extensive warranty claims long after we have sold our products and recognized revenues. We therefore, in accordance with our own history, industry data and industry practices, accrue 1% of our net revenues from sales of solar modules as general warranty costs and also separately accrue specific warranty costs to cover potential liabilities that could arise from customer claims base on an individual assessment. However, such warranty cost accruals may not be adequate. Starting from 2012, we also began to work with PowerGuard Specialty Insurance Services to provide a range of long-term insurance and warranty-related coverage for our products. Because we only started to manufacture and sell double-glass module in August 2015, which have been in use for only a relatively short period, we cannot assure you that our assumptions regarding the durability and reliability of our products are reasonable. Our warranty provisions and insurance coverage may be inadequate, and we may have to incur substantial expense to repair or replace defective products in the future.

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Our failure to maintain sufficient collateral under certain mortgage contracts for our loans may materially and adversely affect our financial condition and results of operations.

From time to time, we may enter into bank loans secured by our real property or other assets. For example, our long-term borrowing of RMB84.0 million (US$12.9 million) and short-term borrowings of RMB44.9 million (US$6.9 million) from Industrial and Commercial Bank of China was secured by certain of our buildings and land use right in Shanghai Jinglong Solar Technology Co., Ltd., or JA Jinglong. Our long-term loan of RMB 1,152.0 million (US$177.1 million) from Industrial and Commercial Bank of China entrusted by Hefei High-Tech Industrial Development Zone Management Co., Ltd. was secured by the buildings, machineries and equipment and construction-in-progress and land use rights owned by JA Hefei Technology and all of the equity interests in JA Hefei Technology. Our long-term borrowing of RMB504.0 million (US$77.5 million) from Industrial and Commercial Bank of China was secured by project assets of JA Dunhuang. Our long-term borrowing of RMB235.5 million (US$36.2 million) from Industrial and Commercial Bank of China was secured by our project assets. Our long-term borrowing of RMB12.5 million (US$1.9 million) from 77 Bank was secured by our project assets. Our long-term bank borrowing of RMB232.9 million (US$35.8 million) from China Merchants Bank was secured by the project assets and all of the equity interests in JA Solar PV Electric (Datong) Co, Ltd. Our long-term borrowing of RMB150.0 million (US$23.1 million) from Bank of Tianjin was secured by the buildings and land use rights of JA Solar (Xingtai) Co., Ltd., or JA Xingtai. Our short-term loan of RMB45.0 million (US$6.9 million) from China Construction Bank was secured by buildings and land use right in JA Lianyungang. Our short-term borrowing of RMB200.0 million (US$30.7 million) from the Industrial and Commercial Bank of China was secured by certain of our buildings in Shanghai JA Solar PV Technology Co., Ltd. Our short-term bank borrowing of RMB49.0 million (US$7.5 million) from China Construction Bank was secured by the building of JA Yangzhou. Our short-term bank borrowing of RMB47.0 million (US$7.2 million) from Shanghai Pudong Development Bank was secured by the land use rights of Donghai District Longhai Property Co., Ltd. Our short-term bank borrowing of RMB35.0 million (US$5.4 million) from Bank of Jiangsu was secured by the building and land use rights owned by JA Donghai. Our short-term bank borrowing of RMB7.1 million (US$1.1 million) from China Merchants Bank was secured by the project assets. Our short-term bank borrowing of RMB210.1 million (US$32.3 million) from Agricultural Bank of China was secured by the accounts receivable of JA Hebei. Our short-term bank borrowing of RMB50.0 million (US$7.7 million) from China Everbright Bank was secured by the land use rights of JA Hebei. Our short-term bank borrowing of RMB156.1 million (US$24.0 million) from Maybank was secured by the machineries and equipment, and construction-in-progress owned by JA Malaysia. We cannot assure you that we will not be requested by the mortgagees to provide additional collateral to bring the value of the collateral to the level required by the mortgagees. If we fail to provide additional collateral, the mortgagees will be entitled to require the immediate repayment by us of the outstanding loans, otherwise, the mortgagees may auction or sell our mortgaged assets and negotiate with us to apply the proceeds from the auction or sale to the repayment of the underlying borrowings. Furthermore, we may be subject to liquidated damages pursuant to relevant mortgage contracts. If any of the foregoing occurs, our financial condition and results of operations may be materially and adversely affected.

If we fail to adequately protect our intellectual property rights, our business and results of operations could be materially and adversely affected.

Given the importance of intellectual property to our business, we rely primarily on a combination of patent, trademark, trade secret and copyright, as well as employee and third party confidentiality agreements to safeguard our intellectual property. As of the date of this annual report, we have a total of 386 issued patents and 55 pending patent applications in China. However, we cannot assure you that the steps which we have taken will be sufficient to protect our intellectual property rights or that third parties would not infringe upon or misappropriate any such rights. Moreover, it is costly to litigate in order to protect any of our intellectual property rights. If we are unable to prevent third parties from infringing or misappropriating these rights in our self-owned products, the future financial condition and the ability to develop our business could be materially adversely affected.

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

Our success also depends largely on our ability to use and develop our technology and know-how without infringing the intellectual property rights of third parties. See Item 4. Information on the Company B. Business Overview Intellectual Property. In the ordinary of business, we have received claims from various third parties alleging intellectual property infringement by us and we cannot assure you that we will not be subject to more claims in the future. We have defended and intend to continue defending vigorously against these claims and as of the date of this annual report, these claims have not had any material adverse effect on our business, results of operations or financial condition. Also, because patent applications in many jurisdictions are kept confidential for 18 months before they are published, we may be unaware of other persons pending patent applications that relate to our products or processes. Our suppliers may also become subject to infringement claims, which in turn could negatively impact our business as they may no longer be able to fulfill their delivery obligations under their contracts with us or refund our outstanding prepayments in a timely manner or at all. The defense and prosecution of intellectual property suits, patent opposition proceedings and related legal and administrative proceedings can be both costly and time consuming and may significantly divert the efforts and resources of our technical and management personnel. An adverse determination in any such litigation or proceedings to which we may become a party could subject us to significant liability to third parties, require us to seek licenses from third parties, to pay ongoing royalties, or to redesign our products or subject us to injunctions prohibiting the manufacture and sale of our products or the use of our technologies. Protracted litigation could also result in our customers deferring or limiting their purchase or use of our products until resolution of such litigation. The occurrence of any of the foregoing could have a material adverse effect on our business, results of operations and financial condition.

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Our quarterly revenues and operating results may be difficult to predict and could fall below investor expectations, which could cause the market price of our ADSs to decline.

Our quarterly revenues and operating results have fluctuated in the past and may continue to fluctuate significantly depending upon numerous factors, including seasonality of demand for solar power products, changes in market conditions and industry environment, and changes in government policies or regulations. For example, purchases of solar power products tend to decrease due to severe weather conditions in winter months, which complicate the installation of solar power systems. Many of these factors are beyond our control, making our quarterly results difficult to predict, which could cause the trading price of our ADSs and the rule of our other securities to decline if our operating results for any particular quarter fall below investor expectations.

The success of our business depends on the continuing efforts of our key personnel and our business may be severely disrupted if we lose their services.

Our future success depends, to a significant extent, on our ability to attract, train and retain qualified technical personnel, particularly those with expertise in the solar power industry. There is substantial competition for qualified technical personnel, and there can be no assurance that we will be able to attract or retain our qualified technical personnel. If we are unable to attract and retain qualified technical personnel, our business may be materially and adversely affected.

We rely heavily on the continued services of our executive officers. If one or more of our executive officers are unable or unwilling to continue in their present positions, we may not be able to replace them easily or at all. As a result, our business may be severely disrupted and we may incur additional expenses to recruit and retain new officers. In addition, if any of our executive officers joins a competitor or forms a competing company, we may lose some or all of our customers. We believe our future success will depend upon our ability to retain these key employees and our ability to attract and retain other skilled managerial, engineering and sales and marketing personnel. Each of our executive officers and other key personnel has entered into an employment agreement with us, which contains confidentiality and non-competition provisions. However, if any disputes arise between our employees and us, we cannot assure you, in light of uncertainties associated with the PRC legal system, the extent to which any of these agreements could be enforced in China, where some of our executive officers reside and hold some of their assets.

As we have awarded and will continue to award employee share options and other share-based compensation to certain of our directors, officers, employees and consultants, our net income will be adversely affected.

As of March 31, 2018, we have granted options to purchase 23,299,000 ordinary shares and awarded 4,402,000 restricted share units to a number of our directors, employees and consultants, pursuant to our 2006 stock incentive plan, or 2006 Plan, and the 2014 stock incentive plan, or 2014 Plan. See Item 6. Directors, Senior Management and Employees B. Compensation Stock Option Plans. As a result of these grants and potential future grants, we have incurred, and will incur in future periods, significant share-based compensation expenses. In accordance with Financial Accounting Standards Board, or FASB, Accounting Standards Codification, or ASC, Topic 718, Compensation-Stock Compensation, which requires all companies to recognize, as an expense, the fair value of share options and other share-based compensation to employees, we are required to account for compensation costs for all restricted share units and share options granted to our directors, employees and consultants using a fair-value based method and recognize expenses in our consolidated statement of operations and comprehensive income/loss in accordance with the relevant rules under U.S. GAAP, which may have a material adverse effect on our net income. Moreover, the additional expenses associated with administrating share-based compensation may reduce the attractiveness of such incentive plan to us. However, if we stop granting options, or reduce the number of options granted, under our stock incentive plan, we may not be able to attract and retain key personnel, as share options are an important employee recruitment and retention tool. In addition, the decline in the price of our ADSs representing our ordinary shares below the exercise price of many of the previously granted options has lessened the effectiveness of the options as a means to retain the services of the option holders. As a result, we have granted more stock options to certain individuals and will continue to grant employee share options or other share-based compensation in the future that may adversely affect our net income/loss.

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There are potential conflicts of interest between us and our largest shareholder, Jinglong BVI.

Jinglong BVI, which is controlled by the shareholders of Hebei Jinglong, is our largest shareholder. In addition, Mr. Baofang Jin, the executive chairman of our board of directors and our chief executive officer, is a shareholder of Jinglong BVI and is also the chairman and largest shareholder of Hebei Jinglong. We currently lease properties from Hebei Jinglong and its affiliate, and also received guarantees from Hebei Jinglong for certain long-term and short-term bank borrowings. Our transactions with Hebei Jinglong are governed by a number of contracts, the terms of which were negotiated at what we believe are on an arm s length basis. However, the interest of Jinglong BVI may conflict with our own interest with respect to our transactions with Hebei Jinglong. As a result, we may have limited ability to negotiate with Hebei Jinglong over the terms of the agreements because Jinglong BVI may exert significant influence on our affairs through our board of directors. In addition, Jinglong BVI may be able to prevent us from taking actions to enforce or exercise our rights under the agreements we entered into with Hebei Jinglong. Furthermore, we cannot assure you that our transactions with Hebei Jinglong will always be concluded on terms favorable to us or maintained at the current level or at all in the future. As a result, when these situations arise, our financial condition, results of operations and implementation of strategy may be materially and adversely affected.

We have limited insurance coverage and may incur significant losses resulting from operating hazards, product liability claims or business interruptions.

As with other solar power product manufacturers, our operations involve the use, handling, generation, processing, storage, transportation and disposal of hazardous materials, which may result in fires, explosions, spills and other unexpected or dangerous accidents causing personal injuries or death, property damages, environmental damages and business interruptions. Although we currently carry third-party liability insurance against property damages, these insurance policies are limited in scope and may not cover all claims relating to personal injury, property or environmental damage arising from accidents on our properties or relating to our operations. Any occurrence of these or other accidents in our operations that are not insured under our existing insurance policies could have a material adverse effect on our business, financial condition or results of operations.

In addition, the normal operation of our manufacturing facilities may be interrupted by accidents caused by operating hazards, power supply disruptions, equipment failures, as well as natural disasters. As the insurance industry in China is still in an early stage of development, business interruption insurance available in China offers limited coverage compared to that offered in many other countries, and we do not carry any business interruption insurance. Any business disruption or natural disaster could result in substantial costs and diversion of resources, and our business and results of operations may be materially and adversely affected.

We are also exposed to risks associated with product liability claims in the event that the use of the solar power products we sell results in injury. Because our solar products are generally incorporated into solar power devices to generate electricity, it is possible that users could be injured or even killed by the solar power devices incorporating our solar products, whether by product malfunctions, defects, improper installation or other causes. While we have not experienced any product liability claims brought against us, we are unable to predict whether such claims will be brought against us in the future or the effect of any resulting adverse publicity on our business. Although we began purchasing product liability insurances in 2010, there is no assurance that our insurance policies will provide adequate coverage in the event of a successful product liability claim against us. If our product liability insurances are not adequate, the successful assertion of product liability claims against us could result in potentially significant monetary damages and require us to make significant payments.

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Compliance with environmental regulations is expensive, and noncompliance may result in adverse publicity and potentially significant monetary damages and fines or suspension of our business operations.

We are required to comply with all national and local environmental protection regulations in the jurisdictions we have operations, including China, Malaysia and Vietnam. Compliance with environmental regulations is expensive. The governments in the jurisdictions we have operations are adopting more stringent environmental protection regulations and the costs of complying with these regulations are expected to increase.

Each of our solar product manufacturing facilities is required to conduct an environmental impact assessment, obtain approval of the assessment before commencing construction and complete an examination and obtain an environmental acceptance approval before it is able to begin production. We cannot assure you that we will be able to comply with all applicable environmental protection requirements, obtain the requisite approvals and permits upon completion of construction or commencement of commercial production on a timely basis or at all. Governmental authorities may impose fines or deadlines on us as a result of any non-compliance, and these authorities may also order us to delay or cease construction or production if we fail to comply with applicable requirements.

In addition, we are subject to licensing requirements, regulations and periodic monitoring by local environmental protection authorities. If we fail to obtain the required permits and licenses, we will not be able to obtain an environmental acceptance approval and may not be allowed to produce. We may also be subject to substantial fines or damages or suspension of our production operations, and our reputation may be harmed, which could negatively affect our results of operations and financial position.

We may incur significant legal expenses in connection with, and allocate management time and attention to, legal actions involving us that may take place from time to time and it is possible that we will not be able to prevail in our legal actions.

We were previously involved in two putative securities class actions and were able to reach an agreement to settle the lawsuits. We were also previously named as a defendant in a lawsuit brought by Hemlock and we were able to settle the lawsuit with Hemlock by entering into a New Supply Agreement. During the process, we incurred significant legal expenses and allocated management time and attention to the litigations. If we breach any of our obligations under the New Supply Agreement, we may again be subject to claims brought by Hemlock. We may also face other legal actions that may take place from time to time in the future, and we may continue to incur significant legal expenses and allocate management time and attention to the legal actions, all of which could harm our business.

Risks Related to Doing Business in China

Our independent registered public accounting firm, like other independent registered public accounting firms operating in China, is not permitted to be subject to inspection by the Public Company Accounting Oversight Board and, as such, investors may be deprived of the benefits of such inspection.

Our independent registered public accounting firm that issues the audit reports included in our annual reports filed with the U.S. Securities and Exchange Commission, or SEC, as an auditor of companies that are traded publicly in the U.S. and a firm registered with the U.S. Public Company Accounting Oversight Board, or PCAOB, is required by the laws of the U.S. to undergo regular inspections by the PCAOB to assess its compliance with the laws of the U.S. and professional standards. Because our auditor is located in China, a jurisdiction where PCAOB is currently unable to conduct inspections without the approval of the PRC authorities, our auditor, like other independent registered public accounting firms operating in China, is currently not inspected by PCAOB.

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Inspections of other firms that PCAOB has conducted outside of 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. The inability of PCAOB to conduct inspections of independent registered public accounting firms operating in China makes it more difficult to regularly evaluate the effectiveness of our auditor s audit procedures or quality control procedures. As a result, investors may be deprived of the benefits of PCAOB inspections.

If additional remedial measures are imposed on the PRC-based Big Four accounting firms, including our independent registered public accounting firm, in administrative proceedings brought by the SEC alleging the firms failure to meet specific criteria set by the SEC, we could be unable to timely file future financial statements in compliance with the requirements of the Securities Exchange Act of 1934.

In December 2012, the SEC instituted administrative proceedings against the Big Four PRC-based accounting firms, including our independent registered public accounting firm, alleging that these firms had violated U.S. securities laws and the SEC s rules and regulations thereunder by failing to provide to the SEC the firms audit work papers with respect to certain PRC-based companies that are publicly traded in the U.S.

On January 22, 2014, the administrative law judge, or ALJ, presiding over the matter rendered an initial decision that each of the firms had violated the SEC s rules of practice by failing to produce audit workpapers to the SEC. The initial decision further determined that each of the firms should be censured and barred from practicing before the SEC for a period of six months. The Big Four PRC-based accounting firms appealed the ALJ s initial decision to the SEC. The ALJ s decision does not take effect unless and until it is endorsed by the SEC.

In February 2015, the Big Four PRC-based accounting firms each agreed to a censure and to pay a fine to the SEC to settle the dispute and avoid suspension of their ability to practice before the SEC and audit U.S.-listed companies. The settlement required the firms to follow detailed procedures and to seek to provide the SEC with access to Chinese firms audit documents via the China Securities Regulatory Commission, or the CSRC. If future document productions fail to follow the procedures or meet specified criteria, the SEC retains authority to impose a variety of additional remedial measures on the firms depending on the nature of the failure. While we cannot predict if the SEC will further review the four China-based accounting firms compliance with specified criteria or if the results of such a review would result in the SEC imposing penalties such as suspensions or restarting the administrative proceedings, if the accounting firms are subject to additional remedial measures, our ability to file our financial statements in compliance with SEC requirements could be impacted. A determination that we have not timely filed financial statements in compliance with SEC requirements could ultimately lead to the delisting of our ADSs from the Nasdaq Global Select Market or the termination of the registration of our ADSs under the Securities Exchange Act of 1934, or both, which would substantially reduce or effectively terminate the trading of our ADSs in the U.S.

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

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

- the level of government involvement;

- the level of development;
- the growth rate;

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- the control of foreign exchange; and
- the allocation of resources.

While the Chinese economy has grown significantly in the past years, the growth has been uneven, both geographically and among various sectors of the economy. The PRC government has implemented various measures to encourage economic growth and guide the allocation of resources. We cannot assure you that the PRC economy will continue to grow, or that if there is growth, such growth will be steady and uniform, or that if there is a slowdown, such a slowdown will not have a negative effect on our business.

The PRC government exercises significant control over China s economic growth through various measures, such as allocation of resources, controlling payment of foreign currency-denominated obligations, setting monetary policy and providing preferential treatment to particular industries or companies. Some of these measures benefit the overall PRC economy, but may also have a negative effect on us. For example, our financial condition and results of operations may be adversely affected by governmental control over capital investments or changes in tax regulations that are applicable to us. In addition, it is unclear whether PRC economic policies will be effective in maintaining stable economic growth in the future. Any slowdown in China s economic growth could lead to reduced demand for our solutions, which could in turn materially and adversely affect our business, financial condition and results of operations.

Fluctuations in exchange rates could have a material adverse effect on our results of operations and the value of your investment.

More than half of our revenues are derived from sales to customers outside China and denominated in foreign currencies. Therefore, we have entered into, and may continue to enter into, foreign currency forward contracts with commercial banks to hedge part of our exposure to foreign currency exchange risk for our overseas sales. As with all hedging instruments, there are risks associated with the use of foreign currency forward contracts. While the use of such foreign currency forward contracts provides us with protection from certain fluctuations in foreign currency exchange, we potentially forgo the benefits that might result from favorable fluctuations in foreign currency exchange. Any default by the counterparties to these transactions could adversely affect our financial condition and results of operations. Furthermore, these financial hedging transactions may not provide adequate protection against future foreign currency exchange rate fluctuations and, consequently, such fluctuations could result in foreign exchange losses and adversely affect our financial condition and results of operations.

The conversion of Renminbi into foreign currencies, including U.S. dollars, is based on rates set by the People s Bank of China. The PRC government allowed the Renminbi to appreciate by more than 20% against the U.S. dollar between July 2005 and July 2008. Between July 2008 and June 2010, this appreciation was halted and the exchange rate between the Renminbi and the U.S. dollar remained within a narrow band. As a consequence, the Renminbi fluctuated significantly during that period against other freely traded currencies, in tandem with the U.S. dollar. Since June 2010, the RMB has fluctuated against the U.S. dollar, at times significantly and unpredictably. It is difficult to predict how market forces or PRC or U.S. government policy may impact the exchange rate between the RMB and the U.S. dollar in the future.

To the extent that we need to convert U.S. dollars into RMB for capital expenditures and working capital and other business purposes, appreciation of the RMB against the U.S. dollar would have an adverse effect on the RMB amount we would receive from the conversion. Conversely, if we decide to convert RMB into U.S. dollars for the purpose of making payments for dividends on our ordinary shares or ADSs, strategic acquisitions or investments or other business purposes, appreciation of the U.S. dollar against the RMB would have a negative effect on the U.S. dollar amount available to us. In addition, appreciation or depreciation in the value of RMB relative to U.S. dollars would affect our financial results reported in U.S. dollar terms regardless of any underlying change in our business or results of operations.

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Natural disasters, acts of war, political unrest and epidemics, which are beyond our control, may cause damage, loss or disruption to our business.

Natural disasters, acts of war, political unrest and epidemics, which are beyond our control, may adversely affect the economy, infrastructure and livelihood of the people of the PRC. Some cities in the PRC are particularly susceptible to floods, earthquakes, sandstorms and droughts. In 2016, a massive flood hit Xingtai, Hebei where one of our manufacturing facilities was located. Although our operations were not adversely affected by such massive flood, we cannot assure you that our business, financial condition and results of operations would not be materially and adversely affected if such natural disasters were to reoccur in the future. Political unrest, acts of war and terrorist attacks may cause damage or disruption to us, our employees, our facilities, the sales channels operated by authorized third-party retailers of us and our markets, any of which could materially and adversely affect our sales, overall operating results and financial condition. The potential for war or terrorist attacks may also cause uncertainty and cause our business to suffer in ways that we cannot currently predict. In addition, certain Asian countries, including the PRC, have encountered epidemics such as SARS, incidents of the avian flu, the H1N1 flu or the H7N9 flu. Past occurrences of epidemics have caused different degrees of damage to the national and local economies in the PRC. A recurrence of an outbreak of SARS, avian flu, the H1N1 flu, the H7N9 flu or any other similar epidemic, could cause a slowdown in the levels of economic activity generally, which could in turn adversely affect our results of operations.

Price inflation in China could erode some of the advantages of operating in a relatively low-cost jurisdiction such as China, which could negatively affect our competitive advantages and our results of operations.

In the last three years, inflation in China has not materially impacted our results of operations. According to the National Bureau of Statistics of China, the annual average percent changes in the consumer price index in China for 2015, 2016 and 2017 were 1.4%, 2.0% and 1.6%, respectively. The year-over-year percent changes in the consumer price index for December 2015, 2016 and 2017 were increases of 1.6%, 2.1% and 1.8%, respectively. Although we have not been materially affected by inflation in the past, we cannot assure you that we will not be affected in the future by higher rates of inflation in China. Because we conduct manufacturing and purchase raw materials primarily from suppliers in China, price inflation increases the costs of labor and raw materials for manufacturing and risks counteracting the competitive advantage we enjoy as a result of the relatively lower manufacturing costs we incur from operating in China. If inflationary trends continue in China, China could lose its competitive advantage as a low-cost manufacturing venue, which could in turn lessen any competitive and reputational advantages we gain through China-based manufacturing. Although we have started the process and will continue to gradually automate our production lines in order to reduce the impact of increases in labor cost in the long run, inflation in China may still weaken our competitiveness in our markets and have a material adverse effect on our business, financial condition, results of operations and prospects.

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

We conduct a significant portion of our business inside China through our various wholly-owned subsidiaries. Our operations in China are governed by PRC laws and regulations. Our PRC subsidiaries are foreign-invested enterprises, or FIE, or enterprises invested by FIE and are therefore subject to laws and regulations applicable to foreign investment in China. The PRC legal system is based on written statutes. Unlike in the common law system, 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. Furthermore, since these laws and regulations are relatively new and the PRC legal system continues to rapidly evolve, the interpretations of many laws, regulations and rules are not always uniform and enforcement of these laws, regulations and rules involve uncertainties, which may limit legal protections available to us. In addition, the PRC legal system is based in part on government policies and internal rules, some of which may not be published on a timely basis or at all, and some of which may have a retroactive effect. As a result, we may not be aware of our violation of these policies and rules until some time after the violation. Any administrative and court proceedings in China may be protracted, resulting in substantial costs and diversion of resources and management attention. However, since PRC administrative and court authorities have significant discretion in interpreting and implementing statutory and contractual terms, it may be more difficult to evaluate the outcome of administrative and court proceedings and the level of legal protection we enjoy than in more developed legal systems. These uncertainties may also impede our ability to enforce the contracts we have entered into. As a result, these uncertainties could materially and adversely affect our business and results of operations.

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Substantial uncertainties exist with respect to the enactment timetable, interpretation and implementation of draft PRC Foreign Investment Law and how it may impact the viability of our current corporate structure, corporate governance and business operations.

MOFCOM published a discussion draft of the proposed Foreign Investment Law in January 2015 aiming to, upon its enactment, replace the trio of existing laws regulating foreign investment in China, namely, the Sino-foreign Equity Joint Venture Enterprise Law, the Sino-foreign Cooperative Joint Venture Enterprise Law and the Wholly Foreign-invested Enterprise Law, together with their implementation rules and ancillary regulations. The draft Foreign Investment Law embodies an expected PRC regulatory trend to rationalize its foreign investment regulatory regime in line with prevailing international practice and the legislative efforts to unify the corporate legal requirements for both foreign and domestic investments. Substantial uncertainties exist with respect to its enactment timetable, interpretation and implementation. The draft Foreign Investment Law, if enacted as proposed, may materially impact the viability of our current corporate structure, corporate governance and business operations in many aspects.

Among other things, the draft Foreign Investment Law expands the definition of foreign investment and introduces the principle of actual control in determining whether a company is considered an FIE. The draft Foreign Investment Law specifically provides that entities established in China but controlled by foreign investors will be treated as FIEs, whereas an entity set up in a foreign jurisdiction would nonetheless be, upon market entry clearance by the MOFCOM, treated as a PRC domestic investor provided that the entity is controlled by PRC entities and/or citizens. In this connection, control is broadly defined in the draft law to cover the following summarized categories: (i) holding 50% of more of the voting rights of the subject entity; (ii) holding less than 50% of the voting rights of the subject entity but having the power to secure at least 50% of the seats on the board or other equivalent decision making bodies, or having the voting power to exert material influence on the board, the shareholders meeting or other equivalent decision making bodies; or (iii) having the power to exert decisive influence, via contractual or trust arrangements, over the subject entity s operations, financial matters or other key aspects of business operations. Once an entity is determined to be an FIE, it will be subject to the foreign investment restrictions or prohibitions set forth in a negative list, to be separately issued by the State Council in the future, if the FIE is engaged in the industry listed in the negative list. Unless the underlying business of the FIE falls within the negative list, which calls for market entry clearance by the MOFCOM, prior approval from the government authorities as mandated by the existing foreign investment legal regime would no longer be required for establishment of the FIE.

We do not operate in a restricted or prohibited industry that will be covered under the negative list, so the effect on us of the draft law will be limited. Nonetheless, the draft Foreign Investment Law, if enacted as proposed, may also materially impact our corporate governance practice and increase our compliance costs. For instance, the draft Foreign Investment Law imposes stringent ad hoc and periodic information reporting requirements on foreign investors and the applicable FIEs. Aside from investment implementation report and investment amendment report that are required at each investment and alteration of investment specifics, an annual report is mandatory, and large foreign investors meeting certain criteria are required to report on a quarterly basis. Any company found to be non-compliant with these information reporting obligations may potentially be subject to fines and/or administrative or criminal liabilities, and the persons directly responsible may be subject to criminal liabilities.

Rapid urbanization and changes in zoning and urban planning in China may cause our properties to be demolished, removed or otherwise affected.

China is undergoing a rapid urbanization process, and zoning requirements and other governmental mandates with respect to urban planning of a particular area may change from time to time. When there is a change in zoning requirements or other governmental mandates with respect to the areas where our operating facilities are located, the affected facilities may need to be demolished and removed. As a result, we may have to relocate our facilities to other locations. We have not experienced such demolition and relocation in the past, but we cannot assure you that we will not experience demolitions or interruptions of our operating facilities due to zoning or other local regulations. Any such demolition and relocation could cause us to lose primary locations for our operating facilities and we may not be able to achieve comparable operation results following the relocations. While we may be reimbursed for such demolition and relocation, we cannot assure you that the reimbursement, as determined by the relevant government authorities, will be sufficient to cover our direct and indirect losses. Accordingly, our business, results of operations and financial condition may be materially and adversely affected.

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Our operating subsidiaries in China are subject to legal limitations in paying dividends to us, which may restrict our ability to satisfy our liquidity requirement.

As a holding company, we depend on receipt of dividends and the interest and principal payments on intercompany loans or advances from our subsidiaries to satisfy our obligations. The ability of our subsidiaries to pay dividends and make payments on intercompany loans or advances to us is subject to, among other things, distributable earnings, cash flow conditions, restrictions contained in the articles of association of our subsidiaries, applicable laws and restrictions contained in the debt instruments or certain PRC project loan agreements. Pursuant to such PRC project loan agreements, some of our PRC subsidiaries are restricted from distributing dividends or making other distributions to us unless such loans are paid off, the certain financial requirement is met, if any, or otherwise consent is obtained from the relevant lenders entering into such project loan agreements. These restrictions could limit the ability of our subsidiaries to pay dividends.

Further, PRC Corporation Law permits payment of dividends by our PRC subsidiaries only out of accumulated profits as determined in accordance with accounting standards and regulations in China. Our subsidiaries are also required to set aside at least 10% of their after-tax profits based on PRC accounting standards each year to their general reserves until the accumulative amount of such reserves reach 50% of their respective registered capital. These reserves are not distributable as cash dividends. In addition, at the discretion of their respective board of directors, our PRC subsidiaries may allocate a portion of their after-tax profits to their respective staff welfare and bonus funds, which may not be distributed to equity owners except in the event of liquidation. Furthermore, if our PRC subsidiaries incur debt on their own behalves in the future, the instruments governing the debt may restrict their ability to pay dividends or make other distributions to us, which may restrict our ability to satisfy our liquidity requirement. In addition, dividends paid by our PRC subsidiaries to their non-PRC parent companies will be subject to a 10% withholding tax, unless there is a tax treaty between the PRC and the jurisdiction in which the overseas parent company is incorporated, which specifically exempts or reduces such withholding tax. Limitations on the ability of our PRC subsidiaries to pay dividends to us could materially and adversely limit our ability to grow, make investments or acquisitions that could be beneficial to our businesses, pay dividends, or otherwise fund and conduct our business.

PRC regulations on currency exchange and foreign investment may limit our ability to receive and use our revenues effectively and may delay or prevent us from using the proceeds from our fundraising activities to make loans or additional capital contributions to our PRC operating subsidiaries.

A certain portion of our revenues and expenses are also denominated in Renminbi. If our revenues denominated in Renminbi increase or expenses denominated in Renminbi decrease in the future, we may need to convert a portion of our revenues into other currencies to meet our foreign currency obligations, including, among others, payment of dividends declared, if any, in respect of our ordinary shares. Under PRC regulations the Renminbi is currently convertible under the current account, which includes dividends, trade and service-related foreign exchange transactions, but not under the capital account, which includes foreign direct investment and loans without the prior approval of the State Administration of Foreign Exchange, or SAFE. Currently, our PRC subsidiaries may purchase foreign currencies for settlement of current account transactions, including payments of dividends to us, without prior approval from SAFE, by complying with certain procedural requirements. However, we cannot assure you 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 the capital account continue to be subject to significant foreign exchange controls and require the approval of or need to be registered with PRC governmental authorities, including SAFE. To utilize the proceeds of any equity or debt offering as an offshore holding company of our PRC operating subsidiaries, we may make loans to our PRC subsidiaries, or we may make additional capital contributions to our PRC subsidiaries. Any loan from offshore companies to our PRC subsidiaries is subject to PRC regulations. For example, loans by us to our subsidiaries in China, which are foreign-invested enterprises, or FIEs, to finance their activities must be registered with SAFE.

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We may also finance our subsidiaries by means of capital contributions. These capital contributions must be approved by certain government authorities, including the NDRC, MOFCOM, or their local counterparts. We may not be able to obtain these government approvals on a timely basis, if at all, with respect to future capital contributions by us to our subsidiaries. If we fail to receive such approvals, our ability to use the proceeds we have received, or may receive, from our equity or debt offerings and to capitalize our PRC operations may be negatively affected, which could materially and adversely affect our liquidity and our ability to fund and grow our business.

Our business benefits from certain PRC tax incentives. Expiration of, revocation of, or changes to, these incentives could have a material adverse effect on our operating results.

The Corporate Income Tax Law, or the CIT Law, which became effective on January 1, 2008, imposes a unified enterprise income tax rate of 25% on all domestic enterprises and FIEs unless they qualify under certain limited exceptions. Among others, certain enterprises may enjoy a preferential tax rate of 15% under the CIT Law if they qualify as an advanced and new technology enterprise, or an ANTE, subject to certain general factors described therein. A number of our PRC subsidiaries, such as JA Hebei, JA Yangzhou, JA Lianyungang, JA Fengxian, JA Hefei Technology, JA Wafer R&D and JA Xingtai are entitled to enjoy a preferential tax rate of 15% due to their qualification as ANTE. The preferential tax rate, once being approved by the relevant government authorities, is subject to renewal every three years.

In November 2010, JA Hebei was recognized as an ANTE under the CIT Law and was entitled to the preferential income tax of 15% from 2010 to 2012. In March 2014, JA Hebei was again recognized as an ANTE under the new CIT Law and was entitled to the preferential income tax of 15% from 2013 to 2015. In November 2016, JA Hebei was once more recognized as an ANTE and is entitled to the preferential income tax of 15% from 2016 to 2018. In August 2011, JA Yangzhou was recognized by the Chinese government as an ANTE and was entitled to the preferential income tax of 15% from 2011 to 2013. In August 2014, JA Yangzhou was again recognized as an ANTE under the new CIT Law and was entitled to the preferential income tax of 15% from 2014 to 2016. In December 2017, JA Yangzhou was once more recognized as an ANTE and is entitled to the preferential income tax of 15% from 2017 to 2019. In November 2011, JA Lianyungang was recognized by the Chinese government as an ANTE and was entitled to the preferential income tax of 15% from 2011 to 2013. In October 2014, JA Lianyungang was again recognized as an ANTE under the new CIT Law and was entitled to the preferential income tax of 15% from 2014 to 2016. In December 2017, JA Lianyungang was once more recognized as an ANTE and is entitled to the preferential income tax of 15% from 2017 to 2019. JA Fengxian was recognized as an ANTE and was entitled to the preferential income tax of 15% from 2011 to 2013. JA Fengxian had chosen to complete the above mentioned 2+3 holiday for the overlapping period of 2011 and 2012. In September 2014, JA Fengxian was again recognized as an ANTE under the new CIT Law and was entitled to the preferential income tax of 15% from 2014 to 2016. In October 2017, JA Fengxian was once more recognized as an ANTE and is entitled to the preferential income tax of 15% from 2017 to 2019. JA Wafer R&D was recognized by the Chinese government as an ANTE and was entitled to the preferential income tax of 15% from 2012 to 2014. In 2015, JA Wafer R&D s recognition as an ANTE expired. In November 2016, JA Wafer R&D was again recognized as an ANTE and is entitled to the preferential income tax of 15% from 2016 to 2018. In October 2016, JA Hefei Technology was recognized as an ANTE under the CIT Law and is entitled to the preferential income tax of 15% from 2016 to 2018. In July 2017, JA Xingtai was recognized as an ANTE under the CIT Law and is entitled to the preferential income tax of 15% from 2017 to 2019. JA Hebei, JA Yangzhou, JA Lianyungang, JA Fengxian, JA Hefei Technology, JA Xingtai and JA Wafer R&D are collectively referred to as ANTE Entities.

Furthermore, under the CIT Law, certain entities that operate solar power plants, or Solar Power Plant Entities, may be entitled to a three-year CIT exemption starting from the first year when the revenues are generated from sales of electricity and a 50% CIT reduction, effectively 12.5%, for the succeeding three years thereafter for the revenues generated from investing and operating in the qualified public basic infrastructure projects as specified therein, or three-year CIT exemption and three-year 50% CIT reduction. A number of our PRC subsidiaries, including JA Dunhuang, Jiuzhou Fangyuan New Energy (Xinjiang) Co., Ltd., or Jiuzhou Xinjiang, Jingneng New Energy Development (Lincheng) Co., Ltd., or Lincheng Jingneng, JA Solar PV Electric (Linzhou) Co., Ltd., or JA Linzhou, JA Solar PV Electric (Datong) Co., Ltd., or JA Datong, JA Solar PV Electric (Hefei) Co., Ltd., or JA Hefei Electric, JA Solar PV Electric (Yanchi) Co,. Ltd., or JA Yanchi, JA Solar PV Electric (Jarud) Co., Ltd., or JA Jarud, JA Solar New Energy Electric (Chifeng) Co., Ltd., or JA Chifeng, JA Solar PV Electric (Xingtai) Co., Ltd., or JA

Xingtai Electric, JA Solar PV Electric (Shexian) Co., Ltd., or JA Shexian, JA Solar PV Electric (Laiwu) Co., Ltd., or JA Laiwu, Jingneng PV Electric (Zhengding) Co., Ltd., or JA Zhengding, Jingneng Solar PV Electric (Daqing) Co., Ltd., or JA Daqing, and Jingneng New Energy Development (Renxian) Co., Ltd., or JA Renxian Electric are entitled to such preferential tax treatment.

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JA Dunhuang started generating revenues from sales of electricity since 2015 and is entitled to the three-year tax exemption and three-year 50% CIT reduction from 2015 to 2020. Jiuzhou Xinjiang, Lincheng Jingneng, JA Linzhou, JA Datong, JA Hefei Electric, JA Yanchi, JA Jarud and JA Chifeng started generating revenues from sales of electricity since 2016 and are entitled to the three-year CIT exemption and three-year 50% CIT reduction from 2016 to 2021. JA Xingtai Electric, JA Shexian, JA Laiwu, JA Zhengding, JA Daqing and JA Renxian started generating revenue from the sale of electricity since 2017 and are entitled to the three-year tax exemption and three-year 50% CIT reduction from 2017 to 2022.

However, we cannot assure that the current tax benefits enjoyed by the ANTE Entities or our Solar Power Plant Entities will be extended upon expiration. If these tax benefits cannot be extended or otherwise become unavailable, the effective income tax rate of the ANTE Entities or Solar Power Plant Entities will increase significantly, and any such increase in the future could have a material adverse effect on our financial condition and results of operations. In addition, we cannot assure you that the relevant tax authorities will not have different interpretations of the existing laws in the future. Any discontinuation or revocation of preferential tax treatment or any increase of the CIT rate applicable to us could have a material adverse effect on our financial condition and results of operations.

We may be deemed a PRC resident enterprise under the CIT Law and be subject to the PRC taxation on our worldwide income.

Pursuant to the CIT Law, and its implementation rules, which became effective on January 1, 2008, an enterprise established outside of China with de facto management bodies within China is considered a resident enterprise, meaning that it can be treated in a manner similar to a Chinese enterprise for EIT purposes. Under the implementation rules of the CIT Law, the term de facto management body is defined as the management body that exercises full and substantial control and overall management over the business, productions, personnel, accounts and properties of an enterprise. On April 22, 2009, the State Administration of Taxation issued the Notice Regarding the Determination of Chinese-Controlled Offshore Incorporated Enterprises as PRC Tax Resident Enterprises on the Basis of De Facto Management Bodies, or Circular 82, which is amended and supplemented by the Announcement Regarding the Determination of PRC Tax Resident Enterprises on the Basis of De Facto Management Bodies issued by the State Administration of Taxation on January 29, 2014. Circular 82 and its amendments sets out certain specific criteria and process for determining whether the de facto management body of a Chinese-controlled offshore incorporated enterprise is located in China. Given that the CIT Law and its implementation rules are relatively new and ambiguous in terms of some definitions, requirements and detailed procedures, it is unclear how tax authorities will determine tax residency based on the facts of each case.

If the PRC tax authorities determine that we are a resident enterprise for PRC EIT purposes, a number of unfavorable PRC tax consequences could follow: (i) we may be subject to EIT at a rate of 25% on our worldwide taxable income as well as PRC EIT reporting obligations; (ii) a 10% (or a lower rate under an applicable tax treaty, if any) withholding tax may be imposed on dividends we pay to non-PRC enterprise holders (20% for non-PRC individual holders) of our shares and ADSs; and (iii) a 10% PRC tax may apply to gains realized by non-PRC enterprise holders (20% for non-PRC individual holders) of our shares and ADSs from transferring our shares or ADSs, if such income is considered PRC-source income.

Similarly, such unfavorable tax consequences could apply to our Hong Kong subsidiaries, if either of them is deemed to be a resident enterprise by the PRC tax authorities. Notwithstanding the foregoing provisions, the CIT Law also provides that the dividends paid between qualified resident enterprises are exempt from EIT. If our Hong Kong subsidiaries are deemed resident enterprises for PRC EIT purposes, the dividends they receive from their PRC subsidiaries may constitute dividends between qualified resident enterprises and therefore qualify for tax exemption. However, the definition of qualified resident enterprise is unclear and the relevant PRC government authorities have not yet issued guidance with respect to the processing of outbound remittances to entities that are treated as resident enterprises for PRC EIT purposes. Even if such dividends qualify as tax-exempt income, we cannot guarantee that such dividends will not be subject to any withholding tax.

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Dividends payable by us to our non-PRC holders of our ordinary shares and ADSs and gain on the sale of our ADSs or ordinary shares may become subject to PRC taxes.

Under the CIT Law and its implementation regulations, PRC income tax at the rate of 10% is applicable to PRC sourced dividends payable to investors that are non-resident enterprises and that do not have an establishment or place of business in the PRC, or which have such establishment or place of business but the relevant income is not effectively connected with the establishment or place of business, to the extent such dividends have their sources within the PRC. The implementation regulations for the CIT Law further sets forth that dividend income is viewed as PRC-sourced income if the enterprise that pays dividend is a resident enterprise. Similarly, any gain realized on the transfer of ADSs or shares by such investors is also subject to 10% PRC income tax if such gain is regarded as income derived from sources within the PRC. It is unclear whether we may be considered as a resident enterprise under the CIT law. If we are deemed as a PRC resident enterprise for PRC tax purposes, dividends we pay with respect to our ordinary shares or ADSs, or the gain our shareholders may realize from the transfer of our ordinary shares or ADSs, would be treated as income derived from sources within the PRC and be subject to PRC tax. If we are required under the CIT Law to withhold PRC income tax on dividends payable to our non-PRC holders of ordinary shares and ADSs who are non-resident enterprises, or if our non-PRC holders of ordinary shares and ADSs are required to pay PRC income tax on the transfer of our ordinary shares or ADSs, the value of their investment in our ordinary shares or ADSs may be materially and adversely affected.

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

Pursuant to the Notice on Strengthening Administration of Enterprise Income Tax for Share Transfers by Non-PRC Resident Enterprises, or Circular 698, issued by the State Administration of Taxation, which became effective retroactively as of January 1, 2008, where a non-resident enterprise investor transfers equity interests in a PRC resident enterprise indirectly by way of disposing of equity interests in an overseas holding company, the non-resident enterprise investor, beinge the transferor, may be subject to PRC EIT, if the indirect transfer is considered to be an abusive use of company structure without reasonable commercial purposes. As a result, gains derived from such indirect transfer may be subject to PRC withholding tax at the rate of up to 10%. In addition, the PRC resident enterprise may be required to provide necessary assistance to support the enforcement of Circular 698.

On February 3, 2015, the State Administration of Tax issued the Notice on Certain Corporate Income Tax Matters on Indirect Transfers of Properties by Non-Resident Enterprises, or Circular 7. Circular 7 has introduced a new tax regime that is significantly different from that under Circular 698. Circular 7 extends its tax jurisdiction to not only indirect transfers set forth under Circular 698 but also transactions involving transfer of other taxable assets, through the offshore transfer of a foreign intermediate holding company. In addition, Circular 7 provides clearer criteria than Circular 698 on how to assess reasonable commercial purposes and has introduced safe harbors for internal group restructurings and the purchase and sale of equity through a public securities market. Circular 7 also brings challenges to both the foreign transferor and transferee (or another person who is obligated to pay for the transfer) of the taxable assets. Where a non-resident enterprise conducts an indirect transfer by transferring the taxable assets indirectly by disposing of the equity interests of an overseas holding company, the non-resident enterprise being the transferor, or the transferee, or the PRC entity which directly owned the taxable assets may report to the relevant tax authority such indirect transfer. Using a substance over form principle, the PRC tax authority may re-characterize such indirect transfer as a direct transfer of the equity interests in the PRC tax resident enterprise and other properties in China. As a result, gains derived from such indirect transfer may be subject to PRC enterprise income tax, and the transferee or another person who is obligated to pay for the transfer is obligated to withhold the applicable taxes, currently at a rate of up to 10% for the transfer of equity interests in a PRC resident enterprise. Both the transferor and the transferee may be subject to penalties under PRC tax laws if the transferee fails to withhold the taxes and the transferor fails to pay the taxes.

However, as these rules and notices are relatively new and there is a lack of clear statutory interpretation, we face uncertainties on the reporting and consequences on future private equity financing transactions, share exchange or other transactions involving the transfer of shares in our company by investors that are non-PRC resident enterprises, or sale or purchase of shares in other non-PRC resident companies or other taxable assets by us. Our Cayman Islands holding company and other non-PRC resident enterprises in our group may be subject to filing obligations or may be taxed if our Cayman Islands holding company and other non-PRC resident enterprises in our group are transferors in such transactions, and may be subject to withholding obligations if our Cayman Islands holding company and other non-PRC resident enterprises in our group are transferees in such transactions. For the transfer of shares in our Cayman Islands holding company by investors that are non-PRC resident enterprises, our PRC subsidiaries may be requested to assist in the filing under Circular 698 and Circular 7. As a result, we may be required to expend valuable resources to comply with these rules and notices or to request the relevant transferors from whom we purchase taxable assets to comply, or to establish that our Cayman Islands holding company and other non-resident enterprises in our group should not be taxed under Circular 698 and Circular 7, which may have a material adverse effect on our financial condition and results of operations. There is no assurance that the tax authorities will not apply Circular 698 and Circular 7 to our offshore restructuring transactions where non-PRC resident investors were involved if any of such transactions were determined by the tax authorities to lack reasonable commercial purpose. As a result, we and our non-PRC resident investors may be at risk of being taxed under Circular 698 and Circular 7 and may be required to comply with or to establish that we should not be taxed under Circular 698 and Circular 7, which may have a material adverse effect on our financial condition and results of operations or such non-PRC resident investors investments in us. We have conducted acquisition transactions in the past and may conduct additional acquisition transactions in the future. We cannot assure you that the PRC tax authorities will not, at their discretion, adjust any capital gains and impose tax return filing obligations on us or require us to provide assistance for the investigation of PRC tax authorities with respect thereto. Heightened scrutiny over acquisition transactions by the PRC tax authorities may have a negative impact on potential acquisitions we may pursue in the future.

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

In June 2007, the PRC government promulgated a new labor law, the Labor Contract Law of the PRC, or the Labor Contract Law, which became effective on January 1, 2008. The Labor Contract Law was further amended on December 28, 2012 which became effective on July 1, 2013. Labor Contract Law and its amendment impose greater liabilities on employers and significantly increase the cost of an employer s decision to reduce its workforce. Furthermore, it requires certain terminations to be based upon the duration of employment and not the merits of employees. In the event we decide to significantly change or decrease our workforce, the Labor Contract Law could adversely affect our ability to enact such changes in a manner that is most advantageous to our business or in a timely and cost effective manner, thus materially and adversely affecting our financial condition and results of operations.

PRC regulations relating to the establishment of offshore special purpose companies by PRC residents may subject our PRC resident shareholders to personal liability and limit our ability to inject capital into our PRC subsidiaries, limit our PRC subsidiaries ability to distribute profits to us, or otherwise adversely affect us.

In October 2005, SAFE issued the Circular on the Relevant Issues in the Foreign Exchange Control over Financing and Return Investment Through Special Purpose Companies by Residents Inside China, or Circular 75, which is now replaced by the Circular on Relevant Issues Concerning Foreign Exchange Control on Domestic Residents Offshore Investment and Financing and Roundtrip Investment through Special Purpose Vehicles, or Circular 37, issued by SAFE on July 4, 2014. According to Circular 37, PRC residents are required to register with local SAFE branches in connection with their direct establishment or indirect control of an offshore entity for the purposes of overseas investment and financing, with such PRC residents legally owned assets or equity interests in domestic enterprises or offshore assets or interests, referred to in Circular 37 as a special purpose vehicle. The term control under Circular 37 is broadly defined as the operation rights, beneficiary rights or decision-making rights acquired by the PRC residents in the offshore special purpose vehicles or PRC companies by such means as acquisition, trust, proxy, voting rights, repurchase, convertible bonds or other arrangements. Circular 37 further requires amendment to the registration in the event of any changes with respect to the basic information of the special purpose vehicle, such as changes in a PRC resident individual shareholder, name or operation period; or any significant changes with respect to the special purpose vehicle, such as increase or decrease of capital contributed by PRC individuals, share transfer or exchange, merger, division or another material events. If the shareholders of the offshore holding company who are PRC residents do not complete their registration with the local SAFE branches, the PRC subsidiaries may be prohibited from distributing their profits and proceeds from any reduction in capital, share transfer or liquidation to the offshore company, and the offshore company may be restricted in its ability to contribute additional capital to its PRC subsidiaries. Moreover, failure to comply with SAFE registration and amendment requirements described above could result in liability under PRC law for evasion of applicable foreign exchange restrictions. On February 13, 2015, SAFE promulgated a Notice on Further Simplifying and Improving Foreign Exchange Administration Policy on Direct Investment, or SAFE Notice 13, which took effect on June 1, 2015. SAFE Notice 13 has delegated to the qualified banks the authority to register all PRC residents investment in special purpose vehicle pursuant to the Circular 37, except that those PRC residents who have failed to comply with Circular 37 will remain to fall into the jurisdiction of the local SAFE branches and must make their supplementary registration application with the local SAFE branches.

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We have, up to the present, completed SAFE registration for all current beneficial shareholders of our company who are, to our knowledge, PRC residents. However, we may not be fully informed of the identities of the beneficial owners of our company and we cannot assure you that all of our PRC resident beneficial owners will comply with SAFE regulations. The failure of our beneficial owners who are PRC residents to make any required registrations may subject us to fines and legal sanctions, and prevent us from making distributions or paying dividends, as a result of which our business operations and our ability to distribute profits to you could be materially and adversely affected.

PRC rules on mergers and acquisitions may subject us to sanctions, fines and other penalties and affect our future business growth through acquisition of complementary business.

On August 8, 2006, six PRC government and regulatory authorities, including MOFCOM, promulgated a rule entitled Interim Provisions on the Takeover of Domestic Enterprises by Foreign Investors, or the M&A Rules, which became effective on September 8, 2006 and was subsequently revised on June 22, 2009. The M&A Rules provide procedures and requirements that could make merger and acquisition activities by foreign investors more time-consuming and complex, including requirements in some instances that MOFCOM be notified in advance of any change-of-control transaction in which a foreign investor takes control of a PRC domestic enterprise. In the future, we may grow our business in part by acquiring complementary businesses. Complying with the requirements of the M&A Rules to complete such transactions could be time-consuming, and any required approval processes, including obtaining approval from MOFCOM, may delay or inhibit the completion of such transactions, which could affect our ability to grow our business or maintain our market share. If any of our acquisitions were subject to the M&A Rules and were found not to be in compliance with the requirements of the M&A Rules in the future, relevant PRC regulatory agencies may impose fines and penalties on our operations in the PRC, limit our operating privileges in the PRC, or take other actions that could have a material adverse effect on our business, financial condition, results of operations, reputation and prospects.

Failure to comply with PRC regulations regarding the registration requirements for stock incentive plans may subject the PRC plan participants or us to fines and other legal or administrative sanctions.

Since 2007, SAFE has implemented rules requiring PRC residents who participate in employee stock option plans of overseas publicly listed companies to register with SAFE or its local office and complete certain other procedures. Effective on February 15, 2012, SAFE promulgated the Circular on the Relevant Issues Concerning Foreign Exchange Administration for Domestic Individuals Participating in an Employees Share Incentive Plan of an Overseas-Listed Company, or SAFE Notice 7. Under SAFE Notice 7, PRC residents who participate in a share incentive plan of an overseas publicly listed company are required to register with SAFE and complete certain other procedures. PRC residents include directors, supervisors, management and employees of PRC domestic companies specified in the Administrative Regulations of the People s Republic of China on Foreign Exchange, regardless of nationality. SAFE Notice 7 further requires that an agent should also be designated to handle matters in connection with the exercise or sale of share options granted under the share incentive plan to participants. We and the PRC residents to whom we have granted stock options are subject to SAFE Notice 7. We have completed registration for options and restricted share units granted under the 2006 Plan and have submitted an application to Hebei branch of SAFE with respect to the 2014 Plan on January 20, 2015. However, we cannot assure you that we can always successfully register with SAFE in full compliance with SAFE Notice 7. If we or our PRC optionees fail to comply with these regulations, we or our PRC optionees may be subject to fines and other legal or administrative sanctions.

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Risks Related to Our Ordinary Shares and ADSs

Potential uncertainty involving the going private transaction may adversely affect our business and the market price of our ADSs.

We have entered into a definitive agreement and plan of merger with Holdco, Parent and Merger Sub on November 17, 2017 for a potential going private transaction. See Item 4. Information on the Company A. History and Development of the Company Going Private Transaction.

Although the merger agreement has been authorized and approved at the extraordinary general meeting held on March 12, 2018, the merger is subject to various closing conditions and we cannot assure you the result of the going private transaction. If the merger is consummated, each share of the Company that is issued outstanding immediately prior to the effective time of the merger, other than shares held by rollover shareholders and dissenting shareholders (collectively, the Excluded Shares), will be canceled and cease to exist in exchange for the right to receive US$1.51 in cash without interest and each ADS that is issued and outstanding immediately prior to the effective time, other than ADSs that represent Excluded Shares, shall represent the right to surrender the ADS in exchange for US$7.55 in cash without interest, less ADS depositary services fee pursuant to the terms of the Deposit Agreement, but excluding withholding taxes if any, as described in the merger agreement. Shares held by rollover shareholders will be canceled and cease to exist at the effective time and rollover shareholders shall be entitled to certain shares issued by the Holdco. Shares held by dissenting shareholders will be canceled and cease to exist at the effective time of the merger in exchange for the right to receive the fair value of such share as determined in accordance with Section 238 of the Cayman Islands Companies Law. For details, please see ITEM 4. Information on the Company Going Private Transaction. If the going private transaction is not closed and the merger agreement is terminated, our business and the trading price of our ADSs may be adversely affected.

The market price for our ADSs has been volatile and may continue to be volatile.

The trading prices of our ADSs have been and may continue to be highly volatile and could fluctuate widely due to factors beyond our control. From the initial listing of our ADSs on the NASDAQ Global Select Market on February 7, 2007 to February 7, 2008, the closing prices of our ADSs ranged from US$16.30 to US$75.43 per ADS. Then from the day after the date of our 3-for-1 ADS split (February 7, 2008) to December 7, 2012, the closing process of our ADSs ranged from US$0.6 to US$25.75. On October 11, 2012, NASDAQ notified us that, based upon the closing bid price of our ADSs for 30 consecutive business days, we failed to meet the US$1.00 per ADS minimum bid price requirement set forth in the listing rule. In order to regain compliance with NASDAQ listing rule, we changed the ratio of our ADSs to ordinary shares from one ADS representing one ordinary share to one ADS representing five ordinary shares, effective on December 10, 2012. The trading price of our ADSs from December 10, 2012 through April 27, 2018 has ranged from US$3.21 to US$13.14 per ADS. This is due to broad market and industry factors, such as the anti-dumping and countervailing duty investigation in the U.S., the escalation of the European sovereign debt crisis in 2011, the economic slowdown in the Eurozone in 2014, significant government subsidy reduction, the performance and fluctuation in the market prices or the underperformance or declining financial results of other companies based in China that have listed their securities in the U.S. in recent years. The securities of some of these companies have experienced significant volatility since their initial public offerings, including, in some cases, substantial price declines in the trading prices of their securities. The trading performances of other Chinese companies securities after their offerings may affect the attitudes of investors toward Chinese companies listed in the U.S., which consequently may impact the trading performance of our ADSs, regardless of our actual operating performance. In addition, any negative news or perceptions about inadequate corporate governance practices or fraudulent accounting, corporate structure or matters of other Chinese companies may also negatively affect the attitudes of investors towards Chinese companies in general, including us, regardless of whether we have conducted any inappropriate activities. In addition, the market price of our ADSs may continue to fluctuate in response to factors including the following:

- changes in international trade policies;
- announcements of technological or competitive developments;
- regulatory developments in our target markets affecting us, our customers, our potential customers or our competitors;
- announcements regarding patent litigation or the issuance of patents to us or our competitors;
- announcements of studies and reports relating to the conversion efficiencies of our products or those of our competitors;
- actual or anticipated fluctuations in our quarterly operating results;
- changes in financial estimates by securities research analysts;

- changes in the performance or market valuations of other PV technology companies;
- addition or departure of our executive officers;
- fluctuations in the exchange rate between the U.S. dollar and Renminbi;
- detrimental negative publicity about us, our competitors or our industry;
- general economic or political conditions; and
- sales or perceived sales of additional ordinary shares or ADSs.

Our most current memorandum and articles of association contain anti-takeover provisions that could have a material adverse effect on the rights of holders of our ordinary shares and ADSs.

