# Vertical Integration to Reach Grid Parity

Mar, 2014



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### **Company Overview**

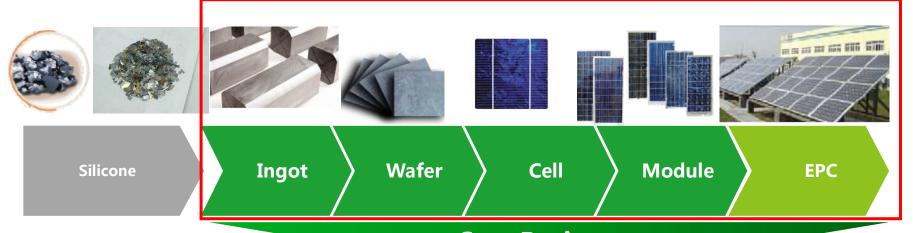


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- Vision & Mission
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#### Introduction





#### **Core Business**

#### **Company Overview**

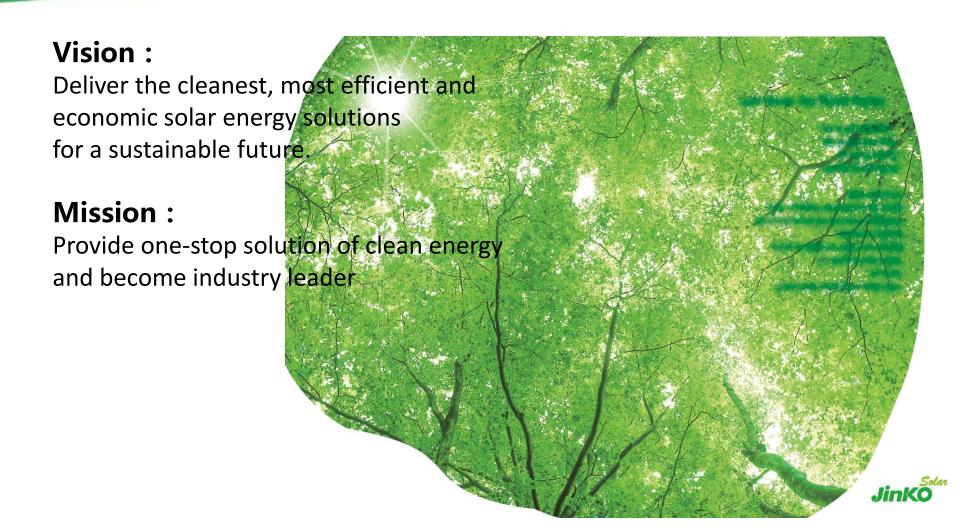
**Market Value** 

**Industry Leader** 

- Listed in NYSE: May.2010 (NYSE: JKS)
- Company Scale: integrate the whole industrial chain vertically, reach
   2.0GW capacity in 2013
- 14 sales offices, 10,000 employees worldwide
- 1 Billion dollars exports, one of the top 500 Chinese Companies
- The 5<sup>th</sup> largest crystalline module manufacturer globally
- 2<sup>nd</sup> in the Photon Module Test
- 4<sup>th</sup> in the PWC's PV Sustainable Growth Index
- Tier 1 Global PV Company rated by Bloomberg Finance, 65 Banks worldwide provide project loan

### **Vision & Mission**





### Milestones











San Francisco 49ers,

**Germany DFB stadium** 

Sponsorship of Valencia C. F.,



- Jinko Solar Co., Ltd.
- established



2007

2009

 German Office & USA Office Launched

Successful IPO and listed in NYSE

2010

2011

2012

2013

• Launching ingot manufacturing

- Acquiring Sun Valley (cell & module manufacturer)
- Operating the 1st fully automated PV module NPC production line in China
- \* Reaching 1 GW Capacity
- Swiss & French & Italy Office launched **Beijing Office launched**

