Company Presentation

2019

Content

EGING PV

Content

EGING PV

Company Overview

About EGing

- Founded in 2003, in Changzhou, China
- 1 single manufacturing campus
- Listed on the Shanghai stock market (SH600537)
- 2 GW module production in 2016 (0.6GW capacity planning)
- $800 millions of revenue in 2015 (NP $36 millions)
- 2,700 employees worldwide

West campus

East campus

World's Most Advanced Fully Automated Module Line

Vertically Integrated Production Chain

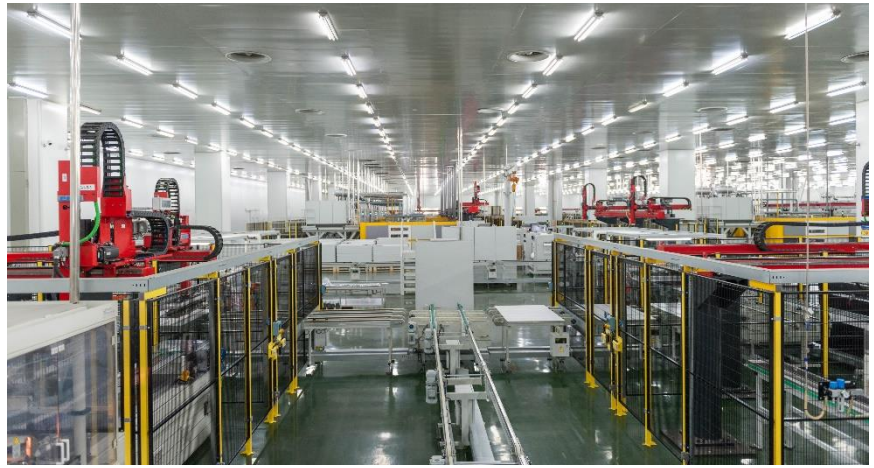
Content

EGING PV

Production

Fully automation

Equipped with the world’s Most Advanced Fully Automated Module Lines from Reis Robotics Germany



Module

Production

ertical integration

Integrated from ingot, wafer, cell to module with each annual capacity 2GW

Ingot

Wafer

Cell

Content

EGING PV

R&D

EGing PV has Strong R&D capabilities enabled it to obtain over 500 patents and remarkable achievements across the solar PV value chain

China National Accreditation Service for Conformity Assessment

LABORATORY ACCREDITATION CERTIFICATE

(Registration No. CNAS L5366)

Module Test Lab of

Changzhou EGing Photovoltaic Technology Co., Ltd.

No.18, Jinwu Road, Yaotang, Jintan, Jiangsu, China

is accredited to ISO/IEC 17025:2005 General Requirements for the Competence of Testing and Calibration Laboratories(CNAS-CL01 Accreditation Criteria for the Competence of Testing and Calibration Laboratories) for the competence of testing.

The scope of accreditation is detailed in the attached appendices bearing the same registration number as above. The appendices form an integral part of this certificate.

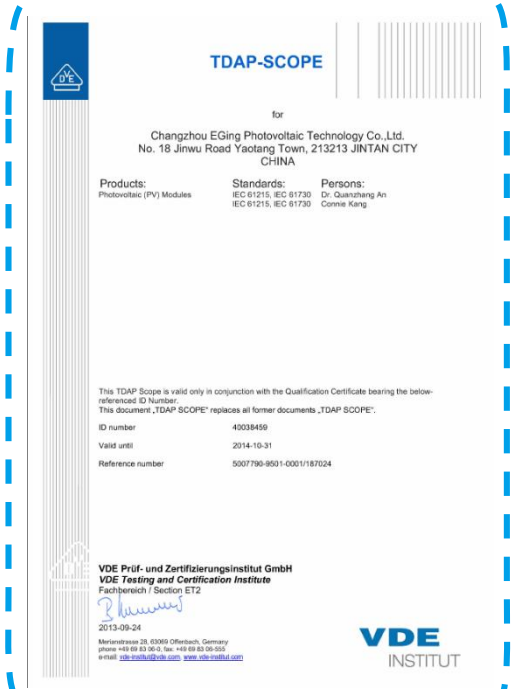
Date of Issue: 2011-12-15

Date of Expiry: 2014-12-14

Date of Initial Accreditation: 2011-12-15

Date of Update: 2011-12-15

Signed on behalf of China National Accreditation Service for Conformity Assessment



TDAP-SCOPE

for

Changzhou EGing Photovoltaic Technology Co.,Ltd.
No. 18 Jinwu Road Yaotang Town, 213213 JINTAN CITY
CHINA

Products:	Standards:	Persons:
Photovoltaic (PV) Modules	IEC 61215, IEC 61730 IEC 61215, IEC 61730	Dr. Quanzhang An Connie Kang

This TDAP Scope is valid only in conjunction with the Qualification Certificate bearing the below-referenced ID Number.
This document „TDAP SCOPE" replaces all former documents „TDAP SCOPE".