Our most current memorandum and articles of association contain provisions which may limit the ability of others to acquire control of our company or cause us to engage in change-of-control transactions. These provisions could have the effect of depriving our shareholders of an opportunity to sell their shares at a premium over prevailing market prices by discouraging third parties from seeking to obtain control of our company in a tender offer or similar transaction. For example, our board of directors has the authority, without further action by our shareholders, to issue preferred shares in one or more series and to fix their designations, powers, preferences, privileges, and relative participating, optional or special rights and the qualifications, limitations or restrictions, including dividend rights, conversion rights, voting rights, terms of redemption and liquidation preferences, any or all of which may be greater than the rights associated with our ordinary shares, in the form of ADS or otherwise. Preferred shares could be issued quickly with terms calculated to delay or prevent a change in control of our company or make removal of management more difficult. If our board of directors decides to issue preferred shares, the price of our ADSs may fall and the voting and other rights of the holders of our ordinary shares and ADSs may be materially and adversely affected.

Holders of our ADSs have fewer rights than holders of our ordinary shares, and you may not receive voting materials in time to be able to exercise your right to vote.

Holders of our ADSs do not have the same rights as holders of our ordinary shares and may only exercise the voting rights attaching to the ordinary shares evidenced by our ADSs in accordance with the provisions of the deposit agreement. Under our most current memorandum and articles of association, the minimum notice period required to convene a general meeting is ten clear days. When a general meeting is convened, holders of our ADSs may not receive sufficient notice of a shareholders meeting to permit them to withdraw their ordinary shares to cast vote with respect to any specific matter. In addition, the depositary and its agents may not be able to send voting instructions to holders of our ADSs or carry out their voting instructions in a timely manner. We will make all reasonable efforts to cause the depositary to extend voting rights to holders of our ADSs in a timely manner, but we cannot assure you that holders of our ADSs will receive the voting materials in time to ensure that they can instruct the depositary to vote their ADSs. Furthermore, the depositary and its agents will not be responsible for any failure to carry out any instructions to vote, for the manner in which any vote is cast or for the effect of any such vote. As a result, holders of our ADSs may not be able to exercise their right to vote and they may lack recourse if their ADSs are not voted as requested. In addition, an ADS holder, under such capacity, will not be able to call a shareholder meeting.

You may be subject to limitations on transfers of our ADSs.

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

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Your right to participate in any future rights offerings may be limited, which may cause dilution to your holdings and you may not receive cash dividends if it is impractical to make them available to you.

We may from time to time distribute rights to our shareholders, including rights to acquire our securities. However, we cannot make rights available to our ADS holders in the U.S. unless we register the rights and the securities to which the rights relate under the Securities Act or an exemption from the registration requirements is available. Also, under the deposit agreement, the depositary bank will not make rights available to our ADS holders unless the distribution to ADS holders of both the rights and any related securities are either registered under the Securities Act, or exempted from registration under the Securities Act. We are under no obligation to file a registration statement with respect to any such rights or securities or to endeavor to cause such a registration statement to be declared effective. Moreover, we may not be able to establish an exemption from registration under the Securities Act. Accordingly, you may be unable to participate in our rights offerings and may experience dilution in your holdings.

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

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

Our corporate affairs are governed by our most current memorandum and articles of association, the Companies Law, Cap. 22 (Law 3 of 1961, as consolidated and revised) of the Cayman Islands (the Cayman Islands Companies Law) and the common law of the Cayman Islands. The rights of shareholders to take action against the directors, actions by minority shareholders and the fiduciary responsibilities of our directors to us under Cayman Islands law are to a large extent governed by the common law of the Cayman Islands. The common law of the Cayman Islands is derived in part from comparatively limited judicial precedent in the Cayman Islands as well as that from English common law, which has persuasive, but not binding, authority on a court in the Cayman Islands. The rights of our shareholders and the fiduciary responsibilities of our directors under Cayman Islands law are not as clearly established as they would be under statutes or judicial precedent in some jurisdictions in the U.S. In particular, the Cayman Islands has a less developed body of securities laws than the U.S. In addition, some U.S. states, such as Delaware, have more fully developed and judicially interpreted bodies of corporate law than the Cayman Islands.

As a result of all of the above, our public shareholders may have more difficulty in protecting their interests in the face of actions taken by our management, our board of directors or our controlling shareholders than they would as shareholders of a U.S. public company.

You may have difficulty enforcing judgments obtained against us.

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

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

Although it is likely that we were a Passive Foreign Investment Company (PFIC) for the taxable year ended December 31, 2012, based on market price of our ADSs and ordinary shares, the value of our assets, and the composition of our assets and income, we believe that we were not a PFIC for our taxable year ended December 31, 2017 and we do not expect to be a PFIC for our current taxable year ending December 31, 2018 or in the foreseeable future. We can give no assurances in this regard, however, as PFIC determination is inherently factual and, in addition, depends upon certain questions of law for which there is inadequate or uncertain authority. Accordingly, we cannot assure you that we will not be a PFIC for our current or any future taxable year.

A non-U.S. corporation, such as our company, will be classified as a PFIC for U.S. federal income tax purposes for any taxable year, if either (1) 75% or more of its gross income for such year consists of certain types of passive income, or (2) 50% or more of its average quarterly assets as determined on the basis of fair market value during such year produce or are held for the production of passive income. Because there are uncertainties in the application of the relevant rules and PFIC status is a fact-intensive determination made on an annual basis, no assurance may be given with respect to our PFIC status for any taxable year.

If we are classified as a PFIC for any year during which a U.S. Holder (as defined below) holds the ADSs or ordinary shares, such U.S. Holder may incur significantly increased U.S. income tax on gain recognized on the sale or other disposition of the ADSs or ordinary shares and on the receipt of distributions on the ADSs or ordinary shares to the extent such gain or distribution is treated as an excess distribution under the U.S. federal income tax rules. Furthermore, a U.S. Holder will generally be treated as holding an equity interest in a PFIC in the first taxable year of the U.S. Holder s holding period in which we become a PFIC and subsequent taxable years even if we, in fact, cease to be a PFIC in subsequent taxable years. Accordingly, for example a U.S. Holder that held our ADS or ordinary shares during 2012 should, to the extent an election is available, consider making a deemed sale election. See the discussion under Item 10. Additional Information E. Taxation United States Federal Income Taxation Considerations Passive Foreign Investment Company Considerations concerning the U.S. federal income tax consequences of an investment in the ADSs or ordinary shares if we are or become classified as a PFIC, including the possibility of making a deemed sale election.

ITEM 4. INFORMATION ON THE COMPANY

A. HISTORY AND DEVELOPMENT OF THE COMPANY

Our ultimate holding company, JA Solar, was incorporated on July 6, 2006 as an exempted company with limited liability under the laws of the Cayman Islands.

We commenced our business in May 2005 through JA Hebei, a limited liability company established in China. To enable us to raise equity capital from investors outside of China, we incorporated JA BVI in the British Virgin Islands in July 2006, and established a holding company structure by restructuring JA Hebei as a wholly-owned subsidiary of JA BVI.

In August 2006, we undertook a further restructuring by issuing shares of JA Solar to all existing shareholders of JA BVI in exchange for all of the shares that these shareholders held in JA BVI. As a result, JA BVI became a wholly-owned subsidiary of JA Solar. We completed our initial public offering in February 2007 and had our ADSs listed on the NASDAQ Stock Market.

Historically, we have primarily been engaged in the manufacturing and sales of solar cells. Since the fourth quarter of 2009, we have expanded our business to silicon wafers manufacturing and manufacturing and sales of solar modules. We further expanded our business to engage in project development activities in 2013. We mainly operate our business through the following significant subsidiaries:

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Name	Jurisdiction of Incorporation	Relationship with us
JA Development Co., Ltd.	The British Virgin Islands	Wholly-owned subsidiary
JA Solar Malaysia Sdn. Bhd.	Malaysia	Wholly-owned subsidiary
JA Solar Vietnam Company Limited	Vietnam	Wholly-owned subsidiary
JA Solar USA Inc.	The U.S.	Wholly-owned subsidiary
JA Solar Hong Kong Limited	Hong Kong	Wholly-owned subsidiary
JA Solar Investment (Hong Kong) Limited	Hong Kong	Wholly-owned subsidiary
Dunhuang JA Solar Power Development Co., Ltd.	China	Wholly-owned subsidiary
JingAo Solar Co., Ltd.	China	Wholly-owned subsidiary
Shanghai JA Solar Technology Co., Ltd.	China	Wholly-owned subsidiary
Shanghai JA Solar PV Technology Co., Ltd.	China	Wholly-owned subsidiary
JA Solar Technology Yangzhou Co., Ltd.	China	Wholly-owned subsidiary
Yangzhou JA Solar PV Engineering Co., Ltd.	China	Wholly-owned subsidiary
Jing Hai Yang Semiconductor Material (Donghai) Co., Ltd.	China	Wholly-owned subsidiary
Hefei JA Solar Technology Co., Ltd.	China	Wholly-owned subsidiary
JA Solar (Xingtai) Co., Ltd.	China	Wholly-owned subsidiary
Solar Silicon Valley Electronic Science and Technology Co., Ltd.	China	Wholly-owned subsidiary
Baotou JA Solar Technology Co., Ltd.	China	Wholly-owned subsidiary

Our principal executive offices are located at Building No.8, Noble Center, Automobile Museum East Road, Fengtai, Beijing, the People s Republic of China. Our telephone number at this address is (86) 10- 6361 1888 and our fax number is (86) 10-6361 1999.

Investor inquiries should be directed to us at the address and telephone number of our principal executive offices set forth above. Our website is *www.jasolar.com*. The information contained on our website is not part of this annual report. Our agent for service of process in the U.S. is JA Solar USA Inc., located at 2570 North First Street, Suite 360, San Jose, CA 95131.

Going Private Transaction

On June 5, 2015, our board of directors received a preliminary non-binding proposal letter from the Buyer Group, indicating its intention to acquire all of the outstanding shares not already owned by the Buyer Group in a going private transaction for US$9.69 per ADS in cash (the Proposal). On June 15, 2015 our board held a telephonic meeting to discuss the Proposal. During the meeting, the attending directors discussed the various qualifications of the directors to serve on a special committee of the board to evaluate the Proposal. After the discussion, the board determined that it was in the best interests of the Company and its shareholders to establish a special committee of independent and disinterested directors (the Special Committee) and thus passed a written resolution establishing the Special Committee to consider the Proposal, consisting of independent directors Mr. Shaohua Jia and Mr. Yuwen Zhao, with Mr. Shaohua Jia serving as chairman of the Special Committee.

On November 17, 2017, we entered into a definitive agreement and plan of merger (the Merger Agreement) with Holdco, Parent and Merger Sub. Pursuant to the Merger Agreement, Merger Sub will be merged with and into the Company and cease to exist, with the Company continuing as the surviving company resulting from the merger (the Merger). For details, please see the Form 13E-3 filed by the Buyer Group and Rollover Shareholders on February 1, 2018 (File No.: 005-83549).

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If the Merger is consummated, each share of the Company that is issued and outstanding immediately prior to the effective time of the Merger, other than shares held by Rollover Shareholders and dissenting shareholders (collectively, the Excluded Shares), will be cancelled and cease to exist in exchange for the right to receive US$1.51 in cash without interest and each ADS that is issued and outstanding immediately prior to the effective time, other than ADSs that represent Excluded Shares, shall represent the right to surrender the ADS in exchange for US$7.55 in cash without interest, less ADS depositary services fee pursuant to the terms of the Deposit Agreement, but excluding withholding taxes if any, as described in the Merger Agreement. Shares held by Rollover Shareholders will be canceled and cease to exist. Shares held by dissenting shareholders will be canceled and cease to exist at the effective time of the Merger in exchange for the right to receive the fair value of such share as determined in accordance with Section 238 of the Cayman Islands Companies Law. At the effective time of the Merger, we shall (i) terminate our share incentive plan, and any relevant award agreements applicable to the share incentive plan, (ii) approve resolutions to accelerate the vesting of the company options, restricted shares, and RSUs (collectively, the Company Equity Awards) such that the Company Equity Awards would be vested immediately prior to the effective time notwithstanding the vesting date in respect thereof, and (iii) cancel each Company Equity Award that is then outstanding and unexercised, whether or not vested or exercisable. Under the terms of the Support Agreement entered into by and among Holdco and the Rollover Shareholders concurrently with the execution and delivery of the Merger Agreement, the parties have agreed that each share (including shares represented by ADS) owned by the Rollover Shareholders (the Rollover Share) shall be cancelled at closing of the Merger, and the Holdco shall issue to such Rollover Shareholders shares equal to the aggregate number of Rollover Shares canceled, at par value per share. After completion of the Merger, pursuant to the Support Agreement, the Rollover Shareholders will beneficially own 25.7% of the outstanding shares of Holdco.

Our board of directors, acting upon the unanimous recommendation of the special committee, which was comprised solely of independent and disinterested directors unaffiliated with any members of the management of our Company, approved the Merger Agreement and the Merger and resolved to recommend that our shareholders vote for authorization and approval of the Merger Agreement and the Merger. The special committee negotiated the terms of the Merger Agreement with the assistance of its financial and legal advisors.

The Merger is subject to various closing conditions, including a condition that the Merger Agreement and the Merger be authorized and approved by an affirmative vote of shareholders representing two-thirds or more of the ordinary shares present and voting in person or by proxy as a single class at a meeting of our shareholders. An extraordinary general meeting of shareholders was held on March 12, 2018, at which the Merger Agreement and the Merger was duly authorized and approved.

B. BUSINESS OVERVIEW

Overview

Our primary business is to design, develop, manufacture and sell solar power products that convert sunlight into electricity for a variety of uses. We are a vertically integrated manufacturer of PV products, and our principal products consist of both monocrystalline and multicrystalline solar modules and solar cells in a variety of standards and specialties. We sell our products mainly under our JA Solar brand name, and also produce original equipment for manufacturers or customers, known as OEMs, under their brand names. We are also engaged in project development activities.

We began commercial production of solar cells in April 2006 and have since grown rapidly to become one of the world s largest manufacturers of solar power products. As of December 31, 2017, we had a solar cell manufacturing capacity of 6,500 MW per annum. We manufacture solar cells from silicon wafers utilizing crystalline silicon technology, which converts sunlight into electricity through a process known as PV effect. Performance of solar cells is primarily measured by their conversion efficiency rate, the percentage that sunlight energy is converted into electricity. As of December 31, 2017, the average conversion efficiency rates of our mainstream monocrystalline and multicrystalline solar cells were 21.3% and 18.6%, respectively.

We expanded our business to the manufacturing and sales of solar module products in the fourth quarter of 2009. We now produce and sell a wide variety of module types that fulfill different requirements of our customers, from on-grid systems to off-grid systems, from commercial use to industrial use, and from residential to public utility use. We also manufacture customized module products according to our customers and end-users specifications. As of December 31, 2017, we had a solar module manufacturing capacity of 7,000 MW per annum.

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We began manufacturing silicon wafers in the fourth quarter of 2009 to achieve more vertical integration. Our silicon wafer manufacturing capability helps us secure wafer supplies and reduce costs of silicon wafers for our solar cell manufacturing. Currently, we manufacture silicon wafers primarily to meet our internal demand. As of December 31, 2017, we had a silicon wafer manufacturing capacity of 2,700 MW per annum.

We sell our solar power products to module manufacturers, system integrators, project developers and distributors. Through our marketing efforts, we have developed a diverse customer base in over ninety countries worldwide, including China, the U.S., Japan, United Kingdom, India, Thailand, the Netherlands, Australia, Switzerland and Guatemala. In 2017, 51.5% of our total revenues were generated from sales to customers outside China. We have also developed cooperative relationships with a number of leading Chinese independent power producers and leading Chinese utility companies, such as China Power Investment Corporation and China Electric Power Construction Group Co., Ltd.

In 2015, 2016 and 2017, we sold 3.94 GW, 4.92 GW and 7.50 GW of solar power products, respectively. Our total revenues increased from RMB13.5 billion in 2015 to RMB15.7 billion in 2016 and further to RMB19.7 billion (US$3.0 billion) as a result of the improved worldwide solar market condition, increased shipment, and an increased proportion of our module sales.

The average selling price per watt of our PV modules decreased from RMB3.5 in 2015 to RMB3.2 in 2016 and further to RMB2.6 (US$0.40) in 2017. The average selling price per watt of our PV cells decreased from RMB1.9 in 2015 to RMB1.8 in 2016 and further to RMB1.3 (US$0.20) in 2017. We expect the prices of solar power products will continue to decline in the long run due to reduced manufacturing costs from improving technology and economies of scale, and industry pursuit to grid cost parity with traditional forms of electricity.

In an effort to deepen our downstream reach in the solar market value chain, we began to engage in project development activities in 2013 and started to generate revenues from electricity sales in 2015.

Our Products and Services

We are primarily engaged in the design, development, manufacturing and sales of solar power products based on crystalline silicon technologies. We also derive a portion of our revenues through the provision of solar product processing services and project development services.

Solar Modules

A solar module is an assembly of solar cells that have been electrically interconnected and encapsulated via a lamination process into a durable and weather-proof package. We produce multicrystalline and monocrystalline solar modules in 48-cell, 60-cell, and 72-cell formats. The power output of our mainstream multicrystalline 60-cell modules ranges from 270W to 280W. The power output of PERC monocrystalline 60-cell and 72-cell modules ranges from 295W to 305W and 350W to 360W, respectively. The power output of our multicrystalline 72-cell modules ranges from 320W to 330W. In 2017, solar modules and solar modules tolling constituted nearly 95.2% of our total shipments.

Solar Cells

Solar cells are semiconductor devices that directly convert sunlight into electricity and are the most elementary component of a solar power system. Solar cells consist of a light-absorbing layer mounted on a substrate, together with top and back electrical contact points, much like a household battery.

We currently produce and sell a variety of monocrystalline and multicrystalline solar cells. In addition to conventional solar cells, we introduced a monocrystalline solar cell named SECIUM in 2010 and MAPLE in 2011. In 2012, we introduced the new Cypress series, which have higher conversion efficiency, to replace the SECIUM and the MAPLE cell. The Cypress series cells feature excellent solderability and lower encapsulation power loss resulting from high-voltage, low-current electrical performance parameters, elaborated current rating, and positive tolerance for cell power compensation. In 2016, improving upon the Cypress series, we introduced a new generation of cell technology named Cypress5, featuring even better conversion efficiency and reliability performance. We also introduced monocrystalline PERCIUM series utilizing PERC (Passivated Emitter Rear Cell) technology with an average conversion efficiency of over 21.3%, and multicrystalline RIECIUM series utilizing RIE (Reactive Ion Etching) technology with a conversion efficiency of over 19.5%.

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Silicon Wafers

Silicon wafers are the most important raw materials for producing solar cells, with monocrystalline and multicrystalline silicon wafers as the most commonly used materials. Currently, we produce multicrystalline silicon wafers with dimensions of 156.75*156.75 mm and an average thickness of 185 microns and monocrystalline silicon wafers with dimensions of 156.75*156.75 mm and an average thickness of 185 microns.

Solar Product Processing

In order to maximize the effective utilization of our manufacturing capacity, we also provide solar product processing services to some of our customers. Depending on the arrangements with our customers, we may charge a fee for the processing services provided, or alternatively, we may purchase raw materials from our customers, such as polysilicon or silicon wafers, process these raw materials into solar cells or solar modules, and then sell these products back to our customers.

Solar Power Plant Project Development and Electricity Generation

Project development involves securing land use rights, obtaining and maintaining necessary regulatory approvals and permits, arranging project financing, project construction, and eventually selling the project assets in a lump sum or retaining them to generate revenues from electricity sales. We began to engage in solar project development both domestically and abroad in 2013 and we started to generate revenues from electricity sales in 2015.

Raw Materials and Utilities

The raw materials used in our manufacturing process consist primarily of silicon materials, including polysilicon, silicon wafers and, from time to time, ingots, as well as other materials such as metallic pastes, ethylene vinyl acetate, tempered glass, aluminum frames and related consumables.

Polysilicon and Silicon Wafers

The basic raw material for producing solar cell and module products is silicon wafers, which are sliced from crystalline ingots developed from melted polysilicon. As such, polysilicon is an essential raw material in the manufacturing of silicon wafers, including our own wafer production.

The prices of polysilicon have seen significant fluctuation over the years due to various factors. Historically, through the first half of 2008, an industry-wide shortage of polysilicon coupled with rapidly growing demand from the solar power industry, caused a rapid escalation of polysilicon prices and an industry-wide silicon shortage. However, during the second half of 2008 and the first half of 2009, polysilicon prices fell substantially as a result of significant new manufacturing capacity coming on line and falling demand for solar power products resulting from the global economic crisis and credit market contraction. As the demand for solar power products significantly recovered in response to a series of factors, including the recovery of the global economy, the implementation of incentive policies for renewable energy including solar power and increasing availability of financing for solar power projects, the price of polysilicon went up in the second half of 2010. However, polysilicon prices substantially fell again during 2011 and 2012 due to an industry-wide oversupply. Starting from 2013, polysilicon prices began to stabilize as market conditions improved. From 2013 to 2017, the price of polysilicon slightly fluctuated. We expect prices of polysilicon continue to fluctuate in the near future.

We procure silicon raw materials through a combination of long-term supply contracts and spot market purchases. We anticipate to obtain silicon raw materials from the spot market to supplement supplies under our existing long-term supply contracts. The unit prices of silicon wafers and polysilicon under our long-term supply contracts were either fixed or fixed during an initial period of several months, after which, the prices would be determined by further negotiations. We have completed re-negotiations on various terms of our supply agreements with certain of our suppliers and are continuing to engage in discussions with our other various suppliers to re-adjust the pricing, prepayment, quantity, delivery and other terms of our existing supply agreements to better reflect current market conditions.

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Other Raw Materials

We use metallic pastes as raw materials in our solar cell production process. Metallic pastes are used to form the grids of metal contacts that are printed on the front and back surfaces of the solar cells through screen-printing to create negative and positive electrodes. In addition, we use ethylene vinyl acetate, tempered glass, aluminum frames and other raw materials in our solar module production process. We seek to maintain active relationships with multiple suppliers for each of these auxiliary raw materials, and we believe we can readily find alternative sources of supply on terms acceptable to us if any of our current suppliers cannot meet our requirements.

Utilities

We consume a significant amount of electrical power and water in our production of solar power products. We have obtained the necessary approvals and/or permits from the relevant PRC governmental authorities for our water and electricity usage in our existing manufacturing and research and development centers.

Manufacturing Process

Solar Cells

We use a semi-automated manufacturing process to lower our production costs and capital expenditures. We intend to optimize the balance between automation and manual operations in our manufacturing process to take advantage of our location in China, where the costs of skilled labor and engineering and technical resources tend to be lower than those in developed countries. The following provides a brief overview of the most important steps in our solar cell manufacturing process:

- *Texturing and cleaning*. The solar cell manufacturing process begins with texturing of the surface of wafers which reduces the solar cell s reflection of sunlight, followed by surface cleaning of the cells. The texturing process for multicrystalline wafers is slightly different from that for monocrystalline wafers.

- *Diffusion*. Next, through a thermal process, a negatively charged coating is applied to the positively charged raw wafers in a diffusion furnace. At the high furnace temperature, the phosphorous atoms diffuse into the wafer surface. As a result, the wafer now has two separate layers a negatively charged layer on the surface and a positively charged layer below it.

- *Isolation*. To achieve a clean separation of the negative and positive layers, the edges of the wafers are isolated through etching, a process that removes a very thin layer of silicon around the edges of the solar cell resulting from the diffusion process.

- *Anti-reflection coating*. We then apply an anti-reflection coating to the front surface of the solar cell to enhance its absorption of sunlight.

- *Printing*. In a screen printing process, we print silver paste and aluminum paste to the front and back surfaces of the solar cell, respectively, to act as contacts, with the front contact in a grid pattern to allow sunlight to be absorbed.

- *Co-firing*. Subsequently, contacts are connected through an electrode firing process in a conveyor belt furnace at high temperature. The high temperature causes the silver paste to become embedded in the surface of the silicon layer forming a reliable electrical contact. The aluminum paste on the back of the cell serves as a mirror for particles, further enhancing the efficiency level.

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- *Testing and sorting*. Finally, we complete the manufacturing of solar cells by testing and sorting. The finished cells are sorted according to efficiency levels and optical criteria. Each cell is tested and subsequently assigned to a performance and quality class depending on the testing results.

Solar Modules

Our solar modules are formed by interconnecting multiple solar cells in the desired electrical configuration through taping and stringing. The interconnected cells are laid out and laminated in a vacuum and then go through a curing process, or a heating process. Through these processes, our solar modules are sealed and become weatherproof and are able to withstand high levels of ultraviolet radiation and moisture. Assembled solar modules are packaged in a protective aluminum frame prior to testing.

Silicon Wafers

Currently we produce both multicrystalline and monocrystalline silicon wafers. Our production process with multicrystalline silicon wafers starts with producing multicrystalline ingots from polysilicon in multicrystalline furnaces through a casting process. The multicrystalline ingots are then cut into pre-determined sizes. After a testing process, multicrystalline ingots are cropped and the usable parts of the ingots are sliced into wafers by wire saws by high-precision cutting techniques. After being inserted into frames, the wafers go through a cleansing process to remove debris from the previous processes, and are then dried. Wafers are inspected for contaminants and then packed and transferred to our solar cell production facilities.

Our production process with monocrystalline silicon wafers starts from producing monocrystalline ingots from polysilicon. After the ingots are inspected, monocrystalline ingots are squared by squaring machine. Through high-precision cutting techniques, the squared ingots are then sliced into wafers using diamond sawing wire technology. After inserting into frames, the wafers are cleaned to remove debris from the previous processes and then dried. Finally, the wafers are inspected for contaminants and then packed and transferred to our solar cell production facilities.

Diamond sawing wire technology was widely introduced into the production of silicon wafers in recent years, as such technology has various advantages over slurry cutting technology, including higher productivity, lower need of wire length and spool size, less disposal issue, lower energy consumption and less space occupation. Furthermore, as the price of diamond wires decreased while the endurance of diamond wires enhanced, the cost of utilizing diamond sawing wires technology is lower than the slurry cutting technology in many fields. Currently, diamond sawing wire technology has been used in production of all of our monocrystalline silicon wafers, and we are in the process of upgrading the technology used in our multicrystalline silicon wafer production to diamond sawing wire technology.

Production Equipment

The major manufacturing equipment for the production of our solar power products includes ingot furnaces, stringer, laminator, texturing machines, diffusion furnaces, edge isolators, wafer cleaning machines, coating systems, contact printers, co-firing machines and sorting machines. We purchase our equipment from various recognized equipment manufacturers in China, the U.S., Europe and Japan. We have developed relationships with the world s leading equipment manufacturers in the solar power industry and work closely with selected equipment manufacturers to develop and build our manufacturing lines. In addition, we have developed technical specifications for the design of certain equipment and engaged manufacturers to construct the equipment in accordance with our specifications. This custom-made equipment is manufactured in China and used to substitute for certain equipment that we would otherwise be required to import from overseas at a higher cost. Our technical team is responsible for overseeing the installation of the manufacturing lines to ensure that the interaction between the various individual components and the entire production process is optimized.

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Manufacturing Capacity and Facilities

As of December 31, 2017, our manufacturing capacities for silicon wafers, solar cells and solar modules were 2,700 MW, 6,500 MW and 7,000 MW per annum, respectively.

Of our manufacturing facilities, one is located in Malaysia, one is located in Vietnam and under construction, and all others are located in China. They are all owned by us through our wholly-owned subsidiaries. Our solar cell manufacturing facilities are located in Ningjin, Hebei Province, Yangzhou, Jiangsu Province and Penang, Malaysia. Our solar module manufacturing facilities are located in Fengxian, Shanghai, Hefei, Anhui Province, Ningjin, Hebei Province and Xingtai, Hebei Province and our silicon wafer manufacturing facilities are located in Lianyungang, Jiangsu Province, Sanhe, Hebei Province and Hanoi, Vietnam. The table below sets forth certain information regarding our current and planned manufacturing capacity in our various manufacturing facilities:

Product	Facilities location	Rated manufacturing capacity per annum in 2017(in MW)	Rated manufacturing capacity per annum expected in 2018 (in MW)
Solar cell	Ningjin, Hebei	2,500	2,500
	Yangzhou, Jiangsu	3,000	3,300
	Penang, Malaysia	1,000	1,200
	Total Rated Capacity	6,500	7,000
Solar module	Fengxian, Shanghai	1,500	1,900
	Hefei, Anhui	3,300	4,100
	Ningjin, Hebei	600	600
	Xingtai, Hebei	1,600	1,900
	Total Rated Capacity	7,000	8,500
Silicon wafer	Lianyungang, Jiangsu	1,000	2,500
	Sanhe, Hebei	1,700	2,000
	Viet Yen, Vietnam	0	500
	Total Rated Capacity	2,700	5,000

Baotou JA Technology Co., Ltd., or Baotou JA, our new manufacturing facility, located in Baotou, Inner Mongolia, produces monocrystalline silicon rods and polycrystalline ingot casting. The manufacturing capacity is expected to be 4,000 MW in 2018.

As our business develops, we may introduce new manufacturing equipment with higher conversion efficiency rates to replace old manufacturing equipment or we may eliminate outdated production capacity from time to time. We expect to finance the above capital requirements through our cash flows from operations and borrowing from lending institutions.

Quality Assurance and Certifications

We employ strict quality control procedures at each stage of the manufacturing process in accordance with ISO 9001 quality management standards to ensure the consistency of product quality and compliance with our internal production benchmarks. We have also received CE and TÜV certifications for all of our solar modules sold in Europe and UL certifications for all solar modules sold in the U.S. As part of our effort to be a technology leader in the solar power industry, in December 2011, we entered into a strategic cooperative agreement with TÜV SÜD. With TÜV SÜD s support, we have established at our Fengxian facility a world-class testing center, which are qualified to conduct IEC61215/61730 testing. TÜV SÜD has also awarded TMP (Testing at Manufacturers Premises) certification to our in-house laboratories in Fengxian and Hefei. The TMP qualification has enabled us to complete our product certification more quickly and has improved our cost efficiencies. In February 2012, we jointed Intertek s Satellite Program to strengthen cooperation in the fields of quality, safety and ecology, the designation by Intertek as a Satellite Program certified laboratory is a professional recognition of our quality management system, and enables us to become more independent in controlling our product testing and certification processes, thereby significantly improving the product operating cycle and helping us further strengthen our leadership in product quality. Our Hefei laboratory also received the Satellite Program certification in 2013. In August 2012, JA Fengxian also obtained the accreditation of ISO/IEC 17025:2005 General Requirements for the Competence of Testing and Calibration Laboratories from China National Accreditation Service for Conformity Assessment.

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The following table sets forth the certifications we have received over the past three years and major test standards our products and manufacturing processes have met:

Date	Certification and Test Standard	Relevant Product or Process
November 16, 2016	ISO 9001: 2015	JA Hebei s quality management system in designing, manufacturing and sale of solar modules
November 16, 2016	ISO 14001: 2015	JA Hebei s environmental management system in designing, manufacturing and sale of solar modules
November 16, 2016	OHSAS 18001: 2007	JA Hebei s safety management system in designing, manufacturing and sale of solar modules
November 17, 2016	ISO 9001: 2015	JA Malaysia s quality management system in manufacturing and sale of solar cells
November 17, 2016	ISO 14001: 2015	JA Malaysia s environmental management system in manufacturing and sale of solar cells
October 13, 2016	OHSAS 18001: 2007	JA Malaysia s safety management system in manufacturing and sale of solar cells
November 15, 2016	ISO 9001: 2015	JA Fengxian s quality management system in designing, manufacturing and sale of solar modules
November 15, 2016	ISO 14001: 2015	JA Fengxian s environmental management system in designing, manufacturing and sale of solar modules
November 15, 2016	OHSAS 18001: 2007	JA Fengxian s safety management system in designing, manufacturing and sale of solar modules
May 4, 2015	ISO 9001: 2008	JA Hefei Technology s quality management system in manufacturing and sale of solar modules
May 4, 2015	ISO 14001: 2008	JA Hefei Technology s environmental management system in manufacturing and sale of solar modules
May 4, 2015	OHSAS 18001: 2007	JA Hefei Technology s safety management system in manufacturing and sale of solar modules
February 20, 2017	ISO 9001: 2015	JA Xingtai s quality management system in designing, manufacturing and sale of solar modules
February 20, 2017	ISO 14001: 2015	JA Xingtai s environmental management system in designing, manufacturing and sale of solar modules
February 20, 2017	OHSAS 18001: 2007	JA Xingtai s safety management system in designing, manufacturing and sale of solar modules
April 20, 2015	ISO 9001: 2008	JA Yangzhou s quality management system in manufacturing and sale of solar cells
April 20, 2015	ISO 14001: 2008	JA Yangzhou s environmental management system in manufacturing and sale of solar cells
April 20, 2015	OHSAS 18001: 2007	JA Yangzhou s safety management system in manufacturing and sale of solar cells
July 7, 2017	ISO 9001: 2015	JA Wafer R&D s quality management system in manufacturing and sale of solar wafers
July 7, 2017	ISO 14001: 2015	JA Wafer R&D s environmental management system in manufacturing and sale of solar wafers
July 7, 2017	OHSAS 18001: 2007	JA Wafer R&D s safety management system in manufacturing and sale of solar wafers
May 26, 2017	ISO 9001: 2015	Solar Silicon Valley s quality management system in manufacturing and sale of solar wafers
May 26, 2017	ISO 14001: 2015	Solar Silicon Valley s environmental management system in manufacturing and sale of solar wafers
May 26, 2017	OHSAS 18001: 2007	Solar Silicon Valley s safety management system in manufacturing and sale of solar wafers

Our senior management team is actively involved in setting quality assurance policies and managing quality assurance performance to ensure the high quality of our solar power products. During the manufacturing process, we continuously monitor the quality of our products in the process by following procedures including: (i) automatic monitoring and sorting system based on measurement of the efficiency level, breakage rate, and purity level of solar products and (ii) manual inspection of the surface outlook of solar cells. If any solar power product is damaged, defective, or does not meet other quality standards, it will be removed during the monitoring process.

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We have a strong equipment maintenance team with well-trained personnel to oversee the operation of our manufacturing lines to avoid any unintended interruption, and to minimize the regular down time, of such manufacturing lines. To ensure that our quality assurance procedures are effectively applied, manufacturing line employees are provided with regular job training.

Markets and Customers

We sell our solar cell and module products primarily to module manufacturers, system integrators, project developers and distributors. We have developed a diverse customer base in various markets worldwide, including China, Japan, Philippines, United Kingdom, India, the U.S., Thailand, the Netherlands, Australia, Switzerland and Guatemala. We perform ongoing credit evaluations of our customers financial condition whenever deemed necessary and generally does not require collateral. We maintain an allowance for doubtful accounts based upon the expected collectability of all accounts receivable, which takes into consideration an analysis of historical bad debts, specific customer credit worthiness and current economic trends. We plan to continue to expand our direct sales both internationally and domestically as well as to establish long-term relationships with existing customers to develop a loyal customer base.

Historically, we sold a significant portion of our products to customers in China. Since 2010, in connection with our overseas marketing efforts as well as commercial manufacturing and selling of solar modules, we have substantially increased the portion of our products sold to customers outside China. For the years ended December 31, 2015, 2016 and 2017, approximately 57.0%, 48.6% and 51.5% of our revenues were generated from customers outside China, respectively. For the year ended December 31, 2015, 2016 and 2017, there is one customer located in Japan accounting for 12.5 %, 4.0% and 2.6% of our total revenues.

The following table summarizes our net revenues generated from different geographic markets:

	Year Ended December 31,		
	2015	2016	2017
		(RMB in millions)	
China	5,820	8,081	9,533
Outside China			
Japan	2,438	1,401	1,540
Rest of the world	5,267	6,255	8,586
Total revenues	13,525	15,737	19,659

Sales and Marketing

We market and sell our solar power products worldwide primarily through a direct sales force and via market-focused sales agents. We have established subsidiaries in Japan, Germany, the U.S. and Mexico to conduct sales, marketing and brand development for our products in the Japanese, European, North American and Latin American markets. 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 sell our products primarily under two types of arrangements:

- Sales contracts with module manufacturers for the sale of solar cells, and with systems integrators, project developers and distributors for the sale of solar modules. We deliver solar power products according to pre-agreed schedules set forth in purchase orders. We require prepayment prior to shipping under some of our sales contracts, we also extend credit terms under some of our sales contracts depending on the general market condition and credit worthiness of customers.

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- OEM/tolling manufacturing arrangements. Under these arrangements, we purchase polysilicon or silicon wafers from customers, and then sell solar cell or 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 to make modules for a limited number of strategic customers who brand the finished solar module products with their own labels.

Seasonality

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 China, due to adverse weather conditions that can complicate the installation of solar power systems. Demand from other countries, such as Japan and the U.S., may also be subject to significant seasonality.

Intellectual Property

We rely primarily on a combination of patent, trademark, trade secret and copyright, as well as employee and third party confidentiality agreements to safeguard our intellectual property. As of the date of annual report, we had a total of 386 issued patents and 55 pending patent applications in China.

With respect to, among other things, proprietary know-how that is not patentable and processes for which patents are difficult to enforce, we rely on trade secret protection and confidentiality agreements to safeguard our intellectual property. We believe that many elements of our solar power products and manufacturing processes involve proprietary know-how, technology or data that are not covered by patents or patent applications, including technical processes, equipment designs, algorithms and procedures. We have taken security measures to protect these elements. Our research and development personnel are required to enter into confidentiality, non-competition and proprietary information agreements with us. These agreements address intellectual property protection issues and require our employees to assign to us all of their inventions, designs and technologies they develop during their terms of employment with us. We also take other precautions, such as internal document and network assurance and using a separate dedicated server for technical data.

In order to protect our reputation and brand, we currently maintain 157 trademark registrations in China, including the Chinese characters of our name and JA Solar. We also maintain 33 trademarks outside China.

In the ordinary of business, we have received claims from various third parties alleging intellectual property infringement by us. We have defended and intend to continue defending vigorously against these claims. As of the date of this annual report, these claims have not had any material adverse effect on our business, results of operations or financial condition.

Competition

The solar power market is intensely competitive and rapidly evolving. As we build out our solar module and wafer manufacturing capacity to become more vertically integrated, we mainly compete with integrated manufacturers of solar power products such as Trina Solar Limited, Jinko Solar, and Canadian Solar. We expect to face increased competition, which may result in price reductions, reduced margins or loss of market share. Some of our competitors have become vertically integrated, from silicon wafer manufacturing to solar power system integration for a longer period than we do. We expect to compete with future entrants to the PV market that offer new technological solutions. Furthermore, many of our competitors are developing or currently producing products based on new PV technologies, including thin film, ribbon, sheet and nano technologies, which they believe will ultimately cost the same as or less than crystalline silicon technologies used by us. In addition, the entire PV industry also faces competition from conventional and non-solar renewable energy technologies. Due to the relatively high manufacturing costs compared to most other energy sources, solar energy is generally not competitive without government incentive programs.

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Regulations

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

Renewable Energy Law and Other Government Directives

Over the past few years, various PRC governmental authorities have issued various notices and interim measures to promote the development of solar power.

On April 1, 2008, the PRC Energy Conservation Law came into effect and was amended on July 2, 2016. The law encourages the utilization and installation of solar power facilities on buildings for energy-efficiency purposes. The law also encourages and supports the development of solar energy system in rural areas.

On December 26, 2009, China revised its Renewable Energy Law, which originally became effective on January 1, 2006. The revised Renewable Energy Law became effective on April 1, 2010 and sets forth policies to encourage the development and on-grid application of solar energy and other renewable energy. The law also sets forth a national policy to encourage the installation and use of solar energy water heating systems, solar energy heating and cooling systems, solar PV systems and other systems that use solar energy. It also provides financial incentives, such as national funding, preferential loans and tax preferential treatment for the development of renewable energy projects and authorizes the relevant pricing authorities to set favorable prices for electricity generated from solar and other renewable energy sources.

The PRC government has promulgated a number of directives to support energy conservation and the use of solar energy. On October 10, 2010, the PRC State Council promulgated a decision to accelerate the development of seven strategic new industries. Pursuant to this decision, the PRC government will promote the popularization and application of solar thermal technologies by increasing tax and financial policy support, encouraging investment and providing other forms of beneficial support.

On February 16, 2013, the NDRC promulgated the revised Guideline Catalogue for Industrial Restructuring which categorizes the solar power industry as an encouraged item.

On July 4, 2013, the PRC State Council promulgated a guideline to promote the development of PV industry, stating that new PV projects shall satisfy the following standards: (1) the conversion efficiency of single crystal silicon PV battery shall be no less than 20%; (2) the conversion efficiency of polysilicon PV battery shall be no less than 18%; (3) the conversion efficiency of thin film PV battery shall be no less than 12%; and (4) the general power consumption of polysilicon production shall be no more than 100 kwh/kg. On July 18, 2013, the NDRC issued the Interim Measures on Management of Distributed Generation to support the development of distributed generation of PV projects.

On August 26, 2013, the NDRC issued a feed-in tariff scheme for utility-scale and distributed generation PV projects approved after September 1, 2013, or approved before September 1, 2013 with construction completed on or after January 1, 2014. The scheme was amended by the NDRC on December 26, 2016. Under the amended scheme, utility scale PV projects are eligible for feed-in tariff ranging from RMB0.65 to RMB0.85 depending on the project location, while distributed generation projects are eligible for feed-in tariff of RMB0.42. The feed-in tariff will be adjusted on an annual basis.

On August 20, 2014, the NDRC issued Directory of New Western Incentive Industry. Solar energy related projects are categorized as encouraged group in 11 of the listed 12 western provinces.

Various notices and guidelines were issued in 2015 and 2016 to promote the healthy development of the PV industry through various means, such as including renewable energy projects in China s long-term development plan, developing measures to resolve curtailment problem and promoting smart grid. For example:

On July 6, 2015, the NDRC and the NEA jointly issued the Guideline of Promoting the Development of Smart Grid, reiterating the importance of developing smart grid and stating that China will build safe and effective long-distance transmission grid and reliable and flexible main transmission grid to realize the full use of various clean energy (including solar power), accelerate the construction of micro grid, promote the use of various distributed power such as distributed PV, micro turbine and residual heat and pressure to optimize the allocation of energy resources and achieve the goal of energy structure adjustment.

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On October 8, 2015, the NDRC issued a notice announcing a pilot program of consuming renewable energy at nearby locations. The notice stated that the pilot program will be first carried out in Gansu and Inner Mongolia to gain experience in purchasing the full amount of electricity generated from renewable energy sources as a protection measure for the renewable energy companies facing curtailment issues. The program is intended to prepare for a nationwide implementation, resolve curtailment issues to the extent possible so as to promote the continuous development of renewable energy.

On March 3, 2016, the NEA released the Guiding Opinions on Establishing Renewable Energy Portfolio Standards, which sets renewable energy consumption targets for China. China aims to rely on renewable energy for 15% of total primary energy consumption by 2020, and 20% by 2030. Non-hydro renewables should produce 9% of consumed electricity by 2020.

On March 28, 2016, the NEA issued the Administrative Measures for Full Protection Purchase System on Power Generated by Renewable Energy, which has become a driving force to resolve the curtailment issues, and promote the development of renewable energy (such as wind power and PV) industry.

On November 29, 2016, the State Council released the Thirteen Five-Year Development Plan for National Strategic New Industries, which aims to promote the diversification and large-scale development of solar power industry.

On December 8, 2016, the NEA officially released the Thirteen Five-Year Plan on Solar Power Development, pursuant to which, the NEA will provide market support to advanced technology and product and lead the PV technical advances and industry upgrading.

On December 30, 2016, the MIIT, NDRC, the Ministry of Science and Technology and MOF jointly promulgated the Development Guide Regarding the New Materials Industry to support and provide details for the development of the PRC solar power industry.

On December 31, 2016, the CPC Central Committee and the State Council publicly released Several Opinions on Further Promoting the Supply-side Structural Reform of the Agriculture and Accelerating the Development of New Agricultural and Rural Energy, which points out that it is necessary to implement the rural new energy action, promote PV power generation, and gradually expand the supply of electricity, gas, and coal in rural areas.

In 2016, the State Council issued a series of directives to reduce poverty. These directives illustrate, among others, the measures to increase the income of people in poverty. As one of these measures, local governments are encouraged to invest agriculture-related fiscal funds in developing hydroelectricity and PV industry and share the benefits with rural poor household.

On January 18, 2017, the NEA, the NDRC and the Ministry of Finance released the Trial Implementation of Green Electricity Certificate Issuance and the Voluntary Subscription Trading System, which plans to grant the green electricity certificate for renewable energy enterprises and implement the voluntary subscription trading system to promote the use of clean energy and improve the subsidy mechanism for wind power and PV power generation.

On February 10, 2017, the NEA released the Guideline for Energy Work in 2017, indicating that the government would vigorously develop solar energy, continue to implement the plan of PV power leader, give full play to the role of the market mechanism, and promote the reduction of power generation costs. Furthermore, NEA plans to take measures to adjust the layout of the development of PV power plants.

On March 8, 2017, the NDRC issued the Administrative Measures on Approval and Filing for Enterprise Investment Projects, pursuant to which, the PV related project is subject to filing administration.

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On March 29, 2017, the NDRC and the NEA released the Notice on Orderly Opening Up the Plan of Electricity Generation and Utilization, which focuses on accelerating the execution of power purchase agreements between power generation companies and power purchase entities, reducing the planned electricity consumption of existing coal-fired power generation companies, standardizing and improving the market-based trade power price adjustment mechanism, and prioritizing the protection of new energy sources such as wind power, solar energy, and nuclear power.

On April 25, 2017, the Ministry of Industry and Information Technology issued Solar PV Industry Comprehensive Standardization Technology System, pointing out that by 2020, China will initially form a scientific, reasonable, technologically advanced and coordinated PV industry standard system, and will generally achieve full coverage of the general standards and key standards for PV industry and meet the development needs of the PV industry.

On July 18, 2017, the NEA, the Ministry of Industry and Information Technology, and the Certification and Accreditation Administration jointly released the Notice on Raising Technical Specifications of Major PV Products and Strengthening Supervision, stipulating that from January 1, 2018, PV product suppliers of PV power generation projects newly put into operation and connect to the grid shall meet the requirements of the Regulations for PV manufacturing industry.

On July 19, 2017, the NEA released the Guidelines for the Implementation of the 13th Five-Year Plan for the Development of Renewable Energy, pointing out that, in the next four years (2017-2020), the NEA will strengthen renewable energy target guidance and monitoring assessment.

On August 1, 2017, the NEA and the State Council Office for Poverty Alleviation released the Notice on the Relevant Matters Concerning the Preparation of the 13th Five-Year Plan for PV Poverty Alleviation, aiming to accelerate the progress of PV poverty alleviation project and ensure the poverty alleviation Effect.

On September 22, 2017, the NEA issued the Notice on Promoting the Implementation of the Leader Plan for PV Power Generation and the Requirements for the Construction of the Leader Base in 2017, which introduce PV power leader plan and technology leader base construction, aiming to promote PV power generation technology advancement, industrial upgrading, market application and cost reduction.

On September 25, 2017, the Ministry of Land and Resources, the State Council Office for Poverty Alleviation and the NEA jointly issued the Opinions on Supporting PV Poverty Alleviation and Standardizing Land for PV Power Generation, which guarantees the land use for PV poverty alleviation and further standardize the management of industrial land for PV power generation.

On December 8, 2017, the NEA issued Notice on Establishment of Market Environment Supervision and Evaluation Mechanism to Lead the Healthy and Orderly Development of the PV Industry, which claims to comprehensively conduct supervision and evaluation work by means of statistical data analysis and sampling survey. The supervision will focus on the power station and leader project, which excludes PV power station in poverty alleviation village and distributed PV

On December 22, 2017, the NDRC released the Notice on Pricing Policies for PV Power Generation Projects in 2018, which points out that based on the current technological progress and cost reduction of the PV industry, the benchmark tariffs of PV power plants put into operation after January 1, 2018 will be reduced. From 2019, the PV power generation projects that have been included in the annual scale management will all execute the corresponding benchmark tariffs according to the time of operation.

Environmental Regulations

We may use, generate and discharge toxic, volatile or otherwise hazardous chemicals and wastes in our research, development and manufacturing activities. 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 Environmental Protection Law of the PRC, the Law of PRC on the Prevention and Control of Water Pollution, Implementation Rules of the Law of PRC on the Prevention and Control of Water Pollution, the Law of PRC on the Prevention and Control of Air Pollution, the Law of PRC on the Prevention and Control of Solid Waste Pollution, the Law of PRC on the Prevention and Control of Noise Pollution and PRC regulations regarding Administration of Construction Project Environmental Protection.

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Restrictions on Foreign Businesses and Investments

The principal regulation governing foreign ownership of solar PV businesses in China is the Catalogue of Industries for Guiding Foreign Investment, updated and effective as of June 28, 2017. Under this regulation, the solar PV business is listed as an industry where foreign investments are encouraged. Encouraged foreign investment companies are entitled to certain preferential treatment, including exemption from tariff on equipment imported for their operations, after obtaining approval from the PRC government authorities.

Dividend Distribution

The principal regulations governing distribution of dividends paid by wholly foreign-owned enterprises include:

- Wholly Foreign-Owned Enterprise Law, as amended;
- Wholly Foreign-Owned Enterprise Law Implementation Rules, as amended; and
- Company Law of China, as amended.

Under the current regulatory regime in China, FIEs in China may only pay dividends out of their accumulated profits, if any, determined in accordance with the 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 profit calculated in accordance with the PRC accounting standards and regulations each year as its general reserves until the cumulative amount of such reserves reaches 50% of its registered capital. These reserves are not distributable as cash dividends. The board of directors of a wholly foreign-owned enterprise has the discretion to allocate a portion of its after-tax profits to its staff welfare and bonus funds, which is also not distributable to its equity owners except in the event of a liquidation of the wholly foreign-owned enterprise.

Regulations on Stock Incentive Plans

On February 15, 2012, SAFE issued the Notices on Issues concerning the Foreign Exchange Administration for Domestic Individuals Participating in Stock Incentive Plan of Overseas Publicly-Listed Company, or the Stock Incentive Plan Rules. The purpose of the Stock Incentive Plan Rules is to regulate foreign exchange administration of PRC domestic individuals who participate in employee stock holding plans and stock option plans of overseas listed companies. According to the Stock Incentive Plan Rules, if PRC domestic individuals (both PRC residents and non-PRC residents who reside in China for a continuous period of not less than one year, excluding the foreign diplomatic personnel and representatives of international organizations) participate in any stock incentive plan of an overseas listed company, a PRC domestic qualified agent, which could be the PRC subsidiary of such overseas listed company, shall, among others things, file, on behalf of such individual, an application with SAFE to conduct the SAFE registration with respect to such stock incentive plan, and obtain approval for an annual allowance with respect to the purchase of foreign exchange in connection with stock holding or stock option exercises. If we or our PRC employees fail to comply with the Stock Incentive Plan Rules, we and our PRC employees may be subject to fines and other legal sanctions. In addition, the State Administration of Taxation has issued a few circulars concerning employee stock options. Under these circulars, our employees working in China who exercise stock options will be subject to PRC individual income tax. Our PRC subsidiary has obligations to file documents related to employee stock options with relevant tax authorities and withhold individual income taxes of those employees who exercise their stock options. If our employees fail to pay and we fail to withhold their income taxes, we may face sanctions imposed by tax authorities or other PRC government authorities.

PRC VAT and Business Tax

Pursuant to the Interim Regulation of the People s Republic of China on Value-Added Tax, or the VAT Regulation, which was amended on November 10, 2008, any entity or individual engaged in the sales of goods, provision of specified services and importation of goods into China is generally required to pay VAT, at the rate of 17% of the gross sales proceeds received, less any deductible VAT already paid or borne by such entity.

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Pursuant to the PRC Provisional Regulations on Business Tax, taxpayers falling under the category of service industry in China are required to pay a business tax at a normal tax rate of 5% of their revenues.

In November 2011, MOF and the State Administration of Taxation jointly issued two circulars setting out the details of the VAT Pilot Program, which change business tax to VAT for certain pilot industries. The VAT Pilot Program initially applied only to pilot industries in Shanghai, and has been expanded to nationwide since August 1, 2013. On March 23, 2016, MOF and the State Administration of Taxation issued the Circular on Comprehensively Promoting the Pilot Program of the Collection of Value-added Tax in Lieu of Business Tax. Effective from May 1, 2016, the PRC tax authorities started to collect value-added tax in lieu of business tax on a trial basis within the territory of China, and in industries such as construction industries, real estate industries, financial industries, and living service industries.

Foreign Currency Exchange

Pursuant to applicable PRC regulations on foreign currency exchange, Renminbi is freely convertible only to the extent of current account items, such as trade-related receipts and payments, interest and dividends. Capital account items, such as direct equity investments, loans and repatriation of investment, require the prior approval from SAFE or its local branch for conversion of Renminbi into a foreign currency, such as U.S. dollars. Payments for transactions that take place within the PRC must be made in Renminbi. Domestic companies or individuals can repatriate foreign currency payments received from abroad, or deposit these payments abroad subject to the requirement that such payments shall be repatriated within a certain period of time. Foreign-invested enterprises may retain foreign exchange in accounts with designated foreign exchange banks. Foreign currencies received for current account items can be either retained or sold to financial institutions that have foreign exchange settlement or sales business without prior approval from SAFE, subject to certain regulations. Foreign exchange income under capital account can be retained or sold to financial institutions that have foreign exchange settlement and sales business, with prior approval from SAFE, unless otherwise provided.

On March 30, 2015, SAFE promulgated Circular 19, which expands a pilot reform of the administration of the settlement of the foreign exchange capitals of foreign-invested enterprises nationwide. Circular 19 came into force on June 1, 2015, replacing SAFE Circular 142, SAFE Circular 88 and SAFE Circular 36. Circular 19 removed certain restrictions previously provided under Circular 142 for foreign-invested enterprises. Circular 19 provides that, among other things, an FIE may convert foreign currency capital in its capital account into RMB on an at will basis. On June 9, 2016, SAFE promulgated Circular 16 to further expand and strengthen such at will conversion reform under Circular 19. Circular 16 provides an integrated standard for conversion of foreign exchange under capital account items on an at will basis which applies to all enterprises registered in the PRC. Pursuant to Circular 16, in addition to foreign currency capital, enterprises registered in the PRC may also convert their foreign debts, as well as repatriated funds raised through overseas listing, from foreign currency to RMB on an at will basis. Circular 16 reiterates that the RMB funds so converted shall not be used for the purpose of, whether directly or indirectly, (i) paying expenditures out of the ordinary course of business or prohibited by laws or regulations; (ii) making securities investment or other investments (except for banks principal-secured products); (iii) extending loans to non-affiliated enterprises (except as expressly permitted in the business license); and (iv) purchasing non-self-used real properties (except for real estate enterprises). Any violation of Circular 19 or Circular 16 may result in severe penalties, including substantial fines.

If we require financial support from our PRC subsidiaries or we plan to provide funds to our PRC subsidiaries through loans or capital contributions in the future, we will be subject to statutory limits and restrictions, including those described above.

C. ORGANIZATIONAL STRUCTURE

For a description of our organizational structure, See Item 4. Information on the Company A. History and Development of the Company.

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D. PROPERTY, PLANTS AND EQUIPMENT IN OPERATION

We rent our principal executive office building (approximately 6,577 square meters) located in Fengtai, Beijing and also own an office building (approximately 12,695 square meters) located in Zhabei, Shanghai. In addition, we own and lease factory and office space in various locations around the world in connection with our operations. We believe that our existing facilities, together with the facilities under construction and to be constructed under our current plans, are adequate for our current requirements. The following table sets forth a summary of our material properties relating to our production and research and development as of December 31, 2017:

Location	Space (in square meters)	Usage of Property	Owned or Leased	Encumbrance
Ningjin, Hebei	427,552	Factory	Owned and Leased*	Yes*
Yangzhou, Jiangsu	527,200	Factory and R&D center	Owned	Yes**
Fengxian, Shanghai	204,262	Factory	Owned	Yes
Lianyungang, Jiangsu	309,890	Factory and R&D center	Owned	Yes
Hefei, Anhui	559,973	Factory	Owned	Yes
Sanhe, Hebei	38,157	Factory	Leased	None
Penang, Malaysia	19,357	Factory	Leased	None
Xingtai, Hebei	77,952	Factory	Owned	Yes
Viet Yen, Vietnam	188,594	Factory	Owned	None
Baotou, Inner Mongolia	151,333	Factory	Owned	None

* 383,969 square meters of land and facilities are leased, and 43,583 square meters of land are owned, and 29,921 square meters of our owned land are mortgaged.

**229,799 square meters of land are mortgaged.

See also Item 4. Information on the Company B. Business Overview Manufacturing Capacity and Facilities.

Environmental Matters

As we use, generate and discharge toxic, volatile and otherwise hazardous chemicals and wastes in our research and development and manufacturing activities, we are required by PRC law to obtain pollutant discharging permits and undergo government-administered safety examinations with respect to our production facilities. So far, we have not been assessed any penalties for any non-compliance with PRC environmental law and regulations. However, if we fail to comply with such laws and regulations in the future, we may be required to pay fines, suspend production or cease operation. Any failure by us to control the use of or to adequately restrict the discharge of hazardous substances could restrict our utilization of our properties and facilities, subject us to potentially significant monetary damages and fines or suspensions in our business operations.

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 are based upon and should be read in conjunction with our consolidated financial statements and the related notes included in this annual report. This discussion contains forward-looking statements that involve risks, uncertainties and assumptions. We caution you that our business and financial performance are subject to substantial risks and uncertainties. Our actual results could differ materially from those projected in the forward-looking statements as a result of various factors, including those set forth in Item 3. Key Information D. Risk Factors and elsewhere in this annual report.

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A. OPERATING RESULTS

Overview

We are a leading manufacturer of high-performance solar power products based in China. We conduct our business primarily through our wholly-owned subsidiaries in China, and operate and manage our business as two segments, namely, solar product manufacturing and solar power projects development. We commenced our business through JA Hebei in May 2005. Pursuant to a recapitalization plan, all of the former shareholders of JA Hebei transferred their equity interests in JA Hebei to JA BVI, our wholly-owned subsidiary incorporated under the laws of the British Virgin Islands. This recapitalization is accounted for as a legal reorganization of entities under common control, in a manner similar to a pooling-of-interest. Accordingly, our consolidated financial statements have been prepared as if the current corporate structure had been in existence throughout the periods presented.