Japan Office Launched





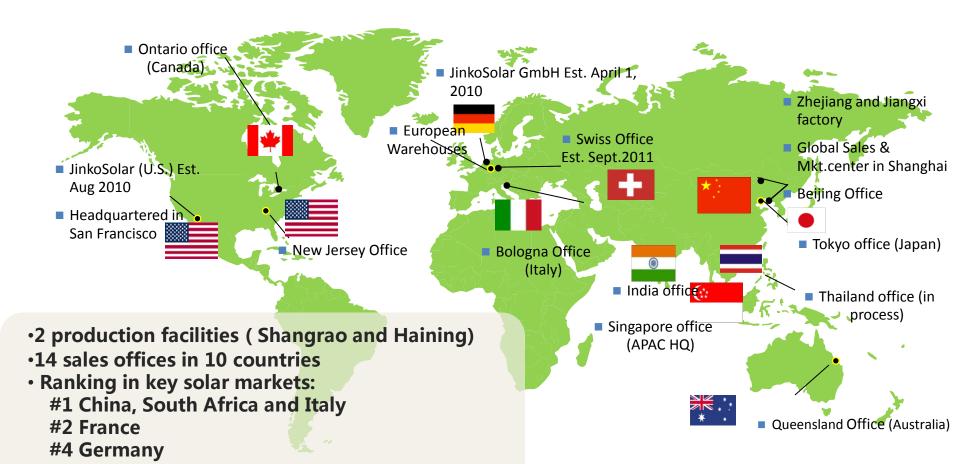






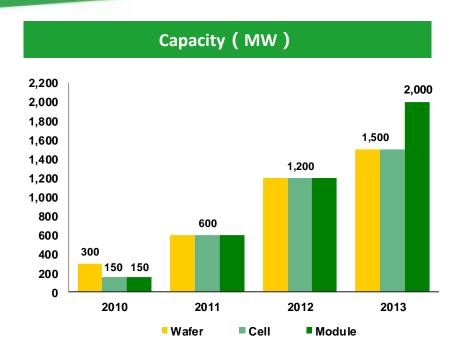
### **Worldwide Marketing Network**

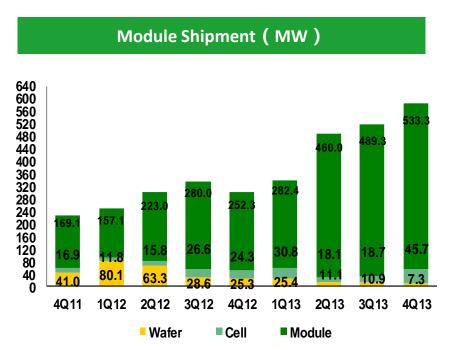




### **Capacity and Shipment**





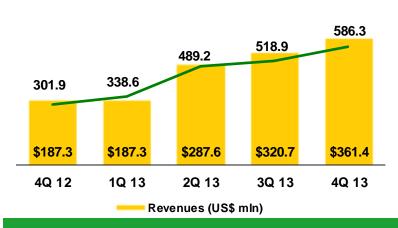


- As of Dec 31, 2013, the Company's in-house annual silicon wafer, solar cell and solar module production capacity was approximately 1,500MW, 1,500MW and 2,000 MW separately.
- > Total solar product shipments in the fourth quarter of 2013 were 586.3 MW, up 13% QoQ.
- Q4 solar module shipments were 533.3 MW, up 8.99% QoQ.

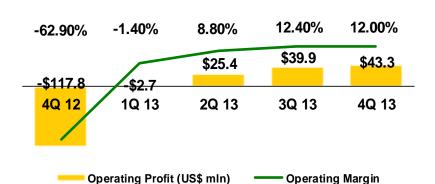
### **Quarterly Financial Highlights**



#### **Quarterly Total Revenue and Shipments**



#### **Operating Profit and Operating Margin**



#### **Gross Profit and Gross Margin** 24.7% 22.3% \$89.3 17.7% \$71.5 \$50.8 3.8% \$23.7 \$7.1 4Q 12 1Q 13 2Q 13 3Q 13 4Q 13 Gross Profit (US\$ mln) Gross Margin

#### Net Income/Loss, Net Margin and Diluted EPS

-65.21%	-11.10%	2.80%	5.30%	7.50%
		\$8.0	\$16.9	\$27.1
4Q 12 -\$122.2	1Q 13 -\$20.7	2Q 13	3Q 13	4Q 13
(\$5.51)	(\$0.92)	\$0.36	\$0.72	\$0.96
Ne	et Income —	- Net Margin	— Dilute	ed EPS