ID number	40038459
Valid until	2014-10-31
Reference number	5007790-9501-0001/187024

VDE Prüf- und Zertifizierungsinstitut GmbH
VDE Testing and Certification Institute
Fachbereich / Section ET2

2013-09-24

Merianstrasse 28, 63069 Offenbach, Germany
phone +49 69 83 06-0, fax: +49 69 83 06-555
e-mail: vde-institut@vde.com, www.vde-institut.com

VDE INSTITUT

Jiangsu EGing PV Engineering Research Academy was founded in 2006 with 300M RMB investment and covers 50,000 m^2 .

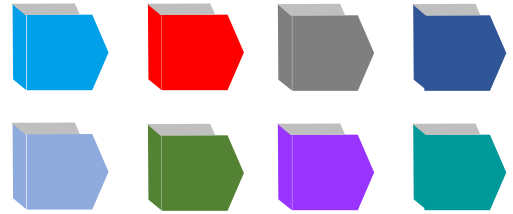
"International Technology Cooperation Base" awarded by Ministry of Science and Technology of the People's Republic of China

In-house VDE certified testing Laboratory

In-house CNAS certified testing Laboratory

Content

EGING PV



QUALITY CONTROL

Building Quality into all Aspects

EGing maintains one of the highest industrial standards for the design, performance, and workmanship of its solar products to ensure a reliable power supply of the PV system for well over 25 years

Every cell and module is subjected to at least 36 steps of the most stringent quality inspection procedures

Undergoes comprehensive in-house testing in the most advanced VDE certified testing lab for raw materials and modules

In-house tests extreme conditions such as tropical humidity, desert heat, coastal salt mist or agricultural ammonia enveloped atmosphere

Each module is subjected to 3 levels of EL test, after stringing, before and after laminating respectively to ensure free of micro-crack

Equipped with the world’s best inspection equipment from Europe such as stringer, laminator, flash tester, EL tester etc

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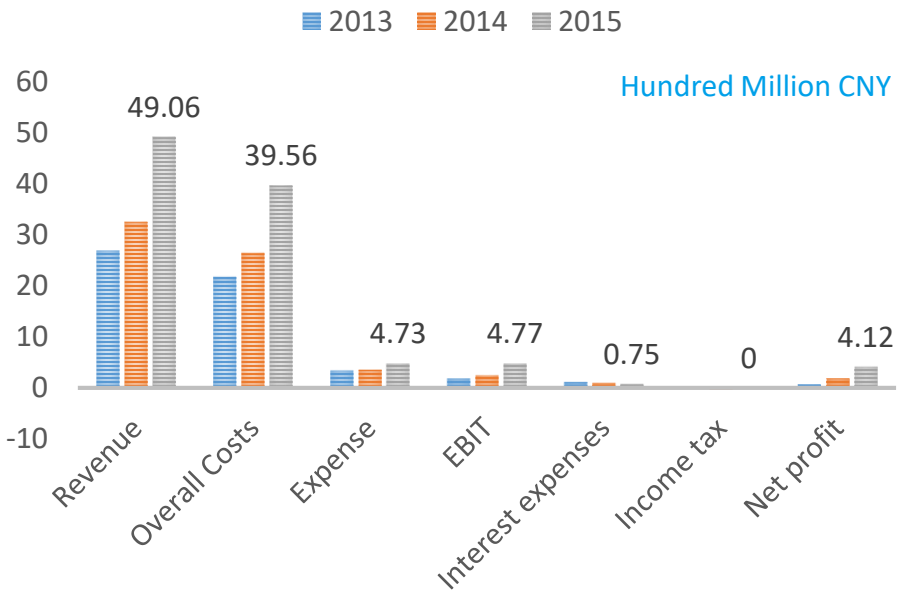
EGING PV