We derive revenues primarily from sales of solar module and cell products to system integrator, project developers, distributors and module manufacturers. For the year ended December 31, 2017, our total revenues and net income were RMB19.7 billion (US$3.0 billion) and RMB300.1 million (US$46.1 million), respectively.

Factors Affecting Our Results of Operations

We believe that the following factors have had, and we expect that they will continue to have, a significant effect on the development of our business, financial condition and results of operations.

- ***Industry Demand.*** Demand for solar power products is critical to our business and revenue growth. Our business and revenue growth were closely related to industry demand as well as our ability to retain existing customers and attract new customers. From the second half of 2008 to the third quarter of 2009, demand for solar power and solar power products was significantly affected by the global financial crisis. After a sharp increase in global industry demand in 2010 and 2011, the growth of market demand slowed down in 2012, which resulted in a severe downturn for the whole industry through 2012 and 2013. The industry demand revived in 2015 and 2016 due to the development of emerging markets, such as China and the U.S. We expect industry demand significant growth in 2017 and 2018, because of the development of China, India and emerging markets. The growth prospects still have a great level of uncertainty and trade policy change can occur unexpectedly, which could temporarily lead to fluctuations in industry demand for solar power products including ours.

- ***Government Subsidies and Economic Incentives***. The near-term growth of the market for solar power products depends largely on the availability and scale of government subsidies and economic incentives, as the current cost of solar power substantially exceeds the cost of electricity generated from conventional or non-renewable sources of energy. Various governments such as those of Germany, Spain, Italy, Greece, the U.S., Canada, Japan and

China, have used different policy initiatives, such as capital cost rebates, feed-in tariffs, tax credits, net metering, to encourage or accelerate the development and adoption of solar power and other renewable energy sources. However, governments may reduce or eliminate existing incentive programs for political, financial or other reasons, which will be difficult for us to predict. Reductions in feed-in tariff programs may result in a significant fall in the price of and demand for solar power products. For example, Japan, our largest overseas solar power products market in 2014, reduced its feed-in tariff for large-scale installation by 10% from 2012 to 2013, 11% from 2013 to 2014, which was further reduced in 2015 in different phases by 11.1% in 2016, and by 12.5% from 2016 to 2017. Demand for and pricing of our products are highly sensitive to incentive policy decisions by governments in our major markets. Although the implementation of incentive policies for solar power significantly stimulates demand for solar power products, including our products, reductions or limitations on such policies, as have occurred in Japan and other countries, may reduce demand for such products or change price expectations, causing manufacturers of solar power products, including us, to reduce prices to adjust to demand at lower price levels. Our sales of solar power products in China are expected to benefit from the recently promulgated PRC laws, regulations and government policies regarding solar energy and other renewable energy, which are intended to provide incentives or otherwise encourage the development of the solar or other renewable energy sectors in China.

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- ***Capacity Utilization***. Our solar module manufacturing capacity increased from 3.9 GW in 2015 to 5.5 GW in 2016 and to 7.0 GW in 2017. Our solar cell manufacturing capacity increased from 4.4 GW in 2015 to 5.5 GW in 2016 and to 6.5 GW in 2017. Our silicon wafer manufacturing capacity increased from 1.5 GW in 2015 to 2.5 GW in 2016 and to 2.7 GW in 2017. As our business develops, we may introduce new manufacturing equipment with higher production efficiency rates to replace old manufacturing equipment or we may eliminate outdated production capacity from time to time. Our ability to achieve satisfactory utilization rates will depend upon a variety of factors, including our ability to attract and retain sufficient customers, the ability of our customers and suppliers to perform their obligations under our existing contracts, our ability to secure a sufficient supply of raw materials and production equipment for our production activities, the availability of working capital and the selling prices for our products.

- ***Pricing of Our Solar Power Products.*** The prices of our products are based on a variety of factors, including our silicon raw materials costs, supply and demand conditions for solar power products, product mix, product quality and the terms of our customer contracts, including sales volumes. The average selling price of our solar module products declined from RMB3.5 per watt in 2015 to RMB3.2 per watt in 2016 and to RMB2.6 (US$0.4) per watt in 2017. The average selling price of our solar cells declined from approximately RMB1.9 per watt in 2015 to RMB1.8 per watt in 2016 and to RMB1.3 (US$0.2) per watt in 2017. We expect the prices of solar power products, including our own products, will continue to decline over time due to reduced manufacturing costs from improving technology and economies of scale, and industry pursuit to grid cost parity with traditional forms of electricity. In addition, our ability to adjust our raw materials costs may be limited as a result of our entering into long-term supply agreements with our polysilicon and silicon wafer suppliers, and it may be difficult for us to respond in a timely manner to rapidly changing market conditions, which could materially and adversely affect our cost of revenues and profitability.

- ***Price of Silicon Wafers and Related Raw Materials***. The success of our business and our growth strategy depends heavily on acquiring a supply of polysilicon and silicon wafers at commercially reasonable prices and terms that are consistent with our existing and planned manufacturing capacity. We have entered into prepaid long-term supply contracts with suppliers, including GCL, OCI, Wacker, Jinglong Group and Hemlock. In some instances, these agreements provide for fixed pricing, substantial prepayment obligations and/or firm purchase commitments that require us to pay for the supply whether or not we accept delivery. We also purchase silicon wafer and polysilicon from the spot market to supplement supplies under our existing long-term supply contracts. The availability and pricing of silicon wafers and polysilicon will affect results of operations.

- ***Technology Improvement***. The advancement of manufacturing technologies is important in increasing the conversion efficiency of solar cells and reducing the production costs of solar power products. Higher conversion efficiency, together with a low price per watt, generally leads to higher revenues from sales of solar power products. As a result, solar power products manufacturing companies, including us, are continuously developing advanced process technologies to improve the conversion efficiency of solar cells while reducing costs to maintain and improve profit margins.

Critical Accounting Policies

The discussion and analysis of our operating results and financial condition are based on our audited financial statements, which we have prepared in accordance with U.S. GAAP. The preparation of financial statements in conformity with U.S. GAAP requires our management to make estimates and assumptions that affect the reported amounts of assets and liabilities, disclosure of contingent assets and liabilities at the date of the financial statements, and the reported amount of revenues and expenses during the reporting periods. We base our estimates and assumptions on historical experience and various other factors that we believe to be reasonable under the circumstances, the result of which form the basis for making judgments about the carrying value of assets and liabilities that are not readily apparent from other sources. Our management evaluates these estimates on an ongoing basis. Actual results may differ from these estimates as facts, circumstances and conditions change or as a result of different assumptions.

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In reviewing our financial statements, our management considers (i) the selection of critical accounting policies; and (ii) the judgments and other uncertainties affecting the application of those critical accounting policies. The selection of critical accounting policies, the judgments and other uncertainties affecting application of those policies and the sensitivity of reported results to changes in conditions and assumptions are factors to be considered when reviewing our financial statements. Our principal accounting policies are set forth in detail in Note 2 to our audited consolidated financial statements included elsewhere in this annual report. We believe the following critical accounting policies involve the most significant judgments and estimates used in the preparation of our financial statements.

Revenue recognition

Revenue recognition for solar modules, solar cells and other products (hereafter solar products)

We recognize revenue from the sale of solar products when the goods are delivered and title and risk of loss transfer is passed to the customers. We sell our solar products at agreed upon prices to our customers, which reflect prevailing market prices.

Our considerations for recognizing revenue are based on the following:

- Persuasive evidence that an arrangement (sales contract) exists between a willing customer and us that outlines the terms of the sale (including customer information, product specification, quantity of goods, purchase price and payment terms). Customers do not have a right of return. We do provide a warranty on our solar module products.

- For EX Works terms, which mean that a seller has the goods ready for collection at its premises (works, factory, warehouse, plant), the contract specifies that the risks are assumed by the customer when the customer picks up the goods from our warehouse, at which time revenue is recognized. For FOB shipping point terms, the contract specifies that the customer takes title to the goods and is responsible for all risks and rewards of ownership once products are over shipping rail at the named loading port from our premises, at which time revenue is recognized. For CIF terms, we pay the costs of insurance and freight necessary to bring the goods to the named port of destination, but the title to and risk/rewards of ownership of the goods is passed to the buyer according to each of the contract term, which is defined in each contract. For Delivered Duty Paid terms, we pay the costs of insurance and freight necessary to bring the goods to the named port of destination as well as the import duty, and the title to and risk/rewards of ownership of the goods is passed to the buyer once the goods are delivered and the import duty is paid. The point of delivery could be at the port of shipping, or it could also be when the goods arrive at the named port of destination. When title to the goods transfers at the port of shipping, the beneficiary of the insurance is the buyer and we have no obligations to the buyer if goods are damaged during shipping. Revenue is therefore, recognized when the title to and risk/rewards of ownership of the goods is passed to the buyer which is at the port of shipping or port of destination, depending on the terms of the contract.

- Our price to the customer is fixed and determinable as specifically outlined in the sales contract.

- For customers to whom credit terms are extended, we assess a number of factors to determine whether collection from them is reasonably assured, including past transaction history with them and their credit worthiness. All credit extended to customers is pre-approved by management. If we determine that collection is not reasonably assured, including circumstances where the customers retain a portion of the full contract price as retainage after a specific period, we defer the recognition of revenue until the aforementioned criterion is met, which is generally upon receipt of payment.

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Revenue recognition for solar product processing

We provide solar product processing services to customers with their own wafer/polysilicon supplies. Under certain of these solar product processing service arrangements, we purchase raw materials from a customer and agree to sell a specified quantity of solar products produced from such materials back to the same customer. We record revenues from these processing transactions on a net basis, recording revenues based on the amount received for solar products sold less the amount paid for the raw materials purchased from the customer.

Revenue recognition for electricity generation

We recognize electricity generation revenue when persuasive evidence of a power purchase arrangement with the power grid company exists, electricity has been generated and transmitted to the grid and the electricity generation records are reconciled with the grid companies, the price of electricity is fixed or determinable and the collectability of the resulting receivable is reasonably assured. The price of electricity includes a portion that is subsidized by the Chinese central government. Subsidized portion of electricity generation revenue is recognized after we meet the subsidy criterion, which includes electricity sales agreement with state grid, electricity generation and government approval of our application of the subsidy.

Fair value of financial instruments

We estimated the fair value of its financial assets and liabilities in accordance with ASC 820, *Fair Value Measurements and Disclosure*. ASC 820 defines fair value as the price that would be received to sell an asset or paid to transfer a liability in an orderly transaction between market participants at the measurement date (also referred to as an exit price). ASC 820 establishes a hierarchy for inputs used in measuring fair value that gives the highest priority to observable inputs and the lowest priority to unobservable inputs. Valuation techniques used to measure fair value shall maximize the use of observable inputs.

When available, we measure the fair value of financial instruments based on quoted market prices in active markets, valuation techniques that use observable market-based inputs or unobservable inputs that are corroborated by market data. Pricing information we obtain from third parties is internally validated for reasonableness prior to use in the consolidated financial statements. When observable market prices are not readily available, we generally estimate the fair value using valuation techniques that rely on alternate market data or inputs that are generally less readily observable from objective sources and are estimated based on pertinent information available at the time of the applicable reporting periods. In certain cases, fair values are not subject to precise quantification or verification and may fluctuate as economic and market factors vary and our evaluation of those factors changes. Although we use our best judgment in estimating the fair value of these financial instruments, there are inherent limitations in any estimation technique. In these cases, a minor change in an assumption could result in a significant change in our estimate of fair value, thereby increasing or decreasing the amounts of our consolidated assets, liabilities, shareholders equity and net income or loss.

Accounts receivable and allowance for doubtful accounts

Provisions are made against accounts receivable for estimated losses resulting from the inability of our customers to make payments. We periodically assess accounts receivable balances to determine whether an allowance for doubtful accounts should be made based upon historical bad debts, specific customer creditworthiness and current economic trends. Accounts receivable in the balance sheets are stated net of such provision, if any. We had an allowance for a doubtful account balance of RMB259.8 million, RMB188.3 million and RMB227.8 million (US$35.0 million) as of December 31, 2015, 2016 and 2017. If the financial condition of our customers were to deteriorate such that their ability to make payments was impaired, additional allowances could be required.

We assess the credit line and credit term for each customer, given to the payment history of such customer and macroeconomic conditions of the regional market. We sign the sales contract and execute the transaction with such customer after sufficient assessment. We recognize revenue from the sale of solar products when the goods are delivered and title and risk of loss transfer is passed to the customers. After the recognition of receivables as well as revenue, we monitor the collectability of receivables and does not make further transactions with such customers recorded with a significant overdue balance.

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Short-term and long-term advances to suppliers

We provide short-term and long-term advances to secure our raw material needs, which are then offset against future purchases. We do not require collateral or other security against our advances to our related or third party suppliers. We continually assess the credit quality of our suppliers and the factors that affect the credit risk. If there is deterioration in the credit worthiness of our suppliers, we will seek to recover our advances from the suppliers and provide for losses on advances which are akin to receivables in selling, general and administrative expenses because of their inability to return our advances. We had a provision balance of RMB125.8 million, RMB20.7 million and RMB13.8 million (US$2.1 million) for potential losses against supplier advances as of December 31, 2015, 2016 and 2017. If the financial condition of our suppliers were to deteriorate such that their ability to deliver product or repay our advances was impaired, additional provisions could be required. Recoveries of the allowance for advances to supplier are recognized when they are received. We classified short-term and long-term advances to suppliers based on management s best estimate of the expected purchase in the next twelve-month as of the balance sheet date and our ability to make requisite purchases under existing supply contracts. The balances expected to be utilized outside of the twelve months are recorded in long-term advances to suppliers.

Inventories

Inventories are stated at the lower of cost or market value. Cost of inventories is determined by the weighted-average method. Cost of work-in-progress and finished goods are comprised of direct materials, direct labor and related manufacturing overhead based on normal operating capacity. Adjustments are recorded to write down the carrying amount of any obsolete and excess inventory to its estimated net realizable value. Certain factors could impact the realizable value of inventory, so we continually evaluate the recoverability based on assumptions about customer demand and market conditions. The evaluation may take into consideration historical usage, expected demand, anticipated sales price, new product development schedules, the effect new products might have on the sale of existing products, product obsolescence, customer concentrations, and other factors. The write-down is equal to the difference between the cost of inventory and the estimated market value based upon assumptions about future demand and market conditions. If actual market conditions are less favorable than those projected by management, additional inventory provisions may be required that could negatively impact our gross margin and operating results. If actual market conditions are more favorable, we may have higher gross margin when products that have been previously written down are eventually sold. The sale of previously reserved inventory did not have a material impact on our gross margin percentage for any of the years presented. As of December 31, 2015, 2016 and 2017, the provision balance for inventories was RMB56.4 million, RMB150.4 million and RMB137.4 million (US$21.1 million), respectively.

We assess whether losses should be accrued on long-term inventory purchase commitments in accordance with ASC 330-10-35-17 to 18, which requires that losses that are expected to arise from those firm, non-cancellable, and unhedged commitments for the future purchase of inventory items, measured in the same way as inventory losses, should be recognized unless recoverable through firm sales contacts or when there are other circumstances that reasonably assure continuing sales without price decline.

Under the long-term supply contracts, or LTAs, between us and certain suppliers, polysilicon and silicon wafer purchase would be made pursuant to the purchase prices and quantities set forth in the relevant LTAs. As a result of the significant declines in the market prices of polysilicon and silicon wafer due to the significant downturn in the solar industry in recent years, the purchase prices set forth in certain LTAs exceeded market prices.

At the end of each reporting period, we separately assess the potential losses on those firm inventory purchases for each supplier. When making the assessment, we consider whether it is able to renegotiate with its suppliers and get positive outcome by taking into account various considerations, such as stated contract price, purchase price reduction, overall amendment to LTA to eliminate fixed price arrangement, its ability to obtain concessions (i.e., reduced purchase prices and/or additional quantities at no cost) so that the actual purchase prices are less than the stated contract prices or close to the market price at the time of purchase, historical outcome of the renegotiation with the same supplier, contract period, the minimum purchase quantity, tax costs involved in the import or export of raw materials and products, status of a particular LTA at the time of assessment, and other circumstances and uncertainties that may impact such assessment.

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If it is determined that a loss provision calculation is necessary considering the status of an LTA and all facts and circumstances impacting the evaluation, we follow the guidance of ASC 330-10-35-17 and assesses whether there should be loss on the firm purchase commitments by applying a methodology similar to that used in the lower of cost or market evaluation with respect to inventory. In assessing the potential loss provision, we use the stated contract price and volume under the relevant LTA as the major assumptions. Loss provision will be provided if the net realizable value after considering estimated costs to convert that polysilicon into saleable finished goods is higher than market selling price of finished goods as of the end of a reporting period

There was no loss provision recorded related to these long-term contracts in the year ended December 31, 2015. As of December 31, 2016 and 2017, the provision balance was RMB48.9 million and RMB54.2 million (US$8.3 million), respectively.

See also   Notes to Consolidated Financial Statements   7 Inventories   .

Impairment of long-lived assets

We evaluate our long-lived assets and finite-lived intangible assets for impairment whenever events or changes in circumstances indicate that the carrying amount of an asset may not be recoverable. Factors considered important that could result in an impairment review include significant underperformance relative to expected historical or projected future operating results, significant changes in the manner of use of acquired assets and significant negative industry or economic trends. Impairments are recognized based on the difference between the fair value of the asset and its carrying value in the event that the carrying amount exceeds the estimated future undiscounted cash flow attributed to such assets. Fair value is generally measured based on either quoted market prices, if available, or discounted cash flow analyses. Additionally, determining fair values requires probability weighting the cash flows to reflect expectations about possible variations in their amounts or timing and the selection of an appropriate discount rate. Although cash flow estimates are based on relevant information available at the time the estimates are made, estimates of future cash flows are, by nature, highly uncertain and may vary significantly from actual results. Any write-downs would be treated as permanent reductions in the carrying amounts of the assets and an operating loss would be recognized.

Project assets

We began to engage in solar project development in 2013. We develop commercial solar power projects (project assets   ) for use upon our completion to generate electricity for sale. Project assets consist primarily of direct costs relating to solar power projects in various stages of development. A project asset is initially recorded at the actual cost. For a self-developed project asset that is initially obtained by application of feed-in-tariff (FIT   ) contract and other required permits, consents, the actual cost capitalized is the amount of the expenditure incurred for the application of those contracts, permits, consents, material and labor costs, cost of lands, capitalized interest and other similar direct costs. For a project asset acquired from external parties, the initial cost is the acquisition cost which includes the consideration transferred and certain direct acquisition cost. Modules cost, equipment cost and development and others incurred in the project development process will build up the cost of project assets.

We review project assets for impairment whenever events or changes in circumstances indicate that the carrying amount may not be recoverable. In determining whether or not the project assets are recoverable, we consider a number of factors, including changes in environmental, ecological, permitting, marketing price or regulatory conditions that affect the project. Such changes may cause the cost of the project to increase or the selling price of the project to decrease. As of December 31, 2017, we impaired project assets with the amount of RMB43.7 million (US$6.7 million) as a result of our decision to suspend the construction of certain projects.

Costs capitalized in the construction of solar power plants under development will be transferred to completed solar power plants upon completion and when they are ready for its intended use, which is at the point when the solar power plant is connected to grids and begins to generate electricity. Depreciation of the completed solar power plant commences once the solar power plant is ready for its intended use. Depreciation is computed using the straight-line method over the expected life of about 20 years (the shorter of land use right and the estimated useful life of module used in project assets). As of December 31, 2017, RMB3,049.6 million (US$468.7 million) of project assets had been completed and connected to the grid. Depreciation expenses of project assets were RMB122.7 million (US$18.9 million) for the year ended December 31, 2017.

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As of December 31, 2017, project assets with net book value of RMB544.9 million (US$83.7 million) were pledged as collateral for our borrowings of RMB504.0 million (US$77.5 million) from Industrial and Commercial Bank of China; project assets with net book value of RMB6.9 million (US$1.1 million) were pledged as collateral for our borrowings of RMB12.5 million (US$1.9 million) from 77 Bank; project assets with net book value of RMB232.6 million (US$35.7 million) were pledged as collateral for our borrowings of RMB235.5 million (US$36.2 million) from Industrial and Commercial Bank of China; project assets with net book value of RMB351.1 million (US$54.0 million) were pledged as collateral for our borrowings of RMB240.0 million (US$36.9 million) from China Merchants Bank.

Issuance of ordinary shares and warrants

On August 14, 2013, we entered into a Securities Purchase Agreement (the Purchase Agreement) with a single institutional investor to issue 15,228,425 ordinary shares for an aggregate cash of US$24 million (RMB equivalent 147,998). In conjunction with the ordinary share offering, we also issued to the Investor Series A-1 Warrant, Series A-2 Warrant, Series A-3 Warrant, and Series B Warrant (Warrants) to acquire up to 12,724,164 ordinary shares (or 2,544,833 ADSs), 12,724,164 ordinary shares (or 2,544,833 ADSs), 12,724,164 ordinary shares (or 2,544,833 ADSs), and 50,896,656 ordinary shares (or 10,179,332 ADSs), respectively.

In accordance with ASC 815-10, the warrants are deemed legally detachable and separately exercisable from the ordinary shares and, thus accounted for as a freestanding instrument. As the warrants are denominated in US Dollar, yet our functional currency is RMB, warrants are not considered indexed to our own stock. Accordingly, the warrants are liability derivatives which need to be fair valued on day one and mark to market subsequently at each reporting period end, with the fair value gain or loss arising from the re-measurement recognized in the consolidated statements of operations and comprehensive (Loss)/Income.

On the transaction date, the sales proceeds are first allocated to the warrant based on the warrants full fair value of RMB172.9 million (US$26.6 million), and the residual amount of the sales proceeds is allocated to the ordinary shares. The fair value of the warrants in excess of net proceeds of the equity offering of RMB44.4 million (US$6.8 million) is charged to retained earnings as a deemed dividend due to this portion is a benefit transferred from existing shareholders to the new investor. Such amount is charged as deemed dividend on the transaction date and is an adjustment to net loss available to attributable to JA Solar Holdings for basic and diluted EPS calculation, as an effective dividend from existing ordinary shareholders. For the years ended December 31, 2016 and 2017, RMB70.9 million and nil of gain were recognized based on a subsequent change in fair value of the warrants in our Consolidated Statements of Operations and Comprehensive (Loss)/Income.

These warrants are participating securities because they had contractual rights to share our profits but not losses. For the years ended December 31, 2017, there was no impact for the computation of basic earnings per share due to the expiration of the Warrants.

Share-based compensation

In accordance with ASC 718, *Compensation-Stock Compensation*, we measure the costs of employee services received in exchange for share-based compensation at the grant date fair value of the award.

We recognize the share-based compensation costs, net of a forfeiture rate, on a straight-line basis over the requisite service period for each separately vesting portion of the award as if the award was, in-substance, multiple awards.

ASC 718 requires forfeitures to be estimated at the time of grant and revised in subsequent periods if actual forfeitures differ from those estimates. For the stock options granted in the years ended December 31, 2015, 2016 and 2017 we used the forfeiture rate of 11.12%, 12.71% and 14.91%, respectively.

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Grants to Employees

The determination of the fair value of share-based awards and related share-based compensation expense requires input of subjective assumptions, including but not limited to the valuation model adopted, risk-free interest rate, expected life of the share-based awards, stock price volatility, and expected forfeiture rate. The selection of an appropriate valuation technique or model depends on the substantive characteristics of the instrument being valued. Risk free interest rates are decided based on the yield to maturity of U.S. government bonds as at respective dates of grant of options. The expected life of stock options granted is based on the average between the vesting period and the contractual term for each grant, taking into account assumptions used by comparable companies. Volatility is measured using a combination of historical daily price changes of comparable companies stock over the respective expected life of the option and implied volatility derived from traded options of comparable companies. The forfeiture rate is estimated based on our expectation for the future.

The assumptions used in calculating the fair value of share-based awards and related share-based compensation represent management s best estimations, but these estimates involve inherent uncertainties and the application of management judgment. As a result, if factors change or we utilize different assumptions, our share-based compensation expense could be materially different for any period.

Income taxes

We account for income taxes under the asset and liability method. We recognize deferred tax assets and liabilities for the future tax consequences attributable to differences between the financial statements carrying amounts of existing assets and liabilities and their respective tax assets bases and operating loss and tax credit carry forwards. We measure deferred tax assets and liabilities using enacted tax rates expected to apply to taxable income in the years in which those temporary differences are expected to be recovered or settled. We recognize the effect on deferred tax assets and liabilities of a change in tax rates in income in the period that includes the enactment date. A valuation allowance is provided to reduce the carrying amount of deferred tax assets if it is considered more likely than not that some portion, or all, of the deferred tax assets will not be realized. We recorded valuation allowances to reduce our net deferred tax assets and the balance of such valuation allowance was RMB483.6 million, RMB373.8 million and RMB392.6 million (US$60.3 million) as of December 31, 2015, 2016 and 2017, respectively. A portion of valuation allowance was utilized as our subsidiaries generated sufficient taxable income in 2017.

Uncertain tax position is accounted for in accordance with ASC 740-10-25, which clarifies the accounting for uncertain tax positions and requires that we recognize in the consolidated financial statements the impact of an uncertain tax position, if that position is more likely than not of being sustained upon examination, based on the technical merits of the position. Recognized income tax positions are measured at the largest amount that is greater than 50% likely of being realized. Changes in recognition or measurement are reflected in the period in which the change in judgment occurs. Our accounting policy is to accrue interest and penalties related to uncertain tax positions, if and when required, as interest expense and a component of general and administrative expenses, respectively, in the consolidated statements of operations. In the years ended December 31, 2015, 2016 and 2017, we did not record any interest and penalties associated with uncertain tax positions as there were no uncertain tax positions.

Product warranties

It is customary in our business and industry to warrant or guarantee the performance of our solar module products at certain levels of conversion efficiency for extended periods. Our standard solar modules are typically sold with a 10 years warranty for defects in materials and workmanship and a 10 to 25 years warranty against declines of more than 10% and 20%, respectively, of the initial minimum electricity generation capacity at the time of delivery. In addition, we usually provide the same warranty for solar modules assembled for third party OEM customers. We therefore maintain warranty reserves (recorded as accrued warranty costs) to cover potential liabilities that could arise from these guarantees and warranties. The potential liability is generally in the form of product replacement or repair. We accrue 1% of our net revenues from sales of solar modules as general warranty costs at the time revenues are recognized and include that amount in our cost of revenues. We also separately accrue specific warranty costs to cover potential liabilities that could arise from customer claims based on an individual assessment. Liabilities arising from special customer claims other than product replacement or repair are accrued separately and charged into cost of revenues instead of utilizing warranty reserves. Due to limited warranty claims to date, we accrue the estimated costs of warranties based on our own history, industry data and an assessment of our competitors accrual history. Through our relationships with, and management s experience working at, other solar power companies and on the basis of publicly available information regarding other solar power companies accrued warranty costs, we believe that accruing 1% of our net revenues from sales of solar modules as general warranty costs is within the range of industry practice and is consistent with industry-standard accelerated testing, which assists us in estimating the long-term reliability of solar modules, estimates of failure rates from our quality review and other assumptions that we believe to be reasonable under the circumstances. However, 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. Actual warranty costs are accumulated and charged against the accrued warranty liability. To the extent that the actual warranty costs differ from the estimates, we will prospectively revise our accrual rate.

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Investments

Investments in entities where we do not have a controlling financial interest, but have the ability to exercise significant influence over the operating and financial policies of the investee, are accounted for using the equity method of accounting. Investment in a joint venture or an affiliate is accounted for by the equity method of accounting as we have the ability to exercise significant influence but do not own a majority equity interest. Under the equity method of accounting, our share of the investee s results of operations is included in equity gain/(loss) for the investee in our consolidated statements of operations. Unrealized gains on transactions between us and the joint venture or affiliate are eliminated to the extent of our interest in the joint venture or affiliate, if any; unrealized losses are also eliminated unless the transaction provides evidence of an impairment of the asset transferred. When our share of losses in the joint venture or affiliate equals or exceeds our interest in the joint venture or affiliate, we do not recognize further losses, unless we have incurred obligations or made payments on behalf of the joint venture or affiliate.

We review our investment in the joint venture or affiliate to determine whether a decline in fair value below the carrying value is other-than-temporary. The primary factors we consider in our determination are the length of time that the fair value of the investment is below our carrying value and the financial condition, operating performance and near-term prospects of the investee. In addition, we consider the reason for the decline in fair value, including general market conditions, industry-specific or investee-specific reasons, changes in valuation subsequent to the balance sheet date and our intent and ability to hold the investment for a period of time sufficient to allow for a recovery in fair value. If the decline in fair value is deemed to be other than temporary, the carrying value of the security is written down to fair value.

Business combination

We account for business combinations under the acquisition method in accordance with ASC 805, *Business Combinations*. We measure consideration transferred as the aggregate of the fair values at the date of exchange of the assets given, liabilities incurred, and equity instruments issued. We expense the costs directly attributable to the acquisition as incurred. We measure identifiable assets, liabilities and contingent liabilities acquired or assumed separately at their fair value as of the acquisition date, irrespective of the extent of any non-controlling interests. We record the excess of the (i) the fair value of consideration transferred fair value of the non-controlling interests and acquisition date fair value of any previously held equity interest in the acquiree over (ii) the fair value of the identifiable net assets of the acquiree is recorded as goodwill. If the fair value of consideration transferred, fair value of the non-controlling interests and acquisition date fair value of any previously held equity interest in the acquisition is less than the fair value of the net assets of the entity acquired, we recognize the difference, a bargain purchase, as a gain directly in the statements of operations and other comprehensive income/loss upon obtaining controlling interests. For business combinations in which we obtain controlling interests through several acquisitions, the acquirer shall remeasure its previously held equity interests in the acquiree at its fair value on the acquisition date and recognize the resulting gain or loss, if any, in earnings.

The determination and allocation of fair values to the identifiable assets acquired and liabilities assumed, including non-controlling interests if applicable, is based on various assumptions and valuation methodologies requiring considerable management judgment. The most significant variables in these valuations are discount rates, terminal values, the number of years on which to base the cash flow projections, as well as the assumptions and estimates used to determine the cash inflows and outflows. We determine discount rates to be used based on the risk inherent in the related activity s current business model and industry comparisons. Terminal values are based on the expected life of assets and forecasted life cycle and forecasted cash flows over that period. Although we believe that the assumptions applied in the determination are reasonable based on information available at the date of acquisition, actual results may differ from the forecasted amounts and the difference could be material. (See also Notes to Consolidated Financial Statements 3. Acquisition.)

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In January 2013, we completed the acquisition of 65% equity interest of Hebei Ningjin Songgong Semiconductor Co., Ltd. (Ningjin Songgong). As of December 31, 2016, Ningjin Songgong was liquidated and the assets and liabilities of Ningjin Songgong have been adjusted to liquidation value, with no gain or loss impact on the consolidated statements of operations and comprehensive income. The net assets attributable to the non-controlling interest party were reclassified as payables accordingly. By the end of December 31, 2017, the payables had been paid off.

In June 2016, we completed the acquisition of 100% of shares of Jiuzhou Fangyuan New Energy (Yichang) Co., Ltd., which is engaged in solar projects business for a total consideration of RMB150.0 million.

Contingencies

Liabilities for loss contingencies arising from claims, assessments, litigation, fines and penalties and other sources are recorded when it is probable that a liability has been incurred and the amount can be reasonably estimated. In October 2016, we signed the Settlement Agreement and the New Supply Agreement. According to the Settlement Agreement, Hemlock agrees not to commence any civil action against us in relation to the Original Supply Agreement signed in March 2011 unless we breach the New Supply Agreement. After a detailed assessment, we believe the breach of New Supply Agreement is remote. As a result, no contingent liability has been recorded as of December 31, 2017 and the total amount of accrued late payment interest of RMB 303,380 was reversed for the year ended December 31, 2016. We fulfilled the obligation under the New Supply Agreement and did not record any contingency liabilities as of December 31, 2017. See note 26(b) to Notes to Consolidated Financial Statements.

Key Components of Results of Operations

Revenues

The following table sets forth the principal components of our revenues by amounts and percentage of our total revenues for periods indicated:

	Year ended December 31,					
	2015		2016		2017	
	(in millions, except for percentages)					
	RMB	%	RMB	%	RMB	%
Solar modules	12,689	93.8	14,781	93.9	18,350	93.3
Solar cells and other products	762	5.6	800	5.1	905	4.6
Electricity generation	64	0.5	156	1.0	404	2.1
Solar product processing	10	0.1				
Total Revenues	13,525	100.0	15,737	100.0	19,659	100.0

We derive revenues primarily from the sales of solar modules, solar cells and other products to module manufacturers, system integrators, project developers and distributors and beginning in 2015, from electricity generation. For the years ended December 31, 2015, 2016 and 2017, approximately 57.0 %, 48.6% and 51.5% of our total sales were to customers outside China, respectively. For the years ended December 31, 2015, 2016 and 2017, sales to our largest customer represented approximately 12.5%, 5.3% and 7.2% of our total revenues, respectively; and sales to our three largest customers represented approximately 23.3%, 14.6% and 14.4% of our total revenues, respectively. Our three largest customers were all unrelated third parties. Sales to our top ten customers accounted for approximately 41.9%, 36.9% and 30.1% of total revenues for the years ended December 31, 2015, 2016 and 2017, respectively.

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For the year ended December 31, 2017, our revenues from sales of solar modules amounted to approximately RMB18.4 billion (US$2.8 billion), or 93.3% of our total revenues. We sold approximately 7,143.1 MW of solar modules in 2017, compared to 4,606.6 MW in 2016. The increase of sales of solar modules was primarily due to the shift of our product mix to solar modules and strong market demand. We accrued 1.0% of our net revenues from sales of solar modules as general warranty costs at the time revenues are recognized and separately accrued specific warranty costs to cover potential liabilities that could arise from customer claims based on an individual assessment and include that amount in our cost of revenues. Because we have limited warranty claims to date, we accrue the estimated costs of warranties based on our own history, industry data and an assessment of our competitors accrual history.

For the year ended December 31, 2017, our revenues from sales of solar cells and other products amounted to approximately RMB0.9 billion (US$0.1 billion), or 4.6% of our total revenues. We sold approximately 358.0 MW of solar cells in 2017, compared to approximately 313.8MW in 2016. The increase in sales of solar cells and other products was due to the increase in sales volume from 16.1 MW in 2016 to 55.3 MW in 2017.

For the year ended December 31, 2017, our revenues from electricity generation amounted to approximately RMB404.0 million (US$62.1 million), or 2.1% of our total revenues.

For the year ended December 31, 2017, we did not generate any revenues from solar product processing services.

Cost of Revenues

The following table sets forth the principal components of our cost of revenues by amounts and percentage of our total revenues for periods indicated:

	Year ended December 31,					
	2015		2016		2017	
	(in millions, except for percentages)					
	RMB	**%**	**RMB**	**%**	**RMB**	**%**
Cost of Revenues						
Solar modules	10,521	77.7	12,612	80.1	16,242	82.6
Solar cells and other products	675	5.0	743	4.7	865	4.4
Electricity generation	30	0.2	88	0.6	143	0.7
Solar products processing	7	0.1				
Total cost of revenues	11,233	83.0	13,443	85.4	17,250	87.7

Solar modules. For the years ended December 31, 2015, 2016 and 2017, our cost of revenues for solar modules accounted for 77.7%, 80.1% and 82.6% of our total revenues, respectively. The increase in costs of solar modules in absolute amounts from 2015 to 2017 is primarily due to the significant increase in sales volume of our solar modules. The increases in costs of solar modules as a percentage of our total revenues from 2015 to 2017 is primarily due to the decrease of the average sales price in the whole PV modules industry.

Solar cells and other products. For the years ended December 31, 2015, 2016 and 2017, cost of solar cells and other products accounted for 5.0%, 4.7% and 4.4% of our total revenues, respectively. The decrease in the cost of solar cell and other product in absolute amounts and as a percentage of our total revenues from 2015 to 2017 is primarily due to the shift of our product mix to solar modules.

Electricity generation. We started electricity generation services in 2015. For the year ended December 31, 2015, 2016 and 2017, the cost of revenues for our electricity generation services was RMB30.0 million, RMB 88.0 million and RMB143.0 million (US$22 million), respectively. As a percentage of our total revenues, the cost of revenues for our electricity generation services accounted for 0.2%, 0.6% and 0.7% for the years ended December 31, 2015, 2016 and 2017, respectively, including depreciation of solar power project assets and costs associated with operation and maintenance of the power plants came into use.

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Solar products processing. For the years ended December 31, 2015, cost of revenues for our solar products processing services accounted for 0.1% of our total cost of revenues. For the years ended December 31, 2016 and 2017, we did not incur any cost of revenues for our solar products processing services. The continuous decrease in the cost of solar products processing in absolute amounts and as a percentage of our total revenues from 2015 to 2017 is primarily due to the decreased processing service rendered by us to customers, which is consistent with customer demands.

Operating Expenses

The following table sets forth the principal components of our operating expenses by amounts and percentage of our total revenues for periods indicated

	Year ended December 31,					
	2015		2016		2017	
	(in millions, except for percentages)					
	RMB	%	RMB	%	RMB	%
Operating Expenses						
Selling, general and administrative expenses	1,245	9.2	1,058	6.8	1,514	7.7
Research and development expenses	149	1.1	176	1.1	160	0.8
Loss from purchase commitment and contract termination costs			149	0.9	16	0.1
Impairment loss on project assets	33	0.2	8	0.1	3	0.1
Total operating expenses	1,427	10.5	1,391	8.8	1,693	8.6

Selling, general and administrative expenses. Selling expenses primarily consist of promotional and other sales and marketing expenses and salaries and benefits for our sales and marketing personnel. General and administrative expenses primarily consist of leasing expenses associated with our administrative offices, salaries and benefits for our administrative, finance and human resources personnel, share-based compensation, bad debt provision, impairment provision against advance payments made to suppliers, accruals/reversals for potential interest/penalties under long term supply arrangements, freight expenses, business travel expenses and professional services expenses.

From 2012 to 2015, we accrued interest for late payment based on terms of the Original Supply Agreement. We recognized RMB93.8 million and RMB123.5 million of such interest expense in 2014 and 2015, respectively. In 2016, the total interest of RMB 303.4 million was reversed with the settlement of our dispute with Hemlock. In 2017, we fulfilled our obligation under the new agreement with Hemlock.

We did not grant any options in 2015, 2016 and 2017. See Item 6. Directors, Senior Management and Employees B. Compensation Stock Option Plans. Our share-based compensation expenses relating to our option grants and stock awards have had an adverse effect on our reported earnings for the years ended December 31, 2015, 2016 and 2017. We recognized a share-based compensation charge of RMB9.4 million, RMB2.3 million and RMB0.2 million (US$0.03 million) for the years ended December 31, 2015, 2016 and 2017, respectively. The above charges are net of forfeiture reversal amounts of RMB0.9 million, RMB0.7 million and RMB0.03 million (US$0.01 million) for the years ended December 31, 2015, 2016 and 2017, respectively. Share- based compensation expenses are amortized over the vesting period of these options ranging from two to four years starting from the grant date.

Loss from purchase commitment and contract termination cost. In 2017, we incurred loss from purchase commitments and contract termination costs of RMB16.0 million (US$2.5 million) in 2017 as a percentage of our total revenues at 0.1%. We evaluate firm purchase commitments and record a loss, if any, on firm purchase commitments using the same lower of cost or market approach as that used to value inventory. The total loss from purchase commitments is due to our commitments to purchase polysilicon prior to commencement of operation of our new facility.

Research and development expenses. Research and development expenses primarily consist of research materials, compensation and benefits for research and development personnel. Research and development expenses are expensed when incurred. We believe that research and development is critical to the success of our business. We intend to focus on innovation of our manufacturing technology as well as imposing stringent measures to maintain a competitive cost structure.

Impairment loss on project assets. We incurred impairment loss on project assets of RMB8.1 million and RMB3.0 (US$0.5 million) related to our decision to suspend the construction of certain projects for the years ended December 31, 2016 and December 31, 2017, respectively.

Interest (Income) Expense, net

We generated interest income of RMB25.6 million, RMB18.9 million and RMB17.3 (US$2.7 million) and incurred interest expense of RMB249.4 million, RMB284.3 million and RMB324.4 (US$49.9 million) for the years ended December 31, 2015, 2016 and 2017, respectively. Our net interest expense in 2015, 2016 and 2017 was primarily the interest related to borrowings. The increase or decrease in other interest expenses is consistent with the increase or decrease in borrowings.

Foreign Exchange (Loss)/Gain

We recorded a foreign exchange gain of RMB31.9 million and RMB80.8 million in 2015 and 2016, respectively, primarily due to the appreciation of U.S. dollars against RMB. We recorded a foreign exchange loss of RMB70.1 million in 2017. Fluctuations in currency exchange rates may continue to have a significant effect on our financial results as we continue to grow our sales to markets outside China.

Inflation

Since our inception, inflation in China has not materially affected our results of operations. According to the National Bureau of Statistics of China, the annual average percent changes in the consumer price index in China for 2015, 2016 and 2017 were 1.4%, 2.0% and 1.6%, respectively. The year-over-year percent changes in the consumer price index for December 2015, 2016 and 2017 were increases of 1.6%, 2.1% and 1.8%, respectively. Although we have not been materially affected by inflation in the past, we may be affected if China experiences higher rates of inflation in the future.

Recently Pronounced Accounting Standards

In May 2014, the Financial Accounting Standards Board (FASB) issued Accounting Standards Update 2014-09, Revenue from Contracts with Customers (ASU 2014-09), a new standard on revenue which will supersede the revenue recognition requirements in ASC 605. In August 2015, the FASB issued ASU No. 2015-14, Revenue from Contracts with Customers (Topic 606): Deferral of the Effective Date, which delays the effective date of ASU 2014-09 by one year. The FASB also agreed to allow entities to choose to adopt the standard as of the original effective date. In March 2016, the FASB issued ASU No. 2016-08, Revenue from Contracts with Customers (Topic 606): Principal versus Agent Considerations (Reporting Revenue Gross versus Net), which clarifies the implementation guidance on principal versus agent considerations. Further, in 2016, the FASB issued five amendments to the new standard. The new standard, as amended, sets forth a single comprehensive model for recognizing and reporting revenues. The new guidance requires us to recognize revenue to depict the transfer of promised goods or services to customers in an amount that reflects the consideration to which the entity expects to be entitled in exchange for those goods or services. The new guidance requires us to apply the following steps: (1) identify the contract with a customer; (2) identify the performance obligations in the contract; (3) determine the transaction price; (4) allocate the transaction price to the performance obligations in the contract; and (5) recognize revenue when, or as, we satisfy a performance obligation. The standard also requires additional financial statement disclosures that will enable users to understand the nature, amount, timing and uncertainty of revenues and cash flows relating to customer contracts. The standard is effective for public companies for fiscal years, and interim periods within those years, beginning on or after December 31, 2017. Early adoption is permitted but not before periods beginning on or after January 1, 2017. We expect to adopt the standard starting January 1, 2018. The standard allows for two methods of adoption: the full retrospective adoption, which requires the standard to be applied to each prior period presented, or the modified retrospective adoption, which requires the cumulative effect of adoption to be recognized as an adjustment to opening retained earnings in the period of adoption. We anticipate adopting the standard using the modified retrospective method.

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We have identified and evaluated all of its contracts with customers, and compared the requirements of the new standard with its current accounting policies. This includes an analysis of, among other things: the timing of revenue recognition, the allocation of value for performance obligations that might be bundled within contractual arrangements, and the method of recording revenue on a gross vs. net basis. Further, we have also evaluated whether any revenue-related costs for commissions, customer acquisition or similar costs would be affected by the new standard. After performing this analysis, we expect the impact of adopting this pronouncement not to be material to the consolidated financial statements.

In July 2015, the FASB issued ASU 2015-11, Inventory (Topic 330): Simplifying the Measurement of Inventory which applies to inventory that is measured using first-in, first-out (FIFO) or average cost. Under the updated guidance, an entity should measure inventory that is within scope at the lower of cost and net realizable value, which is the estimated selling prices in the ordinary course of business, less reasonably predictable costs of completion, disposal and transportation. Subsequent measurement is unchanged for inventory that is measured using last-in, first-out (LIFO). This ASU is effective for annual and interim periods beginning after December 15, 2016, and should be applied prospectively with early adoption permitted at the beginning of an interim or annual reporting period. We have adopted the standard in 2017 and the impact of adopting this pronouncement was not material to the consolidated financial statements.

In November 2015, the FASB issued ASU 2015-17, Balance Sheet Classification of Deferred Taxes . This ASU amends existing guidance to require that deferred income tax liabilities and assets be classified as noncurrent in a classified balance sheet, and eliminates the prior guidance which required an entity to separate deferred tax liabilities and assets into a current amount and a noncurrent amount in a classified balance sheet. The amendments in this ASU are effective for annual reporting periods beginning after December 15, 2016, and interim periods within those annual periods. Earlier application is permitted as of the beginning of an interim or annual period. Additionally, the new guidance may be applied either prospectively to all deferred tax liabilities and assets or retrospectively to all periods presented. We have adopted ASU 2015-17 in 2017 using the prospective method and all deferred taxes have been classified as noncurrent in the balance sheet as of December 31, 2017.

In January 2016, the FASB issued ASU 2016-01, Financial Instruments-Overall (Subtopic 825-10)-Recognition and Measurement of Financial Assets and Financial Liabilities. ASU 2016-01 changes how entities measure certain equity investments and present changes in the fair value of financial liabilities measured under the fair value option that are attributable to their own credit. The guidance also changes certain disclosure requirements and other aspects of current U.S. GAAP. Further, in March 2018, the FASB issued ASU 2018-03 Technical Corrections and Improvements to Financial Instruments Overall (Subtopic 825-10): Recognition and Measurement of Financial Assets and Financial Liabilities, which provides further guidance on adjustments for observable transaction for equity securities without a readily determinable fair value and clarification on fair value option for liabilities instruments. ASU 2016-01 is effective for fiscal years and interim periods within those years beginning after December 15, 2017, and certain provisions of the guidance may be early adopted. We do not expect the adoption of ASU 2016-01 and 2018-03 to have a significant impact on the consolidated financial statements and associated disclosures.

In February 2016, the FASB issued an ASU 2016-02, Leases (Topic 842). The core principle of Topic 842 is that a lessee should recognize the assets and liabilities that arise from leases. All leases create an asset and a liability for the lessee in accordance with FASB Concepts Statement No. 6, Elements of Financial Statements, and, therefore, recognition of those lease assets and lease liabilities represents an improvement over previous GAAP, which did not require lease assets and lease liabilities to be recognized for most leases. This ASU is effective for annual and interim periods beginning after December 15, 2018. Early adoption is permitted. The recognition, measurement, and presentation of expenses and cash flows arising from a lease by a lessee have not significantly changed from previous GAAP. We are currently evaluating the impact the pronouncement will have on the consolidated financial statements and associated disclosures.

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In March 2016, the FASB issued an ASU 2016-07, Investments Equity Method and Joint Ventures (Topic 323): Simplifying the Transition to the Equity Method of Accounting, which eliminates the requirement to retrospectively apply the equity method in previous periods. Instead, the investor must apply the equity method prospectively from the date the investment qualifies for the equity method. The amendments in this update are effective for financial statements issued for annual periods beginning after December 15, 2016, and interim periods within those annual periods, with early adoption permitted. We have adopted the standard in 2017 and the impact of adopting this pronouncement was not material to the consolidated financial statements given our investments.

In March 2016, the FASB issued an ASU 2016-09 Improvements to Employee Share-based Payment Accounting , which amends ASC Topic 718, Compensation Stock Compensation. The areas for simplification in this Update involve several aspects of the accounting for share-based payment transactions, including the income tax consequences, classification of awards as either equity or liabilities, and classification on the statement of cash flows. The amendments in this Update are effective for annual periods beginning after December 15, 2016, and interim periods within those annual periods. We have adopted the standard in 2017 and the impact of adopting this pronouncement was not material to the consolidated financial statements.

In June 2016, the FASB issued ASU 2016-13, Financial Instruments Credit Losses (Topic 326), to provide financial statement users with more useful information about expected credit losses. ASU 2016-13 also changes how entities measure credit losses on financial instruments and the timing of when such losses are recorded. ASU 2016-13 is effective for fiscal years and interim periods within those years beginning after December 15, 2019, and early adoption is permitted for periods beginning after December 15, 2018. We are currently evaluating the impact ASU 2016-13 will have on the consolidated financial statements and associated disclosures.

In August 2016, the FASB issued ASU 2016-15, Classification of Certain Cash Receipts and Cash Payments (Topic 230). This ASU is intended to reduce diversity in practice in how eight particular transactions are classified in the statement of cash flows. ASU 2016-15 is effective for interim and annual reporting periods beginning after December 15, 2017. Early adoption is permitted, provided that all of the amendments are adopted in the same period. We will be required to apply the guidance retrospectively. If it is impracticable to apply the guidance retrospectively for an issue, the amendments related to that issue would be applied prospectively. As the likelihood of we experiencing one or more of the eight particular specified transactions is low, ASU 2016-15 is not expected to have a material impact on our consolidated financial statements.

In October 2016, the FASB issued Accounting Standards Update No. 2016-16 (ASU 2016-16), Income Taxes (Topic 740), Intra-Entity Transfers of Assets Other Than Inventory . The new guidance requires that entities recognize the income tax consequences of an intra-entity transfer of an asset other than inventory when the transfer occurs, rather than when the asset is sold to an outside party. The guidance is effective for annual reporting periods beginning after December 15, 2017, including interim periods within those annual reporting periods. Early adoption is permitted as of the beginning of an annual reporting period (as of the first interim period if an entity issues interim financial statements). The new guidance requires adoption on a modified retrospective basis through a cumulative-effect adjustment directly to retained earnings as of the beginning of the period of adoption. We do not expect the adoption of ASU 2016-16 to have a significant impact on the consolidated financial statements and associated disclosures.

In November 2016, the FASB issued ASU 2016-18, Restricted Cash (Topic 230). The amendments in this Update are an improvement to GAAP by providing guidance on the presentation of restricted cash or restricted cash equivalents in the statement of cash flows, thereby reducing the diversity in practice described above. ASU No. 2016-18 is effective for fiscal years beginning after December 15, 2017, and interim periods within those fiscal years. Early adoption is permitted, including adoption in an interim period. We do not expect that the adoption will have a material impact on its consolidated financial statements. For the year ended December 31, 2017, the increase of restricted cash with the amount of RMB169.5 million is included in investing activities of the statements of cash flows.

In January 2017, the FASB issued ASU No. 2017-01, Business Combinations (Topic 805): Clarifying the Definition of a Business (ASU 2017-01), which clarifies the definition of a business to assist entities with evaluating whether transactions should be accounted for as acquisitions or disposals of assets or businesses. The standard introduces a screen for determining when assets acquired are not a business and clarifies that a business must include, at a minimum, an input and a substantive process that contribute to an output to be considered a business. The ASU is effective for fiscal years beginning after December 15, 2017, including interim periods within those fiscal years. We will adopt ASU 2017-01 in 2018 and the adoption is not expected to have a material impact on our consolidated financial statements.

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Results of Operations

The following table sets forth certain consolidated results of operations data in terms of amount and as a percentage of our total revenues for the periods indicated.

	Year ended December 31,					
	2015		2016		2017	
	(in millions, except for operating data and percentages)					
	RMB	%	RMB	%	RMB	%
Income Statement and Comprehensive Loss Data:						
Total Revenues	13,525	100.0	15,737	100.0	19,659	100
China	5,820	43.0	8,081	51.4	9,533	48.5
Outside China	7,705	57.0	7,656	48.6	10,126	51.5
Cost of revenues	(11,233)	(83.0)	(13,443)	(85.4)	(17,250)	(87.7)
Gross profit	2,292	17.0	2,294	14.6	2,409	12.3
Operating expenses	(1,427)	(10.6)	(1,391)	(8.9)	(1,693)	(8.6)
Selling, general and administrative expenses	(1,245)	(9.2)	(1,058)	(6.8)	(1,514)	(7.7)
Research and development expenses	(149)	(1.1)	(176)	(1.1)	(160)	(0.8)
Loss from purchase commitments and contract termination costs			(149)	(0.9)	(16)	(0.1)
Impairment loss on project assets	(33)	(0.2)	(8)	(0.1)	(3)	(0.1)
Income from continuing operations	865	6.4	903	5.7	716	3.6
Change in fair value of derivatives	44	0.3	49	0.3	(2)	(0.1)
Interest expense	(249)	(1.8)	(285)	(1.8)	(324)	(1.6)
Interest income.	26	0.2	19	0.1	17	0.1
Foreign exchange gain/(loss)	32	0.2	81	0.5	(70)	(0.4)
Income for equity investment in a joint venture	6	0	10	0.1	9	0.1
Other income, net	48	0.4	66	0.5	53	0.3
Income from continuing operations before income taxes	772	5.7	843	5.4	399	2.0
Income tax expense	(157)	(1.2)	(123)	(0.8)	(99)	(0.5)
Net income	615	4.5	720	4.6	300	1.5

Year Ended December 31, 2017 compared to Year Ended December 31, 2016

Total revenues. Our total revenues increased from RMB15.7 billion in 2016 to RMB19.7 billion (US$3.0 billion) in 2017. The increase was primarily due to an increase in our output, offsetting by a decrease in the average sales price. Our total shipments increased from 4.9 GW in 2016 to 7.5 GW in 2017. Our total revenues from sales in China increased from RMB8.1 billion in 2016 to RMB9.5 billion (US$1.5 billion) in 2017, which was primarily due to strong industry demand in China for solar power products. Our total revenues from sales outside China increased from RMB7,656.0 million to RMB10,126.5 million (US$1,556.4 million) in 2017, primarily due to a rapid increase of industry demand for solar power products. Our revenues from sales in China, as a percentage of our total revenues, decreased from 51.4% in 2016 to 48.5% in 2017, and our revenues from sales outside China, as a percentage of our total revenues, increased from 48.6% in 2016 to 51.5% in 2017. This reflected our efforts in developing overseas markets.

Cost of revenues. Our cost of revenues increased from RMB13.4 billion in 2016 to RMB17.3 billion (US$2.7 billion) in 2017. The increase in our cost of revenues was primarily due to the increase of total shipments.

Gross profit. We recorded a gross profit of RMB2.3 billion in 2016 to RMB2.4 billion (US$0.4 billion) in 2017. Our gross profit as a percentage of our total revenues decreased from 14.6% in 2016 to 12.3% in 2017, primarily due to the decrease of the average sales price in the whole PV modules industry.

Total operating expenses. Our total operating expenses were RMB1.7 billion (US$0.3 billion) in 2017 as compared to the total operation expenses of RMB1.4 billion in 2016.

- *Selling, general and administrative expenses.* Our selling, general and administrative expenses increased from RMB1,058 million in 2016 to RMB1,514 million (US$232.7 million) in 2017, and as the percentage of our total revenues increased from 6.8% in 2016 to 7.7% in 2017. The increase in our selling, general and administrative expenses in absolute amounts was primarily due to increase in shipping costs due to increase in sales volume in 2017, a one-time reversal of RMB303.4 million (US$46.6 million) of previously recorded expenses due to the resolution of our dispute with Hemlock in 2016, and bad debt provision increased by RMB60 million, from a reversal of RMB20 million in 2016 to a provision of RMB40 million in 2017, resulting from less recoveries, offsetting by a loss from disposal of fixed assets decreased by RMB87 million.

- *Loss from purchase commitments and contract termination costs.* We incurred loss from purchase commitments and contract termination costs of RMB16 million (US$2.5 million) in 2017 as a percentage of our total revenues at 0.1%. We evaluate firm purchase commitments and record a loss, if any, on firm purchase commitments using the same lower of cost or market approach as that used to value inventory. The total loss from purchase commitments is due to our commitments to purchase polysilicon prior to commencement of operation of our new facility. Loss from purchase commitments and contract termination costs decreased from RMB148.5 million in 2016 to RMB16.4 million (US$2.5 million), primarily due to a termination of business relationship with one of our business partners in 2016, which result in a loss of RMB99.6 million in 2016.

- *Research and development expenses.* Our research and development expenses decreased from RMB175.5 million in 2016 to RMB160.1 million (US$24.6 million) in 2017 and as a percentage of our total revenues at 1.1% in 2016 and 0.8% in 2017. The decrease in the absolute amount of our research and development expenses was due primarily to the decrease of the numbers of research and development projects in 2017.

- *Impairment loss on project assets.* In 2017, we incurred impairment loss of RMB3 million (US$0.5 million), as compared to impairment loss of RMB8 million in 2016, on project assets related to our decision to suspend the construction of certain projects.

Interest expenses. We incurred an interest expenses of RMB284.3 million and RMB324.4 million (US$49.9 million) in 2016 and 2017, respectively. The increase in our interest expense was primarily due to the increase in our borrowings and capital lease. The weighted average borrowings for 2016 and 2017 are RMB6.0 billion and RMB6.1 billion, and the weighted average interest rates for 2016 and 2017 are 4.64% and 4.50%, respectively. In 2017, we continued to sell certain modules and equipment to a third party for cash consideration and simultaneously entered into a three-year or ten-year contract to lease back the leased assets from the purchase-lessor, which result in an increase of payables related to capital lease from RMB487.5 million in 2016 to RMB1,150.6 million (US$176.8 million) in 2017.

Interest income. Our interest income was RMB17.3 million (US$2.7 million) in 2017 and RMB18.9 million in 2016, respectively.

Foreign exchange gain. We recorded a foreign exchange loss of RMB70.1 million (US$10.8 million) in 2017 as compared to a foreign exchange gain of RMB80.8 million in 2016, primarily due to the depreciation of U.S. dollar against RMB in 2017 and the appreciation of U.S. dollar against RMB in 2016.