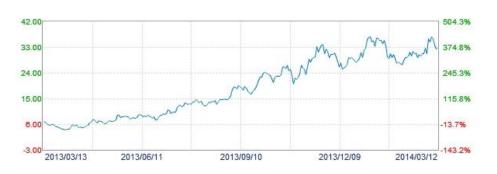
#### **Best Practice and Sustainable Growth**



#### Industry Average Gross Margin(Q1/11- Q2/13)



#### JKS Performance in Stock Market (Mar 2013- Mar 2014)



#### **Gross margin Comparison of Tier 1 Players**

	2013 Q4	2013 Q3	2013 Q2	2013 Q1
Jinko	24.7%	22.3%	17.7%	12.7%
Canadian Solar	19.5%	20.4%	12.8%	9.7%
Yingli		13.7%	11.8%	4.1%
Hanwha		5.1%	5.5%	2.6%
Trina	15.1%	15.2%	11.6%	1.7%

#### **Highlights**

- ➤ The ONLY company among the 11 listed PV Companies with NET PROFITs in 2011.
- Leading in gross margin each quarter in 2012
- > The first company back to net profit after downturn in Q2 2013, with gross margin up to 20.3% in 2013
- Top 4 in Sustainability- according to PWC 2012 PV Sustainable growth Index

#### **Awards**















- Advanced Employment-The only one PV Company Awarded by China State Council
- The Most Promising Company-China Energy Newspaper
- The Most Sustainable Development of PV Company-PWC
- 2012 China Public Service Award
- 2012 China New Energy Leading Brand-China Low-carbon Association
- Top 100 Asia Developing Brand-Asia brand Association
- Awarded "Carbon-Value Social Citizen "
- Awarded "2013 Green Fortune Top 100 Chinese Enterprises
- Awarded "2013 the Asian Well-known Brand"





### **Products & Services**



- Technologies & Products
- Research & Development
- Quality & Certification
- Logistics Security
- Projects
- Partners

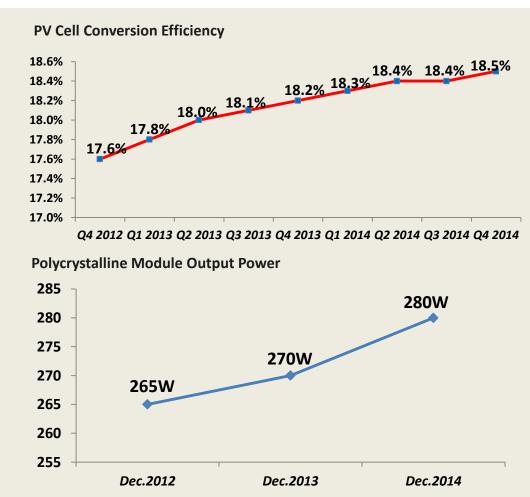




### **Polysilicon Technology Roadmap**







Source: Company estimates.

(1) Indicates efficiency of best performing cell in production.

### **Product Lines**





#### **Monocrystalline Module**

Power	195W	200W	205W	210W	255W	260W	305W	310W
Efficiency	15.3%	15.7%	16.1%	16.5%	15.6%	15.9%	15.7%	16.0%
No. of cells	72 cell			60 cell 72 c		cell		
Cell Dimensions	125mm x 125mm			156mm x 156mm				

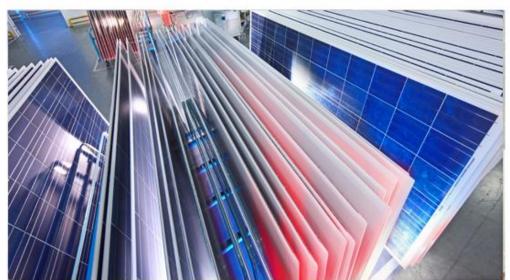


#### **Polycrystalline Module (Eagle Series)**

Power	250W	255W	260W	270W (Eagle II)	300W	305W	310W
Efficiency	15.3%	15.6%	16.0%	16.45%	15.5%	15.7%	16.0%
No. of cells	60 cell				72 cell		
Cell Dimensions	156mm x 156mm			1	56mm x 156mr	n	

### **Key Features**



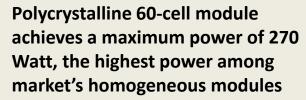














Launched world's first double 85 (under 85°C/85% RH)certified PID Free module



Passing anti ammonia, anti salt mist, anti dust tests, withstanding high loads (5400Pa)