Company Overview

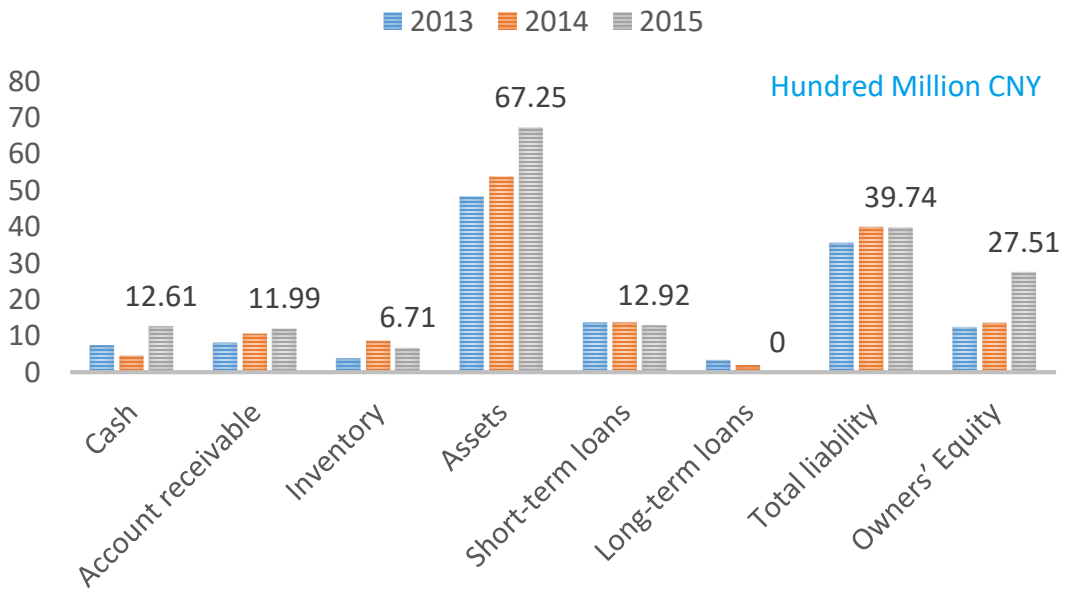
Finance

From the main indicators of income and balance sheet, EGing shows very strong increasing on sales and profit, and excellent debt-to-assets ratio

INCOME STATEMENT



BALANCE SHEET



Sources from BNEF

Company Overview

Finance

Altman-Z scores of selected solar companies, as of latest filing, February 2017. Eging was ranked the best.

- The Z-score formula may be used to predict the probability that a firm will go into bankruptcy within two years.
  A score below 1.8 means the company is probably headed for bankruptcy, while companies with scores above 3 are not likely to go bankrupt.
- From the chart, most of the solar companies are at the low zone

Sources from BNEF

Content

EGING PV

Products

Rainbow Cells

Mono, up to 21.8% efficiency

Poly, up to 20.8% efficiency

5BB-Design reduces cell series resistance and stress, improves the efficiency of modules