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Other income. Our other income decreased from RMB65.8 million in 2016 to RMB53.2 million (US$8.2 million) in 2017 primarily due to the decrease in government subsidies.

Income tax expense. Our income tax expense decreased from RMB123.3 million in 2016 to RMB98.5 million (US$15.1 million) in 2017, primarily due to the decrease of income before tax from RMB842.9 million in 2016 to RMB398.6 million (US$61.3 million) in 2017. Effective income tax rate increased from 14.6% in 2016 to 24.7% in 2017 because JA Yangzhou was in a 3-year loss position by December 2015, and in 2016, with the reversal of Hemlock interest, JA Yangzhou was in a 3-year cumulative income position by December 2016 and going forward, we expect that JA Yangzhou would continue to be a profit-making entity, therefore, the valuation allowance was reversed in 2016 and resulted in a tax benefit. JA Investment got into a 3-year loss position by December 2017. Therefore we accrued allowance against deferred tax assets of RMB10.3 million, which resulted from accrual of 2016 and meanwhile resulted in a tax expense in 2017. A portion of valuation allowance was utilized as our subsidiaries generated sufficient taxable income in 2017.

Net Income. As a result of the above factors, we recorded a net income of RMB300.1 million (US$46.1 million) in 2017 as compared to a net income of RMB719.6 million in 2016.

Year Ended December 31, 2016 compared to Year Ended December 31, 2015

Total revenues. Our total revenues increased from RMB13.5 billion in 2015 to RMB15.7 billion in 2016. The increase was primarily due to an increase in our output. Our total shipments increased from 3.9 GW in 2015 to 4.9 GW in 2016. Our total revenues from sales in China increased from RMB5.8 billion in 2015 to RMB8.1 billion in 2016, which was primarily due to strong industry demand in China for solar power products. Our total revenues from sales outside China slightly decreased from RMB7,705 million in 2015 to RMB7,656.0 million in 2016, primarily due to a decrease in the price of solar power products. Our revenues from sales in China, as a percentage of our total revenues, increased from 43.0% in 2015 to 51.4% in 2016, and our revenues from sales outside China, as a percentage of our total revenues, decreased from 57.0% in 2015 to 48.6% in 2016. This reflected our efforts to meet the strong demand in China in 2016.

Cost of revenues. Our cost of revenues increased from RMB11.2 billion in 2015 to RMB13.4 billion in 2016. The increase in our cost of revenues was primarily due to increase in sales volume.

Gross profit. We recorded a gross profit of RMB2.3 billion in 2016 as compared to a gross profit of RMB2.3 billion in 2015. Our gross profit as a percentage of our total revenues decreased from 17.0% in 2015 to 14.6% in 2016, primarily due to the decrease of average selling price of solar modules during 2016.

Total operating expenses. Our total operating expenses were RMB1.4 billion in 2016 as compared to the total operation expenses of RMB1.4 billion in 2015.

- *Selling, general and administrative expenses.* Our selling, general and administrative expenses decreased from RMB1,245 million in 2015 to RMB1,058 million in 2016, and as the percentage of our total revenues decreased from 9.2% in 2015 to 6.8% in 2016. The decrease in our selling, general and administrative expenses in absolute amounts was primarily due to a one-time reversal of RMB303.4 million of previously recorded expenses due to the resolution of our dispute with Hemlock We accrued interest for late payment based on terms of the Original Supply Agreement. We recognized RMB 93.8 million and RMB 123.5 million of such interest expense in 2014 and 2015, respectively. As of December 31, 2015, the total accrued interest was RMB 303.4 million. In 2016, the total interest of RMB 303.4 million was reversed with the settlement of our dispute with Hemlock. See note 26(b) to Notes to Consolidated Financial Statements.

- *Loss from purchase commitments and contract termination costs.* We incurred loss from purchase commitments and contract termination costs of RMB149 million in 2016 as a percentage of our total revenues at 0.9%. We evaluate firm purchase commitments and record a loss, if any, on firm purchase commitments using the same lower of cost or market approach as that used to value inventory. Our RMB48.9 million loss from purchase commitments is due to our commitments to purchase polysilicon prior to commencement of operation of our new facility. Our RMB99.6 million loss from contract termination costs was due to the termination of business relationship with one of our business partners.

- *Research and development expenses.* Our research and development expenses increased from RMB148.5 million in 2015 to RMB175.5 million in 2016 and both as a percentage of our total revenues at 1.1% in 2015 and 2016. The increase in the absolute amount of our research and development expenses was due primarily to greater research and development activities undertaken by us.

- *Impairment loss on project assets.* In 2016, we incurred impairment loss of RMB8.1 million, as compared to impairment loss of RMB32.6 million in 2015, on project assets related to our decision to suspend the construction of certain projects.

Interest expenses. We incurred an interest expenses of RMB249.7 million and RMB284.3 million in 2015 and 2016, respectively. The increase in our interest expense was primarily due to the increase of our borrowings. The weighted average borrowings for 2015 and 2016 are RMB4.4 billion and RMB 6.0 billion, and the weighted average interest rates for 2015 and 2016 are 5.70% and 4.64%, respectively.

Interest income. Our interest income was RMB18.9 million in 2016 and RMB25.6 million in 2015, respectively.

Foreign exchange gain. We recorded a foreign exchange gain of RMB80.8 million in 2016 as compared to a foreign exchange gain of RMB31.9 million in 2015, primarily due to the appreciation of U.S. dollar against RMB.

Other income. Our other income increased from RMB48.5 million in 2015 to RMB65.8 million in 2016 primarily due to the increase in government subsidies.

Income tax expense. Our income tax expense decreased from RMB157.3 million in 2015 to RMB123.3 million in 2016, primarily due to the decrease of effective income tax rate from 20.4% in 2015 to 14.6% in 2016. Effective income tax rate decreased from 20.4% in 2015 to 14.6% in 2016 due to the 15% preferential income tax rate enjoyed by JA Hefei Technology and JA Wafer R&D which were recognized as ANTEs in 2016. JA Yangzhou was in a 3-year loss position by December 2015. In 2016, with the reversal of Hemlock interest, JA Yangzhou was in a 3-year cumulative income position by December 2016 and going forward, we expect that JA Yangzhou would continue to be a profit-making entity, therefore, the valuation allowance was reversed in 2016 and resulted in a tax benefit.

Net Income. As a result of the above factors, we recorded a net income of RMB719.6 million in 2016 as compared to a net income of RMB614.5 million in 2015.

B. LIQUIDITY AND CAPITAL RESOURCES

Cash Flows, Working Capital and Liquidity

We have financed our operations primarily through equity contributions by our shareholders through our initial and follow-on public offerings, the 2008 Senior Notes, issuance of warrants, short-term and long-term borrowings and cash flow from operations. As of December 31, 2017, we had RMB2.5 billion (US$0.4 billion) in cash and cash equivalents and restricted cash. Our cash and cash equivalents consist primarily of cash on hand, demand deposits and money market funds. Restricted cash represents amounts temporarily held by banks as collateral for issuance of letters of credit, letters of guarantee, bank acceptance notes as well as certain bank borrowings, which are not available for our use.

As of December 31, 2017, we had RMB3.9 billion (US$0.6 billion) in outstanding short-term borrowings and long-term borrowings (current portions). As of December 31, 2017, we had RMB2.1 billion (US$0.3 billion) in outstanding long-term borrowings (excluding current portions). These loans were borrowed from various financial institutions and generally have terms of 1 to 149 months and expire at various times. Our outstanding borrowings as of December 31, 2017 bore an average interest rate of 4.50% per annum. These credit facilities were granted for long-term project development as well as working capital usages. These facilities contain no specific renewal terms, but we have historically been able to obtain extensions of some of the facilities shortly before they mature. We have restrictive covenants for RMB629 million (US$96.7 million) of our loans, which are subject to financial ratio covenants. As of December 31, 2017, we are not in breach of any financial ratio covenants.

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Our long-term borrowing of RMB84.0 million (US$12.9 million) and short-term borrowings of RMB44.9 million (US$6.9 million) from Industrial and Commercial Bank of China was secured by certain of our buildings and land use right in Shanghai Jinglong Solar Technology Co., Ltd., or JA Jinglong. Our long-term loan of RMB 1,152.0 million (US$177.1 million) from Industrial and Commercial Bank of China entrusted by Hefei High-Tech Industrial Development Zone Management Co., Ltd. was secured by the buildings, machineries and equipment and construction-in-progress and land use rights owned by JA Hefei Technology and all of the equity interests in JA Hefei Technology. Our long-term borrowing of RMB504.0 million (US$77.5 million) from Industrial and Commercial Bank of China was secured by project assets of Dunhuang JA Solar Power Development Co., Ltd. Our long-term borrowing of RMB235.5 million (US$36.2 million) from Industrial and Commercial Bank of China was secured by our project assets. Our long-term borrowing of RMB12.5 million (US$1.9 million) from 77 Bank was secured by our project assets. Our long-term bank borrowing of RMB232.9 million (US$35.8 million) from China Merchants Bank was secured by the project assets and all of the equity interests in JA Solar PV Electric (Datong) Co, Ltd. Our long-term borrowing of RMB150.0 million (US$23.1 million) from Bank of Tianjin was secured by the buildings and land use rights of JA Solar (Xingtai) Co., Ltd., or JA Xingtai. Our short-term loan of RMB45.0 million (US$6.9 million) from China Construction Bank was secured by buildings and land use right in JA Lianyungang. Our short-term borrowing of RMB200.0 million (US$30.7 million) from the Industrial and Commercial Bank of China was secured by certain of our buildings in Shanghai JA Solar PV Technology Co., Ltd. Our short-term bank borrowing of RMB49.0 million (US$7.5 million) from China Construction Bank was secured by the building of JA Yangzhou. Our short-term bank borrowing of RMB47.0 million (US$7.2 million) from Shanghai Pudong Development Bank was secured by the land use rights of Donghai District Longhai Property Co., Ltd. Our short-term bank borrowing of RMB35.0 million (US$5.4 million) from Bank of Jiangsu was secured by the building and land use rights owned by JA Donghai. Our short-term bank borrowing of RMB7.1 million (US$1.1 million) from China Merchants Bank was secured by the project assets. Our short-term bank borrowing of RMB210.1 million (US$32.3 million) from Agricultural Bank of China was secured by the accounts receivable of JA Hebei. Our short-term bank borrowing of RMB50.0 million (US$7.7 million) from China Everbright Bank was secured by the land use rights of JA Hebei. Our short-term bank borrowing of RMB156.1 million (US$24.0 million) from Maybank was secured by the machineries and equipment, and construction-in-progress owned by JA Malaysia.

The unused lines of credit were RMB1,242.2 million (US$190.9 million) as of December 31, 2017. No terms and conditions of the unused credit line are available yet because utilization of such unused lines of credit requires approval by the banks and separate loan agreements setting forth detailed terms and conditions will only be entered into with the banks upon utilization.

Working capital and access to financing for purchase of silicon raw materials are critical to growing and sustaining our business. We have significant working capital commitments because suppliers of silicon wafers and polysilicon require us to make prepayments in advance of shipments. Our prepayments to suppliers decreased from RMB668.7 million as of December 31, 2015 to RMB379.8 million as of December 31, 2016, as a combined result of utilization of prepayments previously made as well as additional allowance provided against prepayments. In 2017 prepayments to suppliers slightly increased to RMB382.0 million. Our net inventory increased from RMB1.7 billion as of December 31, 2015 to RMB2.5 billion as of December 31, 2016, and to RMB3.5 billion as of December 31, 2017, as a result of an increase in market demands.

Our accounts receivable was RMB2.8 billion (US$0.4 billion) as of December 31, 2017. For the year ended December 31, 2017, net provisions of RMB227.8 million (US$35.0 million) were reversed against accounts receivable for estimated losses, including reversals in the amount of RMB74.1 million (US$11.4 million) resulting from customers ability to make payment in light of the market revival.

We believe that current cash and cash equivalents and anticipated cash flow from operations will be sufficient to meet our anticipated cash needs, including our cash needs for working capital and capital expenditures, for at least the next twelve months starting from the filing date of this annual report. We may, however, require additional cash to repay existing debt obligations or to re-finance our existing debts or due to changing business conditions or other future developments.

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

	Year ended December 31,		
	2015	2016	2017
		(in millions)	
	RMB	RMB	RMB
Net cash provided by operating activities	1,258	1,020	1,804
Net cash used in investing activities	(1,103)	(3,086)	(3,279)
Net cash provided by financing activities	563	1,706	455
Effect of exchange rate changes on cash and cash equivalents	10	46	(76)
Net increase/(decrease) in cash and cash equivalents	728	(314)	(1,096)
Cash and cash equivalents at the beginning of the year	2,155	2,883	2,569
Cash and cash equivalents at the end of the year	2,883	2,569	1,473

Operating Activities.

Net cash provided by operating activities consisted primarily of our net income, or net loss, offset or mitigated by non-cash adjustments, such as depreciation and amortization, impairment on property, plant and equipment, allowance for doubtful accounts, and adjusted by changes in operating assets and liabilities, such as accounts receivable, inventories, accounts payable and accrued expenses and other liabilities. The fluctuations of net cash provided by operating activities largely correspond to the changes in net income or net loss.

Net cash provided by operating activities for the year ended December 31, 2017 was RMB1,804.0 million (US$277.3 million), primarily attributable to a net income of RMB300.1 million, positively adjusted for certain items such as a depreciation and amortization of RMB1,044.1 million, a decrease in notes receivables of RMB485.1 million, an increase in advance from customers of RMB108.3 million, and an increase in accounts payable of RMB845.7 million, partially offset by certain items such as an increase in inventories of RMB1,079.4 million and an increase in other current assets and amount due from related parties of RMB178.5 million.

Net cash provided by operating activities for the year ended December 31, 2016 was RMB1,020 million, primarily attributable to a net income of RMB719.6 million, positively adjusted for certain items such as a depreciation and amortization of RMB912.7 million, a decrease in notes receivables of RMB274.6 million, a decrease in advance to third party suppliers of RMB247.9 million, and an increase in accounts payable of RMB232.5 million, partially offset by certain items such as an increase in inventories of RMB926.5 million , the RMB303.4 million non-cash reversal of interest relating to the Hemlock dispute settlement and an increase in other assets of RMB196.5 million.

Net cash provided by operating activities for the year ended December 31, 2015 was RMB1,257.5 million, primarily attributable to a net income of RMB614.5 million, positively adjusted for certain items such as a depreciation and amortization of RMB797.7 million, a decrease in accounts receivables from related party customers of RMB213.8 million, a decrease in inventories of RMB218.8 million, a decrease in other current assets of RMB257.8 million and an increase in advance from customers of RMB447.9 million, partially offset by certain items such as an increase in notes receivables of RMB762.7 million, an increase in accounts receivables from third party customers of RMB659.6 million, and a decrease in accounts payable of RMB380.8 million.

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Investing Activities.

Net cash used in investing activities in 2017 was RMB3.3 billion (US$0.5 billion). This was primarily due to the purchase of property, plant and equipment of RMB2.2 billion and investments in project assets of RMB0.8 billion.

Net cash used in investing activities in 2016 was RMB3.1 billion. This was primarily due to the purchase of property, plant and equipment of RMB1.8 billion and investments in project assets of RMB1.1 billion.

Net cash used in investing activities in 2015 was RMB1.1 billion. This was primarily due to the purchase of property, plant and equipment of RMB892.0 million and investments in project assets of RMB382.8 million, partially offset by the decrease in restricted cash of RMB169.6 million.

Financing Activities.

Net cash provided by financing activities for the year ended December 31, 2017 was RMB455.0 million (US$69.9 million), primarily consisting of proceeds from short-term borrowings of RMB4.8 billion, proceeds from long-term borrowings of RMB404.8 million and proceeds from capital lease of RMB756.3 million, partially offset by repayment of short-term borrowings of RMB4.8 billion, and repayment of long-term borrowings of RMB571.8 million.

Net cash provided by financing activities for the year ended December 31, 2016 was RMB1.7 billion, primarily consisting of proceeds from short-term borrowings of RMB4.4 billion, proceeds from long-term borrowings of RMB919.4 million and proceeds from capital lease of RMB481.3 million, partially offset by repayment of short-term borrowings of RMB3.7 billion, and repayment of long-term borrowings of RMB391.2 million.

Net cash provided by financing activities for the year ended December 31, 2015 was RMB563.5 million, primarily consisting of proceeds from short-term borrowings of RMB3.0 billion, proceeds from long-term borrowings of RMB797.0 million, partially offset by repayment of short-term borrowings of RMB3.1 billion, and repurchase of ADS of RMB139.8 million.

Dividends from Subsidiaries.

Except for certain administrative, research and development and after-sales activities conducted through our wholly-owned subsidiaries in the U.S. and Germany, we conduct a significant portion of our operating activities inside China through our various PRC subsidiaries. As such, we currently do not rely heavily on dividends remitted to us by our PRC subsidiaries to sustain our worldwide operations; and restrictions under

PRC law on the remittance of dividends outside the PRC have not had a material adverse effect on our liquidity or capital resources. See Item 3. Key Information D. Risk Factors Risks Related to Doing Business in China Our operating subsidiaries in China are subject to legal limitations in paying dividends to us, which may restrict our ability to satisfy our liquidity requirement.

Capital Expenditures

We made capital expenditures of RMB1.3 billion, RMB2.8 billion and RMB3.0 billion (US$0.5 billion) in the years ended December 31, 2015, 2016 and 2017, respectively. Our capital expenditures have historically been used primarily to purchase property and equipment, to invest in project assets and to construct and expand our solar product manufacturing lines.

We expect to incur capital expenditures of approximately RMB3.4 billion (US$0.5 billion) in 2018, which will be used primarily for upgrading and expanding our manufacturing capacity. As of December 31, 2017, we have contracted for capital expenditure of RMB1,913.1 million (US$294.0 million).

C. RESEARCH AND DEVELOPMENT, PATENTS AND LICENSES, ETC.

We believe that we have an experienced and committed research and development team. Upon our formation, we acquired proprietary technical know-how related to the commercial production process of solar cells from Australia PV Science & Engineering Co., as part of its capital contribution to us within an implied value of RMB9.0 million.

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Since our commencement of production in April 2006, we have significantly improved our solar cell fabricating process technologies, including improvements in the processing steps of texturing, diffusion, and drying and firing. These technological improvements have increased cell conversion efficiencies in the various types of silicon wafers that we produce and have improved the production yields of our manufacturing lines. In 2010, our research and development efforts resulted in the introduction of the SECIUM solar cells. In February 2011, we introduced the MAPLE technology, a significant breakthrough in multicrystalline silicon technology that has increased the conversion efficiency rate of multicrystalline solar cells. In 2012, we introduced the new Cypress series, which have higher conversion efficiency, to replace the SECIUM and the MAPLE technology. In addition, the Cypress series cells also feature excellent solderability and lower encapsulation power loss resulting from high-voltage, low-current electrical performance parameters, elaborated current rating, and positive tolerance for cell power compensation. In 2013, we introduced the second generation of the Cypress series, named Cypress2, which have an even higher conversion efficiency and more reliable performance compared with the Cypress series. In 2014 and after, we upgraded the Cypress Series from Cypress3 to Cypress 5 and implement PERC and RIE as our high end product.

We intend to continue to focus our research and development efforts on improving and developing processing technologies for production of solar modules and cells aimed at increasing conversion efficiency and other qualities as well as reducing production costs, including one or more of the following projects and topics:

- *Quality Control Techniques*. We intend to develop enhanced techniques to be applied in the quality control of our products and manufacturing lines, including characterization of product performance, in-line diagnostics, and methods to control production yield, product durability and reliability.

- *High-efficiency Cell Technology*. We intend to continuously improve the conversion efficiency of solar cells by utilizing cutting-edge technologies including PERC technology, half-cell technology, Bi-facial cell technology, N-type cell technology, etc.

Our research and development expenditures were RMB148.5 million, RMB175.5 million and RMB160.1 million (US$24.6 million) in 2015, 2016 and 2017, respectively.

For intellectual property, see Item 4. Information on the Company B. Business Overview Intellectual Property.

D. TREND INFORMATION

Other than as disclosed elsewhere in this annual report, we are not aware of any trends, uncertainties, demands, commitments or events since January 1, 2018 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

As of December 31, 2017 we did not have any material off-balance sheet arrangements, including guarantees, outstanding derivative financial instruments or interest rate swap transactions, that had or were reasonably likely to have a current or future effect on our financial condition, revenues or expenses, results of operations, liquidity, capital expenditures or capital resources.

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F. TABULAR DISCLOSURE OF CONTRACTUAL OBLIGATIONS

The following table sets forth our contractual obligations and commercial commitments as of December 31, 2017:

	Payments due by period				
	Total	Less than 1 year	1-3 years	3-5 years	More than 5 years
	(amounts in RMB thousands)				
Loan obligations (including interest averaging 4.50%)	6,418,041	4,071,914	1,355,785	268,797	721,544
Operating lease obligations	118,859	73,275	45,074	510	
Non-cancelable capital expenditures	1,640,240	1,640,260			
Purchase commitments under agreements	1,758,608	970,976	787,632		
Accrued warranty cost reflected on the company s balance sheet	709,683				709,683
Total	10,645,431	6,756,425	2,188,491	269,307	1,431,227

Loan obligations

Our loan obligations relate to borrowings borrowed from various financial in China with an average interest rate of 4.50% per annum. The borrowings have terms of 1-149 months and expire at various times throughout 2017 to 2030.

Operating lease obligations

Our operating lease obligations mainly relate to non-cancelable lease for certain land and assets used by our manufacturing facilities in Ningjin, Langfang, Hebei, Penang, Malaysia, Viet Yen, Vietnam and offices used by JA Beijing, JA Solar USA Inc., JA Solar Gmbh, JA Japan and JA Solar South Africa (PTY) Limited.

Non-cancelable purchase obligations

As of December 31, 2017, we had contracted for capital expenditures on machinery and equipment of RMB1,640.2 million (US$252.1 million).

Purchase commitments under agreements

In order to better manage our unit costs and to secure adequate and timely supply of polysilicon and silicon wafers during the recent periods of shortages of polysilicon and silicon wafer supplies, we entered into a number of long-term supply contracts from 2007 through 2020 in amounts that were expected to meet our anticipated production needs. As a condition to our receiving the raw materials under those agreements, and in line with industry practice, we were required to, and have made advances to suppliers for all, or a portion, of the total contract price to our suppliers, which are then offset against future purchases.

Set out below are our fixed obligations under these long-term contracts including take or pay arrangements.

Take or Pay Supply Agreements

Our long-term supply agreements with some suppliers are structured as fixed price and quantity take or pay arrangements which allow the supplier to invoice us for the full stated purchase price of polysilicon or silicon wafers we are obligated to purchase each year, whether or not we actually purchase the contractual volume.

Other Long-Term Supply Agreements

In addition to the take or pay arrangements above, we have also entered into other long-term supply agreements to purchase fixed volumes of polysilicon or silicon wafers from certain suppliers. Under these agreements, the purchase price is to be periodically adjusted based on relevant energy price index. The purchase price is stated in certain of these agreements for periods less than six months with price adjustment terms.

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Accrued warranty cost reflected on the company s balance sheet

Accrued warranty cost reflected on our balance sheet relate to product warranty costs we accrued for module sales, which is expected to increase as we generate more module revenue.

G. SAFE HARBOR

This annual report on Form 20-F contains forward-looking statements. These statements are made under the safe harbor provisions of Section 21E of the Securities Exchange Act of 1934, as amended. These forward-looking statements can be identified by terminology such as will, expects, anticipates, future, intends, plans, believes, estimates, may, intend, is currently reviewing, it is possible, statements. Among other things, the sections titled Item 3. Key Information Risk Factors, Item 4. Information on the Company, and Item 5. Operating and Financial Review and Prospects in this annual report on Form 20-F, as well as our strategic and operational plans, contain forward-looking statements. We may also make written or oral forward-looking statements in our reports filed with or furnished to the Securities and Exchange Commission, in our annual report to shareholders, in press releases and other written materials and in oral statements made by our officers, directors or employees to third parties. Statements that are not historical facts, including statements about our beliefs and expectations, are forward-looking statements and are subject to change, and such change may be material and may have a material adverse effect on our financial condition and results of operations for one or more prior periods. Forward-looking statements involve inherent risks and uncertainties. A number of important factors could cause actual results to differ materially from those contained, either expressly or impliedly, in any of the forward-looking statements in this annual report on Form 20-F. Potential risks and uncertainties include, but are not limited to, a further slowdown in the growth of China s economy, government measures that may adversely and materially affect our business, failure of the wealth management services industry in China to develop or mature as quickly as expected, diminution of the value of our brand or image due to our failure to satisfy customer needs and/or other reasons, our inability to successfully execute the strategy of expanding into new geographical markets in China, our failure to manage growth, and other risks outlined in our filings with the Securities and Exchange Commission. All information provided in this annual report on Form 20-F and in the exhibits is as of the date of this annual report on Form 20-F, and we do not undertake any obligation to update any such information, except as required under applicable law.

ITEM 6. DIRECTORS, SENIOR MANAGEMENT AND EMPLOYEES

A. DIRECTORS AND SENIOR MANAGEMENT

Directors and Executive Officers

The following table sets forth our directors and executive officers, their ages as of the date of this annual report and the positions held by them. The business address for each of our directors and executive officers is Building No.8, Noble Center, Automobile Museum East Road, Fengtai, Beijing, the People s Republic of China.

Name	Age	Position
Baofang Jin	66	Executive Chairman of the Board of Directors and Chief Executive Officer
Jian Xie	40	Director
Yuhong Fan	53	Director
Bingyan Ren	72	Director
Erying Jia	63	Director
Hope Ni	46	Independent Director
Jiqing Huang	81	Independent Director
Yuwen Zhao	79	Independent Director
Shaohua Jia	68	Independent Director
Ying Li	45	Finance VP (Principal Financial Officer)
Wei Shan	62	Chief Technology Officer

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Baofang Jin, Executive Chairman of the Board of Directors and Chief Executive Officer. Mr. Jin has been our chairman since May 2005 and our executive chairman since July 2009. Mr. Jin also served as our chief executive officer from August 2009 to January 2010 and since January 2013. Mr. Jin has been the chairman and chief executive officer of Hebei Jinglong since 2003. From April 1984 to January 1992, Mr. Jin was the general manager of Ningjin County Agricultural Equipment Company. Mr. Jin currently also serves as a vice-chairman of the Chinese People s Political Consultative Conference of Ningjin County. Mr. Jin graduated from Hebei Broadcast and Television University with an associate s degree in 1996.

Jian Xie*, *Director. Mr. Xie has been our director since August 2009. Since joining us in April 2006, Mr. Xie has served in such capacities as our director of corporate finance, director of investor relations, assistant to the chief executive officer, secretary of the board of directors, chief operating officer and president. Prior to joining us, Mr. Xie worked in the investment banking department of Ping an Securities Co., Ltd., and as an associate in the investment department at Dogain Holdings Group Co., Ltd. Mr. Xie received his master s degree in finance from Guanghua School of Management at Beijing University in 2004.

***Yuhong Fan, Director*.** Mr. Fan has been our director since March 2015. He has also served as our vice president from July 2011 to February 2017, the general manager of Solar Silicon Valley from January 2010 to December 2015, and the deputy general manager of Jinglong Group from July 2009 to 2016. Mr. Fan started his career at Jinglong Group and has held various managerial positions at Jinglong Group and within JA Solar overseeing multiple facets of our manufacturing operations, including wafer production, processing and quality assurance. Mr. Fan graduated from Hebei Broadcast and Television University in June 1997.

Bingyan Ren, Director. Mr. Ren has been our director since May 2005. He has also served as a director and vice chairman of Hebei Jinglong since 2003. Prior to becoming our director, he was a professor of semiconductor materials and PV materials at the Hebei University of Technology from 1972 to May 2003. Mr. Ren currently is a member of the semiconductor material academic committee of China and a member of semiconductor standardization technical committee of China. He also serves as a vice-director of semiconductor material research institute of Hebei University of Technology and a consultant to Hebei Ningjin Monocrystalline Silicon Industry Park. Mr. Ren graduated from North Jiaotong University in July 1970.

Erying Jia, Director. Mr. Jia has been our director since September 2007. He has also served as the chief operating officer and director of Hebei Jinglong since January 2006. Prior to that, he served at several administrative positions in Ningjin County, Hebei Province, China. Mr. Jia holds a bachelor s degree in public administration from Hebei Provincial Party School.

Hope Ni, Independent Director. Ms. Ni has been our independent director since August 2009. Ms. Ni has been an executive director at Cogobuy Group (Stock code: 00400.HK) since March 1, 2015 and its chief investment officer since June 2014. She currently also serves on the boards of KongZhong Corporation (NASDAQ: KONG), ATA, Inc. (NASDAQ: ATAI) and Digital China Holdings Ltd. (Stock code: 00861.HK). In 2008, Ms. Ni served as the vice chairman of COGO Group Inc. From 2004 to 2007, Ms. Ni was the chief financial officer and director of COGO Group Inc. Prior to that, Ms. Ni spent six years as a practicing attorney at Skadden, Arps, Slate, Meagher & Flom LLP in New York and Hong Kong. Earlier in her career, Ms. Ni worked at Merrill Lynch s investment banking division in New York. Ms. Ni received her J.D. degree from University of Pennsylvania Law School and her B.S. degree in Applied Economics and Business Management from Cornell University.

Jiqing Huang, Independent Director. Mr. Jiqing Huang has been our independent director since August 2009. Mr. Huang has extensive experience in the research and manufacturing of monocrystalline silicon and related products. He currently serves as a committee member at the Academic Committee of Semi-conductive Materials of the Nonferrous Metals Society of China. He also currently serves as an independent director of EGing Photovoltaic Technology. From 2001 to 2007, Mr. Huang served as the chief representative of the Beijing representative office of Space Energy Corporation, where he pioneered the introduction of the TDR-80 monocrystalline puller into China and subsequent modifications to improve its efficiency. Prior to his engagement at Space Energy Corporation, Mr. Huang was a director of manufacturing, chief engineer and deputy director of Beijing 605 Factory, as well as general manager of Beijing Mingcheng Optical & Electronic Material Co., Ltd. Mr. Huang graduated from Nanjing Institute of Technology (now Southeast University) in 1962.

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Yuwen Zhao, Independent Director. Mr. Yuwen Zhao has been our independent director since October 2009. Mr. Zhao has extensive experience in the study of high efficiency solar cell and solar energy materials. He is a renowned solar industry expert, currently serving as vice chairman of the Chinese Renewable Energy Industries Association and is a director of international solar energy industry associations such as PVSEC and WCPEC. Since 1978, Mr. Zhao has been the vice chairman, chief engineer, director of academic committee and chief scientist of Beijing Solar Energy Institute. He is also a member of the editorial board of Solar Energy Journal. Prior to his engagement at Beijing Solar Energy Institute, Mr. Zhao was a researcher in the Institute of Mechanics in the Chinese Academy of Sciences and 501 Institute of Ministry of Aerospace Industry. He is also the founder of Chinese National New Energy Engineering Research Center. Mr. Zhao graduated from Tianjin University in 1964 and studied in Germany in 1990 and 1991.

Shaohua Jia, Independent Director. Dr. Jia has been our independent director since October 2012. Dr. Jia is an academic committee member of the China Taxation Association, as well as an executive member of the Beijing Taxation Association. He also serves as vice chairman of the China Financial and Tax Law Institute. Dr. Jia had been an independent director of Letong Chemical Co., Ltd. (SZ: 002319) since from August 2016 to March 2017. Dr. Jia has been an independent director of Haima Automobile Group Co., Ltd. (SZ: 000572) since May 2015. Dr. Jia worked as chief editor of the China Tax Publishing House from 2006 to 2011. Prior to that, he was the deputy director of the State Taxation Administration of Hainan province and president of the Yangzhou Tax Institute of the State Administration of Taxation. Dr. Jia received his Ph. D. in Economics from Graduate School of Chinese Academy of Social Sciences in 2001.

Ying Li, Finance VP. Ms. Li has been our Finance VP since January 2014 and worked in the Company for seven years. Ms. Li has about 22 years of financial management experience at public and private companies. From 2011 to 2013, Ms. Li worked as the assistant vice president of finance of Kuaiqian Payment and Settlement Service Co., Ltd. From 2008 to 2011, Ms. Li worked with us as the senior Finance Director. Prior to that, Ms. Li served as the internal control manager at TNT China Holdings Co., Ltd. from 2004. Ms. Li started her career at KPMG Huazhen LLP from 1995. Ms. Li received her master degree of business administration from the University of Hong Kong.

Wei Shan, Chief Technology Officer. Dr. Shan has been our chief technology officer since March 2015. Dr. Shan led our R&D efforts since 2008. He has more than three decades of experience in both academic research and industrial development over a number of important semiconductor material systems that include silicon, germanium, II-VI and III-V compounds, wide-band-gap nitrides, dilute III-nitrides and related nanostructures such as quantum wells, wires, and dots, as well as optoelectronic and photovoltaic device applications based on these material systems. His professional experience includes research fellow at Center for Laser and Photonics Research of Oklahoma State University, staff scientist at Material Sciences Division of Lawrence Berkeley National Laboratory (LBNL), leading scientist with Intematix Corporation in charge of US DOE funded hydrogen energy program. Dr. Shan received his Ph.D. in physics from Chinese Academy of Science in 1989, M.S. degree in Semiconductor Device Physics from Shanghai Institute of Technical Physics in 1985 and B.S. degree from Nanjing University in 1982.

There is no family relationship between any of our directors and officers named above. There are no arrangements or understandings with major shareholders, customers, suppliers or others, pursuant to which any person referred to above was selected as a director or officer.

Employment Agreements

We have entered into employment agreements with each of our executive officers. Under these agreements, we may terminate his or her employment for cause at any time, without notice or remuneration, for certain acts of the employee, including but not limited to a conviction or plea of guilty to a felony or to an act of fraud, misappropriation or embezzlement, negligence or dishonest act to the detriment of the company, or misconduct of the employee and failure to perform his or her agreed-to duties after a reasonable opportunity to cure the failure. Furthermore, we may terminate the employment without cause at any time, in which case we will pay the employee a certain amount of compensation. An executive officer may terminate the employment at any time upon one to three months written notice.

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Each executive officer has agreed to hold, both during and subsequent to the term of the agreement, our confidential information in strict confidence and not to disclose such information to anyone except to our other employees who have a need to know such information in connection with our business or except as required in the performance of his or her duties in connection with the employment. An executive officer is prohibited from using our confidential information other than for our benefits. The executive officers have also agreed to assign to us all rights, titles and interests to or in any inventions that they may conceive or develop during the period of employment, including any copyrights, patents, mark work rights, trade secrets or other intellectual property rights pertaining to such inventions.

Term of Directors and Officers

The term of each director is three years pursuant to his or her director service agreement. Our directors may be removed from office by resolutions of the shareholders. Under the employment agreement generally entered into by us and our executive officers, the initial term of our executive officers is three to four years.

B. COMPENSATION

Compensation of Directors and Executive Officers

For the year ended December 31, 2017, we paid an aggregate compensation of RMB10.7 million (US$1.6 million) to our directors and executive officers. For the year ended December 31, 2017, we did not grant any options or restricted share units to our executive officers. Other than fees paid to our independent directors for board services rendered, we only paid compensation to those directors who also served as executive officers.

Code of Ethics

We have adopted a code of ethics for chief executive and senior financial officers, which we filed with the SEC as an exhibit to our annual report on Form 20-F for the year ended December 31, 2006 and we have also posted a copy of our code of ethics on our company website at *http://investors.jasolar.com*. This home country practice of ours was established by us by reference to similarly situated foreign private issuers and differs from the NASDAQ Stock Market Rules that require listed companies to adopt one or more codes of conduct applicable to all directors, officers and employees and make those codes of conduct publicly available. There are, however, no specific requirements under Cayman Islands law requiring the adoption of codes of conduct.

Stock Option Plan

We adopted our 2006 Plan on August 18, 2006 and our 2014 Plan on June 30, 2014, which provide for the grant of incentive stock options, non-qualified stock options, restricted stock and restricted stock units, referred to as awards. The purpose of the 2006 Plan and the 2014 Plan is to provide additional incentive to those officers, employees, directors, consultants and other service providers whose contributions are essential to the growth and success of our business, in order to strengthen the commitment of such persons to us and motivate such persons to faithfully and diligently perform their responsibilities and attract and retain competent and dedicated persons whose efforts will result in our long-term growth and profitability.

The following paragraphs describe the principal terms of our 2006 Plan.

Award Pool. Under our 2006 Plan, we may grant options to purchase up to 10% of our share capital.

Plan Administration. Our 2006 Plan is administered by our board of directors or a committee or subcommittee appointed by our board of directors. In each case, our board of directors or the committee will determine the provisions and terms and conditions of each award grant, including, but not limited to, the exercise price for the options, vesting schedule, form of payment of exercise price and other applicable terms.

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Award Agreement. Awards granted under our 2006 Plan are evidenced by an award agreement that sets forth the terms and conditions for each award grant, which include, among other things, the vesting schedule, exercise price, type of option and expiration date of each award grant.

Eligibility. We may grant awards to an officer, director, employee, consultant, advisor or other service providers of our company or any of our parent or subsidiary companies, provided that directors of our company or any of our parent or subsidiary companies who are not also employees of our company or any of our parent or subsidiary companies, or consultants or advisors to our company or any of our parent or subsidiary may not be granted incentive stock options.

Option Term. The term of each option granted under the 2006 Incentive Stock Option may not exceed ten years from the date of grant. If an incentive stock option is granted to an eligible participant who owns more than 10% of the voting power of all classes of our share capital, the term of such option shall not exceed five years from the date of grant.

Exercise Price. In the case of non-qualified stock option, the per share exercise price of shares purchasable under an option shall be determined by the plan administrator in its sole discretion at the time of grant. In the case of incentive stock option, the per share exercise price of shares purchasable under an option shall not be less than 100% of the fair market value per share at the time of grant. However, if we grant an incentive stock option to an employee, who at the time of that grant owns shares representing more than 10% of the voting power of all classes of our share capital, the exercise price cannot be less than 110% of the fair market value of our ordinary shares on the date of that grant.

Amendment and Termination. Our board of directors may at any time amend, alter or discontinue the plan, provided that no amendment, alteration, or discontinuation shall be made that would impair the rights of a participant under any award theretofore granted without such participant s consent. Unless terminated earlier, our 2006 Plan shall continue in effect for a term of ten years from the effective date of the plan.

The following paragraphs describe the principal terms of our 2014 Plan.

Award Pool. Under our 2014 Plan, we may grant options to purchase 10% of our total issued and outstanding shares as of the date when the board approves the 2014 Plan; provided that, the shares reserved in the award pool shall be increased automatically if and whenever the unissued shares reserved in the award pool accounts for less than 1% of the total then issued and outstanding shares, as a result of which increase the shares unissued and reserved in the award pool immediately after each such increase shall equal to 10% of the then issued and outstanding shares.

Plan Administration. Our board and the compensation committee of the board will administer our 2014 plan. A committee of one or more members of the board designated by our board or the compensation committee is also authorized to grant or amend awards to participants other than senior executives. The committee will determine the provisions and terms and conditions of each award grant. It shall also have discretionary power to interpret the terms of our 2014 plan.

Award Agreement. Awards granted under our 2014 plan are evidenced by an award agreement that sets forth terms, conditions and limitations for each award, which may include the term of an award, the provisions applicable in the event the participant s employment or service terminates, and our authority to unilaterally or bilaterally amend, modify, suspend, cancel or rescind an award.

Eligibility. We may grant awards to our employees, consultants and directors. However, no shares may be optioned, granted or awarded if such action would cause an incentive share option to fail to qualify as an incentive share option under Section 422 of the Internal Revenue Code of 1986 of the U.S.

Acceleration of Awards upon Change in Control. The participant s awards shall become fully exercisable and all forfeiture restrictions on such awards shall lapse, unless converted, assumed or replaced by a successor.

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Exercise Price. The exercise price of an option shall be determined by the plan administrator and set forth in the award agreement and may be a fixed or variable price related to the fair market value of the shares, to the extent not prohibited by applicable laws. Subject to certain limits set forth in the 2014 plan, the exercise price may be amended or adjusted in the absolute discretion of the plan administrator, the determination of which shall be final, binding and conclusive. To the extent not prohibited by applicable laws or any exchange rule, a downward adjustment of the exercise prices of options shall be effective without the approval of the shareholders or the approval of the affected participants.

Vesting Schedule. In general, our plan administrator determines or the evidence of the award specifies, the vesting schedule.

Amendment and Termination of the Plan. With the approval of our board, our plan administrator may, at any time and from time to time, amend, modify or terminate the 2014 plan, provided, however, that no such amendment shall be made without the approval of the our shareholders to the extent such approval is required by applicable laws, or in the event that such amendment increases the number of shares available under our 2014 plan, permits our plan administrator to extend the term of our 2014 plan or the exercise period for an option beyond ten years from the date of grant or results in a material increase in benefits or a change in eligibility requirements, unless we decide to follow home country practice.

During the year ended December 31, 2017, we did not grant any options or restricted share units to our employees under our 2006 Plan and 2014 Plan.

Our board has authorized a committee, currently consisting of Mr. Baofang Jin, our executive chairman, to approve option grants under our 2006 Plan and 2014 Plan.

As of March 31, 2018, we have granted options to purchase 23,299,000 ordinary shares and awarded 4,402,000 restricted share units under our 2006 Plan and 2014 Plan, options to purchase 4,136,500 ordinary shares and 651,110 restricted share units remained outstanding.

Effect of the Going Private Transaction on Outstanding Awards

See Item 4. Information on the Company A. History and Development of the Company Going Private Transaction .

C. BOARD PRACTICES

Board of Directors and Board Committees

Our board of directors currently consists of nine members, including four independent directors who satisfy the independence requirements of the NASDAQ Stock Market Rules and meet the criteria for independence under Rule 10A-3 under the Securities Exchange Act of 1934, as amended, or the Exchange Act. This home country practice of ours was established by our board of directors by reference to similarly situated foreign private issuers and differs from the NASDAQ Stock Market Rules that require the board to be comprised of a majority of independent directors. There are, however, no specific requirements under Cayman Islands law that the board must be comprised of a majority of independent directors.

We do not have regularly scheduled meetings at which only independent directors are present, or executive sessions. This home country practice of ours was established by our board of directors by reference to similarly situated foreign private issuers and differs from the NASDAQ Stock Market Rules that require a company to have regularly scheduled executive sessions at which only independent directors are present. There are, however, no specific requirements under Cayman Islands law on executive sessions.

We have established three committees under our board of directors: an audit committee, a compensation committee and a nominating and corporate governance committee. We have adopted a charter for each of the three committees. Each committee s composition and functions are described below.

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Audit Committee. Our audit committee consists of Ms. Hope Ni, Mr. Jiqing Huang, Mr. Yuwen Zhao and Dr. Shaohua Jia, and is chaired by Ms. Hope Ni. All of the members of the audit committee satisfy the independence requirements of the NASDAQ Stock Market Rules and meet the criteria for independence under Rule 10A-3 under the Exchange Act. The audit committee oversees our accounting and financial reporting processes and the audits of the financial statements of our company. The audit committee is responsible for, among other things:

- appointment, compensation, retention and oversight of the work of the independent registered public accounting firm;
- approving all auditing and non-auditing services permitted to be performed by the independent registered public accounting firm;
- meeting separately and periodically with management and the independent registered public accounting firm;
- oversight of annual audit and quarterly reviews, including reviewing with independent registered public accounting firm the annual audit plans;
- oversight of financial reporting process and internal controls, including reviewing the adequacy and effectiveness of our internal controls policies and procedures on a regular basis;
- establishing procedures for the receipt, retention and treatment of complaints received by us regarding accounting, internal accounting controls or auditing matters; and
- reviewing and implementing related person transaction policies and procedures for the committee s review and approval of proposed related person transactions, including all transactions required to be disclosed by Item 404(a) of Regulation S-K under the Securities Act.

Compensation Committee. Our compensation committee consists of Ms. Hope Ni, Mr. Yuwen Zhao, Mr. Baofang Jin, Mr. Jiqing Huang and Dr. Shaohua Jia, and is chaired by Mr. Jiqing Huang. Except for Mr. Baofang Jin, all other members of the compensation committee satisfy the independence requirements of the NASDAQ Stock Market Rules and meet the criteria for independence under Rule 10A-3 under the Exchange Act. This home country practice of ours was established by our board of directors and differs from the NASDAQ Stock Market Rules that require the compensation committees of listed companies to be comprised solely of independent directors. There are, however, no specific requirements under Cayman Islands law on the composition of compensation committees. The compensation committee assists the board in reviewing and approving the compensation structure, including all forms of compensation, relating to our directors and executive officers. The compensation committee is responsible for, among other things:

- reviewing at least annually our executive compensation plans;
- evaluating annually the performance of our chief executive officer and other executive officers;
- determining and recommending to the board the compensation package for our chief executive officer and other executive officers;
- evaluating annually the appropriate level of compensation for board and board committee service by non-employee directors;
- reviewing and approving any severance or termination arrangements to be made with any of our executive officers; and
- reviewing at least annually our general compensation plans and other employee benefits plans.

Nominating and Corporate Governance Committee. Our nominating and corporate governance committee consists of Ms. Hope Ni, Mr. Jiqing Huang, Mr. Yuwen Zhao, Mr. Baofang Jin and Dr. Shaohua Jia, and is chaired by Mr. Baofang Jin. Except for Mr. Baofang Jin, all other members of the nominating and corporate governance committee satisfy the independence requirements of the NASDAQ Stock Market Rules and meet the criteria for independence under Rule 10A-3 under the Exchange Act. This home country practice of ours was established by our Board of Directors and differs from the NASDAQ Stock Market Rules that require the nominating committees of listed companies to be comprised solely of independent directors. There are, however, no specific requirements under Cayman Islands law on the composition of nominating committees. The nominating and corporate governance committee assists our board of directors in selecting individuals qualified to become our directors and in determining the composition of the board and its committees. The nominating and corporate governance committee is responsible for, among other things:

- establishing procedures for evaluating the suitability of potential director nominees;
- recommending to the board nominees for election by the stockholders or appointment by the board;
- reviewing annually with the board the current composition of the board with regards to characteristics such as knowledge, skills, experience, expertise and diversity required for the board as a whole;
- reviewing periodically the size of the board and recommending any appropriate changes;
- recommending to the board the size and composition of each standing committee of the board; and
- reviewing periodically and at least annually the corporate governance principles adopted by the board to assure that they are appropriate for us and comply with the requirements under the rules and regulations of the SEC and the NASDAQ Stock Market, Inc. where applicable.

Special Committee. In June 2015, our board of directors formed a special committee consisting of independent directors Mr. Shaohua Jia and Mr. Yuwen Zhao, with Mr. Shaohua Jia serving as chairman of the Special Committee. See Item 4. Information on the Company A. History and Development of the Company Going Private Transaction .

Duties of Directors

Under Cayman Islands law, our directors have a fiduciary duty to act honestly, in good faith and with a view to our best interests. Our directors also have a duty to exercise the skill they actually possess and such care and diligence that a reasonably prudent person would exercise in comparable circumstances. In fulfilling their duty of care to us, our directors must ensure compliance with our memorandum and articles of association, as amended from time to time. A shareholder has the right to seek damages if a duty owed by our directors is breached.

The functions and powers of our board of directors include, among others:

- convening shareholders annual general meetings and reporting its work to shareholders at such meetings;
- declaring dividends and distributions;
- appointing officers and determining the term of office of officers;
- exercising the borrowing powers of our company and mortgaging the property of our company; and
- approving the transfer of shares of our company, including the registering of such shares in our share register.

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Term of Office and Benefits

Our directors serve a term of three years and do not receive any special benefits upon termination.

Interested Transactions

A director may vote in respect of any contract or transaction in which he or she is interested, provided that the nature of the interest of any directors in such contract or transaction is disclosed by him or her at or prior to its consideration and any vote in that matter.

D. EMPLOYEES

As of December 31, 2015, 2016 and 2017, we had a total of 12,550, 14,056 and 14,611 employees, respectively. The following table sets forth the number of our employees categorized by our areas of operations and as a percentage of our workforce as of December 31, 2017:

	Number of employees	Percentage of total
Manufacturing and engineering	11,620	79.5%
Quality assurance	1,036	7.1%
General and administration	1,304	8.9%
Purchasing and logistics	162	1.1%
Research and development	117	0.8%
Marketing and sales	253	1.7%
Others	119	0.8%
Total	14,611	100.00%

Of our total employees as of December 31, 2017, 2,974 were located in Ningjin, Hebei Province, 2,668 were located in Yangzhou, Jiangsu Province, 1,053 were located in Shanghai, 1,112 were located in Lianyungang, Jiangsu Province, 2,302 were located in Hefei, Anhui Province and 1,024 were located in Xingtai, Hebei Province, 1,587 were located in Malaysia and 1,891 were located in other cities in China and abroad.

From time to time, we also employ part-time employees and independent contractors to support our research and development, manufacturing and sales and marketing activities.

Our success depends to a significant extent upon our ability to attract, retain and motivate qualified personnel. As of December 31, 2017, 2,141 of our employees held bachelor s or higher degrees. A number of our employees have overseas education and industry experience.

We are required by applicable PRC regulations to contribute amounts equal to 18-22%, 7-12%, 1-2%, 0.5-2% and 0.6-1%, of our employees aggregate salary to a pension contribution plan, a medical insurance plan, an unemployment insurance plan, a personal injury insurance plan and a maternity insurance plan, respectively, for our employees.

Our employees are not covered by any collective bargaining agreement. We believe that we have a good relationship with our employees.

E. SHARE OWNERSHIP

The following table sets forth information with respect to the beneficial ownership of our ordinary shares, as of March 31, 2017, by:

- each of our directors and executive officers; and
- each person known to us to own beneficially more than 5.0% of our ordinary shares.

The calculations in the table below assume there are 234,363,592 ordinary shares outstanding as of March 31, 2018.

	Shares Beneficially Number(1)	Owned %(2)
Directors and Executive Officers:		
Baofang Jin(3)	39,752,976	16.96
Jian Xie	*	*
Yuhong Fan	*	*
Bingyan Ren	*	*
Erying Jia	*	*
Hope Ni	*	*
Jiqing Huang	*	*
Yuwen Zhao	*	*
Shaohua Jia	*	*
Ying Li	*	*
Wei Shan	*	*
All Directors and Officers as a Group	41,676,191	17.78
Principal Shareholders:		
Jinglong Group Co., Ltd.(4)	38,897,366	16.6
Numeric Investors LLC(5)	13,608,315	5.81
Senrigan Capital Group Limited(6)	12,689,105	5.41
Huang Chin Tien(7)	24,147,026	10.30

* Upon exercise of all options and vesting of all restricted shares granted, would beneficially own less than 1.0% of the company s outstanding ordinary shares.

(1) Beneficial ownership is determined in accordance with Rule 13d-3 of the General Rules and Regulations under the Securities Exchange Act of 1934, as amended, and includes voting or investment power with respect to the securities.

(2) In computing the percentage ownership of a person, we have included shares that the person has the right to acquire within 60 days after March 31, 2018, including through the exercise of any option, restricted shares, warrant or other right or the conversion of any other security. These shares, however, are not included in the computation of the percentage ownership of any other person.

(3) Represents 38,897,366 ordinary shares held by Jinglong BVI, of which Mr. Baofang Jin is a director and has a 32.96% economic interest, and (ii) 855,610 ordinary shares issuable upon exercise of options and restricted share units held by Mr. Baofang Jin that are exercisable within 60 days of March 31, 2018. Mr. Jin disclaims beneficial ownership of the shares held by Jinglong BVI except to the extent of his pecuniary interest therein.

(4) Represents 38,897,366 ordinary shares held by Jinglong BVI, a British Virgin Island Company, which is owned by Mr. Baofang Jin (our executive chairman and chief executive officer, 32.96%), Mr. Huixian Wang (9.58%), Mr. Binguo Liu (9.58%), Mr. Jicun Yan (7.18%), Mr. Rongrui Liu (7.18%), Mr. Huiqiang Liu (7.18%), Mr. Ruiying Cao (7.18%), Mr. Guichun Xing (4.79%), Mr. Ning Wen (4.79%), Mr. Bingyan Ren (our director, 4.79%) and Mr. Ruchang Wen (4.79%).

(5) Represents 13,608,315 ordinary shares held by Numeric Investors LLC, a limited liability company, which is registered under the law of the State of Delaware, U.S. The principal business address of Numeric Investors LLC is 470 Atlantic Avenue, 6th Floor, Boston, MA 02210.

(6) Represents 12,689,105 ordinary shares held by Senrigan Capital Group Limited, a Hong Kong private company. The principal address of Senrigan Capital Group Limited is 11th Floor, LHT Tower, 31-31A Queen s Road Central, Central, Hong Kong.

(7) Represents 24,147,026 ordinary shares.

As of March 31, 2017, none of our existing shareholders has different voting rights from other shareholders.

To our knowledge, as of March 31, 2018, a total of 98,029,625 ordinary shares are held by one record holder in the U.S., which is the Bank of New York Mellon, the depositary of our ADS program. The number of beneficial owners of our ADSs in the U.S. is likely to be much larger than the number of record holders of our ordinary shares in the U.S.

ITEM 7. MAJOR SHAREHOLDERS AND RELATED PARTY TRANSACTIONS

A. MAJOR SHAREHOLDERS

Please refer to Item 6. Directors, Senior Management and Employees Share Ownership.

B. RELATED PARTY TRANSACTIONS

Significant Transactions with Hebei Jinglong

Hebei Jinglong is 100% owned by four of the eleven shareholders of our largest shareholder, Jinglong BVI, and thus, is a related party of our company. Mr. Baofang Jin, our executive chairman, owns 32.96% equity interests in Jinglong BVI and 78.45% in Hebei Jinglong, and Mr. Bingyan Ren, our director, owns 4.79% equity interests in each of Hebei Jinglong and Jinglong BVI. We purchase silicon wafers from Jinglong Group, including Hebei Jinglong.

Wafer supply

We historically made prepayments to Jinglong Group under the silicon wafer supply contracts we entered into with Hebei Jinglong. Due to the reorganization of Jinglong Group, Hebei Jinglong disposed its wafer production business in the middle of 2014 so we did not purchase any silicon wafer from Hebei Jinglong in 2015 and 2016. Unused prepayment was RMB 14.4 thousand (US$2.2 thousand) as of December 31, 2017 and will be deducted by the rental fee according to the supplemental agreements signed every quarter to offset this prepayment with rental fee under the operating lease agreements.

Guarantee

As of December 31, 2017, we received guarantees from Hebei Jinglong for short-term bank borrowing and long-term bank borrowing with a principal of RMB791.1 million (US$121.6 million).

Leasing

We lease properties from Hebei Jinglong and another related party under operating lease agreements. We incurred rental expenses to Hebei Jinglong in the amount of 35.9 million (US$5.5 million) for the year ended December 31, 2017.

Transactions with other Related Parties

We sold solar power products to several related companies in the amount of RMB14.4 million (US$2.2 million) for the year ended December 31, 2017.

We outsourced processing service to several related companies. The processing service fee amounted to RMB27.0 million (US$4.1 million) for the year ended December 31, 2017.

We purchased RMB3,293.5 million (US$506.2 million) of silicon wafers and other raw material, from several related companies for the year ended December 31, 2017.

As of December 31, 2017, we received guarantees from Donghai District Longhai Property Co., Ltd. for a short-term borrowing with a principal amount of RMB47 million (US$7.2 million).

As of December 31, 2017, we provided guarantees to Hebei NingjinSonggong Electronics Co., Ltd. for a short-term borrowing with a principal amount of RMB220 million (US$33.8 million) and to Xingtai Jinglong Electronics and Materials Co., Ltd. for a short-term borrowing with a principal amount of RMB121 million (US$18.6 million) and to Ningjin Jingxing Electronic Material Co., Ltd. for a short-term borrowing with a principal amount of RMB30.0 million (US$4.6 million).

In June 2013, we provided an entrustment loan to Yangzhou JA Property Co., Ltd. with a principal of RMB 40.0 million, with an annual interest rate of 6.6% and was due for repayment in one year. In 2014, the repayment date for the entrustment loan was extended to June 8, 2015. In 2015, the repayment date for this loan was extended to June 10, 2016 with interest rate of 7%. And in 2016, the repayment date for this loan was extended to June 10, 2017 with interest rate of 7%. In August 2016, we provided an entrustment loan to Donghai District Longhai Property Co., Ltd. with a principal of RMB15.0 million (US$2.3 million), with an annual interest rate of 5.36%. In October 2016, we provided an entrustment loan to Hebei Ningjin Songgong Electronics Co., Ltd. with a principal of RMB 15.0 million (US$2.3 million), with an annual interest rate of 5.36%. In November 2017, we provided an entrustment loan to Hebei Ningjin Songgong Electronics Co., Ltd. with a principal of RMB17.0 million (US$2.6 million), with an annual interest rate of 5.60%.

We consider that these transactions were at market with prices comparable to other similar transactions with unrelated third parties. All related party transactions were approved by our audit committee in accordance with our policy and procedures with respect to related person transactions if so required thereunder.

Going Private Transactions

See Item 4. Information on the Company A. History and Development of the Company Going Private Transaction .

C. INTERESTS OF EXPERTS AND COUNSEL

Not applicable.

ITEM 8. FINANCIAL INFORMATION

A. CONSOLIDATED STATEMENTS AND OTHER FINANCIAL INFORMATION

We have appended consolidated financial statements filed as part of this annual report.

Legal Proceedings

We have, from time to time, been involved in certain legal proceedings arising out of the ordinary course of our business, such as employment disputes and disputes with our suppliers.

We are currently not involved in any legal or administrative proceedings that may have a material adverse impact on our business, financial position or profitability.

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Dividend Distribution Policy

We have never declared or paid any dividends on our ordinary shares. We do not anticipate paying any cash dividends in the foreseeable future. We currently intend to retain future earnings, if any, to finance operations and to strengthen our business.