The 1<sup>st</sup> Chinese module manufacturer passing dynamic mechanical load test



**Excellent low light performance** 

### **Installation System**

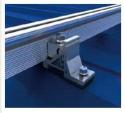






**Roof-mounted Installation System** 

**Ground-mounted Installation System** 





















#### R&D



- Prominent R & D Team with around 200 R & D personnel holding Doctor/Master degrees driving significant product improvements
- Using Dupont's advanced materials and Jinko's QUANTUM, SEAPHON technology to produce high-efficiency and low-cost solar cells
- Pseudo-mono technology and optimized poly wafer processing technology producing higher efficiency modules
- Cooperating with global universities and research institutions, developing the latest technology
- Own several core technology patents on
- Own several core technology patents on ingot, slice, cell and modules
- Continuous R&D investment, put focus on human resource and encourage innovation







#### **Wafer Production**









- Launched wafer manufacturing in 2006
- 1.5 GW wafer production capacity in 2013
- Imported the world's leading silicon processing facilities covering:
  - \*Ingot Casting (GT Solar)

<sup>\*</sup>Cutting & Slicing (NTC Komatsu)

#### **Cell Production**









- 1.5 GW cell production capacity in 2013
- The most advanced and state-of-the-art fully automation facilities, production line upgrade
  - \* Automatic wafer loading/uploading system (Jonas Redmann, Fortix)
  - \* Silicone ink processing machines (Dupont Innovalight)
  - \* Texturing & Acid Etching(Rena)
  - \* Diffusion (Tempress)
  - \* PECVD (Roth& Rau, Centrotherm)
  - \* Screen Printing(Baccini)
  - \* Sintering (TPS)
  - \* Testing & Sorting(Baccini Berg, h.a.l.m.)

#### **Module Production**









- 2.0 GW module production capacity in 2013
- The most advanced and state-of-the-art production line, consisting of,
  - \* Fully automated module assembling(NPC Japan)
  - \* Robotics (ABB)
  - \* The world's advanced flash testing (Berger)
  - \* 100% EL test before and after lamination

### **Quality Control System**











#### ■ EMS- Electronic Management System

- 16 in-line quality control points in module workshop
- Precise data-recording & supervision for all the manufacturing QC points

#### Product Traceability Control

- Tracking card with unique barcodes tracing from module back to ingot
- Long term data accessibility



## **UL Witness Test Data Program Certified Lab**







- · Power Determination Test
- Cut Susceptibility Test
- Pull Test
- Humidity-Freeze Test
- Hot Spot Test
- Impact Test
- Wet Leakage Current Test
- Insulation Test
- Reverse Current Overload Test
- UL Preconditioning Test
- Thermal Cycling Test
- Mechanical Load Test
- Ground Continuity Test
- Water Spray Test
- Initial Degradation Test
- Push Test
- Junction Box Robustness Test

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### **Performance Test**















### **Reliability Test**













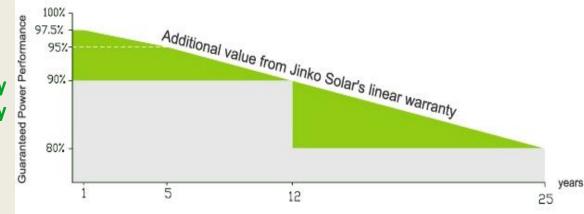
### **Premium Warranty**





#### PowerGuard provides quality assurance

- •25-year 80% power output warranty
- •12-year 90% power output warranty
- •10-year material & workmanship warranty
- Positive Tolerance Service



























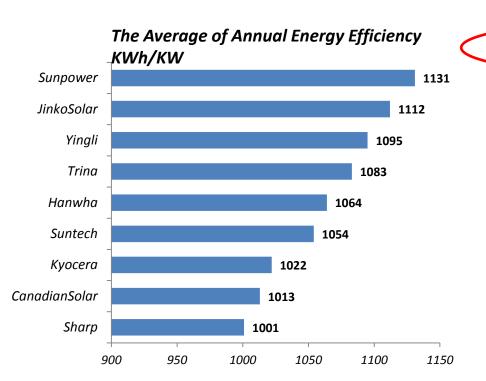
# Photon Laboratory Global Ranking of Components