Our board of directors has complete discretion as to on whether to declare and pay dividends to our shareholders subject to compliance with our memorandum and articles of association and applicable provisions of the Cayman Islands Companies Law. Even if our board of directors decides to declare and pay dividends, the form, frequency and amount will depend upon our future operations and earnings, capital requirements and surplus, general financial conditions, contractual restrictions and other factors that the board may deem relevant. Cash dividends on our ADSs, if any, will be paid in U.S. dollars.

As we are a holding company incorporated in the Cayman Islands, we primarily rely on dividends paid to us by our subsidiaries in China for our cash requirements, including the funds necessary to pay dividends and other cash distributions to our shareholders, service any debt we may incur and pay our operating expenses. PRC regulations currently permit payment of dividends only out of accumulated profits, if any, as determined in accordance with PRC accounting standards and regulations. Pursuant to laws applicable to entities incorporated in the PRC, our PRC subsidiaries are required to make appropriations from after-tax profit to non-distributable reserve funds. These reserve funds include the following: (i) a general reserve, (ii) an enterprise expansion fund, and (iii) a staff bonus and welfare fund. Our PRC subsidiaries are required to transfer at least 10% of their profit after taxation (as determined under accounting principles generally accepted in the PRC at each year-end) to the general reserve fund until the reserve balance reaches 50% of their respective registered capital. The appropriations to other funds are at the discretion of our PRC subsidiaries. These reserve funds can only be used for specific purposes of enterprises expansion, staff bonus, and welfare and not distributable as cash dividends. The general reserves made by our PRC subsidiaries in 2015, 2016 and 2017 were RMB116.3 million, RMB112.6 million and RMB90.0 million (US$13.8 million), respectively.

B. SIGNIFICANT CHANGES

None.

ITEM 9. THE OFFER AND LISTING

A. OFFER AND LISTING DETAILS

Our ADSs, each representing five of our ordinary shares, are quoted on the NASDAQ Global Select Market. Our ADSs trade under the symbol JASO. From the initial listing of our ADSs on the NASDAQ Global Select Market on February 7, 2007 to February 7, 2008, the trading prices of our ADSs ranged from US$16.17 to US$76.50 per ADS. From the day after the date of our 3-for-1 ADS split on February 7, 2008 to December 7, 2012, each of our ADSs represented one ordinary share and the trading price of our ADSs on the NASDAQ Global Select Market ranged from US$0.58 to US$27 per ADS. From the day after the date of our 1-for-5 reverse ADS split on December 10, 2012 through April 23, 2018, the trading price of our ADSs has ranged from US$3.21 to US$13.14 per ADS.

The following table provides the high and low trading prices for our ADSs on the NASDAQ Global Select Market for the periods indicated.

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	Trading Price (US$)	
	High	**Low**
Annual Highs and Lows		
2012 (through December 7, 2012)	2.34	0.58
2012 (from December 10, 2012 to December 31, 2012)	4.38	3.21
2013	12.80	3.37
2014	13.14	6.70
2015	10.80	6.30
2016	9.78	4.69
2017	8.48	4.42
Quarterly Highs and Lows		
2016		
First Quarter of 2016	9.78	7.88
Second Quarter of 2016	9.10	6.16
Third Quarter of 2016	8.15	5.66
Fourth Quarter of 2016	7.15	4.69
2017		
First Quarter of 2017	6.68	4.42
Second Quarter of 2017	7.50	6.16
Third Quarter of 2017	8.48	6.01
Fourth Quarter of 2017	8.17	6.83
Monthly Highs and Lows		
2017		
October 2017	7.70	6.83
November 2017	8.17	6.85
December 2017	7.57	7.21
2018		
January 2018	7.62	7.32
February 2018	8.13	7.33
March 2018	7.47	6.17
April 2018 (through April 27, 2018)	7.34	6.47

B. PLAN OF DISTRIBUTION

Not applicable.

C. MARKETS

Our ADSs, each representing five of our ordinary shares, par value US$0.0001 per share, have been listed on the NASDAQ Global Select Market under the symbol JASO, and commenced trading on February 8, 2007. Prior to that time, there was no public market for our ADSs or ordinary shares.

D. SELLING SHAREHOLDERS

Not applicable.

E. DILUTION

Not applicable.

F. EXPENSES OF THE ISSUE

Not applicable.

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ITEM 10. ADDITIONAL INFORMATION

A. SHARE CAPITAL

Not applicable.

B. MEMORANDUM AND ARTICLES OF ASSOCIATION

We are a Cayman Islands company and our corporate affairs are governed by our memorandum and articles of association, the Cayman Islands Companies Law and the common law of the Cayman Islands.

Our authorized share capital is US$50,000 divided into 500,000,000 ordinary shares of a nominal or par value of US$0.0001 each. There were 237,926,352 ordinary shares issued and outstanding as of December 31, 2017, not including 1,165,560 ordinary shares issued to and held by the depositary for the purpose of future option exercise.

The following are summaries of certain provisions of our current memorandum and articles of association and the Cayman Islands Companies Law insofar as they relate to the material terms of our ordinary shares.

Registered Office and Objects

The registered office of the Company is located at the offices of Conyers Trust Company (Cayman) Limited, Cricket Square, Hutchins Drive, PO Box 2681, Grand Cayman, KY1-1111, Cayman Islands. The objects for which the Company is established are unrestricted.

Board of Directors

See Item 6. Directors, Senior Management and Employees C. Board Practices Board of Directors and Board Committees.

Ordinary Shares

General. All of our issued and outstanding ordinary shares are fully paid and non-assessable. Certificates representing the ordinary shares are issued in registered form. Our shareholders who are non-residents of the Cayman Islands may freely hold and transfer their shares.

Dividends. The holders of our ordinary shares are entitled to such dividends as may be declared by our board of directors provided that dividends may only be declared and paid out of funds legally available therefor, namely out of either profit, our share premium account or any other fund or account which can be authorized for this purpose in accordance with the Cayman Islands Companies Law.

Voting Rights. Subject to any rights or restrictions attached to any shares, at any general meeting on a show of hands every shareholder who is present in person (or, in the case of a shareholder being a corporation, by its duly authorized representative) or by proxy shall have one vote and on a poll every shareholder present in person (or, in the case of a shareholder being a corporation, by its duly appointed representative) or by proxy shall have one vote for each share which such shareholder is the holder. Voting at any meeting of the shareholders is by show of hands unless a poll is demanded. A poll may be demanded (a) by the chairman of the meeting; or (b) by at least three shareholders present in person or in the case of a shareholder being a corporation by its duly authorised representative or by proxy for the time being entitled to vote at the meeting; or (c) by a shareholder or shareholders present in person or in the case of a shareholder being a corporation by its duly authorised representative or by proxy and representing not less than one-tenth of the total voting rights of all shareholders having the right to vote at the meeting; or (d) by a shareholder or shareholders present in person or in the case of a shareholder being a corporation by its duly authorised representative or by proxy and holding shares in the Company conferring a right to vote at the meeting being shares on which an aggregate sum has been paid up equal to not less than one-tenth of the total sum paid up on all shares conferring that right.

Any ordinary resolution to be passed by our shareholders requires the affirmative vote of a simple majority of the votes cast at a meeting of our shareholders, while a special resolution requires the affirmative vote of not less than two-thirds of the votes cast at a meeting of our shareholders.

No shareholder shall be entitled to vote or be counted in the quorum, in respect of any share, unless such shareholder is registered as our shareholder as of the applicable record date for that meeting.

If a recognized clearing house (or its nominee(s)) is our shareholder, it may authorize such person or persons as it thinks fit to act as its representative(s) at any meeting or at any meeting of any class of shareholders provided that, the authorization shall specify the number and class of shares in respect of which each such person is so authorized. A person authorized pursuant to this provision is entitled to exercise the same powers on behalf of the recognized clearing house (or its nominee(s)) as if such person was the registered holder of our shares held by that clearing house (or its nominee(s)) including the right to vote individually on a show of hands.

While there is nothing under the laws of the Cayman Islands which specifically prohibits or restricts the creation of cumulative voting rights for the election of our directors, unlike the requirement under Delaware General Corporation Law where cumulative voting for the election of directors is permitted only if expressly authorized in the certificate of incorporation, it is not a concept that is accepted as a common practice in the Cayman Islands, and we have made no provisions in our memorandum and articles of association to allow cumulative voting for such elections.

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Alteration of Capital. The Company may by ordinary resolution:

(a) increase its capital by such sum, to be divided into shares of such amounts, as the resolution shall prescribe;

(b) consolidate and divide all or any of its capital into shares of larger amount than its existing shares;

(c) divide its shares into several classes and without prejudice to any special rights previously conferred on the holders of existing shares attach thereto respectively any preferential, defined, qualitied or special rights, privileges, conditions or such restrictions which in the absence of any such determination by the Company in general meeting, as the directors may determine;

(d) sub-divide its shares, or any of them, into shares of smaller amount than is fixed by the memorandum of association (subject, nevertheless, to the Cayman Islands Companies Law), and may by such resolution determine that as between the holders of the shares resulting from such sub-division, one or more of the shares may have any such preferred, deferred or other rights or to be subject to any such restrictions as compared with the other or others as the Company has power to attach to unissued or new shares; or

(e) cancel any shares which, at the date of the passing of the resolution, have not been taken, or agreed to be taken, by any person, and diminish the amount of its capital by the amount of the shares so cancelled or, in the case of shares, without par value, diminish the number of shares into which its capital is divided.

The Company may by special resolution, subject to any confirmation or consent required by the Cayman Islands Companies Law, reduce its share capital or any capital redemption reserve or other undistributable reserve in any manner permitted by law.

Transfer of Shares. Subject to our articles of association, any of our shareholders may transfer all or any of his or her shares by an instrument of transfer in the usual or common form or in any other form which our directors may approve.

Our board of directors may, in its absolute discretion, and without assigning any reasons thereof refuse to register any transfer of any share (not being a fully paid up share) to a person of whom it does not approve, or any share issued under any share incentive scheme for employees upon which a restriction on transfer imposed thereby still subsists, and it may also, without prejudice to the foregoing generality, refuse to register a transfer of any share to more than four joint holders or a transfer of any share (not being a fully paid up share) on which the Company has a lien.

Our board of directors may, decline to recognize any instrument of transfer unless:

(a) a fee of such maximum sum as Nasdaq Global Select Market may determine to be payable or such lesser sum as our board of directors may from time to time require is paid to the Company in respect thereof;

(b) the instrument of transfer is in respect of only one class of shares;

(c) the instrument transfer is lodged with us accompanied by the relevant share certificate(s) and such other evidence as our board of directors may reasonably require to show the right of the transferor to make the transfer (and, if the instrument of transfer is executed by some other person on his behalf, the authority of that person so to do); and

(d) if applicable, the instrument of transfer is duly and properly stamped.

If our board of directors refuses to register a transfer of any share, it shall, within two months after the date on which the instrument of transfer was lodged, send to each of the transferor and the transferee notice of such refusal.

The registration of transfers of shares may, after compliance with any notice requirement of the Nasdaq Global Select Market, be suspended and the register closed at such times and for such periods as our board of directors may from time to time determine, provided, however, that the registration of transfers shall not be suspended nor the register closed for more than 30 days in any year.

Liquidation. Subject to any special rights, privileges or restrictions as to the distribution of available surplus assets on liquidation for the time being attached to any class or classes of shares (i) if the Company is wound up and the assets available for distribution amongst the shareholders shall be more than sufficient to repay the whole of the capital paid up at the commencement of the winding up, the excess shall be distributed pari passu amongst such shareholders in proportion to the amount paid up on the shares held by them respectively; and (ii) if the Company is wound up and the assets available for distribution amongst the shareholders as such shall be insufficient to repay the whole of the paid-up capital, such assets shall be distributed so that, as nearly as may be, the losses shall be borne by the shareholders in proportion to the capital paid up, or which ought to have been paid up, at the commencement of the winding up on the shares held by them respectively. If the Company shall be wound up, the liquidator may, with the sanction of a special resolution and any other sanction required by the Cayman Islands Companies Law, divide among our shareholders in specie or kind the whole or any part of the assets of the Company and whether or not the assets shall consist of property of the one kind or not, and may, for that purpose, set such value as the liquidator deems fair upon any one or more class or classes of property and may determine how the division shall be carried out as between our shareholders or different classes of shareholders. The liquidator may, with the like sanction, vest any part of such assets up trusts for the benefit of our shareholders as the liquidator, with the like authority, shall think fit, but so that no contributory shall be compelled to accept any shares or other property upon which there is a liability.

Calls on Shares and Forfeiture of Shares. Our board of directors may from time to time make calls upon shareholders in respect of any amounts of money unpaid on their shares in a notice served to such shareholders at least 14 days prior to the specified time of payment. The shares that have been called upon and remain unpaid on the specified time are subject to forfeiture.

Redemption of Shares. We are empowered our articles of association to purchase our own shares, subject to certain restrictions. Our directors may only exercise this power on our behalf, subject to the Cayman Islands Companies Law, our memorandum and articles of association and to any applicable requirements imposed from time to time by the SEC, the NASDAQ Global Select Market, or by any recognized stock exchange on which our securities are listed.

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Variations of Rights of Shares. Subject to the Cayman Islands Companies Law, all or any of the special rights for the time being attached to the shares or any class of shares, unless otherwise provided by the terms of issue of the shares of that class, may be varied, modified or abrogated with the sanction of a special resolution passed at a separate general meeting of the holders of the shares of that class. The provisions of our articles of association relating to general meetings shall apply mutatis mutandis to every such separate general meeting, but so that (i) the quorum for the purposes of any such separate general meeting shall be a person or persons (or in the case of a shareholder being a corporation, its duly authorised representative) together holding, or represented by proxy, on the date of the relevant meeting not less than one-third in nominal value of the issued shares of that class, (ii) every holder of shares of the class shall be entitled on a poll to one vote for every such share held by such holder and (iii) any holder of shares of that class present in person or by proxy may demand a poll.

The special rights conferred upon the holders of any shares or class of shares shall not, unless otherwise expressly provided in the rights attaching to or the terms of issue of such shares, be deemed to be varied, modified or abrogated by the creation or issue of further shares ranking pari passu therewith.

Inspection of Books and Records. Holders of our ordinary shares have no general right under the Cayman Islands Companies Law to inspect or obtain copies of our list of shareholders or our corporate records. However, we will permit our shareholders to inspect our register of members in accordance with the articles of association and we will provide our shareholders with annual audited financial statements. For additional information, please visit our corporate website *www.jasolar.com*.

C. MATERIAL CONTRACTS

We have not entered into any material contracts other than in the ordinary course of business and other than those described in Item 4 Information on the company or elsewhere in this annual report on Form 20-F.

D. EXCHANGE CONTROLS

See Item 4. Information on the Company B. Business Overview Regulation Foreign Currency Exchange.

E. TAXATION

Cayman Islands Taxation

At the present time, there is no Cayman Islands income tax, corporation tax, capital gains tax or other taxes payable by the Company or its shareholders. The Company is an exempted company under Cayman Islands law and as such has received an undertaking as to tax concessions pursuant to Section 6 of the Tax Concessions Law (1999 Revision). This undertaking provides that, for a period of 20 years from the date of issue of the undertaking (being 18 July 2006), no law thereafter enacted in the Cayman Islands imposing any taxes to be levied on profits, income, gains or appreciation will apply to the Company or its operations. No capital or stamp duties are levied in the Cayman Islands on the issue, transfer or redemption of shares. An annual registration fee will be payable by the Company to the Cayman Islands government which will be calculated by reference to the nominal amount of its authorised capital. The Cayman Islands are a party to a double tax treaty entered into with the United Kingdom in 2010 but otherwise is not party to any double tax treaties.

People s Republic of China Taxation

The CIT Law provides that enterprises established outside of China whose de facto management bodies are located in China are considered resident enterprises and are generally subject to the uniform 25% enterprise income tax rate as to their worldwide income. Circular 82, as amended, clarified that dividends and other income paid by certain offshore enterprises controlled by a PRC company or a PRC company group established outside of the PRC will be considered PRC-source income and subject to PRC withholding tax, currently at a rate of 10% (or a lower rate under an applicable tax treaty, if any), when paid to non-PRC enterprise shareholders. Under the implementation regulations to the CIT Law, de facto management body is defined as a body that has material and overall management and control over the manufacturing and business operations, personnel and human resources, finances and properties of an enterprise. In addition, the circular mentioned above specifies that certain offshore enterprises controlled by a PRC company or a PRC company group will be classified as PRC resident enterprises if the following are located or resident in the PRC: senior management personnel and departments that are responsible for daily production, operation and management; financial and personnel decision-making bodies; key properties, accounting books, the company seal, and minutes of board meetings and shareholders meetings; and half or more of the senior management or directors having voting rights. Although the circular only applies to offshore enterprises controlled by PRC enterprises and not those controlled by PRC individuals, the determining criteria set forth in the circular may reflect the State Administration of Taxation s general position on how the de facto management bodies test should be applied in determining the tax resident status of offshore enterprises, regardless of whether they are controlled by PRC enterprises or individuals.

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If the PRC tax authorities determine we are a PRC resident enterprise for EIT purposes, we may be required to withhold tax at the rate of 10% (or a lower rate under an applicable tax treaty, if any) from dividends we pay to our non-PRC resident enterprise shareholders (20% for non-PRC individual shareholders), including the holders of our ADSs. In addition, non-PRC holders of shares and ADSs may be subject to PRC tax on gains realized on the sale or other disposition of ADSs or ordinary shares at the same rates if such income is treated as sourced from within the PRC. It is unclear whether our non-PRC holders of shares and ADSs would be able to claim the benefits of any tax treaties between their jurisdictions of tax residence and the PRC in the event that we are treated as a PRC resident enterprise. See Item.3 Key Information D. Risk Factors Risks Related to Doing Business in China We may be deemed a PRC resident enterprise under the CIT Law and be subject to the PRC taxation on our worldwide income.

U.S. Federal Income Tax Considerations

The following discussion is a summary of U.S. federal income tax considerations generally applicable to the ownership and disposition of our ADSs or ordinary shares by U.S. Holders (as defined below) that will acquire our ADSs or ordinary shares and will hold our ADSs or ordinary shares as capital assets (generally, property held for investment) under the U.S. Internal Revenue Code of 1986, as amended (the Code). This summary is based upon existing U.S. federal income tax law as in effect on the date of this annual report, which is subject to differing interpretations or change, possibly with retroactive effect. Furthermore, there can be no assurance that the Internal Revenue Service (the IRS) or a court will not take a contrary position with respect to any U.S. federal income tax consequences described below.

This summary does not discuss all aspects of U.S. federal income taxation that may be important to particular investors in light of their individual investment circumstances, including investors subject to special tax rules (for example, certain financial institutions, insurance companies, regulated investment companies, real estate investment trusts, traders in securities that elect mark-to-market treatment, tax-exempt organizations (including private foundations), investors who are not U.S. Holders, investors who own (directly, indirectly, or constructively) 10% or more of our stock (by vote or value), investors that hold their ADSs or ordinary shares as part of a straddle, hedge, conversion, constructive sale or other integrated transaction for U.S. federal income tax purposes, investors that have a functional currency other than the U.S. dollar, or certain former or long-term residents of the U.S.), all of whom may be subject to tax rules that differ significantly from those summarized below.

In addition, this summary does not discuss any state, local, or any U.S. federal estate, gift, alternative minimum tax or Medicare contribution tax considerations and, except for the limited instances where PRC tax law and potential PRC taxes are discussed below, does not discuss any non-U.S. tax considerations. Each potential investor is urged to consult its tax advisor regarding the U.S. federal, state, local, and non-U.S. income and other tax considerations of an investment in our ADSs or ordinary shares.

General

For purposes of this summary, a U.S. Holder is a beneficial owner of our ADSs or ordinary shares that is, for U.S. federal income tax purposes, (i) an individual who is a citizen or resident of the U.S., (ii) a corporation (or other entity treated as a corporation for U.S. federal income tax purposes) created in, or organized under the law of, the U.S. or any state thereof or the District of Columbia, (iii) an estate the income of which is includible in gross income for U.S. federal income tax purposes regardless of its source, or (iv) a trust (A) the administration of which is subject to the primary supervision of a U.S. court and which has one or more U.S. persons who have the authority to control all substantial decisions of the trust or (B) that has otherwise elected to be treated as a U.S. person under the Code.

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If a partnership (or other entity treated as a partnership for U.S. federal income tax purposes) is a beneficial owner of our ADSs or ordinary shares, the tax treatment of a partner in the partnership will generally depend upon the status of the partner and the activities of the partnership. Partnerships and partners of a partnership holding our ADSs or ordinary shares are urged to consult their tax advisors regarding an investment in our ADSs or ordinary shares.

The discussion below assumes that the representations contained in the deposit agreement are true and that the obligations in the deposit agreement and any related agreement have been and will be complied with in accordance with the terms. For U.S. federal income tax purposes, a U.S. Holder of ADSs will be treated as a beneficial owner of the underlying shares represented by the ADSs. Accordingly, deposits or withdrawals of ordinary shares for ADSs will not be subject to U.S. federal income tax.

Passive Foreign Investment Company Considerations

Although it is likely that we were a PFIC for the taxable year ended December 31, 2012, based on the market price of ADSs and ordinary shares, the value of our assets, and the composition of our assets and income, we believe that we were not a PFIC for our taxable year ended on December 31, 2017, and we do not expect to be a PFIC for our current taxable year ending December 31, 2018 or in the foreseeable future. However, we can give no assurances in this regard as the PFIC determination is inherently factual and, in addition, depends upon certain questions of law for which there is inadequate or uncertain authority. Accordingly, we cannot assure you that we will not be a PFIC for our current or any future taxable year.

A non-U.S. corporation, such as our company, will be a PFIC for U.S. federal income tax purposes for any taxable year, if either (i) 75% or more of its gross income for such year consists of certain types of passive income or (ii) 50% or more of the value of its assets (determined on the basis of a quarterly average) during such year produce or are held for the production of passive income (passive assets). Passive income generally includes dividends, interest, royalties, rents, annuities, net gains from the sale or exchange of property producing such income and net foreign currency gains. For this purpose, cash and assets readily convertible into cash are categorized as passive assets and the company s unbooked intangibles are taken into account for determining the value of its assets. We will be treated as owning a proportionate share of the assets and earning a proportionate share of the income of any other corporation in which we own, directly or indirectly, more than 25% (by value) of the stock.

We must make a separate determination each year as to whether we are a PFIC. As a result, our PFIC status may change. In particular, because the total value of our assets for purposes of the asset test generally will be calculated using the market price of our ADSs and ordinary shares, our PFIC status will depend in large part on the market price of our ADSs and ordinary shares, which may fluctuate considerably. Accordingly, fluctuations in the market price of the ADSs and ordinary shares may result in our being a PFIC for any year. If we are a PFIC for any year during which a U.S. Holder holds our ADSs or ordinary shares, we will generally continue to be treated as a PFIC for all succeeding years during which such holder holds the ADSs or ordinary shares even if we cease to meet the threshold requirements for PFIC status.

If we are a PFIC for any taxable year during which a U.S. Holder holds our ADSs or ordinary shares, unless the U.S. Holder makes a mark-to-market election (as described below), the U.S. Holder will generally be subject to special tax rules that have a penalizing effect, regardless of whether we remain a PFIC, on (i) any excess distribution that we make to the U.S. Holder (which generally means any distribution paid during a taxable year to a U.S. Holder that is greater than 125% of the average annual distributions paid in the three preceding taxable years or, if shorter, the U.S. Holder s holding period for the ADSs or ordinary shares), and (ii) any gain realized on the sale or other disposition, including, under certain circumstances, a pledge, of ADSs or ordinary shares. Under the PFIC rules:

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- the excess distribution and/or gain will be allocated ratably over the U.S. Holder s holding period for the ADSs or ordinary shares;

- the amount allocated to the current taxable year and any taxable years in the U.S. Holder s holding period prior to the first taxable year in which we are a PFIC, or pre-PFIC year, will be taxable as ordinary income; and

- the amount allocated to each of the other taxable years would be subject to tax at the highest rate of tax in effect for the applicable class of taxpayer for such year and would be increased by an additional tax equal to interest on the resulting tax deemed deferred with respect to each such other taxable year.

If we are a PFIC for any taxable year during which a U.S. Holder holds our ADSs or ordinary shares and any of our non-U.S. subsidiaries is also a PFIC, such U.S. Holder would be treated as owning a proportionate amount (by value) of the shares of the lower-tier PFIC and would be subject to the rules described above on certain distributions by a lower-tier PFIC and a disposition of shares of a lower-tier PFIC even though such U.S. Holder would not receive the proceeds of those distributions or dispositions. U.S. Holders should consult their tax advisors regarding the application of the PFIC rules to any of our subsidiaries.

If a company that is a PFIC provides certain information to U.S. Holders, a U.S. Holder can then avoid certain adverse tax consequences described above by making a qualified electing fund election to be taxed currently on its proportionate share of the PFIC s ordinary income and net capital gains. However, because we do not intend to prepare or provide the information that would enable you to make a qualified electing fund election, such election will not be available to you.

Alternatively, a U.S. Holder of marketable stock in a PFIC may make a mark-to-market election with respect to such stock. Marketable stock is stock that is traded in other than de minimis quantities on at least 15 days during each calendar quarter (regularly traded) on a qualified exchange (such as the NASDAQ Global Select Market) or other market as defined in applicable U.S. Treasury regulations. We believe that our ADSs, but not ordinary shares, qualify as being regularly traded on the NASDAQ Global Select Market, but no assurances may be given in this regard. If a U.S. Holder makes this election, the holder will generally (i) include as income for each taxable year the excess, if any, of the fair market value of ADSs held at the end of the taxable year over the adjusted tax basis of such ADSs and (ii) deduct as a loss the excess, if any, of the adjusted tax basis of the ADSs over the fair market value of such ADSs held at the end of the taxable year, but only to the extent of the amount previously included in income as a result of the mark-to-market election. The U.S. Holder s adjusted tax basis in the ADSs would be adjusted to reflect any income or loss resulting from the mark-to-market election. If a U.S. Holder makes a mark-to-market election in respect of a corporation classified as a PFIC and such corporation ceases to be classified as a PFIC, the holder will not be required to take into account the gain or loss described above during any period that such corporation is not classified as a PFIC.

Because, as a technical matter, a mark-to-market election cannot be made for any lower-tier PFICs that we may own, a U.S. Holder may continue to be subject to the PFIC rules with respect to such U.S. Holder s indirect interest in any investments held by us that are treated as an equity interest in a PFIC for U.S. federal income tax purposes.

A U.S. Holder that holds our ADSs or ordinary shares in any year in which we are classified as a PFIC may make a deemed sale election with respect to such ADSs or ordinary shares in a subsequent taxable year in which we are not classified as a PFIC. If you make a valid deemed sale election with respect to your ADSs or ordinary shares, you will be treated as having sold all of your ADSs or ordinary shares for their fair market value on the last day of the last taxable year in which we were a PFIC and such ADSs or ordinary shares will no longer be treated as PFIC stock. You will recognize gain (but not loss), which will be subject to tax as an excess distribution received on the last day of the last taxable year in which we were a PFIC. Your basis in the ADSs or ordinary shares would be increased to reflect gain recognized, and your holding period would begin on the day after we ceased to be a PFIC.

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The deemed sale election is only relevant to U.S. Holders that hold the ADSs or ordinary shares during a taxable year in which we are a PFIC, regardless of whether we were a PFIC in any prior taxable year. U.S. Holders are urged to consult their tax advisors regarding the advisability of making a deemed sale election and the consequences thereof in light of the U.S. Holder s individual circumstances.

If a U.S. Holder holds ADSs or ordinary shares in any year in which we are treated as a PFIC with respect to such U.S. Holder, the U.S. Holder will be required to file IRS Form 8621 and such other forms as may be required by the U.S. Treasury Department. Each U.S. Holder is advised to consult with its tax advisor regarding the application of the PFIC rules if we become classified as a PFIC, including the possibility of making either a deemed sale election or a mark-to-market election.

Dividends

Subject to the PFIC rules discussed above, any cash distributions (including the amount of any PRC tax withheld) paid on our ADSs or ordinary shares out of our current or accumulated earnings and profits, as determined under U.S. federal income tax principles, will generally be includible in the gross income of a U.S. Holder as dividend income on the day actually or constructively received by the U.S. Holder, in the case of ordinary shares, or by the depositary bank, in the case of ADSs. Because we do not intend to determine our earnings and profits on the basis of U.S. federal income tax principles, any distribution paid will generally be reported as dividend income for U.S. federal income tax purposes.

A non-corporate recipient will be subject to tax at the lower capital gain tax rate applicable to qualified dividend income, provided that certain conditions are satisfied, including that (1) the ADSs or ordinary shares, as applicable, are readily tradable on an established securities market in the U.S., or, in the event that we are deemed to be a PRC resident enterprise under the PRC tax law, we are eligible for the benefit of the U.S.-PRC income tax treaty, (2) we are neither a PFIC nor treated as such with respect to a U.S. Holder (as discussed above) for the taxable year in which the dividend was paid and the preceding taxable year, and (3) certain holding period requirements are met. Although no assurance may be given, we believe that our ADSs are readily tradable on the NASDAQ Global Select Market, which is an established securities market in the U.S. There can be no assurance, however, that our ADSs will be considered readily tradable on an established securities market in the U.S. in later years. Since we do not expect that our ordinary shares will be listed on an established securities market in the U.S., it is unclear whether dividends that we pay on our ordinary shares that are not backed by ADSs currently meet the conditions required for the reduced tax rate. If, however, we are deemed to be a PRC resident enterprise under PRC tax law, see Item 10. Additional Information E. Taxation People s Republic of China Taxation, we may be eligible for the benefits of the U.S.-PRC income tax treaty. If we are eligible for such benefits, dividends we pay on our ordinary shares could be eligible for the reduced rate of taxation, regardless of whether such shares are represented by ADSs.

For U.S. foreign tax credit purposes, dividends paid on our ADSs or ordinary shares will generally be treated as foreign source income and will generally constitute passive category income. A U.S. Holder may be eligible, subject to a number of complex limitations, to claim a foreign tax credit in respect of any nonrefundable foreign withholding taxes imposed on dividends received on our ADSs or ordinary shares. A U.S. Holder who does not elect to claim a foreign tax credit for foreign tax withheld may instead claim a deduction for U.S. federal income tax purposes in respect of such withholding, but only for a year in which such holder elects to do so for all creditable foreign income taxes. The rules governing the foreign tax credit are complex. U.S. Holders are urged to consult their tax advisors regarding the availability of the foreign tax credit under their particular circumstances.

Sale or Other Disposition of ADSs or Ordinary Shares

A U.S. Holder will generally recognize capital gain or loss upon the sale or other disposition of ADSs or ordinary shares in an amount equal to the difference between the amount realized upon the disposition and the holder s adjusted tax basis in such ADSs or ordinary shares. The deductibility of a capital loss may be subject to limitations. Any capital gain or loss will be long-term if the ADSs or ordinary shares have been held for more than one year and will generally be U.S. source gain or loss for U.S. foreign tax credit purposes, which will generally limit the availability of foreign tax credits. However, in the event we are deemed to be a PRC resident enterprise under PRC tax law, we may be eligible for the benefits of the income tax treaty between the U.S. and the PRC. In such event, if PRC tax were to be imposed on any gain from the disposition of the ADSs or ordinary shares, a U.S. Holder that is eligible for the benefits of the income tax treaty between the U.S. and the PRC may elect to treat such gain as PRC source income. U.S. Holders are urged to consult their tax advisors regarding the tax consequences if a foreign tax is imposed on a disposition of our ADSs or ordinary shares, including the availability of the foreign tax credit under their particular circumstances.

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Information Reporting and Backup Withholding

U.S. Holders may be subject to information reporting to the IRS with respect to dividends on and proceeds from the sale or other disposition of our ADSs or ordinary shares. Dividend payments with respect to our ADSs or ordinary shares and proceeds from the sale or other disposition of our ADSs or ordinary shares are not generally subject to U.S. backup withholding (provided that certain certification requirements are satisfied).

Backup withholding is not an additional tax. Any amounts withheld under the backup withholding rules generally will be allowed as a refund or a credit against a U.S. Holder s U.S. federal income tax liability if the required information is furnished by the U.S. Holder on a timely basis to the IRS.

Certain U.S. Holders who are individuals are required to report information relating to an interest in specified foreign financial assets, including shares issued by a non-U.S. corporation for any year in which the aggregate value of all specified foreign financial assets exceeds $50,000, subject to certain exceptions (including an exception for ordinary shares held in custodial accounts maintained with a U.S. financial institution). Penalties may be imposed for a failure to disclose such information. U.S. Holders are advised to consult with their tax advisors regarding the application of the U.S. information reporting and backup rules to their particular circumstances.

THE PRECEDING DISCUSSION OF U.S. FEDERAL INCOME TAX CONSIDERATIONS IS INTENDED FOR GENERAL INFORMATION ONLY AND DOES NOT CONSTITUTE TAX ADVICE. U.S. HOLDERS ARE URGED TO CONSULT THEIR OWN TAX ADVISORS AS TO THE U.S. FEDERAL, STATE, LOCAL AND NON-U.S. TAX CONSEQUENCES TO THEM OF AN INVESTMENT IN THE ADSS OR ORDINARY SHARES.

European Countries Taxation

JA Solar GmbH is incorporated in Germany and is subject to effective income tax rate of 29.55% which consists of 15% corporate income tax plus a solidarity surcharge of 5.5% on corporate income tax and a trade income tax rate of 13.72%.

F. DIVIDENDS AND PAYING AGENTS

Not applicable.

G. STATEMENT BY EXPERTS

Not applicable.

H. DOCUMENTS ON DISPLAY

We have filed this annual report, including exhibits, with the SEC. As allowed by the SEC, in Item 19 of this annual report, we incorporate by reference certain information we filed with the SEC. This means that we can disclose important information to you by referring you to another document filed separately with the SEC. The information incorporated by reference is considered to be part of this annual report.

We are subject to periodic reporting and other informational requirements of the Exchange Act as applicable to foreign private issuers. Accordingly, we will be required to file reports, including annual reports on Form 20-F, and other information with the SEC. As a foreign private issuer, we are exempt from the rules of the Exchange Act prescribing the furnishing and content of proxy statements to shareholders. Our annual reports and other information so filed can be inspected and copied at the public reference facility maintained by the SEC at 100 F. Street, N.E., Washington, D.C. 20549. You can request copies of these documents upon payment of a duplicating fee by writing to the SEC. Please call the SEC at 1-800-SEC-0330 for further information on the operation of the public reference facility. Our SEC filings will also be available to the public on the SEC s Internet Web site at http://www.sec.gov.

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I. SUBSIDIARY INFORMATION

Not applicable.

ITEM 11. QUANTITATIVE AND QUALITATIVE DISCLOSURES ABOUT MARKET RISK

Interest Rate Risk

Our exposure to interest rate risk primarily relates to interest expenses incurred in respect of our borrowings, and interest income generated by excess cash invested in demand deposits and liquid investments with original maturities of three months or less. As of December 31, 2017, we had RMB3.9 billion (US$0.6 billion) of short-term borrowings and long-term borrowings (current portions) and RMB2.1 billion (US$0.3 billion) of long-term borrowings (excluding current portions), with an average interest rate of 4.50% per annum. A hypothetical one percentage point (100 basis-point) increase in interest rates would have resulted in an increase of approximately RMB59.7 million (US$9.2 million) in interest expense for the year ended December 31, 2017. Interest-earning instruments carry a degree of interest rate risk. Although we have not historically used and do not expect to use in the future, any derivative financial instruments to manage our interest risk exposure, we believe we do not have significant exposure to fluctuations in interest rates.

Foreign Exchange Risk

Our financial statements are expressed in Renminbi, which is our reporting and functional currency. A certain portion of our revenues and expenses are denominated in Renminbi. The Renminbi prices of some of our equipment that is imported may be affected by fluctuations in the value of Renminbi against foreign currencies. To the extent that we need to convert U.S. dollars into RMB for capital expenditures and working capital and other business purposes, appreciation of RMB against U.S. dollar would have an adverse effect on the RMB amount we would receive from the conversion. Conversely, if we decide to convert RMB into U.S. dollars for the purpose of making payments for dividends on our ordinary shares or ADSs, strategic acquisitions or investments or other business purposes, appreciation of the U.S. dollar against the RMB would have a negative effect on the U.S. dollar amount available to us. We recorded a foreign exchange loss of RMB70.1 million (US$10.8 million) in 2017 primarily due to the appreciation of U.S. dollar against RMB. We cannot predict the impact of future exchange rate fluctuations on our results of operations and may incur net foreign currency losses in the future.

Fluctuations in currency exchange rates, particularly between JPY/Euro/U.S. dollar and Renminbi, may continue to have a significant effect on our net profit margins and would result in foreign currency exchange gains and losses on our assets and liabilities denominated in JPY/Euro/U.S. dollar. Any appreciation of Renminbi against JPY/Euro/U.S. dollar could result in a change to our statement of operations. On the other hand, any depreciation of Renminbi to JPY/Euro/U.S. dollar could reduce the Renminbi equivalent amounts of our financial results, the proceeds from our public offerings and the dividends we may pay in the future, if any, all of which may have a material adverse effect on the prices of our ADSs. Since 2009, we have entered into foreign currency forward contracts with commercial banks to hedge part of our exposure to foreign currency exchange risk for the forecasted sales denominated in foreign currencies. We do not use foreign currency forward contracts to hedge all of our foreign currency denominated transactions. As with all hedging instruments, there are risks associated with the use of foreign currency forward contracts. While the use of such foreign currency forward contracts provides us with protection from certain fluctuations in foreign currency exchange, we potentially forego the benefits that might result from favorable fluctuations in foreign currency exchange. Any default by the counterparties to these transactions could adversely affect our financial condition and results of operations. Furthermore, these financial hedging transactions may not provide adequate protection against future foreign currency exchange rate fluctuations and, consequently, such fluctuations could adversely affect our financial condition and results of operations.

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Credit Risk

We are generally required to make prepayments to silicon wafer suppliers in advance of shipments. We do not require collateral or other security against our prepayments to our suppliers for raw materials and have recorded a provision balance of RMB13.8 million (US$2.1 million) for potential losses against these prepayments as of December 31, 2017. In the event of a failure by our suppliers to fulfill their contractual obligations and to the extent that we are not able to recover our prepayments, we would suffer losses. See Item 3. Key Information D. Risk Factors Risks Related to Our Business and Industry Prepayment arrangements for procurement of silicon wafers and/or polysilicon from our major suppliers expose us to the credit risks of such suppliers and may also significantly increase our costs and expenses, either of which could in turn have a material adverse effect on our financial condition, results of operations and liquidity.

We extend credit terms to certain customers after assessing a number of factors to determine whether collections from the customers are probable. We maintain allowances for doubtful accounts for estimated losses resulting from the inability of our customers to make required payments. We make our estimates of the collectability of our accounts receivable by analyzing historical bad debts, specific customer credit worthiness and current economic trends. We recorded RMB227.8 million (US$35.0 million) for doubtful accounts as of December 31, 2017. If the financial condition of our customers were to deteriorate such that their ability to make payments was impaired, additional allowances could be required.

In addition, as a result of the current global economic crisis, we are increasingly exposed to credit risk in relation to our bank deposits. Since the fourth quarter of 2008, banks and other financial institutions, possibly including ones we engage in business with, have come under strain during the current global liquidity and credit crisis. It is possible that these banks and other financial institutions may be unable to weather the current economic storm, resulting in a loss of our deposits which will have a material adverse effect on our financial condition, results of operations and liquidity.

In line with its effects on banks, the current economic crisis has also affected our customers. The negative impact of the current economy on our clients may affect their ability to pay us for our products and services that we have delivered and/or completed based on our extension of credit to our clients. If our clients fail to pay us for our products and services, our financial condition, results of operations and liquidity may be adversely affected.

Inflation Risk

In the last three years, inflation in China has not materially impacted our results of operations. According to the National Bureau of Statistics of China, the year-over-year percent changes in the consumer price index for December 2015, 2016 and 2017 were increases of 1.6%, 2.1% and 1.8%, respectively. Although we have not been materially affected by inflation in the past, we cannot assure you that we will not be affected in the future by higher rates of inflation in China.

ITEM 12. DESCRIPTION OF SECURITIES OTHER THAN EQUITY SECURITIES

A. DEBT SECURITIES

Not applicable.

B. WARRANTS AND RIGHTS

Not applicable.

C. OTHER SECURITIES

Not applicable.

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D. AMERICAN DEPOSITARY SHARES

Fees paid by our ADS holders

The Bank of New York Mellon, the depositary of our ADS program, collects its fees for delivery and surrender of ADSs directly from investors depositing shares or surrendering ADSs for the purpose of withdrawal or from intermediaries acting for them. The depositary collects fees for making distributions to investors by deducting those fees from the amounts distributed or by selling a portion of distributable property to pay the fees. The depositary may collect its annual fee for depositary services by deducting from cash distributions or by directly billing investors or by charging the book-entry system accounts of participants acting for them.

The table below sets forth all fees and charges, which may change from time to time, that a holder of our ADSs may have to pay to the depositary bank of our ADS program, either directly or indirectly:

Persons depositing or withdrawing shares must pay:	For:
US$5.00 (or less) per 100 ADSs (or portion of 100 ADSs)	• Issuance of ADSs, including issuances resulting from a distribution of shares or rights or other property • Cancellation of ADSs for the purpose of withdrawal, including if the deposit agreement terminates
US$0.02 (or less) per ADS	• Any cash distribution to ADS holders
A fee equivalent to the fee that would be payable if securities distributed to you had been shares and the shares had been deposited for issuance of ADSs	• Distribution of securities distributed to holders of deposited securities which are distributed by the depositary to ADS holders
US$0.02 (or less) per ADSs per calendar year	• Depositary services
Registration or transfer fees	• Transfer and registration of shares on our share register to or from the name of the depositary or its agent when you deposit or withdraw shares
Expenses of the depositary	• Cable, telex and facsimile transmissions (when expressly provided in the deposit agreement) • converting foreign currency to U.S. dollars
Taxes and other governmental charges the depositary or the custodian have to pay on any ADS or share underlying an ADS, for example, stock transfer taxes, stamp duty or withholding taxes	• As necessary
Any charges incurred by the depositary or its agents for servicing the deposited securities	• As necessary

Fees and Payments from the Depositary to Us

None.

PART II

ITEM 13. DEFAULTS, DIVIDEND ARREARAGES AND DELINQUENCIES

None.

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ITEM 14. MATERIAL MODIFICATIONS TO THE RIGHTS OF SECURITY HOLDERS AND USE OF PROCEEDS

On February 7, 2008, our board of directors approved a change in the ratio of 1 ADS to 3 ordinary shares of the company to 1 ADS to 1 ordinary share of the Company. Each shareholder of record at the close of business on February 6, 2008 received two additional ADSs for every ADS held on the record date. There was no change to the rights and preferences of the underlying ordinary shares. No action was required on the part of any ADS holder to effect the ratio change.

We changed the ratio of our ADSs to ordinary shares from one ADS representing one ordinary share to one ADS representing five ordinary shares, effective on December 10, 2012. For our ADS holders, this ratio change had the same effect as a one-for-five reverse ADS split. There was no change to the rights and preferences of the underlying ordinary shares. Our ADSs holders were required to surrender their existing ADSs in exchange for new ADSs.

ITEM 15. CONTROLS AND PROCEDURES

Evaluation of Disclosure Controls and Procedures

As of December 31, 2017, the end of the period covered by this annual report on Form 20-F, our management performed, under the supervision and with the participation of our chief executive officer and principal financial officer, an evaluation of the effectiveness of the design and operation of our disclosure controls and procedures, as defined in Rules 13a-15(e) and 15d-15(e) under the Exchange Act. Disclosure controls and procedures are those controls and procedures designed to provide reasonable assurance that the information required to be disclosed in our Exchange Act filings is (1) recorded, processed, summarized and reported within the time periods specified in SEC s rules and forms, and (2) accumulated and communicated to management, including our chief executive officer and principal financial officer, as appropriate, to allow timely decisions regarding required disclosure. Based on that evaluation, our chief executive officer and principal financial officer concluded that, as of December 31, 2017, our disclosure controls and procedures were effective at a reasonable assurance level.

Management s Report on Internal Control over Financial Reporting

Our management is responsible for establishing and maintaining adequate internal control over financial reporting (as defined in Rules 13a-15(f) and 15d-15(f) under the Exchange Act). Internal control over financial reporting is a process designed to provide reasonable assurance regarding the reliability of financial reporting and the preparation of financial statements for external purposes in accordance with U.S. GAAP. Internal control over financial reporting includes those policies and procedures that (1) pertain to the maintenance of records that, in reasonable detail, accurately and fairly reflect the transactions and dispositions of the assets of the company; (2) provide reasonable assurance that transactions are recorded as necessary to permit preparation of financial statements in accordance with U.S. GAAP, and that receipts and expenditures of the company are being made only in accordance with authorizations of management and or our Board of Directors; and (3) provide reasonable assurance regarding prevention or timely detection of unauthorized acquisition, use, or disposition of the company s assets that could have a material effect on the interim or annual consolidated financial statements.

Because of its inherent limitations, internal control over financial reporting may not prevent or detect misstatements. Also, projections of any evaluation of effectiveness to future periods are subject to the risk that controls may become inadequate because of changes in conditions, or that the degree of compliance with policies or procedures may deteriorate.

As required by Section 404 of the Sarbanes-Oxley Act of 2002 and related rules as promulgated by the Securities and Exchange Commission, management assessed the effectiveness of our internal control over financial reporting as of December 31, 2017 using criteria established in Internal Control-Integrated Framework (2013) issued by the Committee of Sponsoring Organizations of the Treadway Commission.

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Based on this assessment, management concluded that our internal control over financial reporting was effective as of December 31, 2017 based on the criteria established in Internal Control-Integrated Framework (2013) issued by the Committee of Sponsoring Organizations of the Treadway Commission.

The report of PricewaterhouseCoopers Zhong Tian LLP, our independent registered public accounting firm, on the effectiveness of our internal control over financial reporting appears on page F-2 in this annual report.

Changes in Internal Control Over Financial Reporting

We maintain a system of internal control over financial reporting that is designed to provide reasonable assurance that our books and records accurately reflect our transactions and that our established policies and procedures are followed. We consider there are no changes in internal control over financial reporting that occurred during the most recent annual period covered by this annual report that have materially affected, or are reasonably likely to materially affect, our internal control over financial reporting.

ITEM 16A. AUDIT COMMITTEE FINANCIAL EXPERT

Our board of directors has determined that Ms. Hope Ni, an independent director (under the standards set forth in NASDAQ Stock Market Rule 5605(a)(2) and Rule 10A-3 under the Exchange Act, as amended) and a member of our audit committee, is an audit committee financial expert.

ITEM 16B. CODE OF ETHICS

We have adopted a code of ethics for chief executive officer and senior financial officers, which we filed with the SEC as an exhibit to our annual report on Form 20-F for the year ended December 31, 2006 and we have also posted a copy of our code of ethics on our company website at *http://investors.jasolar.com*. This home country practice of ours was established by us by reference to similarly situated issuers and differs from the NASDAQ Stock Market Rules that require listed companies to adopt one or more codes of conduct applicable to all directors, officers and employees and make those codes of conduct publicly available. There are, however, no specific requirements under Cayman Islands law requiring the adoption of codes of conduct.

ITEM 16C. PRINCIPAL ACCOUNTANT FEES AND SERVICES

The following table sets forth the aggregate audit fees, audit-related fees, tax fees of our principal accountants and all other fees billed for services provided by our principal accountants for each of the fiscal years 2016 and 2017:

	For the Year Ended December 31, 2016	2017
	(RMB in million)	
Audit fees(1)	10.5	10.5
Audit-related fees(2)	1.0	1.2
Tax fees(3)	0.5	0.3

(1) Audit fees means the aggregate fees incurred for professional services rendered by our principal auditors for the audit of our annual financial statements.

(2) Audit-related fees represents aggregate fees incurred for professional services rendered by our principal auditors for the assurance and related services.

(3) Tax fees represents aggregate fees incurred for professional services rendered by our principal auditors for the tax compliance, tax advice and tax planning.

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Before our principal accountants were engaged by our company or our subsidiaries to render audit or non-audit services, the engagement has been approved by our audit committee. Our audit committee will review and approve our independent auditor s annual engagement letter, including the proposed fees, as well as all audit and permitted non-audit engagements and relationships between the company and such independent auditors prior to the services being provided.

ITEM 16D. EXEMPTIONS FROM THE LISTING STANDARDS FOR AUDIT COMMITTEES

Not applicable.

ITEM 16E. PURCHASES OF EQUITY SECURITIES BY THE ISSUER AND AFFILIATED PURCHASERS

None.

ITEM 16F. CHANGE IN REGISTRANT S CERTIFYING ACCOUNTANT

Not applicable.

ITEM 16G. CORPORATE GOVERNANCE

NASDAQ Stock Market Rules provide that foreign private issuers may follow home country practice in lieu of the corporate governance requirements of The NASDAQ Stock Market LLC, subject to certain exceptions and requirements to the extent that such exemptions would be contrary to U.S. federal securities laws and regulations. The significant differences between our corporate governance practices and those followed by U.S. companies under the NASDAQ Stock Market Rules are summarized as follows:

- We follow home country practice that permits our board of directors to have less than a majority of independent directors.

- We follow home country practice that does not restrict a company s transactions with directors, requiring only that directors exercise a duty of care and owe a fiduciary duty to the companies for which they serve. Under our memorandum and articles of association, subject to any separate requirement for audit committee approval under the applicable rules of the NASDAQ Stock Market Rules or unless disqualified by the chairman of the relevant board meeting, so long as a director discloses the nature of his interest in any contract or arrangement in which he is interested, such a director may vote in respect of any contract or proposed contract or arrangement in which such director is interested and may be counted in the quorum at such meeting.

- We follow home country practice that does not require the nominating and corporate government committee and compensation committee of our board of directors to be comprised solely of independent directors.

- We follow home country practice that does not require us to have regularly scheduled meetings at which only independent directors are present, or executive sessions.

- We follow home country practice that does not specifically require us to have one or more codes of conduct applicable to all directors, officers and employees and make those codes of conduct publicly available. There are no specific requirements under Cayman Islands law requiring the adoption of codes of conduct.

- We follow home country practice that does not require us to seek shareholders approval for adopting or amending our stock incentive plan.

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- We follow home country practice that does not require us to obtain shareholder approval for issuing additional securities exceeding 20% of our outstanding ordinary shares.

In accordance with NASDAQ Stock Market Rule 5250(d)(1), we will post this annual report on Form 20-F on our company website at *http://investors.jasolar.com*. In addition, we will provide hard copies of our annual report free of charge to shareholders and ADS holders upon request.

ITEM 16H. MINE SAFETY DISCLOSURE

Not applicable.

PART III

ITEM 17. FINANCIAL STATEMENTS

Not applicable.

ITEM 18. FINANCIAL STATEMENTS

The consolidated financial statements of JA Solar Holdings Co., Ltd. and its subsidiaries are included at the end of this annual report.

ITEM 19. EXHIBITS

1.1	Second Amended and Restated Memorandum of Association and Third Amended and Restated Articles of Association of the Registrant (incorporated by reference to Exhibit 4.1 from our registration statement on Form S-8 (File No. 333-197750), initially filed with the Securities and Exchange Commission on July 31, 2014)
1.2	Amendment to the Third Amended and Restated Articles of Association of the Registrant adopted by the shareholders of the Registrant on June 28, 2013 (incorporated herein by reference to Exhibit 99.1 to the Report of Foreign Private Issuer on Form 6-K furnished to the Commission on July 10, 2013)

2.1	Specimen American Depositary Receipt of the Registrant (included in Exhibit 2.3)
2.2	Specimen Certificate for Ordinary Shares of the Registrant (incorporated by reference to Exhibit 4.2 from our F-1 registration statement (File No. 333-140002), as amended, initially filed with Securities and Exchange Commission on January 16, 2007)
2.3	Form of Deposit Agreement (incorporated by reference to Exhibit 4.3 from our registration statement on Form F-1 (File No. 333-140002), as amended, initially filed with Security and Exchange Commission on January 16, 2007)
2.4	Shareholders Agreement among JA Development Co., Ltd. and other parties therein dated as of August 21, 2006, as amended as of August 14, 2006 (incorporated by reference to Exhibit 4.6 from our F-1 registration statement (File No. 333-140002), as amended, initially filed with Securities and Exchange Commission on January 16, 2007)
2.5	Form of Indenture (incorporated by reference to Exhibit 4.4 from our registration statement on Form F-3ASR, initially filed with the SEC on May 12, 2008.)

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2.6	Form of First Supplemental Indenture between The Bank of New York as trustee and JA Solar (incorporated by reference to Exhibit 4.1 on Form 6-K initially filed with the Securities and Exchange Commission on May 20, 2008).
4.1	2014 Stock Incentive Plan (incorporated by reference to Exhibit 10.1 from our registration statement of Form S-8 (File No. 333-197750), initially filed with the Securities and Exchange Commission on July 31, 2014)
4.2	Agreement and Plan of Merger, dated as of November 17, 2017, by and among us, Holdco, Parent and Merger Sub (incorporated by reference to Exhibit 99.2 on Form 6-K initially filed with the Securities and Exchange Commission on November 20, 2017).
8.1*	List of Significant Subsidiaries
11.1	Code of Business Conduct and Ethics (incorporated by reference to Exhibit 11.1 from our 2006 annual report on Form 20-F (File No. 001-33290) initially filed with the Securities and Exchange Commission on June 1, 2007.)
12.1*	Certification by the Chief Executive Officer Pursuant to Rule 13a-14(a)/15d-14(a) of the Act and Section 302 of the Sarbanes-Oxley Act of 2002
12.2*	Certification by the Principal Financial Officer Pursuant to Rule 13a-14(a)/15d-14(a) of the Act and Section 302 of the Sarbanes-Oxley Act of 2002
13.1**	Certification by the Chief Executive Officer Pursuant to Rule 13a-14(b)/15d-14(b) of the Act, Section 1350 of Chapter 63 of the United States Code and Section 906 of the Sarbanes-Oxley Act of 2002
13.2**	Certification by the Principal Financial Officer Pursuant to Rule 13a-14(b)/15d-14(b) of the Act, Section 1350 of Chapter 63 of the United States Code and Section 906 of the Sarbanes-Oxley Act of 2002
15.1*	Consent of Independent Registered Public Accounting Firm
101.INS*	XBRL Instance Document
101.SCH*	XBRL Taxonomy Extension Schema Document
101.CAL*	XBRL Taxonomy Extension Calculation Linkbase Document
101.DEF*	XBRL Taxonomy Extension Definition Linkbase Document
101.LAB*	XBRL Taxonomy Extension Label Linkbase Document
101.PRE*	XBRL Taxonomy Extension Presentation Linkbase Document

* Filed herewith

** Furnished herewith

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SIGNATURES

The registrant hereby certifies that it meets all of the requirements for filing on Form 20-F and that it has duly caused and authorized the undersigned to sign this annual report on its behalf.

JA Solar Holdings Co., Ltd.

By:	/s/ Ying Li Name: Ying Li Title: Finance VP

Date: April 30, 2018

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Report of Independent Registered Public Accounting Firm

To the Board of Directors and Shareholders of JA Solar Holdings Co., Ltd.:

Opinions on the Financial Statements and Internal Control over Financial Reporting

We have audited the accompanying consolidated balance sheets of JA Solar Holdings Co., Ltd. and its subsidiaries (the Company) as of December 31, 2017 and 2016, and the related consolidated statements of operations and comprehensive income, of changes in shareholders equity and of cash flows for each of the three years in the period ended December 31, 2017, including the related notes (collectively referred to as the consolidated financial statements). We also have audited the Company s internal control over financial reporting as of December 31, 2017, based on criteria established in *Internal Control - Integrated Framework* (2013) issued by the Committee of Sponsoring Organizations of the Treadway Commission (COSO).

In our opinion, the consolidated financial statements referred to above present fairly, in all material respects, the financial position of the Company as of December 31, 2017 and 2016, and the results of their operations and their cash flows for each of the three years in the period ended December 31, 2017 in conformity with accounting principles generally accepted in the United States of America. Also in our opinion, the Company maintained, in all material respects, effective internal control over financial reporting as of December 31, 2017, based on criteria established in *Internal Control - Integrated Framework* (2013) issued by the COSO.

Basis for Opinions

The Company s management is responsible for these consolidated financial statements, for maintaining effective internal control over financial reporting, and for its assessment of the effectiveness of internal control over financial reporting, included in Management s Report on Internal Control over Financial Reporting appearing under Item 15. Our responsibility is to express opinions on the Company s consolidated financial statements and on the Company s internal control over financial reporting based on our audits. We are a public accounting firm registered with the Public Company Accounting Oversight Board (United States) (PCAOB) and are required to be independent with respect to the Company in accordance with the U.S. federal securities laws and the applicable rules and regulations of the Securities and Exchange Commission and the PCAOB.

We conducted our audits in accordance with the standards of the PCAOB. Those standards require that we plan and perform the audits to obtain reasonable assurance about whether the consolidated financial statements are free of material misstatement, whether due to error or fraud, and whether effective internal control over financial reporting was maintained in all material respects.

Our audits of the consolidated financial statements included performing procedures to assess the risks of material misstatement of the consolidated financial statements, whether due to error or fraud, and performing procedures that respond to those risks. Such procedures included examining, on a test basis, evidence regarding the amounts and disclosures in the consolidated financial statements. Our audits also included evaluating the accounting principles used and significant estimates made by management, as well as evaluating the overall presentation of the consolidated financial statements. Our audit of internal control over financial reporting included obtaining an understanding of internal control over financial reporting, assessing the risk that a material weakness exists, and testing and evaluating the design and operating effectiveness of internal control based on the assessed risk. Our audits also included performing such other procedures as we considered necessary in the circumstances. We believe that our audits provide a reasonable basis for our opinions.

Definition and Limitations of Internal Control over Financial Reporting

A company s internal control over financial reporting is a process designed to provide reasonable assurance regarding the reliability of financial reporting and the preparation of financial statements for external purposes in accordance with generally accepted accounting principles. A company s internal control over financial reporting includes those policies and procedures that (i) pertain to the maintenance of records that, in reasonable detail, accurately and fairly reflect the transactions and dispositions of the assets of the company; (ii) provide reasonable assurance that transactions are recorded as necessary to permit preparation of financial statements in accordance with generally accepted accounting principles, and that receipts and expenditures of the company are being made only in accordance with authorizations of management and directors of the company; and (iii) provide reasonable assurance regarding prevention or timely detection of unauthorized acquisition, use, or disposition of the company s assets that could have a material effect on the financial statements.

Because of its inherent limitations, internal control over financial reporting may not prevent or detect misstatements. Also, projections of any evaluation of effectiveness to future periods are subject to the risk that controls may become inadequate because of changes in conditions, or that the degree of compliance with the policies or procedures may deteriorate.

/s/ PricewaterhouseCoopers Zhong Tian LLP

Shanghai, the People s Republic of China

April 30, 2018

We have served as the Company s auditor since 2006.

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JA SOLAR HOLDINGS CO., LTD.

CONSOLIDATED BALANCE SHEETS

(In thousands, except share and per share data)

	Note	December 31, 2016 RMB	December 31, 2017 RMB
ASSETS			
Current assets:			
Cash and cash equivalents	2(d)	2,569,402	1,473,455
Restricted cash	2(d)	836,761	1,006,252
Notes receivable	5	563,144	77,995
Dividends receivable	25(c)		7,085
Accounts receivable from third party customers, net	6	2,623,897	2,736,294
Accounts receivable from related party customers, net	6,25(b)	129,781	33,816
Inventories	7	2,460,488	3,481,116
Advances to third party suppliers, net	8	257,407	321,329
Advances to related party suppliers, net	8,25(b)	24,962	14
Amount due from related parties	25(b)	73,509	18,849
Other current assets	9	587,725	821,771
Deferred tax assets	12	138,080	
Total current assets		10,265,156	9,977,976
Property, plant and equipment, net	10	5,219,501	6,539,197
Project assets, net	2(r)	2,338,648	2,945,613
Intangible asset, net	11	11,713	10,188
Deferred tax assets	12	281,603	458,783
Advances to third party suppliers, net	8	97,429	60,666
Prepaid land use rights	14	524,208	525,323
Investment in joint venture and affiliates	4	69,022	67,656
Other assets	13	223,976	246,440
Total assets		19,031,256	20,831,842

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JA SOLAR HOLDINGS CO., LTD.

CONSOLIDATED BALANCE SHEETS (Continued)

(In thousands, except share and per share data)

	Note	December 31, 2016 RMB	December 31, 2017 RMB
LIABILITIES AND SHAREHOLDERS EQUITY			
Current liabilities:			
Short-term borrowings and current portion of long-term borrowings	15	3,438,122	3,906,869
Accounts payable to third parties		2,018,345	2,836,051
Accounts payable to related parties	25(a)	617,180	645,187
Tax payables		43,045	44,065
Advances from third party customers		610,718	719,016
Other payables to third parties	17	1,323,617	1,155,918
Payroll and welfare payables		300,962	271,405
Accrued expenses	18	282,655	303,846
Amounts due to related parties	25(a)	16,196	83,031
Total current liabilities		8,650,840	9,965,388
Accrued warranty costs	19	533,214	709,683
Other long-term liabilities	16	684,434	1,329,243
Long-term borrowings	15	2,701,438	2,061,399
Total liabilities		12,569,926	14,065,713
Commitments and Contingencies	26		
Shareholders equity：			
Ordinary shares(US$0.0001 par value; 500,000,000 shares authorized, 237,853,602 and 237,926,352 shares issued and outstanding as of December 31, 2016 and December 31, 2017, respectively)	30	176	176
Additional paid-in capital		5,651,557	5,651,994
Statutory reserves	23(b)	665,753	755,787
Retained earnings		212,113	422,204
Accumulated other comprehensive loss		(68,469)	(64,232)
Total shareholders equity attributable to JA Solar Holdings		6,461,130	6,765,929
Non-controlling interest		200	200
Total shareholders equity		6,461,330	6,766,129
Total liabilities and shareholders equity		19,031,256	20,831,842

The accompanying notes are an integral part of these consolidated financial statements.

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JA SOLAR HOLDINGS CO., LTD.

CONSOLIDATED STATEMENTS OF OPERATIONS AND COMPREHENSIVE INCOME

(In thousands, except share and per share data)

	Note	For the year ended December 31, 2015 RMB	For the year ended December 31, 2016 RMB	For the year ended December 31, 2017 RMB
Revenues				
Solar modules		12,688,843	14,781,004	18,349,800
Solar cells and other products		761,931	799,572	905,677
Electricity generation		64,226	156,300	403,976
Solar products processing		10,407		
Total revenues		13,525,407	15,736,876	19,659,453
Cost of revenues				
Solar modules		(10,520,727)	(12,612,637)	(16,242,113)
Solar cells and other products		(675,384)	(742,723)	(864,976)
Electricity generation		(29,736)	(87,975)	(143,053)
Solar products processing		(6,971)		
Total cost of revenues		(11,232,818)	(13,443,335)	(17,250,142)
Gross profit		2,292,589	2,293,541	2,409,311
Selling, general and administrative expenses		(1,246,449)	(1,058,319)	(1,514,042)
Research and development expense		(148,548)	(175,450)	(160,138)
Loss from purchase commitments and contract termination costs	17		(148,541)	(16,436)
Impairment loss on project assets		(32,574)	(8,073)	(3,043)
Total operating expenses		(1,427,571)	(1,390,383)	(1,693,659)
Income from operations		865,018	903,158	715,652
Change in fair value of derivatives	21,22,27	44,033	48,845	(2,270)
Interest expense		(249,382)	(284,334)	(324,414)
Interest income		25,571	18,850	17,319
Foreign exchange gain/(loss)		31,890	80,786	(70,105)
Income from equity method investments	4	6,180	9,856	9,250
Other income, net	16	48,492	65,750	53,163
Income before income taxes		771,802	842,911	398,595
Income tax expense	12	(157,332)	(123,301)	(98,470)
Net income		614,470	719,610	300,125
Less: loss/(earnings) attributable to the non-controlling interest		9,243	(35,911)	
Net income attributable to JA Solar Holdings		623,713	683,699	300,125
Less: allocation of net income to a participating warrant holder		(107,828)		
Net income attributable to JA Solar s ordinary shareholders		515,885	683,699	300,125
Net income		614,470	719,610	300,125
Other comprehensive (loss)/income:				
Foreign currency translation adjustments, net of tax		(35,038)	(44,517)	4,237
Other comprehensive (loss)/income		(35,038)	(44,517)	4,237
Comprehensive income		579,432	675,093	304,362

Less: comprehensive loss/(income) attributable to the non-controlling interest	9,243	(35,911)	
Comprehensive income attributable to JA Solar Holdings	588,675	639,182	304,362
Less: allocation of net income to a participating warrant holder	(107,828)		
Comprehensive income attributable to JA Solar s ordinary shareholders	480,847	639,182	304,362

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JA SOLAR HOLDINGS CO., LTD.

CONSOLIDATED STATEMENTS OF OPERATIONS AND COMPREHENSIVE INCOME (Continued)

(In thousands, except share and per share data)

	Note	For the year ended December 31, 2015 RMB	For the year ended December 31, 2016 RMB	For the year ended December 31, 2017 RMB
Net income per share:				
Basic		2.12	2.92	1.28
Diluted		2.12	2.92	1.28
Weighted average number of shares outstanding:	24			
Basic		243,506,821	234,290,842	234,331,621
Diluted		243,744,921	234,402,452	234,369,595
Net income per ADS:				
Basic		10.59	14.59	6.40
Diluted		10.58	14.58	6.40
Weighted average number of ADS:				
Basic		48,701,364	46,858,168	46,866,324
Diluted		48,748,984	46,880,490	46,873,919

The accompanying notes are an integral part of these consolidated financial statements.

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JA SOLAR HOLDINGS CO., LTD.

CONSOLIDATED STATEMENTS OF CHANGES IN SHAREHOLDERS EQUITY

(In thousands, except share and per share data)

	Ordinary shares Shares	Amount RMB	Additional paid-in capital RMB	Statutory reserves RMB	Accumulated deficit RMB	Accumulated other comprehensive income RMB	Total JA Solar Holdings shareholders equity RMB	Non-controlling interest RMB	Total shareholders equity RMB
Balance at December 31, 2014	252,301,917	186	5,638,703	436,807	(726,610)	11,086	5,360,172	106,696	5,466,868
Share based compensation			9,405				9,405		9,405
Exercise of stock options	140,000		1,196				1,196		1,196
Vesting of restricted share units	267,500								
Statutory reserves				116,337	(116,337)				
Shares repurchase (Note 31)	(14,855,815)	(10)			(139,743)		(139,753)		(139,753)
Net income/(loss)					623,713		623,713	(9,243)	614,470
Other comprehensive loss for foreign currency translation adjustment						(35,038)	(35,038)		(35,038)
Balance at December 31, 2015	237,853,602	176	5,649,304	553,144	(358,977)	(23,952)	5,819,695	97,453	5,917,148

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JA SOLAR HOLDINGS CO., LTD.

CONSOLIDATED STATEMENTS OF CHANGES IN SHAREHOLDERS EQUITY (Continued)

(In thousands, except share and per share data)

	Ordinary shares		Additional paid-in capital	Statutory reserves	(Accumulated Deficit)/retained earnings	Accumulated other comprehensive loss	Total JA Solar Holdings shareholders equity	Non-controlling interest	Total shareholders equity
	Shares	Amount RMB	RMB	RMB	RMB	RMB	RMB	RMB	RMB
Balance at December 31, 2015	237,853,602	176	5,649,304	553,144	(358,977)	(23,952)	5,819,695	97,453	5,917,148
Share based compensation			2,253				2,253		2,253
Statutory reserves				112,609	(112,609)				
Capital injection by non-controlling interests								200	200
Liquidation of a subsidiary								(133,364)	(133,364)
Net income					683,699		683,699	35,911	719,610
Other comprehensive income for foreign currency translation adjustment						(44,517)	(44,517)		(44,517)
Balance at December 31, 2016	237,853,602	176	5,651,557	665,753	212,113	(68,469)	6,461,130	200	6,461,330

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JA SOLAR HOLDINGS CO., LTD.

CONSOLIDATED STATEMENTS OF CHANGES IN SHAREHOLDERS EQUITY (Continued)

(In thousands, except share and per share data)

	Ordinary shares Shares	Ordinary shares Amount RMB	Additional paid-in capital RMB	Statutory reserves RMB	(Accumulated Deficit)/retained earnings RMB	Accumulated other comprehensive loss RMB	Total JA Solar Holdings shareholders equity RMB	Non-controlling interest RMB	Total shareholders equity RMB
Balance at December 31, 2016	237,853,602	176	5,651,557	665,753	212,113	(68,469)	6,461,130	200	6,461,330
Share based compensation			414				414		414
Exercise of Stock Options	72,750		23				23		23
Statutory reserves				90,034	(90,034)				
Net income					300,125		300,125		300,125
Other comprehensive income for foreign currency translation adjustment						4,237	4,237		4,237
Balance at December 31, 2017	237,926,352	176	5,651,994	755,787	422,204	(64,232)	6,765,929	200	6,766,129

The accompanying notes are an integral part of these consolidated financial statements.

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JA SOLAR HOLDINGS CO., LTD.

CONSOLIDATED STATEMENTS OF CASH FLOWS

(In thousands)

	Note	For the year ended December 31, 2015 RMB	For the year ended December 31, 2016 RMB	For the year ended December 31, 2017 RMB
Cash flows from operating activities:				
Net income		614,470	719,610	300,125
Adjustments to reconcile net income to net cash provided by operating activities:				
Share based compensation		9,405	2,253	414
Depreciation and amortization		797,671	912,699	1,044,085
(Reversal of)/allowance for doubtful accounts		(4,746)	(18,076)	40,775
Write off of other current assets		19,078		
Inventory provision	7	6,905	126,570	58,786
Loss from purchase commitments and contract termination costs	7,17		148,541	16,436
Hemlock interest accrual/(reversal)	17	123,524	(303,380)	
Allowance for advance to third party suppliers	8	1,045		273
Change in fair value of derivatives		(44,033)	(48,845)	2,270
(Income)/loss from equity method investments		(2,147)	147	(10,105)
Exchange (gain)/loss		(11,274)	(54,907)	17,590
Loss from disposal of fixed assets		21,182	117,582	30,988
Impairment on project assets		32,574	8,073	3,043
Deferred income taxes		(96,648)	(84,344)	(39,100)
Changes in operating assets and liabilities:				
(Increase)/decrease in notes receivables		(762,727)	274,567	485,149
(Increase)/decrease in accounts receivables from third party customers		(659,587)	98,479	(153,172)
Decrease in accounts receivables from related party customers		213,801	38,694	95,965
Decrease/(increase) in inventories		218,821	(926,516)	(1,079,414)
Decrease/(increase) in advance to third party suppliers		115,409	247,864	(27,432)
Decrease in advance to related party suppliers		4,194	40,989	24,948
Decrease/(increase) in other current assets and amount due from related parties		257,846	(134,856)	(178,547)
Increase in prepaid land use rights			(109,266)	(14,217)
(Increase)/decrease in other assets			(196,543)	9,257
(Decrease)/increase in accounts payable		(380,832)	232,505	845,713
Increase/(decrease) in tax payables		45,780	(82,297)	1,020
Increase/(decrease) in advance from customers		447,908	(81,149)	108,298
Increase/(decrease) in other payables		8,629	(62,995)	13,808)
Increase/(decrease) in payroll and welfare payables		60,452	6,336	(29,557)
Increase in accrued expenses		119,878	15,483	21,191
(Decrease)/increase in amounts due to related parties		(637)	8,718	66,835
Increase in accrued warranty costs		128,392	153,082	176,469
Decrease in other long-term liabilities		(26,788)	(29,319)	(27,842)
Net cash provided by operating activities		1,257,545	1,019,699	1,804,052

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JA SOLAR HOLDINGS CO., LTD.

CONSOLIDATED STATEMENTS OF CASH FLOWS (Continued)

(In thousands)

	For the year ended December 31, 2015 RMB	For the year ended December 31, 2016 RMB	For the year ended December 31, 2017 RMB
Cash flows from investing activities:			
Purchase of property, plant and equipment	(891,925)	(1,752,450)	(2,203,090)
Proceeds from disposal of property, plant and equipment	3,576	1,538	29,265
Purchase of intangible assets	(1,818)	(2,522)	(1,314)
Investments in project assets	(382,817)	(1,095,297)	(830,672)
Government grants received	230	27,976	24,900
Cash paid for acquisition of a subsidiary, net of cash acquired		(77,892)	
Cash received from return of interest in an equity investee			4,386
Cash paid to non-controlling interests for liquidation of a subsidiary			(133,364)
Cash paid for purchase of an equity investee		(14,000)	
Decrease/(increase) in restricted cash	169,566	(173,243)	(169,491)
Net cash used in investing activities	(1,103,188)	(3,085,890)	(3,279,380)
Cash flows from financing activities:			
Proceeds from short-term borrowings	2,969,303	4,373,862	4,811,835
Repayment of short-term borrowings	(3,084,106)	(3,714,384)	(4,753,925)
Proceeds from long-term borrowings	797,017	919,358	404,794
Repayment of long-term borrowings	(22,000)	(391,240)	(571,795)
Proceeds from capital lease	41,808	481,252	756,294
Repayment of capital lease obligation		(62,953)	(119,796)
Proceeds from trade finance		100,269	99,890
Repayment of trade finance			(142,285)
Proceeds from exercise of stock options	1,196		23
Proceeds from investment of non-controlling interests		200	
Repurchase of shares	(139,753)		
Consideration payments after acquisition of a subsidiary			(30,000)
Net cash provided by financing activities	563,465	1,706,364	455,035)
Effect of exchange rate changes on cash and cash equivalents	10,463	45,935	(75,654)
Net increase/(decrease) in cash and cash equivalents	728,285	(313,892)	(1,095,947)
Cash and cash equivalents at the beginning of the year	2,155,009	2,883,294	2,569,402
Cash and cash equivalents at the end of the year	2,883,294	2,569,402	1,473,455
Supplemental disclosure of cash flow information:			
Cash paid for interest (net of amounts capitalized)	224,237	293,657	326,433
Cash paid for income tax	160,526	289,942	136,550
Supplemental schedule of non-cash investing and financing activities:			
Purchases of property, plant and equipment included in other payables and long-term liabilities	286,114	330,277	413,259
Purchases of project assets included in other payables	187,230	354,709	254,353
Swap accounts receivable from third party customers for equity method investment	39,498		
Payables to non-controlling interests for liquidation of a subsidiary		133,364	
Payables for acquisition of a subsidiary		70,000	

The accompanying notes are an integral part of these consolidated financial statements.

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JA SOLAR HOLDINGS CO., LTD.

Notes to Consolidated Financial Statements

(In thousands, except share and per share data)

1. ORGANIZATION AND PRINCIPAL ACTIVITIES

The accompanying consolidated financial statements include the financial statements of JA Solar Holdings Co., Ltd. (JASO), and its subsidiaries, collectively referred to as the Company .

JA Solar Holdings Co., Ltd. was incorporated in the Cayman Islands on July 6, 2006. In February 2007, the Company s ADS became listed on the NASDAQ Global Market in the United States. The Company is primarily engaged in the development, production and marketing of high-performance solar power products, and sales of electricity produced by the solar power plants.

In November 2011, the Company completed the acquisition of 100% equity interest of Silver Age Holdings Limited, of which Full Shine Holdings Limited and Solar Silicon Valley Electronic Science and Technology Co., Ltd. are 100% owned subsidiaries. Thereafter, Silver Age Holdings Limited, Full Shine Holdings Limited and Solar Silicon Valley Electronic Science and Technology Co., Ltd. became wholly owned subsidiaries of the Company.

In March 2011, the Company entered into a joint venture agreement with MEMC Singapore to form a jointly-owned company named JA MEMC (Yangzhou) Solar Technology Company Ltd. (JA MEMC). In June 2014, the Company completed the acquisition of 50% of JA MEMC s total equity interests held by MEMC Singapore. Thereafter, JA MEMC became wholly owned subsidiary of the Company. Subsequently, JA MEMC s assets were transferred to JA Solar Technology Yangzhou Co., Ltd. and JA MEMC was dissolved in December 2014.

In January 2013, the Company completed the acquisition of 65% equity interest of Hebei Ningjin Songgong Semiconductor Co., Ltd. (Ningjin Songgong). As of December 31, 2016, Ningjin Songgong was liquidated and the assets and liabilities of Ningjin Songgong have been adjusted to liquidation value, with no gain or loss impact on the consolidated statements of operations and comprehensive income. The net assets attributable to the non-controlling interest party were reclassified as payables accordingly (Refer to Note 17 Other payables to third parties). The payables were settled as of December 31, 2017.

In June 2016, the Company completed the acquisition of 100% equity interest of Jiuzhou Fangyuan New Energy (Yichang) Co., Ltd. (Refer to Note 3(a) Acquistition of Jiuzhou Yichang).

Majority of the Company s business is conducted through the operating subsidiaries established in the PRC, JingAo Solar Co., Ltd., JA Solar Technology Yangzhou Co., Ltd., Shanghai JA Solar Technology Co., Ltd., Hefei JA Solar Technology Co., Ltd., Solar Silicon Valley Electronic Science and Technology Co., Ltd., Jing Hai Yang Semiconductor Materials (Donghai) Co., Ltd., JA Solar Malaysia Sdn. Bhd., Dunhuang JA Solar Power Development Co., Ltd., Jingneng New Energy Development (Lincheng) Co., Ltd., JA Solar PV Electric (Datong) Co., Ltd. and Jiuzhou Fangyuan New Energy (Xinjiang) Co., Ltd. in which the Company indirectly holds a 100% interest.

As of December 31, 2017, the Company s principal subsidiaries include the following entities:

	Date of Incorporation/Acquisition	Place of Incorporation	Percentage of Ownership
JingAo Solar Co., Ltd. (JA Hebei)	May 18, 2005	PRC	100%
JA Development Co., Ltd. (JA BVI)	July 6, 2006	BVI	100%
Shanghai JA Solar Technology Co., Ltd. (JA Fengxian)	November 16, 2006	PRC	100%
JA Solar USA Inc. (JA USA)	April 13, 2007	USA	100%
Shanghai JA Solar PV Technology Co., Ltd. (JA Zhabei)	June 22, 2007	PRC	100%
JA Solar Technology Yangzhou Co., Ltd. (JA Yangzhou)	November 19, 2007	PRC	100%
JA Solar Hong Kong Limited (JA Hong Kong)	December 10, 2007	Hong Kong	100%
Jing Hai Yang Semiconductor Materials (Donghai) Co., Ltd. (JA Lianyungang)	October 11, 2008	PRC	100%
JA Yangzhou PV Technology Co., Ltd. (JA Yangzhou PV)	November 23, 2009	PRC	100%
JA Solar GmbH (JA GmbH)	February 17, 2010	Germany	100%
Shanghai Jinglong Solar Technology Co., Ltd. (JA Jinglong)	July 5, 2010	PRC	100%

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JA SOLAR HOLDINGS CO., LTD.

Notes to Consolidated Financial Statements

(In thousands, except share and per share data)

1. ORGANIZATION AND PRINCIPAL ACTIVITIES (Continued)

As of December 31, 2017, the Company s principal subsidiaries include the following entities (continued):

	Date of Incorporation/Acquisition	Place of Incorporation	Percentage of Ownership
Donghai JA Solar Technology Co., Ltd. (JA Wafer R&D)	November 4, 2010	PRC	100%
JA (Hefei) Renewable Energy Co., Ltd. (JA Hefei Renewable Energy)	March 30, 2011	PRC	100%
Hefei JA Solar Technology Co., Ltd. (JA Hefei Technology)	July 8, 2011	PRC	100%
JA Solar Investment China Co., Ltd (JA Investment)	October 31, 2011	PRC	100%
Silver Age Holdings Limited (Silver Age)	November 30, 2011	BVI	100%
Full Shine Holdings Limited (Full Shine)	November 30, 2011	Hong Kong	100%
Solar Silicon Valley Electronic Science and Technology Co., Ltd. (Solar Silicon Valley)	November 30, 2011	PRC	100%
JA Solar Japan Limited (JA Japan)	July 12, 2012	Japan	100%
Dunhuang JA Solar Power Development Co., Ltd. (JA Dunhuang)	July 23, 2012	PRC	100%
JA Solar Investment (Hong Kong) Limited	May 16, 2013	Hong Kong	100%
JA Solar Australia PTY Limited (JA Australia)	June 12, 2013	Australia	100%
JA Solar PV Technology Co., Ltd.	January 13, 2014	PRC	100%
JA Solar PV Electric (Shexian) Co,. Ltd.	March 10, 2014	PRC	100%
Aiyouen Power Electric (Yinchuan) Co,. Ltd.	March 25, 2014	PRC	65%
Beijing JA Solar PV Technology Co., Ltd.	April 14, 2014	PRC	100%
JA Solar PV Electric (Huanghua) Co,. Ltd.	July 1, 2014	PRC	100%
JA Solar South Africa (PTY) Limited	July 5, 2014	South Africa	100%
JA Solar PV Electric (Yanchi) Co,. Ltd. (JA Yanchi)	July 17, 2014	PRC	100%
JA New Energy Development (Hebei) Co., Ltd.	August 25, 2014	PRC	100%
JA Solar New Energy Electric (Chifeng) Co., Ltd. (JA Chifeng)	October 20, 2014	PRC	100%
JA Solar PV Electric (Wulanchabu) Co,. Ltd.	November 12, 2014	PRC	100%
JA Solar Malaysia Sdn. Bhd. (JA Malaysia)	December 10, 2014	Malaysia	100%
Jingneng New Energy Development (Renxian) Co., Ltd.	March 23, 2015	PRC	100%
Jingneng New Energy Development (Lincheng) Co., Ltd. (Lincheng Jingneng)	April 20, 2015	PRC	100%
JA Solar PV Electric (Hefei) Co., Ltd. (JA Hefei Electric)	April 22, 2015	PRC	100%
JA Solar PV Electric (Jarud) Co., Ltd. (JA Jarud)	May 5, 2015	PRC	100%
JA Solar PV Electric (Linzhou) Co., Ltd. (JA Linzhou)	May 8, 2015	PRC	100%
JA Solar Technology (Karamay) Co., Ltd.	May 11, 2015	PRC	100%
JA Solar (Xingtai) Co., Ltd.	July 13, 2015	PRC	100%
JA Solar PV Electric (Hoboksar) Co., Ltd.	July 27, 2015	PRC	100%

JA Solar PV Electric (Datong) Co., Ltd. (JA Datong)	July 30, 2015	PRC	100%
Jiuzhou Fangyuan New Energy (Xinjiang) Co., Ltd. (Jiuzhou Xinjiang)	June 30, 2016	PRC	100%
Jingneng Solar PV Electric (Daqing) Co., Ltd.	February 24, 2016	PRC	100%
JA Solar International Ltd. (JA International)	May 12, 2016	Hong Kong	100%
JA Solar (Chaoyang) Electric Co., Ltd.	August 15, 2016	PRC	100%
JA Solar Vietnam Company Limited (JA Vietnam)	December 31, 2016	Vietnam	100%
Baotou JA Solar Technology Co., Ltd.	May 24, 2017	PRC	100%

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JA SOLAR HOLDINGS CO., LTD.

Notes to Consolidated Financial Statements

(In thousands, except share and per share data)

2. Summary of significant accounting policies

a) Basis of presentation and consolidation

The accompanying consolidated financial statements have been prepared in accordance with generally accepted accounting principles in the United States of America (U.S. GAAP). The consolidated financial statements include the financial statements of the Company and its subsidiaries. For consolidated subsidiaries where the Company s ownership in the subsidiary is less than 100%, the equity interest not held by the Company is presented as non-controlling interest. All inter-company transactions and balances among the Company and its subsidiaries have been eliminated upon consolidation.

The accompanying consolidated financial statements have been prepared assuming that the Company will continue as a going concern, which contemplates the realization of assets and the satisfaction of liabilities in the normal course of business. The realization of assets and the satisfaction of liabilities in the normal course of business are dependent on, among other things, the Company s ability to generate cash flows from operations, and the Company s ability to arrange adequate financing arrangements, to support its working capital requirements.

The Company had positive working capital as of December 31, 2017. The Company s management believes that the current cash position as of December 31, 2017, the cash expected to be generated from operations and funds available from borrowings under the bank credit facilities will be sufficient to meet the Company s working capital for at least the next 12 months from the date of issuance of the fiscal 2017 financial statements.

b) Use of estimates

The preparation of consolidated financial statements in conformity with U.S. GAAP requires management to make estimates and assumptions that affect the reported amounts of assets and liabilities, disclosure of contingent assets and liabilities at the dates of the consolidated financial statements, and the reported amounts of revenues and expenses during the reporting periods. Actual results could differ from those estimates. The Company bases its estimates on historical experience and various other factors believed to be reasonable under the circumstances, the results of which form the basis for making judgments about the carrying value of assets and liabilities that are not readily apparent from other sources. Significant accounting estimates reflected in the Company s consolidated financial statements include allowance for doubtful accounts and advances to suppliers, valuation of inventories, derivative and other financial instruments, useful lives of long-lived assets, assumptions used to measure impairment of long-lived assets and equity method investment, determination of fair value of identifiable assets and liabilities acquired through business combination, accrual for warranty and other liabilities, provision for uncertain tax positions and deferred tax valuation allowances, loss contingency, provision for inventory purchase commitment and assumptions used in the computation of share-based compensation, including the associated forfeiture rates.

c) Fair value of financial instruments

The Company estimated the fair value of its financial assets and liabilities in accordance with ASC 820, *Fair Value Measurements and Disclosure*. ASC 820 defines fair value as the price that would be received to sell an asset or paid to transfer a liability in an orderly transaction between market participants at the measurement date (also referred to as an exit price). ASC 820 establishes a hierarchy for inputs used in measuring fair value that gives the highest priority to observable inputs and the lowest priority to unobservable inputs. Valuation techniques used to measure fair value shall maximize the use of observable inputs.

When available, the Company measures the fair value of financial instruments based on quoted market prices in active markets, valuation techniques that use observable market-based inputs or unobservable inputs that are corroborated by market data. Pricing information the Company obtains from third parties is internally validated for reasonableness prior to use in the consolidated financial statements. When observable market prices are not readily available, the Company generally estimates the fair value using valuation techniques that rely on alternate market data or inputs that are generally less readily observable from objective sources and are estimated based on pertinent information available at the time of the applicable reporting periods. In certain cases, fair values are not subject to precise quantification or verification and may fluctuate as economic and market factors vary and the Company s evaluation of those factors changes. Although the Company uses its best judgment in estimating the fair value of these financial instruments, there are inherent limitations in any estimation technique. In these cases, a minor change in an assumption could result in a significant change in its estimate of fair value, thereby increasing or decreasing the amounts of the Company s consolidated assets, liabilities, shareholders equity and net income or loss.

d) Cash, cash equivalents and restricted cash

The Company considers all cash on hand and demand deposits as cash and considers all highly liquid investments with an original maturity of three months or less as cash equivalents. Restricted cash as of December 31, 2016 and 2017 represents amounts held by banks, which are not available for the Company s use, as collateral for issuance of letters of credit, letters of guarantee, bank acceptance notes as well as certain borrowings.

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JA SOLAR HOLDINGS CO., LTD.

Notes to Consolidated Financial Statements

(In thousands, except share and per share data)

2. Summary of significant accounting policies (continued)

e) Investments

Investments in entities where the Company does not have a controlling financial interest, but have the ability to exercise significant influence over the operating and financial policies of the investee, are accounted for using the equity method of accounting. Investment in a joint venture or an affiliate is accounted for by the equity method of accounting as the Company has the ability to exercise significant influence but does not own a majority equity interest. Under the equity method of accounting, the Company s share of the investee s results of operations is included in equity gain for the investee in the Company s Consolidated Statements of Operations and Comprehensive Income. Unrealized gains on transactions between the Company and the joint venture or affiliate are eliminated to the extent of the Company s interest in the joint venture or affiliate, if any; unrealized losses are also eliminated unless the transaction provides evidence of an impairment of the asset transferred. When the Company s share of losses in the joint venture or affiliate equals or exceeds its interest in the joint venture or affiliate, the Company does not recognize further losses, unless the Company has incurred obligations or made payments on behalf of the joint venture or affiliate.

f) Accounts receivable and allowance for doubtful accounts

Provisions are made against accounts receivable for estimated losses resulting from the inability of the Company s customers to make payments. The Company periodically assesses accounts receivable balances to determine whether an allowance for doubtful accounts should be made based upon historical bad debts, specific customer creditworthiness and current economic trends. Accounts receivable in the balance sheets are stated net of such provision.

The Company assesses the credit line and credit term for each customer, taking into consideration the credit worthiness of such customer, the payment history of such customer and macro-economic conditions of the regional market. The Company signs the sales contract and executes the transaction with the customer after sufficient credit assessment. After the sales are made, the Company closely monitors the collectability of receivables on an on-going basis for any subsequent changes in the customers financial position and credit rating, and any relevant circumstances which may impact collectability of the receivables. The Company generally will not enter into further transactions with any customers with significant overdue balances.

g) Inventories

Inventories are stated at the lower of cost or market value. Cost of inventories is determined by the weighted-average method. Cost of work-in-progress and finished goods are comprised of direct materials, direct labor and related manufacturing overhead based on normal operating capacity. Adjustments are recorded to cost of revenues to write down the carrying amount of any obsolete and excess inventory to its estimated net realizable value. Certain factors could impact the realizable value of inventory, so the Company continually evaluates the recoverability based on assumptions about customer demand and market conditions. The evaluation may take into consideration historical usage, expected demand, anticipated sales price, new product development schedules, the effect new products might have on the sale of existing products, product obsolescence, customer concentrations, and other factors. The write-down is equal to the difference between the cost of inventory and the estimated market value based upon assumptions about future demand and market conditions. If actual market conditions are less favorable than those projected by management, additional inventory write-downs may be required that could negatively impact the Company s gross margin and operating results. If actual market conditions are more favorable, the Company may have higher gross margin when products that have been previously written down are eventually sold.

The Company also assesses whether losses should be accrued on long-term inventory purchase commitments in accordance with ASC 330-10-35-17 to 18, which requires that losses that are expected to arise from those firm, non-cancellable, and unhedged commitments for the future purchase of inventory items, measured in the same way as inventory losses, should be recognized unless recoverable through firm sales contacts or when there are other circumstances that reasonably assure continuing sales without price decline.

Under the long-term supply contracts (LTAs) between the Company and certain suppliers, polysilicon and silicon wafer purchase would be made pursuant to the purchase prices and quantities set forth in the relevant LTAs. As a result of the significant declines in the market prices of polysilicon and silicon wafer due to the significant downturn in the solar industry in recent years, the purchase prices set forth in certain LTAs exceeded market prices.

JA SOLAR HOLDINGS CO., LTD.

Notes to Consolidated Financial Statements

(In thousands, except share and per share data)

2. Summary of significant accounting policies (continued)

g) Inventories (continued)

At the end of each reporting period, the Company separately assesses the potential losses on those firm inventory purchases for each supplier. When making the assessment, the Company considers whether it is able to renegotiate with its suppliers and get positive outcome by taking into account various considerations, such as stated contract price, purchase price reduction, overall amendment to LTA to eliminate fixed price arrangement, its ability to obtain concessions (i.e., reduced purchase prices and/or additional quantities at no cost) so that the actual purchase prices are less than the stated contract prices or close to the market price at the time of purchase, historical outcome of the renegotiation with the same supplier, contract period, the minimum purchase quantity, tax costs involved in the import or export of raw materials and products, status of a particular LTA at the time of assessment, and other circumstances and uncertainties that may impact such assessment.

If it is determined that a loss provision calculation is necessary considering the status of a LTA and all facts and circumstances impacting the evaluation, the Company follows the guidance of ASC 330-10-35-17 and assesses whether there should be loss on the firm purchase commitments by applying a methodology similar to that used in the lower of cost or market evaluation with respect to inventory. In assessing the potential loss provision, the Company uses the stated contract price and volume under the relevant LTA as the major assumptions. Loss provision will be provided if the net realizable value after considering estimated costs to convert those polysilicon into saleable finished goods is higher than market selling price of finished goods as of the end of a reporting period.

There was no loss provision recorded related to these long-term contracts in the year ended December 31, 2015. Provisions of RMB 48,906 and RMB 16,436 were recognized in 2016 and 2017, respectively, and as of December 31, 2016 and 2017, the loss provision reserve was RMB 48,906 and RMB 54,215, respectively. (Refer to Note 7 Inventories).

h) Short-term and long-term advances to suppliers

The Company provides short-term and long-term advances to secure its raw material needs, which are then offset against future purchases. The Company does not require collateral or other security against its advances to related or third party suppliers. The Company continually assesses the credit quality of its suppliers and the factors that affect the credit risk. If there is deterioration in the creditworthiness of its suppliers, the Company will seek to recover its advances from the suppliers and provide for losses on advances which are akin to receivables in selling, general and administrative expenses because of their inability to return its advances. Recoveries of the allowance for advances to supplier are recognized when they are received. The Company classified short-term and long-term advances to suppliers based on management s best estimate of the expected purchase in the next twelve-months as of the balance sheet date and the Company s ability to make requisite purchases under existing supply contracts. The balances expected to be utilized outside of the twelve months are recorded in long-term advances to suppliers.

i) Prepaid land use rights

Land use rights which are accounted for as a separate lease component of the operating lease arrangements are carried at cost less accumulated amortization and impairment losses, if any. Amortization is provided on a straight-line basis over the lease period of 40 or 50 years.

j) Property, plant and equipment, net

Property, plant and equipment are stated at cost less accumulated depreciation. Depreciation is provided on a straight-line basis over the following estimated useful lives:

[redacted]

Construction in progress primarily represents the construction of new production lines and buildings. Costs incurred in the construction are capitalized and transferred to property, plant and equipment when an asset is ready for its intended use, at which time depreciation commences. Interest expense incurred for qualifying assets are capitalized in accordance with ASC 835-20, *Capitalization of Interest*.

JA SOLAR HOLDINGS CO., LTD.

Notes to Consolidated Financial Statements

(In thousands, except share and per share data)

2. Summary of significant accounting policies (continued)

j) Property, plant and equipment, net (continued)

Expenditures for repairs and maintenance are expensed as incurred. The gain or loss on disposal of property, plant and equipment, if any, is the difference between the net sales proceeds and the carrying amount of the disposed assets, and is recognized in the Consolidated Statements of Operations and Comprehensive Income upon disposal.

k) Leases

Leases where substantially all the rewards and risks of ownership of assets remain with the leasing company are accounted for as operating leases. Other leases are accounted for as capital leases. Payments made under operating leases, net of any incentives received by the Company from the leasing company, are charged to the Consolidated Statements of Operations and Comprehensive Income on a straight-line basis over the lease periods. Leases that qualify as capital leases are recorded at the lower of the fair value of the asset or the present value of the future minimum lease payments over the lease term generally using the Company s incremental borrowing rate. Assets leased under capital leases are included in property, plant and equipment and generally are depreciated over the lease term. Lease payments under capital leases are recognized as a reduction of the capital lease obligation and interest expense.

For a sale-leaseback transaction, an analysis is performed to determine if the Company can record a sale and remove the assets from the balance sheet and recognize the lease; and if so, to determine whether to record the lease as either an operating or capital lease. If the Company has continued involvement beyond a normal lease, the lease is accounted for as a capital lease transaction and the assets and related financing obligation are recognized on the balance sheet. The Company s assets under the capital lease transaction were derecognized upon sale at the net book value and rebooked at the financed amount; and the differences between the net book value derecognized and the rebooked financed amount of the assets were deferred and amortized over the lease term.

Accordingly, the asset is depreciated over its estimated useful life in accordance with the Company s policy.

When the assets transaction does not qualify as a sale-leaseback transaction, it will be treated as financing transactions.

If the sale-leaseback transaction involves assets other than real estate, those are evaluated to determine whether they are considered integral with real estate, in which case the sale-leaseback rules related to real estate are applied.

l) Business combination

Business combinations are accounted for under the acquisition method in accordance with ASC 805, Business Combinations. The consideration transferred is measured as the aggregate of the fair values at the date of exchange of the assets given, liabilities incurred, and equity instruments issued. The costs directly attributable to the acquisition are expensed as incurred. Identifiable assets, liabilities and contingent liabilities acquired or assumed are measured separately at their fair value as of the acquisition date, irrespective of the extent of any non-controlling interests. The excess of the (i) the fair value of consideration transferred, fair value of the non-controlling interests and acquisition date fair value of any previously held equity interest in the acquiree over (ii) the fair value of the identifiable net assets of the acquiree is recorded as goodwill. If the fair value of consideration transferred, fair value of the non-controlling interests and acquisition date fair value of any previously held equity interest in the acquire is less than the fair value of the net assets of the entity acquired, the difference, a bargain purchase, is recognized as a gain directly in the Statements of Operations and Comprehensive Income upon obtaining control. In a business combination achieved in stages, the acquirer shall remeasure its previously held equity interest in the acquiree at its acquisition-date fair value and recognize the resulting gain or loss, if any, in earnings.

The determination and allocation of fair values to the identifiable assets acquired and liabilities assumed, including non-controlling interests if applicable, is based on various assumptions and valuation methodologies requiring considerable management judgment. The most significant variables in these valuations are discount rates, terminal values, the number of years on which to base the cash flow projections, as well as the assumptions and estimates used to determine the cash inflows and outflows. Management determines discount rates to be used based on the risk inherent in the related activity s current business model and industry comparisons. Terminal values are based on the expected life of assets and forecasted life cycle and forecasted cash flows over that period. Although management believes that the assumptions applied in the determination are reasonable based on information available at the date of acquisition, actual results may differ from the forecasted amounts and the difference could be material.

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JA SOLAR HOLDINGS CO., LTD.

Notes to Consolidated Financial Statements

(In thousands, except share and per share data)

2. Summary of significant accounting policies (continued)

m) Intangible asset, net

Intangible assets primarily represent technical know-how, purchased accounting and operational software, and customer relationships acquired through business combinations.

Technical know-how, contributed by one of the Company s shareholders upon formation of JA Hebei, is carried at cost, less accumulated amortization. The technical know-how consists of one component relating to the commercial production process of photovoltaic solar cells. Amortization is calculated on a straight-line basis over the estimated useful life of eight years.

Intangible assets acquired through business combinations are recognized as assets separate from goodwill if they satisfy either the contractual-legal or separability criterion. Customer relationship is recorded at fair value at the acquisition date less accumulated amortization. Amortization is calculated on a straight-line basis over the estimated useful life of five years.

Purchased software and others with a finite useful life is being amortized on a straight line basis over its estimated useful life of three to ten years.

n) Impairment of long-lived assets

The Company evaluates its long-lived assets and finite-lived intangible asset for impairment whenever events or changes in circumstances indicate that the carrying amount of an asset may not be recoverable. Factors considered important that could result in an impairment review include significant underperformance relative to expected historical or projected future operating results, significant changes in the manner of use of acquired assets and significant negative industry or economic trends. Impairments are recognized based on the difference between the fair value of the asset and its carrying value in the event that the carrying amount exceeds the estimated future undiscounted cash flow attributed to such assets. Fair value is generally measured based on either quoted market prices, if available, or discounted cash flow analyses. Additionally, determining fair values requires probability weighting the cash flows to reflect expectations about possible variations in their amounts or timing and the selection of an appropriate discount rate. Although cash flow estimates are based on relevant information available at the time the estimates are made, estimates of future cash flows are, by nature, highly uncertain and may vary significantly from actual results. Any write-downs would be treated as permanent reductions in the carrying amounts of the assets and an operating loss would be recognized.

o) **Income taxes**

Income taxes are accounted for under the asset and liability method. Deferred tax assets and liabilities are recognized for the future tax consequences attributable to differences between the financial statements carrying amounts of existing assets and liabilities and their respective tax assets bases and operating loss and tax credit carry forwards. Deferred tax assets and liabilities are measured using enacted tax rates expected to apply to taxable income in the years in which those temporary differences are expected to be recovered or settled. The effect on deferred tax assets and liabilities of a change in tax rates is recognized in income in the period that includes the enactment date. A valuation allowance is provided to reduce the carrying amount of deferred tax assets if it is considered more likely than not that some portion, or all, of the deferred tax assets will not be realized.

Uncertain tax position is accounted for in accordance with ASC 740-10-25, which clarifies the accounting for uncertain tax positions and requires that the Company recognizes in the consolidated financial statements the impact of an uncertain tax position, if that position is more likely than not of being sustained upon examination, based on the technical merits of the position. Recognized income tax positions are measured at the largest amount that is greater than 50% likely of being realized. Changes in recognition or measurement are reflected in the period in which the change in judgment occurs. The Company s accounting policy is to accrue interest and penalties related to uncertain tax positions, if and when required, as interest expense and a component of general and administrative expenses, respectively, in the Consolidated Statements of Operations and Comprehensive Income. In the years ended December 31, 2015, 2016 and 2017, the Company did not record any interest and penalties associated with uncertain tax positions as there were no uncertain tax positions.

JA SOLAR HOLDINGS CO., LTD.

Notes to Consolidated Financial Statements

(In thousands, except share and per share data)

2. Summary of significant accounting policies (continued)

p) Revenue recognition

(i) Revenue recognition for solar modules, solar cells and other products (hereafter solar products)

The Company recognizes revenue from the sale of solar products when the goods are delivered and title and risk of loss transfer is passed to the customers. The Company sells its solar products at agreed upon prices to its customers, which reflect prevailing market prices.

The Company s considerations for recognizing revenue are based on the following:

- Persuasive evidence that an arrangement (sales contract) exists between a willing customer and the Company that outlines the terms of the sale (including customer information, product specification, quantity of goods, purchase price and payment terms). Customers do not have a right of return. The Company does provide a warranty on its solar module products.

- For EX Works (EXW) terms, which mean that a seller has the goods ready for collection at its premises (works, factory, warehouse, plant), the contract specifies that the risks are assumed by the customer when the customer picks up the goods from the Company s warehouses, at which time revenue is recognized. For FOB shipping point terms, the contract specifies that the customer takes title to the goods and is responsible for all risks and rewards of ownership once products are over shipping rail at the named loading port from the Company s premises, at which time revenue is recognized. For CIF terms, the Company pays the costs of insurance and freight necessary to bring the goods to the named port of destination, but the title to and risk/rewards of ownership of the goods is passed to the buyer according to each of the contract term, which is defined in each contract. For Delivered Duty Paid (DDP) terms, the Company pays the costs of insurance and freight necessary to bring the goods to the named port of destination as well as the import duty, and the title to and risk/rewards of ownership of the goods is passed to the buyer once the goods are delivered and the import duty is paid. The point of delivery could be at the port of shipping, or it could also be when the goods arrive at the named port of destination. When title to the goods transfers at the port of shipping, the beneficiary of the insurance is the buyer and the Company has no obligations to the buyer if goods are damaged during shipping. Revenue is therefore, recognized when the title to and risk/rewards of ownership of the goods is passed to the buyer which is at port of shipping or port of destination, depending on the terms of the contract.

- The Company s price to the customer is fixed and determinable as specifically outlined in the sales contract.

- For customers to whom credit terms are extended, the Company assesses a number of factors to determine whether collection from the customers is reasonably assured, including past transaction history with these customers and their credit-worthiness. All credit extended to customers is pre-approved by management. If the Company determines that collection is not reasonably assured, including cases where the customers retain a portion of the full contract price as retainage after a specific period, it defers the recognition of revenue until such criterion is met, which is generally upon receipt of payment.

(ii) Revenue recognition for solar products processing

The Company provides solar products processing services to customers with their own wafer/polysilicon supplies. Under certain of these solar products processing service arrangements, the Company purchases raw materials from a customer and agrees to sell a specified quantity of solar products produced from such materials back to the same customer. The Company records revenue from these processing transactions on a net basis, recording revenue based on the amount received for solar products sold less the amount paid for the raw materials purchased from the customer.

(iii) Revenue recognition for electricity generation

The Company recognizes electricity generation revenue when persuasive evidence of a power purchase arrangement with the power grid company exists, electricity has been generated and transmitted to the grid and the electricity generation records are reconciled with the grid companies, the price of electricity is fixed or determinable and the collectability of the resulting receivable is reasonably assured. The price of electricity includes a portion that is subsidized by the Chinese central government. Subsidized portion of electricity generation revenue is recognized after the Company meets the subsidy criterion, which includes electricity sales agreement with state grid, electricity generation and government approval of the Company s application of the subsidy.

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JA SOLAR HOLDINGS CO., LTD.

Notes to Consolidated Financial Statements

(In thousands, except share and per share data)

2. Summary of significant accounting policies (continued)

q) Cost of revenue

Cost of revenue solar products

Cost of revenue for solar products includes production related direct labor, direct material cost, depreciation and amortization, indirect costs, shipping (freight in) and handling costs for products sold, inventory obsolescence and lower of cost or market charge, capacity underutilization charges and warranty cost.

Cost of revenue - solar products processing

Cost of revenue for solar products processing includes direct labor, depreciation and amortization, indirect costs, and shipping and handling costs.

Cost of revenue electricity generation

Cost of electricity generation revenue includes depreciation of solar power project assets and costs associated with operation and maintenance of the power plants came into use.

r) Project assets

The Company develops commercial solar power projects (project assets) for use upon their completion to generate electricity for sale. Project assets consist primarily of direct costs relating to solar power projects in various stages of development. A project asset is initially recorded at the actual cost. For a self-developed project asset that is initially obtained by application of feed-in-tariff (FIT) contract and other required permits, consents, the actual cost capitalized is the amount of the expenditure incurred for the application of those contracts, permits, consents, material and labor costs, cost of lands, capitalized interest and other similar direct costs. For a project asset acquired from external parties, the initial cost is the acquisition cost which includes the consideration transferred and certain direct acquisition cost. Modules cost, equipment cost and development and others incurred in the project development process will build up the cost of project assets.

	As of December 31, 2016 RMB	As of December 31, 2017 RMB
Project assets completed and connected to the grid		
Power station cost	2,371,978	3,049,648
Less: Accumulated depreciation	(100,542)	(223,229)
Subtotal	2,271,436	2,826,419
Project assets in-process		
Modules cost	30,982	26,826
Equipment, development and other cost	36,230	92,368
Subtotal	67,212	119,194
Project assets, net	2,338,648	2,945,613

The Company reviews project assets for impairment whenever events or changes in circumstances indicate that the carrying amount may not be recoverable. In determining whether or not the project assets are recoverable, the Company considers a number of factors, including changes in environmental, ecological, permitting, marketing price or regulatory conditions that affect the project. Such changes may cause the cost of the project to increase or the selling price of the project to decrease. The Company impaired project assets with the amount of RMB 8,073 and RMB 3,043 for the years ended December 31, 2016 and 2017, respectively, as a result of the Company s decision to suspend the construction of these projects.

Costs capitalized in the construction of solar power plants under development will be transferred to solar power plants upon completion and when they are ready for its intended use, which is at the point when the solar power plant is connected to grids and begins to generate electricity. Depreciation of the completed solar power plant commences once the solar power plant is ready for its intended use. Depreciation will be computed using the straight-line method over the expected life of about 20 years (shorter of land use right or the estimated useful life of module used in project assets). RMB 2,371,978 and RMB 3,049,648 of project assets had been completed and connected to the grid as of the years ended December 31, 2016 and 2017, respectively. Depreciation expenses of project assets were RMB 25,685, RMB 74,857 and RMB 122,687 for the years ended December 31, 2015, 2016 and 2017.

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(In thousands, except share and per share data)

2. Summary of significant accounting policies (continued)

r) Project assets (continued)

As of December 31, 2016, project assets with net book value of RMB 574,014 were pledged as collateral for the Company s borrowings of RMB 546,000 from Industrial and Commercial Bank of China; project assets with net book value of RMB 894 were pledged as collateral for the Company s borrowings of RMB 14,277 from 77 Bank; project assets with net book value of RMB 194,919 were pledged as collateral for the Company s borrowings of RMB 250,500 from Industrial and Commercial Bank of China. As of December 31, 2017, project assets with net book value of RMB 544,919 were pledged as collateral for the Company s borrowings of RMB 504,000 from Industrial and Commercial Bank of China; project assets with net book value of RMB 6,895 were pledged as collateral for the Company s borrowings of RMB 12,542 from 77 Bank; project assets with net book value of RMB 232,603 were pledged as collateral for the Company s borrowings of RMB 235,500 from Industrial and Commercial Bank of China. Project assets with net book value of RMB 351,070 were pledged as collateral for the Company s long-term bank borrowing of RMB 232,860 and short-term bank borrowing of RMB 7,140 from China Merchants Bank.

For the year ended December 31, 2016, the Company sold certain modules and equipment (leased group) with carrying amount of RMB 374,907 to a third party (the purchaser-lessor) for cash consideration of RMB 481,252 and simultaneously entered into a three-year or ten-year contract to lease back the leased assets from the purchase-lessor. Pursuant to the terms of the contract, the Company is required to pay to the purchaser-lessor lease payment over 3 or 10 years and is entitled to obtain the ownership of these equipment at a nominal price upon the expiration of the lease. The lease is classified as capital lease (Refer to Note 16 Other long-term liabilities).

For the year ended December 31, 2017, the Company sold certain modules and equipment (leased group) with carrying amount of RMB 445,166 to a third party (the purchaser-lessor) for cash consideration of RMB 776,763 and simultaneously entered into a three-year or ten-year contract to lease back the leased assets from the purchase-lessor. Pursuant to the terms of the contract, the Company is required to pay to the purchaser-lessor lease payment over 3 or 10 years and is entitled to obtain the ownership of these equipment at a nominal price upon the expiration of the lease. The lease is classified as capital lease (Refer to Note 16 Other long-term liabilities).

As the leased assets are considered integral with real estate under ASC 360, the sale-leaseback rules related to real estate are applied. The lease transactions do not qualify as a sale-leaseback transaction as these solar projects are initially invested and build up by seller-lessee with expected useful life of 25 years, and are continuingly maintained by seller-lessee. Seller-lessee has an obligation to repurchase the leased assets upon the expiry of the lease. In addition, after the lease period, seller-lessee will keep using the assets and has no plans to sell or early-disposal.

Accordingly, these transactions are accounted for as financing transactions in accordance with ASC 840. Internal rate of return is used in the computation of interest cost. The assets remain in the project assets and continue to be depreciated.

For the years ended December 31, 2015, 2016 and 2017, total interest capitalized was RMB 4,837, RMB 7,549 and RMB nil, respectively.

s) Share based compensation

In accordance with ASC 718, *Compensation-Stock Compensation*, the Company measures the cost of employee services received in exchange for share-based compensation at the grant date fair value of the award.

The Company recognizes the share-based compensation costs, net of a forfeiture rate, on a straight-line basis over the requisite service period for each separately vesting portion of the award as if the award was, in-substance, multiple awards.

ASC 718 requires forfeitures to be estimated at the time of grant and revised in subsequent periods if actual forfeitures differ from those estimates.

t) Research and development

Research and development costs are expensed when incurred.

u) Advertising expenses

Advertising expenses are expensed when incurred. Advertising expenses are not significant during any of the periods covered by these consolidated financial statements.

JA SOLAR HOLDINGS CO., LTD.

Notes to Consolidated Financial Statements

(In thousands, except share and per share data)

2. Summary of significant accounting policies (continued)

v) Warranty cost

Solar modules produced by the Company are typically sold with a 10-year guarantee for defects in materials and workmanship and a 10-year and 25-year warranty against declines of more than 10.0% and 20.0%, respectively, of the initial minimum electricity generation capacity at the time of delivery. The Company therefore maintains warranty reserves (recorded as accrued warranty costs) to cover potential liabilities that could arise from these guarantees and warranties. The potential liability is generally in the form of product replacement or repair. The Company accrues 1.0% of its net revenues attributable to module sales as warranty costs at the time revenues are recognized and include that amount in its cost of revenues. Liabilities arising from special customer claims other than product replacement or repair are accrued separately and charged into cost of revenues instead of utilizing warranty reserves. Due to limited warranty claim history, the Company accrues the estimated costs of warranties based on its own history, industry data and an assessment of its competitors accrual history. Through the Company s relationships with, and its management s experience working at, other solar power companies and on the basis of publicly available information regarding other solar power companies accrued warranty costs, the Company believes that accruing 1.0% of its net revenues attributable to module sales as warranty costs is within the range of industry practice and is consistent with industry-standard accelerated testing, which assists the Company in estimating the long-term reliability of solar modules, estimates of failure rates from its quality review and other assumptions that it believes to be reasonable under the circumstances. However, although the Company conducts quality testing and inspection of its solar module products, these products have not been and cannot be tested in an environment simulating the up to 25-year warranty periods. Actual warranty costs are accumulated and charged against the accrued warranty liability. To the extent that the actual warranty costs differ from the estimates, the Company will prospectively revise its accrual rate.

w) Foreign currencies translation

The functional and reporting currency of the Company and the majority of its subsidiaries is Renminbi (RMB). Transactions denominated in other currencies are translated into RMB at the exchange rates quoted by the People s Bank of China (the PBOC) prevailing when the transactions occur. Monetary assets and liabilities denominated in other currencies are translated into RMB at rates of exchange in effect at the balance sheet dates. All exchange gains and losses are included in the Consolidated Statements of Operations and Comprehensive Income as a separate line item after income from operations.

For the Company s subsidiaries whose functional currency is not RMB, the asset and liability accounts are translated into RMB, its reporting currency, using exchange rates in effect at the balance sheet dates, equity accounts are translated at historical exchange rates, and income and expense items are translated using average exchange rates. Translation adjustments are reported as cumulative translation adjustments and are shown as a separate component of accumulative other comprehensive income, net of tax, in the Consolidated Statements of Operations and Comprehensive Income.

x) Segment reporting

The Company has adopted ASC 280, Segment Reporting, for its segment reporting. The Company s chief decision-maker (CODM), which is identified as the Chief Executive Officer, reviews operating results to make decision about allocating resources and assessing performance by segment. The Company operates and manages its business by two segments.

The Company s first segment is the design, development, and manufacture of PV products (manufacturing segment).

The Company s second segment is the downstream solar projects (solar projects segment), through which the Company connects solar projects to the grid and get the revenue from electricity generation.

y) Commitments and Contingencies

Liabilities for loss contingencies arising from claims, assessments, litigation, fines and penalties and other sources are recorded when it is probable that a liability has been incurred and the amount can be reasonably estimated.

z) Earnings per share

In accordance with ASC 260, *Earnings Per Share*, basic earnings per share is computed by dividing net income attributable to ordinary shareholders by the weighted average number of ordinary shares outstanding during the year. Under the two-class method, net income is allocated between ordinary shares and other participating securities (i.e. warrants) based on their participating rights. Diluted earnings per share is calculated by dividing net income attributable to ordinary shareholders, as adjusted for the change in income or loss resulting from the assumed conversion of those participating securities, if any, by the weighted average number of ordinary shares and dilutive ordinary share equivalents outstanding during the year. Ordinary share equivalents consist of the ordinary shares issuable upon the conversion of the senior convertible notes (using the if-converted method) and ordinary shares issuable upon the exercise of outstanding share options and RSUs (using the treasury stock method). Potential dilutive securities are not included in the calculation of dilutive earnings per share if the effect is anti-dilutive.