#### Rank 2

According to 2012Photon Laboratory outdoor test



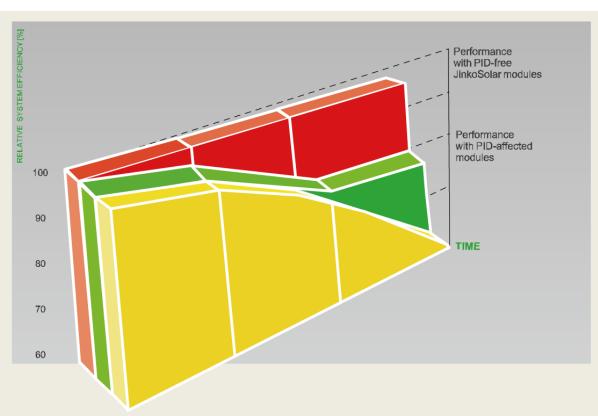
#### PHOTON Lab's outdoor module test: Results of 2012 yield measurements

Manufacturer	Model	Performance ratio	Yield in kWh/kW
SunPower	SPR-327NE-WHT-D	95.2%	1,144.1
	SPR-320NE-WHT-D	94.9%	1,140.1
	SPR-245NE-WHT-D	94.8%	1,139.4
Jinko Solar	JKM190M-72	92.5%	1,112.2
	JKM235P-60	92.5%	1,1114
Yingli Green Solar	YL240p-29b	93.1%	1,116.7
	YL210p-29b	89.3%	1,072.8
Trina Solar	TSM-180DC01	90.1%	1,083.2
Trinia Colai	TSM-225PC05	90.1%	1,083.1
	SF160-24-1M175(scac)	89.5%	1,075.6
Hanwha SolarOne*9	SF160-24-1M180	88.7%	1,066.4
	SF160M5-24(175W)* <sup>2</sup>	87.4%	1,050.0
Suntech Power	STP205-18/Ud	89.3%	1,073.1
Suntech Power	STP190-18/Ub* <sup>2</sup>	86.1%	1,034.8
	NU-185E1	87.5%	1,052.1
Sharp	NT-R5E3E*2	79.0%	949.2
Kyocera	KD210GH-2PU	87.2%	1,048.5
1.youra	KD170GT-2*2	83.0%	997.1
Canadian Solar	CS4A-170P	84.3%	2 <sup>1</sup> ,013.4

### PID Free (Potential Induced Degradation)







World first company pass PID Free test under 85 °C/85% RH.

### **Our Certification**



























ISO 9001:2008

**Anti-Ammonia** 

### **Regional Logistic Center**



Logistic Centers is located all over five continents, as well as the freight partner to construct smooth logistic network.





### **Projects**





### **Projects-Europe**





















### **Projects-America**





















# **Projects-Asia**





















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# **Projects-Oceania**, Africa





















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#### **Partners- Clients**











































### **Partners- Distributors**



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## **Sustainable Growth & Brand Building**



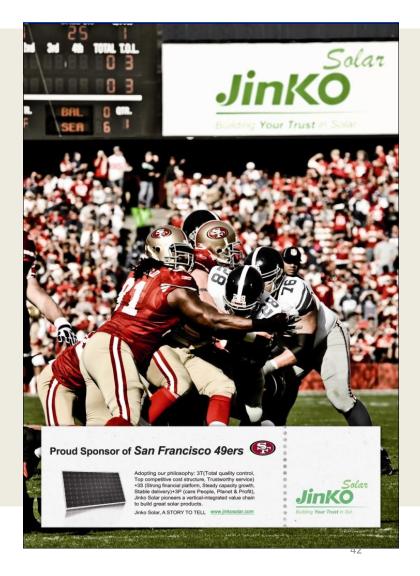
- Marketing & Branding
- CSR
- Corporate Culture



### **Sports Marketing**







# **Marketing Activities**











### **CSR**











### **CSR**









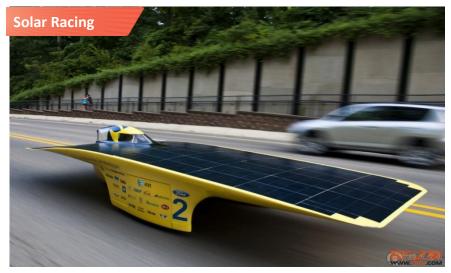


### **CSR**











### **Jinko Culture**