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(In thousands, except share and per share data)

2. Summary of significant accounting policies (continued)

aa) Other comprehensive income/(loss)

The Company has adopted ASC 220, *Comprehensive Income*. ASC 220 defines other comprehensive income/(loss) to include all changes in equity, including adjustments to minimum pension liabilities, accumulated foreign currency translation, unrealized gains or losses on available-for-sale marketable securities, and unrealized hedging gain/(loss) to the extent effective, except those resulting from investments by owners and distributions to owners.

ab) Share repurchase

When the shares are repurchased for retirement, the excess of cost over par value is charged entirely to retained earnings/(accumulated deficit).

ac) Recent accounting pronouncements

In May 2014, the Financial Accounting Standards Board (FASB) issued Accounting Standards Update 2014-09, Revenue from Contracts with Customers (ASU 2014-09), a new standard on revenue which will supersede the revenue recognition requirements in ASC 605. In August 2015, the FASB issued ASU No. 2015-14, Revenue from Contracts with Customers (Topic 606): Deferral of the Effective Date, which delays the effective date of ASU 2014-09 by one year. The FASB also agreed to allow entities to choose to adopt the standard as of the original effective date. In March 2016, the FASB issued ASU No. 2016-08, Revenue from Contracts with Customers (Topic 606): Principal versus Agent Considerations (Reporting Revenue Gross versus Net), which clarifies the implementation guidance on principal versus agent considerations. Further, in 2016, the FASB issued five amendments to the new standard. The new standard, as amended, sets forth a single comprehensive model for recognizing and reporting revenues. The new guidance requires the Company to recognize revenue to depict the transfer of promised goods or services to customers in an amount that reflects the consideration to which the entity expects to be entitled in exchange for those goods or services. The new guidance requires the Company to apply the following steps: (1) identify the contract with a customer; (2) identify the performance obligations in the contract; (3) determine the transaction price; (4) allocate the transaction price to the performance obligations in the contract; and (5) recognize revenue when, or as, the Company satisfies a performance obligation. The standard also requires additional financial statement disclosures that will enable users to understand the nature, amount, timing and uncertainty of revenues and cash flows relating to customer contracts. The standard is effective for public companies for fiscal years, and interim periods within those years, beginning on or after December 31, 2017. Early adoption is permitted but not before periods beginning on or after January 1, 2017. The Company expects to adopt the standard starting January 1, 2018. The standard allows for two methods of adoption: the full retrospective adoption, which requires the standard to be applied to each prior period presented, or the modified retrospective adoption, which requires the cumulative effect of adoption to be recognized as an adjustment to opening retained earnings in the period of adoption. The Company anticipates adopting the standard using the modified retrospective method.

The Company has identified and evaluated all of its contracts with customers, and compared the requirements of the new standard with its current accounting policies. This includes an analysis of, among other things: the timing of revenue recognition, the allocation of value for performance obligations that might be bundled within contractual arrangements, and the method of recording revenue on a gross vs. net basis. Further, the Company has also evaluated whether any revenue-related costs for commissions, customer acquisition or similar costs would be affected by the new standard. After performing this analysis, the Company expects the impact of adopting this pronouncement not to be material to the consolidated financial statements.

In July 2015, the FASB issued ASU 2015-11, Inventory (Topic 330): Simplifying the Measurement of Inventory which applies to inventory that is measured using first-in, first-out (FIFO) or average cost. Under the updated guidance, an entity should measure inventory that is within scope at the lower of cost and net realizable value, which is the estimated selling prices in the ordinary course of business, less reasonably predictable costs of completion, disposal and transportation. Subsequent measurement is unchanged for inventory that is measured using last-in, first-out (LIFO). This ASU is effective for annual and interim periods beginning after December 15, 2016, and should be applied prospectively with early adoption permitted at the beginning of an interim or annual reporting period. The Company has adopted the standard in 2017 and the impact of adopting this pronouncement was not material to the consolidated financial statements.

In November 2015, the FASB issued ASU 2015-17, Balance Sheet Classification of Deferred Taxes . This ASU amends existing guidance to require that deferred income tax liabilities and assets be classified as noncurrent in a classified balance sheet, and eliminates the prior guidance which required an entity to separate deferred tax liabilities and assets into a current amount and a noncurrent amount in a classified balance sheet. The amendments in this ASU are effective for annual reporting periods beginning after December 15, 2016, and interim periods within those annual periods. Earlier application is permitted as of the beginning of an interim or annual period. Additionally, the new guidance may be applied either prospectively to all deferred tax liabilities and assets or retrospectively to all periods presented. The Company has adopted ASU 2015-17 in 2017 using the prospective method and all deferred taxes have been classified as noncurrent in the balance sheet as of December 31, 2017.

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2. Summary of significant accounting policies (continued)

ac) Recent accounting pronouncements (continued)

In January 2016, the FASB issued ASU 2016-01, Financial Instruments-Overall (Subtopic 825-10)-Recognition and Measurement of Financial Assets and Financial Liabilities. ASU 2016-01 changes how entities measure certain equity investments and present changes in the fair value of financial liabilities measured under the fair value option that are attributable to their own credit. The guidance also changes certain disclosure requirements and other aspects of current U.S. GAAP. Further, in March 2018, the FASB issued ASU 2018-03 Technical Corrections and Improvements to Financial Instruments Overall (Subtopic 825-10): Recognition and Measurement of Financial Assets and Financial Liabilities, which provides further guidance on adjustments for observable transaction for equity securities without a readily determinable fair value and clarification on fair value option for liabilities instruments. ASU 2016-01 is effective for fiscal years and interim periods within those years beginning after December 15, 2017, and certain provisions of the guidance may be early adopted. The Company does not expect the adoption of ASU 2016-01 and 2018-03 to have a significant impact on the consolidated financial statements and associated disclosures.

In February 2016, the FASB issued an ASU 2016-02, Leases (Topic 842). The core principle of Topic 842 is that a lessee should recognize the assets and liabilities that arise from leases. All leases create an asset and a liability for the lessee in accordance with FASB Concepts Statement No. 6, Elements of Financial Statements, and, therefore, recognition of those lease assets and lease liabilities represents an improvement over previous GAAP, which did not require lease assets and lease liabilities to be recognized for most leases. This ASU is effective for annual and interim periods beginning after December 15, 2018. Early adoption is permitted. The recognition, measurement, and presentation of expenses and cash flows arising from a lease by a lessee have not significantly changed from previous GAAP. The Company is currently evaluating the impact the pronouncement will have on the consolidated financial statements and associated disclosures.

In March 2016, the FASB issued an ASU 2016-07, Investments Equity Method and Joint Ventures (Topic 323): Simplifying the Transition to the Equity Method of Accounting, which eliminates the requirement to retrospectively apply the equity method in previous periods. Instead, the investor must apply the equity method prospectively from the date the investment qualifies for the equity method. The amendments in this update are effective for financial statements issued for annual periods beginning after December 15, 2016, and interim periods within those annual periods, with early adoption permitted. The Company has adopted the standard in 2017 and the impact of adopting this pronouncement was not material to the consolidated financial statements given the Company s investments.

In March 2016, the FASB issued an ASU 2016-09 Improvements to Employee Share-based Payment Accounting , which amends ASC Topic 718, Compensation Stock Compensation. The areas for simplification in this Update involve several aspects of the accounting for share-based payment transactions, including the income tax consequences, classification of awards as either equity or liabilities, and classification on the statement of cash flows. The amendments in this Update are effective for annual periods beginning after December 15, 2016, and interim periods within those annual periods. The Company has adopted the standard in 2017 and the impact of adopting this pronouncement was not material to the consolidated financial statements.

In June 2016, the FASB issued ASU 2016-13, Financial Instruments Credit Losses (Topic 326), to provide financial statement users with more useful information about expected credit losses. ASU 2016-13 also changes how entities measure credit losses on financial instruments and the timing of when such losses are recorded. ASU 2016-13 is effective for fiscal years and interim periods within those years beginning after December 15, 2019, and early adoption is permitted for periods beginning after December 15, 2018. The Company is currently evaluating the impact ASU 2016-13 will have on the consolidated financial statements and associated disclosures.

In August 2016, the FASB issued ASU 2016-15, Classification of Certain Cash Receipts and Cash Payments (Topic 230). This ASU is intended to reduce diversity in practice in how eight particular transactions are classified in the statement of cash flows. ASU 2016-15 is effective for interim and annual reporting periods beginning after December 15, 2017. Early adoption is permitted, provided that all of the amendments are adopted in the same period. The Company will be required to apply the guidance retrospectively. If it is impracticable to apply the guidance retrospectively for an issue, the amendments related to that issue would be applied prospectively. As the likelihood of the Company experiencing one or more of the eight particular specified transactions is low, ASU 2016-15 is not expected to have a material impact on the Company s consolidated financial statements.

In October 2016, the FASB issued Accounting Standards Update No. 2016-16 (ASU 2016-16), Income Taxes (Topic 740), Intra-Entity Transfers of Assets Other Than Inventory . The new guidance requires that entities recognize the income tax consequences of an intra-entity transfer of an asset other than inventory when the transfer occurs, rather than when the asset is sold to an outside party. The guidance is effective for annual reporting periods beginning after December 15, 2017, including interim periods within those annual reporting periods. Early adoption is permitted as of the beginning of an annual reporting period (as of the first interim period if an entity issues interim financial statements). The new guidance requires adoption on a modified retrospective basis through a cumulative-effect adjustment directly to retained earnings as of the beginning of the period of adoption. The Company does not expect the adoption of ASU 2016-16 to have a significant impact on the consolidated financial statements and associated disclosures.

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2. Summary of significant accounting policies (continued)

ac) Recent accounting pronouncements (continued)

In November 2016, the FASB issued ASU 2016-18, Restricted Cash (Topic 230). The amendments in this Update are an improvement to GAAP by providing guidance on the presentation of restricted cash or restricted cash equivalents in the statement of cash flows, thereby reducing the diversity in practice described above. ASU No. 2016-18 is effective for fiscal years beginning after December 15, 2017, and interim periods within those fiscal years. Early adoption is permitted, including adoption in an interim period. The Company does not expect that the adoption will have a material impact on its consolidated financial statements. For the year ended December 31, 2017, the increase of restricted cash with the amount of RMB 169,491 is included in investing activities of the statements of cash flows.

In January 2017, the FASB issued ASU No. 2017-01, Business Combinations (Topic 805): Clarifying the Definition of a Business (ASU 2017-01), which clarifies the definition of a business to assist entities with evaluating whether transactions should be accounted for as acquisitions or disposals of assets or businesses. The standard introduces a screen for determining when assets acquired are not a business and clarifies that a business must include, at a minimum, an input and a substantive process that contribute to an output to be considered a business. The ASU is effective for fiscal years beginning after December 15, 2017, including interim periods within those fiscal years. The Company will adopt ASU 2017-01 in the Q1 2018 and the adoption is not expected to have a material impact on the Company s consolidated financial statements.

3. Acquisition

a) *Acquisition of Jiuzhou Yichang*

On March 11, 2016, the Company signed a share transfer contract with Jiuzhou Fangyuan New Energy Co. Ltd. (Jiuzhou Fangyuan), in which the Company would acquire 100% of shares of Jiuzhou Yichang, which is engaged in solar projects business. The consideration of the acquisition is RMB 150,000. The acquisition transaction was completed in June 2016. This transaction was accounted as a business combination under ASC 805. The result of the acquired entity s operations has been included in the consolidated financial statements of the Company since the acquisition date. On the acquisition date, the allocation of the purchase price of the assets acquired and liabilities assumed based on their fair values was as follows:

	As of June 30, 2016 RMB
Assets acquired:	
Cash and cash equivalents	2,108
Other current assets	31,032
Project assets (1)	200,187
Total assets acquired	233,327
Liabilities	
Accounts payable	13,553
Other liabilities	69,774
Total liabilities assumed	83,327
Total fair value of net assets	150,000

(1) The fair value of project assets was recognized and measured at fair value using discounted future cash flow method.

As of December 31, 2017, the Company has paid RMB 110,000 for the consideration. The unpaid consideration of RMB 40,000 is payable on demand and is recorded as a current liability accordingly. Based on the Company s assessment, the revenue and net earnings of Jiuzhou Yichang were not considered material to the Company both individually and in aggregate for the year ended December 31, 2016. Pro forma results of operations for the acquisitions described above have not been presented because they are not material to the consolidated statements of operations and comprehensive income, either individually or in aggregate.

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4. Investments in joint venture and affiliates

a) *Investment in Datang Angli*

In 2012 and 2013, the Company sold PV module to Shandong Angli PV technology Ltd. (Shandong Angli) for RMB 47.0 million (the Receivable). In 2015, Shandong Angli settled its liability with the Company through a debt restructuring agreement (the Agreement). The agreement was signed by the Company, Shandong Angli and Ningxia Angli PV technology Ltd. (Ningxia Angli), the related party of Shandong Angli. According to the agreement, Ningxia Angli transferred 29.16% of equity shares of Datang Angli (Lingwu) New Energy Co., Ltd. (Datang Angli) to the Company in exchange for the settlement of RMB 47.0 million receivable from Shandong Angli. The Company accounted for its original investment of 29.16% in Datang Angli at its fair value, amounted to RMB 39,498 under equity method because the Company has significant influence, but no voting control over Datang Angli. As the original accounts receivable balance of RMB 47.0 million from Shandong Angli was fully reserved in 2013, the Company recorded a gain of RMB 39.5 million in selling, general and administrative expenses upon the receipt of the investment in Datang Angli. The remaining RMB 7.5 million allowance for difference between the Receivable gross amount RMB 47.0 million and the RMB 39.5 million fair value of Datang Angli, was written off in 2015 against the remaining original balance (Refer to Note 6 Accounts Receivable). The Company picked up the 29.16% of the net profit/(loss) generated from Datang Angli with RMB 44, RMB 15 and RMB (1,196) in 2015, 2016 and 2017 respectively.

b) *Investment in Lincheng*

JA Solar PV Electric (Lincheng) Co., Ltd. (Lincheng), a company 100% owned by the Company, was set up in 2013, for the purpose of construction of power plants. Lincheng was undertaking early stage of development of a power plant with 100 MW capacity.

In July 2014, the Company entered into sales agreement with China Rich Energy Cooperation Ltd (Rich Energy). Under the agreement, Rich Energy contributed cash as the capital injection to Lincheng to acquire 80% equity interest of Lincheng. The Company deconsolidated Lincheng and starts to account for its investment of 20% in Lincheng as equity method of accounting because the Company has significant influence, but does not have voting control over Lincheng since July 2014. By the end of 2014, Rich Energy has paid total cash of RMB 66,400 in full as capital injection and all necessary legal procedures related to the share ownership were finished. The Company has paid total cash of RMB 16,600 in full as capital injection. In 2016, the Company and Rich Energy increased the capital injection proportionally and paid total cash of RMB 14,000 and RMB 56,000 in full respectively. The percentage of ownership remained unchanged after the capital injection.

In 2015, 2016 and 2017, the Company sold modules to Lincheng with the revenue of RMB 92,158, RMB 162,516 and RMB nil with cost of RMB 71,993, RMB 112,502 and RMB nil in the respective years. Since the Company hold 20% share of Lincheng, the 20% of the unrealized profit with an amount of RMB 4,033, RMB 10,003 and RMB nil in 2015, 2016 and 2017 respectively, was eliminated against the long-term investment balance. The balance of long-term investment in Lincheng was RMB 15,627, RMB 29,465 and RMB 29,295 after the deduction of unrealized profit and pick-up of the 20% of the net profit generated from Lincheng with RMB 6,136, RMB 9,841 and RMB 10,446 in 2015, 2016 and 2017 respectively.

5. Notes Receivable

Notes receivable represents bank drafts that are non-interest bearing and due within from two to twelve months. Such bank drafts have been arranged with third-party financial institutions by certain customers to settle their purchases from the Company. The carrying amount of notes receivable approximate its fair values. There is no allowance against notes receivable as of December 31, 2016 and 2017.

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6. Accounts Receivable, net

Accounts receivable, net, consists of accounts receivables less allowance for doubtful accounts. The following table presents the movement of the allowance for doubtful accounts:

	As of December 31, 2015 RMB	As of December 31, 2016 RMB	As of December 31, 2017 RMB
Balance at beginning of the year	275,526	259,820	188,319
Allowance made during the year	87,219	96,298	114,885
Recoveries	(91,965)	(114,374)	(74,110)
Amount written off against the allowance	(10,960)	(53,425)	(1,299)
Balance at end of the year	259,820	188,319	227,795

As of December 31, 2016 and 2017, the accounts receivable balance includes RMB 155,770 and RMB 394,190 respectively, which represents subsidy portion of revenue that will be received after the Company s power plants are listed in the Subsidy Catalogue (Note 2(p)). The Company assesses creditworthiness of customers before granting any credit terms. This assessment is primarily based on reviewing of customers financial statements and historical collection records, discussion with customers senior management, and reviewing of information provided by third parties, and the insurance company that ultimately insures the Company against customer credit default. During the year ended December 31, 2017, for sales of solar cells, the Company provided credit terms of up to 90 days to customers with good credit-worthiness as determined by the Company s credit assessment. For sales of solar modules, which generally require a longer credit terms according to industry practice, credit terms of up to 180 days were granted to customers with good credit-worthiness. For the years ended December 31, 2015, 2016 and 2017, provisions, net of recoveries, of RMB (4,746), RMB (18,076) and RMB 40,775, respectively, were (reversed)/made against accounts receivable for estimated losses resulting from the inability of the customers to make payments as well as a few customers that had financial and operational difficulties. Recoveries of the accounts receivable balance in 2015 were mainly due to the swap of fully reserved (in 2013) accounts receivable balance from Datang Angli for equity method investment with the amount of RMB 39,498 (Refer to Note 4(a) *Investment in Datang Angli*) and cash collection from other customers. Recoveries of the accounts receivable balance in 2016 were resulted from multiple customers ability to make payment in light of the market revival.

7. Inventories

Inventories consisted of the following:

	As of December 31, 2016 RMB	As of December 31, 2017 RMB
Raw materials	941,131	1,416,270
Work-in-progress	94,164	203,676
Finished goods	1,425,193	1,861,170
Total	2,460,488	3,481,116

For the years ended December 31, 2015, 2016 and 2017, inventories on hand were written down through cost of revenues by RMB 6,905, RMB 126,570 and RMB 58,786, respectively, to reflect the lower of cost or market or obsolescence.

In the periods presented, the Company renegotiated with certain suppliers on shipment quantities and pricing terms of long-term purchase arrangements and got positive outcome on a periodic basis, as described follows. Although the quantities under the purchase commitments of the LTAs are fixed, the Company negotiated and executed amendments for current purchases on a quarterly or monthly basis with those suppliers. As a result of such monthly or quarterly negotiations, suppliers either (i) agreed to lower the purchase price for the relevant month or quarter to a level that is close to the market price and significantly lower than the stated contract price, or (ii) agreed to deliver additional quantities to the Company for free during the relevant month or quarter in exchange for the Company s agreement to purchase the stated quantity at the stated price under the LTAs for such month or quarter, which cumulatively resulted in the Company purchasing quantities larger than stated under the LTAs but at an average purchase price that was close to market price during such month or quarter.

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7. Inventories (continued)

At the end of the reporting period, the Company separately assesses the potential losses, if any, on the aforementioned LTAs taking into consideration of the factors as mentioned above, as well as additional factors, such as the renegotiation outcome in current period, contract period, historical outcome of the renegotiation with the same supplier, status of a particular LTA at the time of assessment, and other circumstances and uncertainties that may impact such assessment.

There was no loss provision recorded related to these long-term contracts in the year ended December 31, 2015. As of December 31, 2016 and 2017, the loss provision reserve was RMB 48,906, and RMB 54,215, respectively.

When preparing the Company s consolidated financial statements, the Company separately assessed, in accordance with ASC 330-10-35-17 and -18, the potential losses on the firm purchase commitments to Hemlock Semiconductor Pte. Ltd. (Hemlock). The Company entered into a LTA (Original Supply Agreement) with Hemlock in March 2011. While the Original Supply Agreement provides for purchases at fixed price and fixed quantities starting from 2013 to 2020, the Company did not make a full advance payment according to the Original Supply Agreement or accept any delivery in 2013, 2014 and 2015 due to the significant decrease of silicon price in the market and the uncertainty brought by anti-dumping and anti-subsidy investigation (the Investigation) against polysilicon imported from the U.S. and South Korea initiated by the Chinese Ministry of Commerce (MOFCOM) in recent years and MOFCOM s ruling in 2014 that investigated products from South Korea and the United States are subject to import tariffs at different rates with the highest rate being 57%. In October 2016, the Company entered into a settlement agreement (Settlement Agreement) and an amended LTA (New Supply Agreement) with Hemlock (Refer to Note 26 Commitments and Contingencies). The New Supply Agreement provides for purchasing a certain amount of polycrystalline silicon products on a quarterly basis starting from 2016 to 2026. The Company started purchasing in 2016 according to the New Supply Agreement.

When preparing the consolidated financial statements for the year ended and as of December 31, 2015, the Company considered the following factors in assessing whether it should accrue losses on long-term inventory purchase commitments to Hemlock:

(i) Although the Company was in the process of renegotiating with Hemlock and no written agreement had been reached as of December 31, 2015, both parties continued to constructively dialogue to find a mutually satisfactory solution. The Company had been able to renegotiate with other suppliers with similar terms to get positive outcome, and the Company had history of renegotiating similar contacts with the same suppliers, and

(ii) The Company assessed whether there would be loss on firm purchase commitments by applying a methodology similar to that used in the lower of cost or market evaluation with respect to inventory. In assessing the potential loss provision for 2015, the Company used the stated contract price, volume under the Original Supply Agreement with Hemlock as the major assumption to perform the analysis. A comprehensive analysis for estimated net realizable value of the saleable finished goods, after considered all estimated costs which include conversion costs, shipping costs, costs for build-up, fees for breakage, and third party processing costs, was lower than market selling price of finish goods as of December 31, 2015. Even though the purchase price as stated in the Original Supply Agreement was higher than market price of polysilicon (i.e. raw material), in applying the lower of cost or market principle, the net realizable value after considering estimated costs to convert those polysilicon into saleable finished goods was higher than its carrying amount (after deducting selling costs) as of December 31, 2015.

Upon the reach of the New Supply Agreement in October 2016, the Company assessed the potential loss provision under the New Supply Agreement. The Company considered the factor of declining average selling prices of finished goods, the plan to build a new manufacturing facility overseas to utilize polysilicon to be purchased from Hemlock, and the contract price, volume under the New Supply Agreement with Hemlock as the major assumption to perform the same comprehensive analysis as prior years. The new manufacturing wafer facility overseas is under construction, which is expected to be started in around May to June 2018, and reaches full capacity by around September end. Therefore the Company has planned to externally process and sell the polysilicon during the period of construction of the new wafer facility. The estimated net realizable value of the polysilicon for resale is lower than its carrying amount as of December 31, 2016 and 2017 and a loss provision is estimated accordingly for the polysilicon committed to be purchased from Hemlock before the planned period when the new facility is put into use.

Based on all the aforementioned factors, the Company concluded that no loss provision under the Original Supply Agreement with Hemlock should be provided as of December 31, 2015. Loss provisions of RMB 48,906 and RMB 16,436 were recorded in 2016 and 2017, respectively, under the New Supply Agreement with Hemlock, and the loss provision reserve was RMB 48,906 and RMB 54,215 as of December 31, 2016 and 2017, respectively.

8. Advances to suppliers

In order to better manage the Company s unit costs and to secure adequate and timely supply of polysilicon and silicon wafers during the periods of shortages of polysilicon and silicon wafer supplies, the Company entered into a number of multi-year supply agreements in amounts that were expected to meet the Company s anticipated production needs. As a condition to the Company receiving the raw materials under those agreements, and in line with industry practice, the Company was required to, and had made advances for all, or a portion, of the total contract price to the Company s suppliers, which are then offset against future purchases. Typically, the supply agreements are subject to price negotiations with the suppliers based on market prices. The Company has made advances to suppliers where the Company has committed to purchase minimum quantities under some of the supply agreements.

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8. Advances to suppliers (continued)

Advances to suppliers to be offset against future purchases of which the Company expects to take delivery of the inventory after the next twelve months are classified as non-current assets in the Company s Consolidated Balance Sheets as at year end dates.

The Company does not require collateral or other security against its advances to related or third party suppliers. As a result, the Company s claims for such prepayments would rank only as an unsecured claim, which exposes the Company to the credit risks of the suppliers. Also, the Company may not be able to recover all unutilized advances to suppliers if the Company does not purchase the minimum quantities or is unable to negotiate or renegotiate acceptable prepayment, quantities, prices and delivery terms with these suppliers, or unforeseen events impair the ability of suppliers to deliver raw materials.

As of December 31, 2016 and 2017, outstanding prepayments, net of any allowance, made to individual suppliers in excess of 10% of total prepayments to suppliers are as follows:

	As of December 31, 2016 RMB	As of December 31, 2017 RMB
Supplier A (third party)	143,962	70,644
Supplier B (third party)	50,200	68,059
Supplier C (third party)	38,591	47,733

The following table presents the movement of the allowance for advances to supplier:

	As of December 31, 2015 RMB	As of December 31, 2016 RMB	As of December 31, 2017 RMB
Balance at beginning of the year	129,307	125,799	20,717
Allowance made during the year *	1,045		273
Recoveries			
Written off *	(4,553)	(105,082)	(7,226)

Balance at end of the year	125,799	20,717	13,764

The Company continually assesses the credit quality of its suppliers and the factors that affect the credit risk. Given all circumstance and available evidence as of December 31, 2017, management assesses the risk that the Company is not able to fully utilize the remaining advance payment balance is remote and therefore no further provision was made against remaining advance payment balance as the balance was considered recoverable. Recoveries represent cash received or product delivered subsequently.

* As of December 31, 2014, full provision of RMB 63,331 was provided against the prepayment made to Hemlock under the Original Supply Agreement, as management could not conclude that such amount is recoverable. As of December 31, 2016, the Company wrote off this reserve against the asset, with no income statement impact, due to the settlement of Hemlock dispute (Refer to Note 26 Commitments and Contingencies). In addition, a supplier named General Silicon Solar Energy Electricity (Kunshan) Ltd. was closed as a result of bankruptcy in 2016. Full provision of RMB 35,839 was provided in 2011 and the gross balance of the prepayment were written off as of December 31, 2016.

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9. Other current assets

Other current assets consisted of the following:

	As of December 31, 2016 RMB	As of December 31, 2017 RMB
Input value-added tax recoverable	395,198	546,914
Prepaid input VAT & customs duty for import machinery and materials	49,226	87,037
Deposit receivable	66,784	63,727
Insurance receivables (i)		43,074
Prepaid expenses	30,513	30,383
Current portion of land use rights (Refer to Note 14 Prepaid land use rights)	12,155	12,821
Value-added tax refund from export sales	707	1,056
Others	33,142	36,759
	587,725	821,771

(i) A fire accident occurred at the Company s cell facility in Yangzhou, Jiangsu Province, China on July 13, 2017 due to equipment failures. There were no casualties or injuries in the incident but the building, some production equipment and inventories were damaged or lost in the fire. The Company is eligible for the insurance coverage for all its damaged buildings, production equipment and inventories identified in the incident, with the total value of RMB 64,874, and that there is no net impact on the income statement as the loss was fully insured. Based on the Company s estimates, this line represents the insurance recoverable the Company believes is probable of being received from the insurance company.

For the year ended December 31, 2015, a write-off of RMB 19,078 was made against deposits resulting from the cease of bidding of some projects. There is no such situation for the years ended December 31, 2016 and 2017.

10. Property, plant and equipment, net

Property, plant and equipment, net, consisted of the following:

	As of December 31, 2016 RMB	As of December 31, 2017 RMB
Buildings	1,918,209	1,979,800
Furniture, fixtures and office equipment	113,349	124,230
Motor vehicles	31,183	30,891
Machinery and equipment	5,889,645	6,709,602
Leasehold improvements	387,006	466,292
Total	8,339,392	9,310,815
Less: accumulated depreciation	(3,776,730)	(4,257,511)
Subtotal	4,562,662	5,053,304
Construction-in-progress	656,839	1,485,893
Property, plant and equipment, net	5,219,501	6,539,197

As of December 31, 2017, JA Zhabei pledged its buildings with net book value of RMB 73,995 to secure a short-term bank borrowing of RMB 200,000 from Industrial Bank; JA Jinglong pledged its buildings with net book value of RMB 214,217 to secure a short-term bank borrowing of RMB 44,938 and a long-term bank borrowing of RMB 84,000 from Industrial and Commercial Bank of China; JA Yangzhou pledged its buildings with net book value of RMB 67,061 to secure a short-term bank borrowing of RMB 49,000 from China Construction Bank. JA Malaysia pledged its machinery and equipment, and construction-in-progress with net book value of RMB 175,281 to secure a short-term bank borrowing of RMB 156,065 from Maybank; JA Donghai pledged its buildings with net book value of RMB 23,207 to secure a short-term bank borrowing of RMB 35,000 from Bank of Jiangsu; JA Lianyungang pledged its buildings with net book value of RMB 97,560 to secure a short-term bank borrowing of RMB 45,000 from China Construction Bank; JA Xingtai pledged its buildings with net book value of RMB 104,761 to secure a long-term bank borrowing of RMB 150,000 from Bank of Tianjin; JA Hefei Technology pledged its building, machinery and equipment, and construction-in-progress with net book value of RMB 600,806 to secure a long-term entrusted loan of RMB 1,152,000 from Hefei High-Tech Industrial Development Zone Management Co., Ltd..

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10. Property, plant and equipment, net (continued)

For the years ended December 31, 2015, 2016 and 2017, total interest capitalized was RMB 25,094, RMB 29,279 and RMB 29,905, respectively.

Depreciation expense was RMB 759,611, RMB 823,340 and RMB 906,123 for the years ended December 31, 2015, 2016 and 2017, respectively, and is recorded in manufacturing overhead, selling, general and administrative expenses, research and development expenses.

For the year ended December 31, 2017, the Company disposed machinery and equipment with the net book value of RMB 60,253, resulting in a loss of RMB 30,988, and purchased new equipment for upgrade of production line to increase the production efficiency.

The Company evaluates long-lived assets for impairment if events or changes in circumstances indicated that the carrying value of such assets may not be recoverable. For the year ended December 31, 2017, the Company recorded long-lived asset impairment loss of RMB 10,570 related to lower recoverable amount than the book value of certain idle assets ready to be disposed. No impairment loss occurred in the years ended December 31, 2015 and 2016.

11. Intangible assets, net

Intangible assets, net, consisted of the following:

	Gross RMB	Accumulated Amortization RMB	Net RMB
As of December 31, 2016			
Technical know-how	9,000	(9,000)	
Customer relationship	3,191	(3,191)	
Purchased software and others	29,013	(17,300)	11,713
	41,204	(29,491)	11,713

As of December 31, 2017			
Technical know-how	9,000	(9,000)	
Customer relationship	3,191	(3,191)	
Purchased software and others	30,327	(20,139)	10,188
	42,518	(32,330)	10,188

Amortization expense was RMB 2,312, RMB 3,043 and RMB 2,839 for the years ended December 31, 2015, 2016 and 2017, respectively, and is recorded in manufacturing overhead, selling, general and administrative expenses, research and development expenses.

Amortization expense of the existing intangible assets for each of the next five years will be approximately RMB 1,804.

12. Income taxes

Cayman Islands and British Virgin Islands

The Company is a tax exempt company incorporated in the Cayman Islands. Under the laws of Cayman Islands, the Company is not subject to tax on income or capital gain. The Company s subsidiaries established in the British Virgin Islands are tax exempt under the laws of British Virgin Islands, and accordingly, are not subject to tax on income or capital gain.

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JA SOLAR HOLDINGS CO., LTD.

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12. Income taxes (continued)

People s Republic of China

The Corporate Income Tax (CIT) Law enacted by the National People s Congress of China stipulated that FIEs and domestic companies would be subject to CIT at a uniform rate of 25%.

In accordance with the CIT Law, a company is entitled to a preferential income tax of 15% if qualifying as an Advanced and New Technology Enterprise (ANTE). The preferential tax rate, once being approved by the relevant government authorities, is subject to renewal every three years. However, a company that enjoys the preferential income tax rate should perform self-assessment to ensure it maintains the required qualification during those three years. In November 2010, JA Hebei was recognized as an ANTE under the CIT Law and is entitled to the preferential income tax of 15% from 2010 to 2012. In March 2014, JA Hebei was again recognized as an ANTE under the new CIT Law and is entitled to the preferential income tax of 15% from 2013 to 2015. In November 2016, JA Hebei was once more recognized as an ANTE and is entitled to the preferential income tax of 15% from 2016 to 2018. In August 2011, JA Yangzhou was recognized by the Chinese government as an ANTE and is entitled to the preferential income tax of 15% from 2011 to 2013. In August 2014, JA Yangzhou was again recognized as an ANTE under the new CIT Law and is entitled to the preferential income tax of 15% from 2014 to 2016. In December 2017, JA Yangzhou was once more recognized as an ANTE and is entitled to the preferential income tax of 15% from 2017 to 2019. In November 2011, JA Lianyungang was recognized by the Chinese government as an ANTE and is entitled to the preferential income tax of 15% from 2011 to 2013. In October 2014, JA Lianyungang was again recognized as an ANTE under the new CIT Law and is entitled to the preferential income tax of 15% from 2014 to 2016. In December 2017, JA Lianyungang was once more recognized as an ANTE and is entitled to the preferential income tax of 15% from 2017 to 2019. JA Fengxian was recognized as an ANTE and is entitled to the preferential income tax of 15% from 2011 to 2013. JA Fengxian has chosen to complete the above mentioned 2+3 holiday for the overlapping period of 2011 and 2012. In September 2014, JA Fengxian was again recognized as an ANTE under the new CIT Law and is entitled to the preferential income tax of 15% from 2014 to 2016. In October 2017, JA Fengxian was once more recognized as an ANTE and is entitled to the preferential income tax of 15% from 2017 to 2019. JA Wafer R&D was recognized by the Chinese government as an ANTE and is entitled to the preferential income tax of 15% from 2012 to 2014. In 2015, JA Wafer R&D s recognition as an ANTE expired. In November 2016, JA Wafer R&D was again recognized as an ANTE and is entitled to the preferential income tax of 15% from 2016 to 2018. In October 2016, JA Hefei Technology was recognized as an ANTE under the CIT Law and is entitled to the preferential income tax of 15% from 2016 to 2018. In July 2017, JA Xingtai was recognized as an ANTE under the CIT Law and is entitled to the preferential income tax of 15% from 2017 to 2019.

The Company s solar power plants are entitled to a three-year tax exemption from CIT starting from the year in which revenue is first generated from sale of electricity, and a 50% CIT reduction, effectively 12.5%, for the succeeding three years thereafter for the income generated from investing and operating in the qualified public basic infrastructure projects according to the CIT Law (three-year tax exemption and three-year 50% CIT reduction). The CIT tax rate for these project entities will increase to 25% upon the expiration of such term. JA Dunhuang started generating revenue from sale of electricity since 2015 and is entitled to the three-year tax exemption and three-year 50% CIT reduction from

2015 to 2020. Jiuzhou Xinjiang, Lincheng Jingneng, JA Linzhou, JA Datong, JA Hefei Electric, JA Yanchi, JA Jarud, JA Chifeng started generating revenue from sale of electricity since 2016 and are entitled to the three-year tax exemption and three-year 50% CIT reduction from 2016 to 2021. JA Xingtai Electric, JA Shexian, JA Laiwu, JA Zhengding, JA Daqing and JA Renxian started generating revenue from sale of electricity since 2017 and are entitled to the three-year tax exemption and three-year 50% CIT reduction from 2017 to 2022.

On February 22, 2008, the Ministry of Finance (MOF) and the State Administration of Taxation (SAT) jointly issued Cai Shui [2008] Circular 1 (Circular 1). According to Article 4 of Circular 1, distributions of accumulated profits earned by a FIE prior to January 1, 2008 to foreign investor(s) in 2008 or after will be exempt from withholding tax (WHT) while distribution of the profit earned by an FIE after January 1, 2008 to its foreign investor(s) shall be subject to WHT at a rate up to 10% (lower rate is available under the protection of tax treaties). As a result, if any dividends are declared out of the cumulative retained earnings as of December 31, 2007, they should be exempt from WHT. In 2012, JA Hebei declared dividends of RMB 107,804 out of the cumulative retained earnings as of December 31, 2007 to JA BVI, which was exempt for WHT. JA Yangzhou, as requested by the local tax bureau, declared dividends of RMB 210,637 out of the earnings after January 1, 2008 to JA BVI in order to meet the capital injection requirement for JA Yangzhou. Pursuit to Circular 1, the appropriation of dividend for reinvestment purpose is subject to 10% WHT, amounting to RMB 21,064, which was paid and recorded as income tax expenses for the year ended December 31, 2012. Excluding JA Yangzhou s dividend appropriation requested by the local tax bureau, the Company intends to indefinitely reinvest its earnings to further expand its businesses in mainland China, its foreign invested enterprises do not intend to declare dividends to their immediate foreign holding companies in the foreseeable future. Undistributed earnings as of December 31, 2016 and 2017 are considered to be indefinitely reinvested, and therefore, no deferred tax liability was recognized. Cumulative undistributed earnings of the Company s PRC subsidiaries intended to be permanently reinvested totaled RMB 5,248,874 and RMB 5,710,074 and the amount of the unrecognized deferred tax liability on the permanently reinvested earnings was RMB 524,887 and RMB 571,007 as of December 31, 2016 and 2017.

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12. Income taxes (continued)

Hong Kong SAR

No income tax provision has been made for JA Hong Kong and JA International in any period, as the entities did not have assessable profits subject to Hong Kong Profit Tax at the rate of 16.5% for the years presented.

United States

JA USA is subject to US federal statutory tax rate of 35% and also subject to the state of California income tax rate of 8.84%. The state income tax paid is deductible for US federal income tax.

European Countries

JA GmbH is incorporated in Germany and is subject to effective income tax rate of 29.55% which consists of 15% corporate income tax plus a solidarity surcharge of 5.5% on corporate income tax and a trade income tax rate of 13.72%.

Asian Countries

JA Japan is subject to Japanese corporate income tax rate of 35.64%. JA Malaysia is subject to Malaysia corporate income tax rate of 24%. JA Vietnam is subject to Vietnam corporate income tax rate of 20%.

Australia

JA Australia is subject to Australia corporate income tax rate of 30%.

The components of income/(loss) before income taxes for the years ended December 31, 2015, 2016 and 2017 are as follows:

	For the year ended December 31, 2015	For the year ended December 31, 2016	For the year ended December 31, 2017
Cayman Islands	114,470	234,621	(176,740)
PRC	900,788	1,069,822	482,615
Other foreign countries	(243,456)	(461,532)	92,720
Total income before income taxes	771,802	842,911	398,595

Income tax expenses in the consolidated statement of operations and comprehensive income for the years ended December 31, 2015, 2016 and 2017 are as follows:

	For the year ended December 31, 2015	For the year ended December 31, 2016	For the year ended December 31, 2017
Current income tax expense			
PRC	(250,662)	(189,749)	(131,949)
Other foreign countries	(3,318)	(17,896)	(5,621)
Total current income tax expense	(253,980)	(207,645)	(137,570)
Deferred tax benefit			
PRC	96,648	78,726	38,324
Other foreign countries		5,618	776
Total deferred tax benefit	96,648	84,344	39,100
Total income tax expenses	(157,332)	(123,301)	(98,470)

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12. Income taxes (continued)

Components of deferred tax assets consisted of the following:

	As of December 31, 2016 RMB	As of December 31, 2017 RMB
Deferred tax assets:		
Temporary differences:		
Amortization of intangible assets	510	415
Accrued warranty costs	94,856	122,891
Accrued expenses	52,550	42,115
Net loss carried forward	251,862	244,170
Depreciation of property, plant and equipment	127,221	138,255
Inventory write-down	34,461	26,819
Allowance for doubtful accounts	30,650	43,662
Allowance for advance to suppliers	3,108	2,065
Impairment loss on property, plant and equipment and project assets	58,969	67,613
Government grant for the acquisition of land use rights and property, plant and equipment	28,216	28,727
Timing difference for revenue recognition of retainage contract	50,376	33,314
Unrealized profit	75,352	91,049
Others	9,744	8,614
Deferred tax assets	817,875	849,709
Deferred tax liabilities:		
Temporary differences:		
Capitalized interest	(24,399)	(23,165)
Deferred tax liabilities	(24,399)	(23,165)
Less: valuation allowance	(373,793)	(367,761)
Deferred tax assets-net	419,683	458,783

Deferred tax assets are analyzed as:

	As of December 31, 2016 RMB	As of December 31, 2017 RMB

Current	138,080	
Non-Current	306,002	481,948
	444,082	481,948
Deferred tax liability are analyzed as:		
Current		
Non-Current	(24,399)	(23,165)
	(24,399)	(23,165)
	419,683	458,783

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12. Income taxes (continued)

The following table presents the movement of the valuation allowance for deferred tax assets:

	As of December 31, 2015 RMB	As of December 31, 2016 RMB	As of December 31, 2017 RMB
Balance at beginning of the year	456,925	483,649	373,793
Allowance made during the year	119,448	128,605	72,915
Effect of tax rate change (1)			(24,833)
Reversals and utilization	(92,724)	(214,860)	(54,114)
Written off		(23,601)	
Balance at end of the year	483,649	373,793	367,761

The Company has provided a portion of valuation allowance against a portion of its net deferred tax assets. The Company evaluates a variety of factors in determining the amount of the valuation allowance, including its earnings history, the tax holiday period, the existence of taxable temporary differences, and near-term earnings expectations. Future reversal of the valuation allowance will be recognized upon the earlier of when the benefit is realized or when it has been determined that it is more likely than not that the benefit will be realized through future earnings. Certain valuation allowance was reversed and utilized in 2015 and 2016 when certain subsidiaries generated sufficient taxable income to utilize the deferred tax assets in the current year. Furthermore, a portion of valuation allowance was reversed in 2015 and 2016 due to the expected utilization of deferred tax assets in the future. Valuation allowance of RMB 61,722, RMB 147,630 and RMB nil was reversed for the years ended December 31, 2015, 2016 and 2017 respectively, based on the expected future profitability of the Company s subsidiaries with the remainder of the reversal a result of current year utilization.

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(1) Effect of tax rate change is mainly from the change of tax rate in JA USA starting 2018, as a result from the implementation of the enactment of Tax Cuts and Jobs Act of 2017. No tax expense impact on JA USA as valuation allowance change in offset by corresponding decrease in gross deferred tax assets.

Reconciliation between the provision for income tax computed by applying the statutory CIT and the Company s effective tax rate:

	For the year ended December 31, 2015	For the year ended December 31, 2016	For the year ended December 31, 2017
PRC enterprise income tax	25%	25%	25%
Effect of permanent differences:			
Share based compensation and other permanent difference	2.78%	2.59%	1.90%
Effect of tax holiday (1)	(7.54)%	(8.38)%	(10.72)%
Difference of tax rates of subsidiaries outside of China (2)	(0.25)%	(5.43)%	3.64%
Effect of tax rate change (3)	(3.06)%	9.54%	6.39%
Withholding tax for dividend distribution	%	0.23%	%
Intra-group investment disposal income subject to tax	%	1.31%	%
Valuation allowance	3.46%	(10.23)%	(1.51)%
	20.39%	14.63%	24.70%

(1) Effect of tax holiday is mainly due to certain subsidiaries are entitled ANTE with a preferential income tax of 15%.

(2) Change of effect of difference of tax rates of subsidiaries outside of China is mainly due to impact from change in fair value generated from warrants and exchange gain or loss in JA Cayman, which is not subject to income tax.

(3) Change of tax rate increased from (3.06%) in 2015 to 9.54% in 2016 is due to the different enacted tax rate used in the calculation of deferred tax assets in 2016 for two subsidiaries (JA Wafer R&D and JA Hefei Technology) to reflect the decrease of tax rate due to their recognition as ANTE, which resulted in the reduction of previously disclosed deferred tax asset benefit (gross amount). Deferred tax assets for one subsidiary (JA Wafer R&D) have been fully provided for valuation allowance in both 2016 and 2015. The corresponding reversal of valuation allowance has been included in the line of valuation allowance. Change of tax rate decreased from 9.54% in 2016 to 6.39% in 2017 is due to different enacted tax rate used in the calculation of deferred tax assets in 2017 for JA Solar (Xingtai) Co., Ltd. to reflect the decrease of tax rate due to its recognition as ANTE, and for JA USA to reflect the decrease of tax rate starting 2018 as a result from the implementation of the enactment of Tax Cuts and Jobs Act of 2017, which resulted in the reduction of previously disclosed deferred tax asset benefit (gross amount).

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12. Income taxes (continued)

Aggregate amount and per share effect of the tax holiday are as follows:

	For the year ended December 31, 2015	For the year ended December 31, 2016	For the year ended December 31, 2017
The aggregate amount of effect	58,194	70,653	42,671
Per share effect-basic	0.24	0.30	0.18
Per share effect-diluted	0.24	0.30	0.18

13. Other assets

Other assets consisted of the following:

	As of December 31, 2016 RMB	As of December 31, 2017 RMB
Input value-added tax recoverable for solar power plants (1)	196,543	187,286
Long-term deposits	27,433	59,154
Total	223,976	246,440

(1) As of December 31, 2016, input value-added tax recoverable for solar power plants was RMB 237,307, with RMB 196,543 included in non-current assets and RMB 40,764 in current assets (Refer to Note 9 Other current assets). As of December 31, 2017, input value-added tax recoverable for solar power plants was RMB 253,616, with RMB 187,286 included in non-current assets and RMB 66,330 in current assets (Refer to Note 9 Other current assets). The input value-added tax recoverable was classified as current and non-current assets based on management s best estimation of the expected utilization in the next twelve months as of the balance sheet date.

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14. Prepaid land use rights

The prepaid land use rights of the Company represented prepaid operating lease payments in obtaining land use rights in the PRC for a period of 40 or 50 years.

	As of December 31, 2016 RMB	As of December 31, 2017 RMB
Cost	600,904	615,121
Less: accumulated amortization	(64,541)	(76,977)
Net book value	536,363	538,144
Current portion of prepaid land use rights (recorded in other current assets)	12,155	12,821
Non-current portion of prepaid land use rights	524,208	525,323
Total	536,363	538,144

As of December 31, 2017, the Company pledged land use rights with net book value of RMB 69,043 in Shanghai Jinglong Solar Technology Co., Ltd to secure a short-term bank borrowing of RMB 44,938 from Industrial and Commercial Bank of China; the Company pledged land use rights with net book value of RMB 8,231 to secure a short-term bank borrowing of RMB 35,000 from Bank of Jiangsu; the Company pledged land use rights with net book value of RMB 24,328 to secure a short-term bank borrowing of RMB 45,000 from China Construction Bank; the Company pledged land use rights with net book value of RMB 7,929 to secure a short-term bank borrowing of RMB 50,000 from China Everbright Bank; the Company pledged land use rights with net book value of RMB 200,315 to secure a long-term entrusted loan of RMB 1,152,000; the Company pledged land use rights with net book value of RMB 40,661 to secure a long-term bank borrowing of RMB 150,000 from Bank of Tianjin; the Company pledged land use rights with net book value of RMB 69,043 to secure a long-term bank borrowing of RMB 84,000 from Industrial and Commercial Bank of China.

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(In thousands, except share and per share data)

15. Borrowings

	As of December 31, 2016 RMB	As of December 31, 2017 RMB
Short-term	2,912,867	2,910,859
Long-term, current portion	525,255	996,010
Subtotal	3,438,122	3,906,869
Long-term	2,701,438	2,061,399
Total	6,139,560	5,968,268

These loans are borrowed from various financial and non-financial institutions and all of them are for working capital and capital expenditure purpose. The borrowings outstanding as of December 31, 2016 and 2017 bore a weighted average interest rate of 4.64% and 4.50% per annum, respectively. The interest rates of unsecured short-term bank borrowings with principal amounts of RMB 1,793,919 and RMB 1,707,848 as of December 31, 2016 and 2017, respectively, ranged from 0.60% to 5.70% with a weighted average interest rate of 3.96% for 2016 and from 0.85% to 5.66% with a weighted average interest rate of 4.12% for 2017.

The interest rate of short-term bank borrowings secured by restricted cash with principal amounts of RMB 321,172 and RMB 358,731 as of December 31, 2016 and 2017, ranged from 1.64% to 3.85% with a weighted average interest rate of 2.55% for 2016 and from 2.17% to 4.85% with a weighted average interest rate of 3.09% for 2017.

The interest rate of short-term bank borrowings secured by land use right, buildings, project assets, equity interest and related party with principal amount of RMB 797,776 and RMB 844,280 as of December 31, 2016 and 2017, ranged from 1.90% to 6.09% with a weighted average interest rate of 4.77% for 2016 and ranged from 2.24% to 5.22% with a weighted average interest rate of 3.74% for 2017.

The interest rate of unsecured long-term bank borrowings with principal amounts of RMB 906,662 and RMB 686,507 as of December 31, 2016 and 2017, respectively, ranged from 1.00% to 6.60% with a weighted average interest rate of 5.36% for 2016 and from 1.23% to 5.70% with a weighted average interest rate of 4.99% for 2017.

The interest rate of long-term bank borrowings secured by buildings, machineries and equipment, construction in progress, land use right, project assets, equity interest and restricted cash with principal amount of RMB 2,320,031 and RMB 2,370,902 as of December 31, 2016 and 2017, respectively, ranged from 2.20% to 7.01% with a weighted average interest rate of 5.14% for 2016 and from 2.20% to 6.15% with a weighted average interest rate of 5.12% for 2017.

There was no borrowing from non-financial institution as of December 31, 2016 and 2017.

The borrowings have 1-month to 149-month terms and expire at various times. The unused lines of credit were RMB 1,242,159 which were available as of December 31, 2017.

Interest incurred for borrowings for the years ended December 31, 2015, 2016 and 2017 amounted to RMB 274,476, RMB 319,210 and RMB 354,319 respectively, of which RMB 29,931, RMB 36,828 and RMB 29,905 was capitalized in the cost of property, plant and equipment and project assets.

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15. Borrowings (continued)

As of December 31, 2017, the short-term bank borrowing of RMB 200,000 from Industrial Bank is secured by the buildings with net book value of RMB 73,995; the short-term bank borrowing of RMB 44,938 from Industrial and Commercial Bank of China is secured by the buildings with net book value of RMB 214,217 and land use rights with net book value of RMB 69,043 in Shanghai Jinglong Solar Technology Co., Ltd.; the short-term bank borrowing of RMB 35,000 from Bank of Jiangsu is secured by the buildings with net book value of RMB 23,207 and land use rights with net book value of RMB 8,231; the short-term bank borrowing of RMB 47,046 from Shanghai Pudong Development Bank is secured by the land use rights of Donghai District Longhai Property Co., Ltd. (Longhai Property); the short-term bank borrowing of RMB 49,000 from China Construction Bank is secured by the buildings with the net book value of RMB 67,061; the short-term bank borrowing of RMB 7,140 from China Merchants Bank is secured by the project assets with net book value of RMB 351,070 and all of the equity interests in JA Solar PV Electric (Datong) Co, Ltd; the short-term bank borrowing of RMB 45,000 from China Construction Bank is secured by the building with net book value of RMB 97,560 and land use rights with net book value of RMB 24,328; the short-term bank borrowing of RMB 210,091 from the Agricultural Bank of China is secured by the accounts receivable with net book value of RMB 296,805; the short-term bank borrowing of RMB 50,000 from China Everbright Bank is secured by the land use rights with net book value of RMB 7,929; the short-term bank borrowing of RMB 156,065 from the Maybank is secured by the machineries and equipment, and construction-in-progress, with net book value of RMB 175,281.

The long-term loan of RMB 1,152,000 from Industrial and Commercial Bank of China entrusted by Hefei High-Tech Industrial Development Zone Management Co., Ltd. is secured by the buildings, machineries and equipment and construction-in-progress with net book value of RMB 600,806 and land use rights with net book value of RMB 200,315 owned by JA Hefei Technology and all of the equity interests in JA Hefei Technology; the long-term bank borrowing of RMB 150,000 from Bank of Tianjin is secured by the buildings with net book value of RMB 104,761 and land use rights with net book value of RMB 40,661, respectively; the long-term bank borrowing of RMB 84,000 from Industrial and Commercial Bank of China is secured by the buildings with net book value of RMB 214,217 and land use rights with net book value of RMB 69,043, respectively; the long-term bank borrowing of RMB 232,860 from China Merchants Bank is secured by the project assets with net book value of RMB 351,070 and all of the equity interests in JA Solar PV Electric (Datong) Co, Ltd; the long-term bank borrowing of RMB 504,000 from Industrial and Commercial Bank of China is secured by the project assets with net book value of RMB 544,919; the long-term bank borrowing of RMB 235,500 from Industrial and Commercial Bank of China is secured by the project assets with net book value of RMB 232,603; the long-term bank borrowing of RMB 12,542 from 77 Bank is secured by the project assets with net book value of RMB 6,895.

There are three subsidiaries whose borrowing agreements include the restrictive financial covenants. For JA Yangzhou, the borrowing of RMB 45,000 from China Construction Bank should meet the criteria: 1) the total liability/ total assets ratio should be no more than 60% in three consecutive months; 2) the current ratio should be no less than 60% in three consecutive months; 3) the external guarantee should be no more than the net assets of last financial year; 4) the long-term investment should be no more than 90% of net assets; 5) do not issue debt that has priority over bank borrowings.

For JA Dunhuang, the borrowing of RMB 504,000 from Industrial and Commercial Bank of China should meet the criteria: 1) the percentage of bad debt provision in account receivable do not keep increase in two consecutive months; 2) the overdue accounts receivable for one customer is no more than 45% of the accounts receivable for this customer.

For JA Xingtai, the borrowing of RMB 80,000 from China Construction Bank should meet the criteria: 1) the gearing ratio should be no more than 80%; 2) the current ratio should be no less than 1; 3) the quick ratio should be no less than 0.8.

As of December 31, 2017, those three subsidiaries are in compliance with the financial covenants from the borrowing agreements.

Future principal repayments on the long-term borrowings are as follows:

Year ending December 31,	**RMB**
2018	996,010
2019	1,130,345
2020	120,566
2021	97,953
Thereafter	712,535
Total	3,057,409

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16. Other long-term liabilities

The breakdown of other long-term liabilities is as below:

	As of December 31, 2016 RMB	As of December 31, 2017 RMB
Government grant (1)	248,146	241,356
Capital lease (2)	429,651	1,077,398
Others	6,637	10,489
Total	684,434	1,329,243

(1) Government grants are recognized where there is reasonable assurance that the grant will be received and all attached conditions will be complied with.

Grant relating to cash subsidies received by the Company s entity in the PRC from various level of government authorities. The government subsidies are granted from time to time at the discretion of the relevant government authorities. Cash subsidies have no defined rules and regulations to govern the criteria necessary for companies to enjoy the benefits and are recognized as other income when received and when all conditions for their receipt have been satisfied.

Grants for the acquisition of land use right and property, plant and equipment are recorded as long-term liabilities and amortized to other income over the amortization period, which represents the depreciable life of the related PP&E. Government grants received related to property, plant and equipment are classified as investing cash inflows on the Company s consolidated cash flow statements. Government grants received related to land use right are classified as operating cash inflows on the Company s consolidated cash flow statements just as company expenditures for land use rights are classified as operating cash outflows. The Company received government grant related to property, plant and equipment and land use rights of RMB 230, RMB 27,976 and RMB 24,900 during the years ended December 31, 2015, 2016 and 2017, respectively. As of December 31, 2016 and 2017, long-term liability balance of RMB 248,146 and RMB 241,356 was related to government grant for the acquisition of land use rights and property, plant and equipment, respectively and is being amortized over a weighted average life of 208 months as of December 31, 2017.

The Company recorded RMB 35,555, RMB 39,281 and RMB 50,176 as other income for the years ended December 31, 2015, 2016 and 2017, respectively, among which RMB 28,380, RMB 29,953 and RMB 30,635 are related to the amortization of government grant.

(2) For the year ended December 31, 2015, the Company sold certain newly purchased equipment (leased assets) with carrying amount of RMB 44,350 to a third party (the purchaser-lessor) for cash consideration of RMB 41,808 and simultaneously entered into a three-year contract to lease back the leased assets from the purchase-lessor. Pursuant to the terms of the contract, the Company is required to pay to the purchaser-lessor quarterly lease payment over 3 years and is entitled to obtain the ownership of these equipment at a nominal price upon the expiration of the lease. The lease is classified as capital lease. As of December 31, 2015, RMB 12,805 is recognized as other payable (Refer to Note 17 Other payables to third parties) and RMB 29,003 is recognized as other long-term liability to the purchaser-lessor according to the contract term.

For the year ended December 31, 2016, the Company sold certain modules and equipment (leased group) with carrying amount of RMB 374,907 (Refer to Note 2(r) Project assets) to a third party (the purchaser-lessor) for cash consideration of RMB 481,252 and simultaneously entered into a three-year or ten-year contract to lease back the leased assets from the purchase-lessor. Pursuant to the terms of the contract, the Company is required to pay to the purchaser-lessor lease payment over 3 or 10 years and is entitled to obtain the ownership of these equipment at a nominal price upon the expiration of the lease. The lease is classified as capital lease. As of December 31, 2016, RMB 57,889 is recognized as other payable (Refer to Note 17 Other payables to third parties) and RMB 429,651 is recognized as other long-term liability to the purchaser-lessor according to the contract term.

For the year ended December 31, 2017, the Company sold certain modules and equipment (leased group) with carrying amount of RMB 445,166 (Refer to Note 2(r) Project assets) to a third party (the purchaser-lessor) for cash consideration of RMB 776,763 and simultaneously entered into a three-year or ten-year contract to lease back the leased assets from the purchase-lessor. Pursuant to the terms of the contract, the Company is required to pay to the purchaser-lessor lease payment over 3 or 10 years and is entitled to obtain the ownership of these equipment at a nominal price upon the expiration of the lease. The lease is classified as capital lease. As of December 31, 2017, RMB 73,177 is recognized as other payable (Refer to Note 17 Other payables to third parties) and RMB 1,077,398 is recognized as other long-term liability to the purchaser-lessor according to the contract term.

As of December 31, 2016 and 2017, the gross amount of the equipment and module and related depreciation recorded under capital lease were as follows:

	As of December 31, 2016 RMB	**As of December 31, 2017 RMB**
Equipment and module	500,389	1,236,774
Less: accumulated depreciation	(10,726)	(59,790)
Net Value	489,663	1,176,984

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16. Other long-term liabilities (continued)

As of December 31, 2017, future minimum payments required under non-cancellable capital lease are:

	As of December 31, 2017 RMB
Year ended December 31,	
2018	135,876
2019	249,618
2020	222,125
2021	152,696
2022	152,758
Thereafter	615,878
Total minimum lease payments	1,528,951
Less: Amount representing interest	(378,376)
Present value of net minimum lease payments	1,150,575
Current portion	73,177
Non-current portion	1,077,398

17. Other payables to third parties

Other payables consisted of the following:

	As of December 31, 2016 RMB	As of December 31, 2017 RMB
Payables for purchase of property, plant and equipment	330,277	413,259
Payables for project assets	354,709	254,353
Logistic charges	74,662	106,748
Capital lease (Refer to Note 16 Other long-term liabilities)	57,889	73,177
Reserve for purchase commitments (Refer to Note 7 Inventories) (3)	48,906	54,215
Trade finance (1)	99,656	59,431

Miscellaneous tax payables	27,835	33,344
Payables for land use rights	30,000	30,000
Deposits	26,639	23,391
Payable for contract termination costs (2)	83,244	19,603
Payable to non-controlling interests of Ningjin Songgong (Refer to Note 1 Organization and principal activities)	133,364	
Others	56,436	88,397
Total other payables	1,323,617	1,155,918

(1) In November 2016, the Company sold goods to a third party and simultaneously entered into a contract to buy back these goods at same price with premium. The amount has been paid off in 2017. In July 2017, the Company sold goods to a third party and simultaneously entered into a contract to buy back these goods at same price with premium. The amount is to be paid off on a half-year basis till August 2018. The transaction does not qualify as a sale-buyback transaction and is accounted for as financing transaction.

(2) The Company terminated business relationship with one of its business partner through termination of contract in 2016. The total charge for the contract termination cost was RMB 99,635. The Company has paid RMB 80,032 as of December 31, 2017 and will pay remainder through June 2018.

(3) Interest was accrued for late payment based on terms of the Original Supply Agreement with Hemlock. For the year ended December 31, 2015, the Company accrued late payment interest of RMB 123,524. As of December 31, 2015, the total accrued interest was RMB 303,380. In 2016, the total interest of RMB 303,380 was reversed with the resolution of the Company s dispute with Hemlock (Refer to Note 26 Commitments and Contingencies).

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18. Accrued expenses

Accrued expenses consisted of the following:

	As of December 31, 2016 RMB	As of December 31, 2017 RMB
Interest	75,711	73,692
Logistic charges	45,307	71,342
Testing fee	40,923	55,964
Professional service fees	42,601	38,929
Tax	24,782	28,008
Utilities	5,719	10,806
Commission fee	22,685	6,394
Rental fee	1,292	621
Others	23,635	18,090
Total accrued expenses	282,655	303,846

19. Accrued warranty cost

The movement of Company s accrued warranty costs for solar module is summarized below:

	As of December 31, 2015 RMB	As of December 31, 2016 RMB	As of December 31, 2017 RMB
Beginning balance	251,740	380,132	533,214
Warranty provision	128,392	153,082	181,547
Warranty utilization			(5,078)
Ending balance	380,132	533,214	709,683

20. Share-based compensation

As of December 31, 2017, the Company had two share-based compensation plans, which is described below.

On August 18, 2006, the shareholders of the Company approved the 2006 Stock Incentive Plan (the 2006 Plan), which permits the grant of share options and shares to its eligible recipients for up to 8,656,000 ordinary shares plus a number of ordinary shares equal to 10% of any additional share capital of the Company issued following the effective date of the 2006 Plan. The Company believes that such awards better align the interests of its employees with those of its shareholders.

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20. Share-based compensation (continued)

On June 30, 2014, the shareholders of the Company approved the 2014 Stock Incentive Plan (the 2014 Plan). Under the 2014 Plan, the Company may grant options to purchase 10% of its total issued and outstanding shares as of the date when the board approves the 2014 Plan; provided that, the shares reserved in the award pool shall be increased automatically if and whenever the unissued shares reserved in the award pool accounts for less than 1% of the total then issued and outstanding shares, as a result of which increase the shares unissued and reserved in the award pool immediately after each such increase shall equal to 10% of the then issued and outstanding shares. The Company believes that such awards better align the interests of its employees with those of its shareholders. In general, the plan administrator determines or the evidence of the award specifies, the vesting schedule for each option grant.

a) Options

The Company did not grant any ordinary share option during the years ended December 31, 2016 and 2017.

The Company recognized a pre-tax charge of RMB 8,865, RMB 2,253 and RMB 160 (included in selling, general, and administrative expenses and manufacturing overhead, of which RMB nil, RMB nil and RMB nil was capitalized in the cost of inventory as of December 31, 2015, 2016 and 2017, respectively), for the years ended December 31, 2015, 2016 and 2017 associated with the expensing of stock options, respectively.

No option grants were made for the years ended December 31 2015, 2016 and 2017. The amounts reversed associated with options forfeited were RMB 895, RMB 682 and RMB 33 for the years ended December 31, 2015, 2016 and 2017, respectively. The total income tax benefit recognized in the income statement for share-based compensation arrangements was nil for the periods.

The Company used the forfeiture rate of 11.12%, 12.71% and 14.91% respectively for the years ended 2015, 2016 and 2017.

As of December 31, 2015, 2016 and 2017, there was RMB 4,362, RMB 233 and RMB nil of total unrecognized compensation cost related to non-vested share-based employees arrangements granted under the Plan, respectively.

The Company expects to issue new shares to satisfy share option exercises.

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20. Share-based compensation (continued)

The following table summarizes information with respect to share options outstanding on December 31, 2017:

	Shares	Weighted Average Exercise Price (US$)	Weighted Average Remaining Contractual Life (Year)	Intrinsic Value (US$, in thousands)
Outstanding at December 31, 2014	5,676,300	3.21	7.59	279
Granted				
Forfeited	(516,800)	3.02		
Exercised	(140,000)	1.37		
Outstanding at December 31, 2015	5,019,500	3.24	6.58	172
Granted				
Forfeited	(103,000)	1.84		
Exercised				
Outstanding at December 31, 2016	4,916,500	3.27	5.58	
Granted				
Forfeited	(657,500)	6.04		
Exercised	(32,750)	1.37		
Outstanding at December 31, 2017	4,226,250	2.85	4.98	97
Exercisable at December 31, 2017	4,226,250	2.85	4.98	97

The total intrinsic value of options exercised during the years ended December 31, 2015, 2016 and 2017 was $100, nil and $1, respectively, and proceeds received on exercise were RMB 1,196 and RMB 23 in 2015 and 2017, respectively.

b) ***Restricted share units (RSU)***

RSUs are commitments made to issue ordinary shares at the time that each underlying RSU vests. The RSUs are not legally issued ordinary shares nor do they comprise outstanding ordinary shares and therefore, do not give their holders voting or dividend rights.

Upon vesting, the shares will be issued by the Company.

The following table summarizes information with respect to RSUs outstanding on December 31, 2017:

	Shares	Weighted Average Fair Value (US$)
Nonvested at December 31, 2014	60,000	1.39
Granted		
Vested	(60,000)	1.39
Forfeited		
Nonvested at December 31, 2015		
Granted		
Vested		
Forfeited		
Nonvested at December 31, 2016		
Granted		
Vested		
Forfeited		
Nonvested at December 31, 2017		

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20. Share-based compensation (continued)

For RSUs, the Company recognized a pre-tax charge of RMB 540, RMB nil and RMB nil (included in selling, general, and administrative expenses) for the years ended December 31, 2015, 2016 and 2017 respectively. There was no unrecognized compensation expense related to the RSUs as of December 31, 2015, 2016 and 2017, respectively. The fair value of shares vested during the years ended December 31, 2015, 2016 and 2017 was RMB 607, RMB nil and RMB nil, respectively.

21. Foreign currency forward contracts

The Company, as a result of its global operating and financing activities, is exposed to changes in foreign currency exchange rates which may adversely affect its results of operations and financial position. The Company uses foreign currency forward contracts to hedge the exposure to foreign currency risk, primarily the EUR, GBP, USD and JPY. The purpose of the Company s foreign currency derivative activities is to protect the Company from the risk that the RMB net cash flows resulting from forecasted foreign currency-denominated transactions will be negatively affected by changes in exchange rates. The Company uses foreign currency forward contracts to offset changes in the amount of future cash flows associated with certain third-party sales expected to occur within the next 12 months.

The Company accounts for derivative instruments pursuant to ASC 815, *Derivatives and Hedging*, as amended and interpreted, and recognizes all derivative instruments as either assets or liabilities at fair value in other assets or other liabilities in the Consolidated Balance Sheets. The recognition of gains or losses resulting from changes in the values of those derivative instruments is based on the use of each derivative instrument. The Company has evaluated various factors and determined whether there is effectiveness with respect to certain foreign currency forward contracts and whether these foreign currency forward contracts qualified for foreign currency cash flow hedge accounting. When the company formally designates a contract as a hedge and the hedging relationships are highly effective, the effective portion of the gain or loss on the derivative cash flow hedges is recorded in accumulated other comprehensive income, net of tax, until the underlying hedged transaction is recognized in the consolidated income statements. The ineffective portion of cash flow hedges, if any, is recognized in income immediately. The effectiveness of designated hedging relationships is tested and documented on quarterly basis. Gains or losses on those foreign currency forward exchange contracts which do not qualify for hedge accounting are recognized in change in fair value of derivatives in the Consolidated Statements of Operations and Comprehensive Income. During the year ended December 31, 2015, the Company entered into foreign currency forward contracts with a notional amount of EUR 26,686 and JPY 6,684,725. During the year ended December 31, 2016, the Company entered into foreign currency forward contracts with a notional amount of JPY 7,291,508. During the year ended December 31, 2017, the Company entered into foreign currency forward contracts with a notional amount of JPY 979,433 and EUR 12,090. As of December 31, 2015, the Company had outstanding foreign currency forward contracts with notional amounts of JPY 1,846,515. As of December 31, 2016 and 2017, there was no outstanding foreign currency forward contract.

The gain/(loss) from the change in the fair value on the effective portion of derivative cash flow hedges, which is recorded in accumulated other comprehensive income, net of tax, was RMB nil for the years ended December 31, 2015, 2016 and 2017. The gain/(loss) from the change in the fair value on those foreign currency forward exchange contracts not qualifying for hedge accounting, which is recorded in change in fair value of derivatives, was RMB 4,440 , RMB (22,037) and RMB (2,270) for the years ended December 31, 2015, 2016 and 2017, respectively (Refer to Note 27 Fair value measurements).

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21. Foreign currency forward contracts (continued)

There is no outstanding notional balances and the estimated fair value of the Company s foreign currency forward contracts as of December 31, 2016 and 2017.

22. Issuance of ordinary shares and warrants

On August 14, 2013, the Company entered into a Securities Purchase Agreement (the Purchase Agreement) with a single institutional investor, Capital Ventures International (the Investor), to issue in a registered direct offering an aggregate of US$ 24 million (RMB equivalent 147,998) for 15,228,425 ordinary shares, US$0.0001 par value per share, of the Company (Ordinary Shares), represented by 3,045,685 American Depositary Shares (each, an ADS) at a price of US$7.88 per ADS. The offering price is 94% of the volume-weighted average price of the Company s ADSs on August 13, 2013 (i.e. US$ 8.383 per ADS per Bloomberg on August 13, 2013). The offering resulted in net proceeds of RMB 128,529, after deducting the placement fees and offering expenses.

Series A and B Warrants

In conjunction with the ordinary share offering, the Company also issued to the Investor Series A-1 Warrant, Series A-2 Warrant, Series A-3 Warrant, and Series B Warrant (Warrants) to acquire up to 12,724,164 ordinary shares (or 2,544,833 ADSs), 12,724,164 ordinary shares (or 2,544,833 ADSs), 12,724,164 ordinary shares (or 2,544,833 ADSs), and 50,896,656 ordinary shares (or 10,179,332 ADSs), respectively.

The Series A-1 warrant to purchase ordinary shares can be exercised on or prior to the date that is three months after the date it is issued at an initial exercise price of US$1.886 per ordinary share (equivalent to an exercise price of US$9.43 per ADS), subject to anti-dilution adjustments with respect to issuances of ordinary shares, options or convertible securities, or the modification of issued options or convertible securities. The Series A-2 warrant to purchase ordinary shares can be exercised on or prior to the date that is six months after the date it is issued at an initial exercise price of US$1.886 per ordinary share (equivalent to an exercise price of US$9.43 per ADS), subject to anti-dilution adjustments with respect to issuances of ordinary shares, options or convertible securities, or the modification of issued options or convertible securities. The Series A-3 warrant to purchase ordinary shares can be exercised on or prior to the date that is nine months after the date it is issued at an initial exercise price of US$1.886 per ordinary share (equivalent to an exercise price of US$9.43 per ADS), subject to anti-dilution adjustments with respect to issuances of ordinary shares, options or convertible securities, or the modification of issued options or convertible securities.

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22 Issuance of ordinary shares and warrants (continued)

The Series B warrant to purchase up ordinary shares represented by ADSs at an initial exercise price of US$2.18 per ordinary share (equivalent to an exercise price of US$10.90 per ADS), subject to anti-dilution adjustments with respect to issuances of ordinary shares, options or convertible securities, or the modification of issued options or convertible securities, and subject to reset on the date that is nine months after the date it is issued. The Series B Warrant being offered is exercisable on the date that is one day after the one-year anniversary of the date on which it is issued and expires on the date that is two years after the date on which the Series B Warrant is first exercisable.

At any time after the issuance of warrants, the holders of the warrants shall be entitled to participate in such distribution to the same extent that the Holder would have participated therein if the Holder had held the number of Ordinary Shares and/or ADSs, as applicable, acquirable upon complete exercise of this Warrant (without regard to any limitations on exercise hereof, including without limitation). The holders of the warrants are entitled to receive any dividends paid or distributions made, except with respect to share dividends covered by the anti-dilution adjustment provision of the warrant, to the holders of our ordinary shares to the extent the holders of each warrant would have participated if such holders held a number of shares, acquirable upon exercise of such warrant.

In November 2013, February 2014, and May 2014, the Series A-1 Warrant, Series A-2 Warrant and Series A-3 Warrant, respectively, were exercised in full at the price of US$ 9.43 per ADS. The fair value of warrant liability for Series A-1 Warrant, Series A-2 Warrant and Series A-3 Warrant on respective warrant exercise date was RMB 35,693, RMB 2,797 and RMB 3,530, respectively, which was reclassified to additional paid-in- capital upon exercises. The Series B warrant was expired on August 16, 2016.

In accordance with ASC subtopic 815-10, the warrants are deemed legally detachable and separately exercisable from the ordinary shares and thus accounted for as a freestanding instrument. As the warrants are denominated in US Dollar, yet the Company s functional currency is RMB, warrants are not considered indexed to the Company s own stock. Accordingly, the warrants are liability derivatives which need to be fair valued on day one and mark to market subsequently at each reporting period end, with the fair value gain or loss arising from the re-measurement recognized in the Consolidated Statements of Operations and Comprehensive Income.

On the transaction date, the sales proceeds are first allocated to the warrant based on the warrants full fair value of RMB 172,916 and the residual amount of the sales proceeds is allocated to the ordinary shares. The fair value of the warrants in excess of net proceeds of the equity offering of RMB 44,396, was charged to retained earnings as a deemed dividend due to this portion is a benefit transferred from existing shareholders to the new investor. Such amount charged as deemed dividend on the transaction date and is an adjustment to net loss available to attributable to JA Solar Holdings for basic and diluted EPS calculation, as an effective dividend from existing ordinary shareholders. For the years ended December 31, 2015 and 2016, RMB 39,593 and RMB 70,882 of gain, respectively, was recognized based on a subsequent change in fair value of the warrants in the Company s Consolidated statements of Operations and Comprehensive Income (Note 27).

The series A-1, A-2, A-3 and B warrants are participating securities because they had contractual rights to share in the profits but not losses of the Company. For the year ended December 31, 2015, the computation of basic earnings per share using the two-class method was applicable as the Company was making profit in year 2015. For the years ended December 31, 2016 and 2017, there was no impact for the computation of basic earnings per share due to the expiration of the Series B Warrants.

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23. Mainland China contribution plan and profit appropriation

a) China contribution plan

Full-time employees of the Company in the PRC participate in a government-mandated multi-employer defined contribution plan pursuant to which certain pension benefits, medical care, unemployment insurance, employee housing fund and other welfare benefits are provided to employees. PRC labor regulations require the Company to accrue for these benefits based on certain percentage of the employees salaries. However, the Company is not responsible for meeting any obligations under the plan. The total contribution for such employee benefits was RMB 127,860, RMB 128,481 and RMB 126,601 for the years ended December 31, 2015, 2016 and 2017, respectively.

b) Statutory reserves

Pursuant to laws applicable to entities incorporated in the PRC, the subsidiaries in the PRC should make appropriations from after-tax profit to non-distributable reserve funds. These reserve funds include the following: (i) a general reserve, (ii) an enterprise expansion fund and (iii) a staff bonus and welfare fund. The subsidiaries in the PRC are required to transfer at least 10% of their profit after taxation (as determined under accounting principles generally accepted in the PRC (PRC GAAP) at each year-end) to the general reserve fund until the reserve balance reaches 50% of their respective registered capital. The appropriations to other funds are at the PRC subsidiaries discretion. These reserve funds can only be used for specific purposes of enterprises expansion, staff bonus, and welfare and not distributable as cash dividends.

The general reserves made by the Company s PRC subsidiaries in 2015, 2016 and 2017 were RMB 116,337, RMB 112,609 and RMB 90,034, respectively.

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c) Restricted capital

The following paid-in-capital amounts are unavailable for distribution as nominal dividends to the Company:

Legal Entity		**Paid-in Capital restricted**
JingAo Solar Co., Ltd.	RMB	2,600,000
Shanghai JA Solar Technology Co., Ltd.	RMB	521,451
Shanghai JA Solar PV Technology Co., Ltd.	USD	20,000
JA Solar Technology Yangzhou Co., Ltd.	USD	260,000
Jing Hai Yang Semiconductor Materials (Donghai) Co., Ltd.	RMB	714,483
JA Yangzhou PV Technology Co., Ltd.	RMB	68,270
Shanghai Jinglong Solar Technology Co., Ltd.	RMB	180,000
Donghai JA Solar Technology Co., Ltd.	RMB	250,000
JA (Hefei) Renewable Energy Co., Ltd.	USD	15,000
Hefei JA Solar Technology Co., Ltd.	RMB	1,440,000
Solar Silicon Valley Electronic Science and Technology Co., Ltd.	RMB	283,829
JA Solar Investment (China) Co., Ltd.	USD	55,000
Dunhuang JA Solar Power Development Co., Ltd.	RMB	321,000
JA Solar PV Technology Co., Ltd.	RMB	61,107
JA Solar PV Electric (Shexian) Co,. Ltd.	RMB	42,000
Aiyouen Power Electric (Yinchuan) Co,. Ltd.	RMB	26,000
JA Solar PV Electric (Baotou) Co,. Ltd.	RMB	15,500
Beijing JA Solar PV Technology Co., Ltd.	RMB	400,000
JA Solar PV Electric (Huanghua) Co,. Ltd.	RMB	5,000
JA Solar PV Electric (Yanchi) Co,. Ltd.	RMB	38,500
JA New Energy Development (Hebei) Co., Ltd.	RMB	15,000
Jingsheng Agricultural Technology (Renxian) Co., Ltd.	RMB	5,550
JA Solar PV Electric (Hoboksar) Co., Ltd.	RMB	1,000
JA Solar PV Electric (Laiwu) Co., Ltd.	RMB	16,100
JA Solar New Energy Electric (Chifeng) Co., Ltd.	RMB	66,000
JA New Energy (Xilinhaote) Co., Ltd .	RMB	1,000
JA Solar PV Electric (Wulanchabu) Co., Ltd.	RMB	500
Jingneng New Energy Development (Kangbao) Co., Ltd.	RMB	2,000
JA Solar PV Electric (Ninglang) Co., Ltd.	RMB	500
Jingneng New Energy Development (Lincheng) Co., Ltd.	RMB	80,000
JA Solar PV Electric (Jarud) Co., Ltd.	RMB	35,000
Jingneng New Energy Development (Renxian) Co., Ltd.	RMB	58,000
JA Solar Technology (Karamay) Co., Ltd.	RMB	5,000
JA Solar PV Electric (Linzhou) Co., Ltd .	RMB	57,800
JA Solar PV Electric (Datong) Co., Ltd.	RMB	100,000
JA Solar PV Electric (Hefei) Co., Ltd.	RMB	18,000
JA Solar PV Electric (Lingshi) Co., Ltd.	RMB	100
JA Solar (Xingtai) Co., Ltd.	RMB	546,008
Yangzhou JA PV Technology Co., Ltd.	RMB	200,000
JA Solar (Kangbao) Co., Ltd.	RMB	50,400
JA Solar (Zhangjiakou) Co., Ltd.	RMB	77,500
Donghai County Jiulong Hot Spring Club Co., Ltd	RMB	35,000
Baodi JA Solar PV Technology (Tianjin) Co., Ltd.	RMB	3,190
Baodi Huading Agriculture Development (Tianjin) Co., Ltd.	RMB	7,380
Jiuzhou Fangyuan New Energy (Yichang) Co., Ltd.	RMB	120,000
Jiuzhou Fangyuan New Energy (Xinjiang) Co., Ltd.	RMB	120,000

Jingneng Solar PV Electric (Daqing) Co., Ltd.	RMB	39,000
Jingneng New Energy Development (Ningjin) Co., Ltd.	RMB	200
Jingsheng Agriculture Technology (Ningjin) Co., Ltd.	RMB	200
JA Solar (Chaoyang) Electric Co., Ltd.	RMB	22,500
JA Solar New Energy Development (Cixian) Co., Ltd.	RMB	600
JA Solar (Beitun Haitianda) Electric Co., Ltd.	RMB	34,400
JA Solar (Hoboksar Haitianda) Electric Co., Ltd.	RMB	51,600
Baotou JA Solar Technology Co., Ltd.	RMB	280,000
Jing Ao (Tianjin) Financial Leasing Co., Ltd.	RMB	1,000
Jingneng PV Electric (Changdu) Co., Ltd.	RMB	1,400
JA Solar PV Electric (Changdu) Co.,Ltd.	RMB	1,200
JA Solar PV Electric(Xingtai) Co.,Ltd.	RMB	100
JA Solar PV Electric (Yangzhou) Co., Ltd.	RMB	100
Jingneng PV Electric (Zhengding) Co., Ltd.	RMB	100

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JA SOLAR HOLDINGS CO., LTD.

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(In thousands, except share and per share data)

24. Earnings per share

Basic and diluted net earnings per share for the years ended December 31, 2015, 2016 and 2017 are calculated as follows:

	Year ended December 31, 2015 RMB	Year ended December 31, 2016 RMB	Year ended December 31, 2017 RMB
Numerator:			
Net income attributable to JA Solar Holdings	623,713	683,699	300,125
Fair value of warrants in excess of net proceeds of equity offering			
Allocation of net income to participating warrant holder	(107,828)		
Numerator for basic earnings per share	515,885	683,699	300,125
Dilutive effect of:			
Add back allocation to participating warrant holder (1)			
Excluding portion of fair value gain (2)			
Numerator for diluted earnings per share	515,885	683,699	300,125
Denominator:			
Denominator for basic loss per share - weighted average ordinary shares outstanding	243,506,821	234,290,842	234,331,621
Dilutive effect of share options and RSUs*	238,100	111,610	37,974
Dilutive effect of warrants*			
Denominator for diluted loss per share	243,744,921	234,402,452	234,369,595
Basic earnings per share	2.12	2.92	1.28
Diluted earnings per share	2.12	2.92	1.28

(1) Net income has been adjusted to participating Series A-3 Warrant and Series B Warrant holder based on their respective rights to share in dividends in 2014.

(2) The fair value gain represents the change in fair value of Series A-3 Warrant, which is deducted from income (numerator) in calculating diluted earnings per share. Series A-3 Warrant has dilutive effect as its exercise price of US$ 9.43 per ADS is less than average stock price during the period it was outstanding.

* Potentially dilutive share options and RSUs totaling 3,437,510, 4,391,000 and 4,836,387 in 2015, 2016 and 2017 were not included in the calculation of dilutive earnings per share in 2015, 2016 and 2017 because of their anti-dilutive effect.

* Potentially dilutive warrants 50,896,656, nil and nil in 2015, 2016 and 2017 were not included in the calculation of dilutive earnings per share in 2015, 2016 and 2017 because of their anti-dilutive effect. Series B Warrant is anti-dilutive as the exercise price of US$ 10. 90 per ADS is higher than average stock price during the year ended December 31, 2015. Series B Warrants expired on August 16, 2016 and there was no impact for the computation of EPS as of December 31, 2016 and 2017.

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JA SOLAR HOLDINGS CO., LTD.

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(In thousands, except share and per share data)

25 Related party transactions

a) Amounts due to related parties consisted of the following:

	As of December 31, 2016 RMB	As of December 31, 2017 RMB
Short-term:		
Payables to Yangguang Guifeng Electronics Co., Ltd. (Yangguang Guifeng)	77,567	135,938
Payables to Heibei Ningjin Songgong Electronics Co., Ltd. (Songgong Electronics)	133,860	115,536
Payables to Hebei Jinglong Sunshine Equipment Co., Ltd.	47,257	108,668
Payables to Xingtai Jinglong Electronics and Materials Co., Ltd. (Xingtai Jinglong)	120,423	106,651
Payables to Taicang Juren Photovoltaic Materials Co., Ltd. (Taicang Juren)	37,392	93,230
Payables to Jinglong Industry and Commerce Group Co., Ltd. (Hebei Jinglong)	133,318	90,454
Payables to Xingtai Jinglong Photovoltaic Materials Co., Ltd. (Xingtai Jinglong PV)		31,482
Payables to Hebei Jinglong Fine Chemical Co., Ltd. (Fine Chemical)	761	6,075
Payables to Ningjin Jingxing Electronic Material Co., Ltd.	2,428	3,542
Payables to Ningjin County Heilonggang Construction and Installation Co., Ltd. (Heilonggang)		867
Payables to Ningjin Saimei Ganglong Electronics Co., Ltd. (Saimei Ganglong)	56,761	
Payables to Jing Wei Electronics Co., Ltd. (Jing Wei)	114	
Others	23,495	35,775
Total amounts due to related parties	633,376	728,218

b) Amounts due from related parties consisted of the following:

	As of December 31, 2016 RMB	As of December 31, 2017 RMB
Short-term:		
Advance to related party suppliers, net		
Advances to Hebei Jinglong	24,962	14
Accounts receivable from related party customers, net		
Receivables from Songgong Electronics	50,070	18,108
Receivables from Hebei Jinglong	60,634	8,968
Receivables from Jing Xing	14,354	2,917

Receivables from Yangguang Guifeng	1,252	1,929
Receivables from Xingtai Jinglong	56	939
Receivables from Lincheng	1,065	155
Receivables from others	2,350	800
Amount due from related parties:		
Amount due from Songgong Electronics	16,452	17,000
Amount due from Yangguang Guifeng		1,812
Amount due from others	1,947	37
Loan to Yangzhou JA Property Co., Ltd. (Yangzhou Property)	40,085	
Loan to Longhai Property	15,025	
Total amounts due from related parties	228,252	52,679

c) Dividends receivable from related parties consisted of the following:

	As of December 31, 2016 RMB	As of December 31, 2017 RMB
Dividends receivable from Lincheng		7,085

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25. Related party transactions (continued)

d) ***Transactions with Hebei Jinglong***

Wafer supply

In July 2006, the Company entered into a master long-term supply contract (the **Jinglong Long-term Supply Contract**) with Hebei Jinglong for the supply of silicon wafers. Hebei Jinglong is owned by the shareholders of the largest shareholder of the Company, Jinglong Group Co., Ltd. (Jinglong BVI), and thus, is a related party of the Company. Mr. Baofang Jin, our executive chairman, owns 78.45% equity interests in Hebei Jinglong and 32.96% in Jinglong BVI. The Jinglong Long-term Supply Contract had an initial term of four and half years, from July 2006 to December 2010, which automatically extended for another three years until the end of 2013. The Company has also entered into various short-term supply contracts with Hebei Jinglong for the supply of silicon wafers (together with the Jinglong Long-term Supply Contract the **Jinglong Supply Contracts**). Under the Jinglong Supply Contracts, Jinglong Group has agreed to supply the Company with silicon wafers at prevailing market prices with a reasonable discount and under prepayment arrangements. The Company has entered into various supplemental agreements to the Jinglong Supply Contracts to specify certain performance terms, including amendment of prepayment amounts and their utilization. The prepayment and delivery terms under the existing Jinglong Long-term Supply Contract had been revised subsequently in August 2007, September 2008, and February 2009.

The Company reviewed the contracts under ASC 815, *Derivatives and Hedging*, and ASC 810, *Consolidation*, and determined that they don t contain an embedded derivative nor would the supplier contracts cause the supplier to be a variable interest entity.

Due to the reorganization of Jinglong Group, Hebei Jinglong disposed its wafer production business in the middle of 2014. The Company didn t purchase silicon wafers from Jinglong Group since 2014.

Unused prepayments were RMB 65,951, RMB 24,962 and RMB 14 at December 31, 2015, 2016 and 2017, respectively, and were recorded in advances to related party supplier in the consolidated balance sheet. The unused prepayment was deducted by the rental fee according to the supplemental agreements signed every quarter.

Outsourcing service

Hebei Jinglong changed its business and the Company outsourced wafer processing service to the subsidiaries of Hebei Jinglong since the middle of 2014 (Refer to Note 25(e) *Transactions with other related parties*).

Leasing

The Company leases properties from Hebei Jinglong and another related party under operating lease agreements. The Company incurred rental expenses under operating lease agreements to Hebei Jinglong in the amounts of RMB 52,614, RMB 39,914 and RMB 35,908 for the years ended December 31, 2015, 2016 and 2017, respectively.

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(In thousands, except share and per share data)

25. Related party transactions (continued)

e) Transactions with other related parties

	For the year ended December 31, 2015 RMB	For the year ended December 31, 2016 RMB	For the year ended December 31, 2017 RMB
Sales of products			
Subsidiaries of Hebei Jinglong	34,337	20,888	14,209
Others			182
Lincheng	92,158	162,516	
Total	126,495	183,404	14,391
Purchase of products			
Subsidiaries of Hebei Jinglong	1,015,077	2,192,553	2,830,237
Taicang Juren		158,639	319,665
Xingtai Jinglong PV			83,929
Others		7,223	59,645
Total	1,015,077	2,358,415	3,293,476
Processing service received			
Subsidiaries of Hebei Jinglong	8,438	110,972	26,972
Total	8,438	110,972	26,972
Purchase of equipment and building			
Subsidiaries of Hebei Jinglong		2,621	71,555
Heilonggang			3,142
Fine Chemical			77
Total		2,621	74,774
Sales of equipment			
Subsidiaries of Hebei Jinglong		3,722	85
Total		3,722	85
Provide entrusted loan			
Songgong Electronics		15,000	17,000
Yangzhou Property	40,000	40,000	
Longhai Property		15,000	
Total	40,000	70,000	17,000

Provide Guarantee			
Songgong Electronics		260,000	220,000
Xingtai Jinglong			121,000
Jingxing			30,000
Saimei Ganglong		50,000	
Total		310,000	371,000
Receive Guarantee			
Hebei Jinglong	581,714	561,116	791,124
Longhai Property		50,000	47,046
Yangzhou Property	80,000	80,000	
Total	661,714	691,116	838,170

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25. Related party transactions (continued)

As of December 31, 2017, the Company provided guarantees to Songgong Electronics, Xingtai Jinglong and Jingxing for short-term borrowings with principal of RMB 220,000, RMB 121,000 and RMB 30,000, respectively. As of December 31, 2016, the Company provided guarantees to Songgong Electronics and Saimei Ganglong for short-term borrowings with principal of RMB 260,000 and RMB 50,000, respectively. The Company provided no guarantees to related parties while as of December 31, 2015. No amounts have been accrued as a loss contingency related to this guarantee because payment by the Company is not probable. The fair value of the guarantee as of December 31, 2017 was not material. In addition, in June 2013, the Company provided an entrustment loan to Yangzhou Property with a principal of RMB 40,000, with an annual interest rate of 6.6% and was due for repayment in one year. In 2014, the repayment date for the entrustment loan was extended to June 8, 2015. In 2015, the repayment date for this loan is extended to June 10, 2016 with interest rate of 7%. And in 2016, the repayment date for this loan is extended to June 10, 2017 with interest rate of 7%. In August 2016, the Company provided an entrustment loan to Longhai Property with a principal of RMB 15,000, with an annual interest rate of 5.36%. In October 2016, the Company provided an entrustment loan to Songgong Electronics with a principal of RMB 15,000, with an annual interest rate of 5.36%. In November 2017, the Company provided an entrustment loan to Songgong Electronics with a principal of RMB 17,000, with an annual interest rate of 5.60%. Meanwhile, the Company received guarantees from Yangzhou Property for a short-term borrowing with a principal of RMB 80,000, RMB 80,000 and nil in 2015, 2016 and 2017, respectively. The Company received guarantees from Longhai Property for a short-term borrowing with a principal of RMB nil, RMB 50,000 and RMB 47,046 in 2015, 2016 and 2017, respectively.

The Company considers that these transactions were at market with prices comparable to other similar transactions with unrelated third parties.

On November 17, 2017, the Company entered into a definitive agreement and plan of merger with JASO Holdings Limited, JASO Parent Limited and JASO Acquisition Limited for a potential going private transaction.

26. Commitments and Contingencies

a) Supplier contract

In order to better manage the Company s unit costs and to secure adequate and timely supply of polysilicon and silicon wafers during the periods of shortages of polysilicon and silicon wafer supplies, the Company entered into a number of multi-year supply agreements in amounts that were expected to meet the Company s anticipated production needs. As a condition to its receiving the raw materials under those agreements, and in line with industry practice, the Company was required to, and has made prepayments for all, or a portion, of the total contract price to the suppliers, which are then offset against future purchases. The Company has completed re-negotiating certain of its supplier arrangements and is currently in the process of re-negotiating the remaining prepayment obligations with its suppliers.

Set out below are the Company s fixed obligations under these multi-year contracts including take or pay arrangements.

Obligations under Multi-year Supply Agreements, including Take or Pay Supply Agreements

The Company s multi-year supply agreements with some suppliers are structured as fixed price and quantity take or pay arrangements which allow the supplier to invoice the Company for the full stated purchase price of polysilicon or silicon wafers the Company is obligated to purchase each year, whether or not the Company actually purchases the contractual volume. In the years ended December 31, 2014 and 2015, the Company failed to perform purchase obligations of RMB 507 million and RMB 877 million, respectively, under a take-or-pay supply agreement with Hemlock. The Company and Hemlock signed a new multi-year supply agreement in October 2016, structured to purchase a certain amount of polycrystalline silicon products on a quarterly basis with take or pay supply agreements. While its take-or-pay arrangements pursuant to certain LTAs are characterized as unconditional purchase commitments which require disclosure under ASC 440-10-50-2 and 4, a separate assessment is performed to determine whether losses should be accrued on those inventory purchase commitments in accordance with ASC 330-10-35-17 to 18 (Refer to Note 2(g) Inventories and Note 7 Inventories).

In addition to the take or pay supply agreements, the Company has also entered into other multi-year supply agreements to purchase fixed volumes of polysilicon or silicon wafers from certain suppliers. Under these agreements, the purchase price is to be periodically adjusted based on prevailing market price or relevant energy price index. Purchases made under take or pay agreements amounted to RMB 1,929,867, RMB 2,200,230 and RMB 1,356,977 for the years ended December 31, 2015, 2016 and 2017, respectively. The Company s future obligations under multi-year supply agreements, including take or pay supply agreements are as follows:

JA SOLAR HOLDINGS CO., LTD.

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(In thousands, except share and per share data)

26. Commitments and Contingencies (continued)

	Take or pay supply agreements (in RMB)	**Total (in RMB)**
Twelve Months Ending December 31		
2018	970,976	970,976
2019	787,632	787,632
Total	1,758,608	1,758,608

* includes only purchase commitments with fixed or minimum price provisions.

In addition, the Company has also entered into other supply agreements with variable price provisions, under which the Company will purchase a certain amount of polycrystalline silicon products on a quarterly basis. The Company has committed to purchase polysilicon and silicon wafers with the quantity of 51,625 metric tons and 38.95 million pieces respectively during 2017 to 2026, which are with variable price provisions and not included in the above table.

Outstanding supplier advances made to suppliers with whom the Company has entered into take or pay arrangements amounted to RMB 341,447, RMB 182,553 and RMB 118,377 as of December 31, 2015, 2016 and 2017 respectively.

If the Company fails to meet the obligations, including purchase quantity commitments, under the amended agreements and are unable to further renegotiate the terms of these multi-year supply agreements, the Company may be forced to forfeit certain prepayment amounts and be subject to claims or other disputes which could materially and adversely affect the Company s results of operations, and financial position.

b) Litigation regarding the long-term supply contract with Hemlock

The Company entered into the Original Supply Agreement with Hemlock in March 2011 and the agreement is structured as fixed price and quantity take or pay arrangement from 2013 to 2020. Under the Original Supply Agreement, the Company is required to make the advance payments and purchase a contracted minimum volume of polysilicon at predetermined fixed prices and in accordance with a pre-determined schedule, commencing January 1, 2013. Due to significant decrease of silicon price in the market and uncertainties brought by high anti-dumping and anti-subsidy tariff imposed after the supply contract was signed, the Company believes performance of the contract is commercially unreasonable and therefore, it did not make full advance payment and accept any delivery in 2013, 2014 and 2015. Although the Company was in the process of renegotiating with Hemlock and no written agreement had been reached as of December 31, 2014 and 2015, both parties continued to constructively dialogue to find a mutually satisfactory solution. In this regard, the Company, while concluding as noted above that accrual for the minimum purchases was not required, did accrue interest for the late payment according to the Original Supply Agreement term based on the fact that the Company did not order the minimum purchase and accept delivery and the Company did not make full advance payments as required. On March 31, 2015, Hemlock gave notice to the Company to terminate the Original Supply Agreement with immediate effect. Hemlock stated that the reason for the termination was an alleged breach of the supply contract by the Company and demanded that the Company pay US$921 million, which comprised of the remaining advance prepayments, take-or-pay for the period from 2013 to 2020 and the financial penalty for the late payments till March 31, 2015. After the notice was received, management had several runs of negotiation with Hemlock. Due to the fact that no written agreement has been reached as of December 31, 2015, the Company continued to assess whether there would be loss on firm purchase commitments under Original Supply Agreement by applying a methodology similar to that used in the lower of cost or market evaluation with respect to inventory, and concluded that no loss provision under the Original Supply Agreement with Hemlock is required as of December 31, 2015 (Refer to Note 7 Inventory). As of December 31, 2015, full provision with the amount of RMB 63,331 (US$10.35 million) was provided against the prepayment balance to Hemlock under the long-term supply contract, and a total interest for late payment with the amount of RMB 303,380 was accrued as of December 31, 2015.

On April 18, 2016, the Company was served with court papers for a lawsuit brought by Hemlock against JA Yangzhou in the Supreme Court of the State of New York on January 20, 2015. Hemlock claimed damages in an amount to be proved at trial, of not less than US$921 million. After the court papers were received, the Company accelerated the negotiation with Hemlock and signed the Settlement Agreement and the New Supply Agreement with Hemlock in October 2016. According to the Settlement Agreement, Hemlock agrees not to commence any civil action against the Company in relation to the Original Supply Agreement signed in March 2011 unless the Company breaches the New Supply Agreement. Under the New Supply Agreement, the Company is required to purchase a certain amount of solar grade polycrystalline silicon products from Hemlock per quarter until October 31, 2026. After detailed assessment, the Company expects to fulfill the obligation under the New Supply Agreement. Thus, no contingent liability has been recorded as of December 31, 2016 and the total amount of accrued late payment interest of RMB 303,380 was reversed for the year ended December 31, 2016. During the year ended December 31, 2017, the Company continues to fulfill the purchase obligation under the New Supply Agreement.

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JA SOLAR HOLDINGS CO., LTD.

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26. Commitments and Contingencies (continued)

c) Operating lease commitments

As of December 31, 2017, the Company has several operating lease agreements to lease certain assets, including offices, dormitory and land. These non-cancelable operating leases expire from February 2018 to December 2021, with rental fees that approximates market rents.

Future minimum obligations for operating leases are as follows:

	(in RMB)
2018	73,275
2019	43,145
2020	1,929
2021	510
Total	118,859

Rent expense under all operating leases was RMB 74,275, RMB 78,255 and RMB 79,453, for the years ended December 31, 2015, 2016 and 2017, respectively.

d) Capital expenditure

As of December 31, 2017, the Company had contracted for capital expenditure on machinery and equipment of RMB 1,640,260.

27. Fair value measurements

ASC 820 establishes a hierarchy for inputs used in measuring fair value that maximizes the use of observable inputs and minimizes the use of unobservable inputs by requiring that the observable inputs be used when available. Observable inputs are inputs that market participants would use in pricing the asset or liability developed based on market data obtained from sources independent of the Company. Unobservable inputs are inputs that reflect the Company s assumptions about the assumptions market participants would use in pricing the asset or liability developed based on the best information available in the circumstances. As such, fair value is a market-based measure considered from the perspective of a market participant who holds the asset or owes the liability rather than an entity-specific measure. The hierarchy is broken down into three levels based on the reliability of inputs as follows:

- Level 1 Valuations based on quoted prices in active markets for identical assets or liabilities that the Company has the ability to access.

- Level 2 Valuations based on quoted prices in markets that are not active or for which all significant inputs are observable, directly or indirectly.

- Level 3 Valuations based on inputs that are unobservable and significant to the overall fair value measurement.

When available, the Company uses quoted market prices to determine the fair value of an asset or liability. If quoted market prices are not available, the Company will measure fair value using valuation techniques that use, when possible, current market-based or independently sourced market parameters, such as interest rates and currency rates. Following is a description of the valuation techniques that the Company uses to measure the fair value of assets and liabilities that the Company measures and reports on its balance sheet at fair value on a recurring basis.

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JA SOLAR HOLDINGS CO., LTD.

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27. Fair value measurements (continued)

Short-term financial instruments: The Company s short-term financial instruments consist of cash and cash equivalents, restricted cash, accounts receivable and payable, notes receivable, short-term borrowings, and accrued expenses. The cost approximates the fair value because of the short maturity period.

Long-term borrowings: The fair value is based on the amount of future cash flows associated with each debt instrument discounted at the Company s current borrowing rate for similar debt instruments of comparable terms. The carrying values of the long-term borrowings approximate their fair values as all the long-term borrowings carries variable interest rates which approximate rates currently offered by the Company s bankers for similar debt instruments of comparable maturities.

Derivative assets and liabilities: The Company s derivative assets and liabilities consist of embedded foreign currency derivatives in the Company s sales and purchase contracts denominated in currencies other than Renminbi or the functional currency of the counterparty, the capped call transactions denominated in USD, embedded derivatives underlying convertible notes, foreign currency forward contract instruments and warrants derivatives . Since its capped call transactions, embedded derivatives underlying convertible notes and warrants derivatives are not traded on an exchange, they are valued using valuation models. Management is responsible for determining these fair values and considered a number of factors including valuations. The capped call transactions are valued using the Black Scholes Option Pricing Model. The embedded derivatives underlying convertible notes and warrants derivatives are bifurcated using the with or without approach. As there are interrelationships among the embedded derivatives, they are valued using a Monte Carlo simulation. Interest rate yield curves, foreign exchange rates, stock price, volatility, expected term, risk-free rate and fundamental change event probabilities are the significant inputs into these valuation models. The inputs used in the valuation of the capped call transactions are observable in active markets over the terms of the instruments the Company holds, and accordingly, the Company classifies these valuation techniques as Level 2 in the hierarchy. In regards to the embedded derivatives underlying convertible notes and warrants derivatives, fair value was determined using a with and without approach which was based on both Level 2 and Level 3 inputs. The Company determined that the Level 3 input, that is the fundamental change event probabilities, is significant to the overall fair value measurement. The Company considered the effect of its own credit standing and that of its counterparties in its valuations of its derivative financial instruments. The Company entered into foreign currency forward contracts that are designated as cash flow hedges of exchange rate risk related to forecasted foreign currency denominated sales. The Company s financial instrument counterparties are high-quality commercial banks with significant experience with such instruments. Fair values of the Company s forward contracts are determined using significant other observable inputs (Level 2 fair value measurements), and are based on the present value of expected future cash flows considering the risks involved and using discount rates appropriate for the duration of the contracts.

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27. Fair value measurements (continued)

Recurring change in fair value

As of December 31, 2016 and 2017, there is no asset and liability that are measured at fair value on a recurring basis in periods subsequent to their initial recognition.

Assets and liabilities measured at fair value on a recurring basis using significant unobservable inputs (Level 3 valuation)

A summary of changes in Level 3 warrant derivatives for the year ended December 31, 2016 was as follows:

Balance at December 31, 2015	(71,237)
Unrealized gain included in change in fair value of warrant derivatives	70,882
Exchange loss	355
Balance at December 31, 2016	

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27. Fair value measurements (continued)

Change in fair value of derivatives

The Change in fair value of derivatives recognized in earnings, excluding embedded derivatives underlying convertible notes repurchased which are recognized in buyback gain, was as follows:

	For the year ended December 31, 2015	For the year ended December 31, 2016	For the year ended December 31, 2017
Derivatives liabilities - warrants	39,593	70,882	
Foreign exchange forward contracts not designated as hedging instruments	4,440	(22,037)	(2,270)
	44,033	48,845	(2,270)

28. Segment information and operations by geographic area

In accordance with FASB ASC 280-010-50-22, the Company considers the financial information reviewed by our CODM or otherwise regularly provided to the CODM, to identify its operating segment and the measures of profit or loss and total assets for each segment. The specific items or accounts included in the measure of segment profit or loss reviewed by our CODM or are otherwise regularly provided to the CODM are: revenue from external customer, intersegment revenue, gross profit/(loss), interest income and expenses, and income/(loss) before income taxes.

The basis of accounting for recording revenue from external customer, intersegment sales and corresponding cost of revenues, interest income and expenses, and income/(loss) before income taxes is in conformity with the accounting policies used in the consolidated financial statements, and such segment financial information is prepared and disclosed in accordance with aforementioned accounting basis, is on the same basis by which the Company reports internally to its CODM.

The intersegment revenues from the sale of solar modules from manufacturing segment to solar projects segment were recorded based on amounts charged to the solar projects segment, which are generally determined using fair market price charged to independent third party customers. The corresponding cost of revenues related to intersegment revenues is recorded based on the actual costs of revenues incurred by the solar product manufacturing segment.

The Company s operating segments have certain of their own dedicated administrative and corporate key functions, such as accounting, administration, procurements, marketing and human resource. Costs for these functions are recorded and included in the respective selling, general and administrative costs for each of our segment.

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28. Segment information and operations by geographic area (continued)

The CODM operates and manages the business by two segments manufacturing segment and solar projects segment. The following table set forth the results of operations of the segments and reconciliation with consolidated results of operations for the years ended December 31, 2015, 2016 and 2017:

	Year Ended December 31, 2017 RMB			
	Manufacturing	**Solar projects**	**Elimination***	**Total**
Revenues third parties	19,255,477	403,976		19,659,453
Revenues intersegment	393,192		(393,192)	
Gross profit third parties	2,146,850	262,461		2,409,311
Gross profit intersegment	55,536		(55,536)	
Depreciation, depletion, and amortization expense	(937,648)	(106,437)		(1,044,085)
Interest expense	(229,624)	(94,790)		(324,414)
Interest income	16,960	359		17,319
Income before income taxes	330,370	123,761	(55,536)	398,595
Total assets	17,261,859	4,480,987	(911,004)	20,831,842

	Year Ended December 31, 2016 RMB			
	Manufacturing	**Solar projects**	**Elimination***	**Total**
Revenues third parties	15,580,576	156,300		15,736,876
Revenues intersegment	974,835		(974,835)	
Gross profit third parties	2,225,215	68,326		2,293,541
Gross profit intersegment	213,663		(213,663)	
Depreciation, depletion, and amortization expense	(837,842)	(74,857)		(912,699)
Interest expense	(215,675)	(68,659)		(284,334)
Interest income	18,509	341		18,850
Income/(loss) before income taxes	1,106,227	(49,653)	(213,663)	842,911
Total assets	16,421,270	3,633,553	(1,023,567)	19,031,256

	Year Ended December 31, 2015 RMB			
	Manufacturing	**Solar projects**	**Elimination***	**Total**
Revenues third parties	13,461,181	64,226		13,525,407
Revenues intersegment	263,332		(263,332)	

Gross profit third parties	2,258,099	34,490		2,292,589
Gross profit intersegment	59,599		(59,599)	
Depreciation, depletion, and amortization expense	(771,986)	(25,685)		(797,671)
Interest expense	(218,759)	(30,623)		(249,382)
Interest income	25,321	250		25,571
Income/(loss) before income taxes	880,393	(48,992)	(59,599)	771,802
Total assets	15,318,101	1,277,414	(289,612)	16,305,903

*Elimination refers to (1) the elimination of revenue and profit from the sale of solar modules from manufacturing segment to solar project segment; (2) the elimination of unsettled receivables from manufacturing segment and unsettled payables from solar projects segment resulting from the above sales of solar modules.

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28. Segment information and operations by geographic area (continued)

The following table summarizes the Company s net revenues generated from different geographic locations:

	Year Ended December 31,		
	2015 RMB	2016 RMB	2017 RMB
China	5,819,828	8,080,921	9,532,955
Outside China:			
Japan	2,437,507	1,401,243	1,539,935
Rest of the world	5,268,072	6,254,712	8,586,563
Total outside China	7,705,579	7,655,955	10,126,498
Total net revenue	13,525,407	15,736,876	19,659,453

The Company s long-lived fixed assets with an amount of RMB 839,932 were located in Malaysia, and the rest are substantially located in China.

29. Certain risks and uncertainties

a) Major customers

For the years ended December 31, 2015, 2016 and 2017, there is one customer located in Japan accounting for 12.5%, 4.0% and 2.6% of total revenue, respectively. For the year ended December 31, 2017, there is one customer located in the United States accounting for 7.2% of total revenue.

Accounts receivable from the 3 customers with the largest receivable balances represents 20% and 14.1% of the balance of accounts receivable at December 31, 2016 and 2017, respectively. As of December 31, 2017, the largest outstanding account receivable balance accounted for 5.0% of total accounts receivable balance and no other customer occupied over 5% of total accounts receivable balance. The Company performs ongoing credit evaluations of its customers financial condition whenever deemed necessary and generally does not require collateral. The Company maintains an allowance for doubtful accounts based upon the expected collectability of all accounts receivable, which takes into consideration an analysis of historical bad debts, specific customer creditworthiness and current economic trends.

b) Concentrations of credit risk

Financial instruments that potentially subject the Company to significant concentrations of credit risk consist principally of cash and cash equivalent, accounts receivables and advances to suppliers.

The Company places its cash and cash equivalents with high quality financial institutions in the PRC, US, Hong Kong, Japan and Malaysia and limits the amount of credit risk from any single institution. China does not have an official deposit insurance program, nor does it have an agency similar to The Federal Deposit Insurance Corporation (FDIC) in the United States. However, the Company believes that the risk of failure of any of these PRC banks is remote. Bank failure is extremely uncommon in China and the Company believes that those Chinese banks that hold the Company s cash, cash equivalents and long-term time deposit are financially sound based on public available information.

The Company is also exposed to the credit and financial risks of its suppliers to which the Company made advances. The Company s financial condition and results of operations may be materially affected if the suppliers fail to meet their obligations of supplying silicon materials according to the contractually agreed schedules.

c) Foreign currency risk

The RMB is not a freely convertible currency. The PRC State Administration for Foreign Exchange, under the authority of the People s Bank of China, controls the conversion of RMB into foreign currencies. The value of the RMB is subject to changes in central government policies and to international economic and political developments affecting supply and demand in the PRC foreign exchange trading system market. The Company s aggregate amount of cash and cash equivalents denominated in RMB amounted to RMB 1,693,543 and RMB 1,455,692 as of December 31, 2016 and 2017, respectively.

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30. Ordinary shares

The holders of ordinary shares in the Company are entitled to one vote per share and to receive ratably such dividends, if any, as may be declared by the board of directors of the Company. In the event of liquidation, the holders of ordinary shares are entitled to share ratably in all assets remaining after payment of liabilities. The ordinary shares have no preemptive, conversion, or other subscription rights.

31. Share repurchase

On November 17, 2014, the board of directors of the Company approved US$90 million share repurchase program, which provided authorization to purchase up to US$90 million worth of our outstanding ADSs. During the year ended December 31, 2015, the Company repurchased 14,855,815 shares at a cost of US$22,441 (RMB 139,753). When the shares are repurchased for retirement, the excess of cost over par value is charged entirely to retained earnings/(accumulated deficit).

32. Subsequent events

The Company has performed an evaluation of subsequent events through the date the consolidated financial statements were issued.

33. Restricted net assets

Relevant PRC laws and regulations permit PRC companies to pay dividends only out of their retained earnings, if any, as determined in accordance with PRC accounting standards and regulations. Additionally, the Company s subsidiaries can only distribute dividends upon approval of the shareholders after they have met the PRC requirements for appropriation to statutory reserve. The statutory general reserve fund requires annual appropriations of 10% of net after-tax income should be set aside prior to payment of any dividends. As a result of these and other restrictions under PRC laws and regulations, the PRC subsidiaries and affiliates are restricted in their ability to transfer a portion of their net assets to the Company either in the form of dividends, loans or advances, which restricted portion amounted to approximately RMB 11,392,143 or 168.6% of the Company s total consolidated net assets as of December 31, 2017. Even though the Company currently does not require any such dividends, loans or advances from the PRC subsidiaries and affiliates for working capital and other funding purposes, the Company may in the future require additional cash resources from its PRC subsidiaries and affiliates due to changes in business conditions, to fund future acquisitions and developments, or merely declare and pay dividends to or distributions to the Company s shareholders, and if applicable, to the non-controlling interest.

34. Additional information condensed financial statements of the Company

The separate condensed financial statements of JA Solar Holdings Co., Ltd. as presented below have been prepared in accordance with Securities and Exchange Commission Regulation S-X Rule 5-04 and Rule 12-04 and present the Company s investments in its subsidiaries under the equity method of accounting as prescribed in ASC 323. Such investment is presented on the separate condensed balance sheets of the Company as Investments in subsidiaries . The condensed financial information of JA Solar Holdings Co., Ltd. has been presented for the period from January 1, 2015 to December 31, 2017.

The subsidiaries did not pay dividend to the Company for the period presented.

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Except as disclosed in the consolidated financial statements as presented above, the Company did not have any significant contingency, commitment, long-term obligation, or guarantee as of December 31, 2017.

	For the year ended December 31, 2015 RMB	For the year ended December 31, 2016 RMB	For the year ended December 31, 2017 RMB
Revenues			
Total operating expenses	(65,233)	(4,546)	(10,035)
Loss from operations	(65,233)	(4,546)	(10,035)
Change in fair value of derivatives	39,593	70,882	
Share of income from subsidiaries	509,243	449,078	476,865
Foreign exchange gain/(loss)	140,110	168,285	(166,705)
Income before income taxes	623,713	683,699	300,125
Net income	623,713	683,699	300,125
Net income attributable to JA Solar Holdings	623,713	683,699	300,125
Comprehensive income	588,675	639,182	304,362

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	December 31, 2016 RMB	December 31, 2017 RMB
ASSETS		
Current assets:		
Cash and cash equivalents	165	3,544
Total current assets	165	3,544
Investments in subsidiaries	3,274,607	3,755,765
Amount due from subsidiaries	3,313,761	3,038,249
Total assets	6,588,533	6,797,558
LIABILITIES AND SHAREHOLDERS EQUITY		
Current liabilities:		
Accrued and other liabilities	30,285	31,629
Total current liabilities	30,285	31,629
Long-term amount due to subsidiaries	97,118	
Total liabilities	127,403	31,629
Commitments and Contingencies		
Shareholders equity：		
Ordinary shares(US$0.0001 par value; 500,000,000 shares authorized, 237,853,602 and 237,926,352 shares issued and outstanding as of December 31, 2016 and December 31, 2017, respectively)	176	176
Additional paid-in capital	5,651,557	5,651,994
Retained earnings	877,866	1,177,991
Accumulated other comprehensive loss	(68,469)	(64,232)
Total shareholders equity	6,461,130	6,765,929
Total liabilities and shareholders equity	6,588,533	6,797,558

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	For the year ended December 31, 2015 RMB	For the year ended December 31, 2016 RMB	For the year ended December 31, 2017 RMB
Cash flows from operating activities:			
Net Income	623,713	683,699	300,125
Adjustments to reconcile net loss to net cash used in operating activities:			
Share-based compensation expense	3,681	420	301
Share of income from subsidiaries	(509,243)	(449,078)	(476,865)
Change in the fair value of derivatives	(39,593)	(70,882)	
Exchange (gain)/loss	(150,686)	(168,270)	159,499
Changes in operating assets and liabilities:			
Decrease in other current assets	2,257		
(Decrease)/increase in other payables to subsidiaries and employees	10	(6,374)	49
Increase in accrued and other liabilities	18,690	141	1,295
Net cash used in operating activities	(51,171)	(10,344)	(15,596)
Cash flows from investing activities:			
Loans repayment by subsidiaries	37,206	9,416	751,908
Loans provided to subsidiaries			(640,988)
Net cash provided by investing activities	37,206	9,416	110,920
Cash flows from financing activities:			
Proceeds from exercise of stock options	1,196		
Proceeds from short-term loan from subsidiaries	125,050		
Repurchase of ADS	(139,753)		
Repayment of long-term loan from subsidiaries	(1,583)		(96,023)
Net cash used in financing activities	(15,090)		(96,023)
Effect of exchange rate changes on cash and cash equivalents	902	23	4,078
Net decrease in cash and cash equivalents	(28,153)	(905)	3,379
Cash and cash equivalents at the beginning of the year	29,223	1,070	165
Cash and cash equivalents at the end of the year	1,070	165	3,544