Application of double-printing technology to improves solderability

Excellent anti-PID performance

Lower Cell-To-Module loss

Technology Innovation

PERC 5BB

PERC+ BlackSilicon

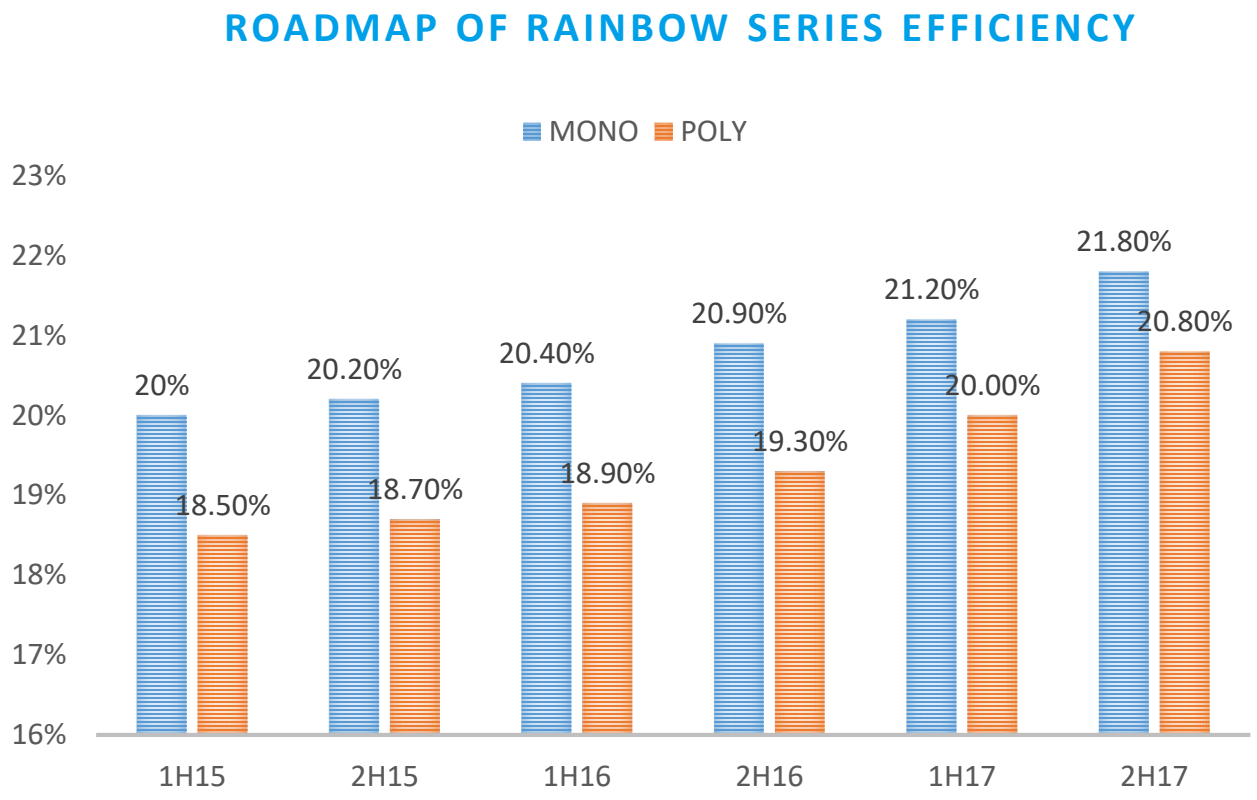
Coming soon the 12BB, Half-cell products in 3Q17

Products

Rainbow Cell Roadmap

In 2Q15 EGing launched the commercial production of Rainbow200 high efficiency module production, cell efficiency 20.0% and panel efficiency 17.4%.

The next generation Rainbow218 is coming now, 21.8% of cell efficiency for mono



Products

Standard Poly Modules

Poly 60 cell: 250-270wp

Poly 72 cell: 300-320wp

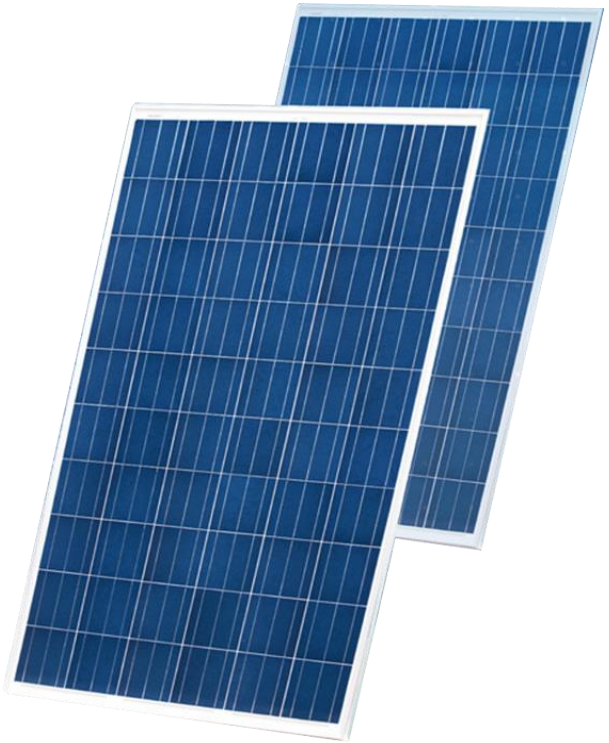
PID-Free

High Cost-performance

- BOM materials all comes from tier1 manufactures to ensure the quality
- 100% in-house cells are used to lower the cost and make the panels more uniform
- JV company with silver paste manufacturer in Japan and strategic relationship with DuPont
- Long-term contract of polysilicon to lower the silicon cost per watt

High Reliability

- Fully automated production facilities using state-of-the-art plant technology from Germany
- Three level electroluminescence (EL) tests guarantee fault-free modules
- Double-printing cell processing to Lower contact resistance and optimize soldered connections
- Excellent anti-PID performance



Products

Rainbow Poly Modules

Poly 60 cell: 275-285wp

Poly 72 cell: 325-340wp

Premium, 20W>industry average

High Efficiency

- Outstanding Cell efficiency 20.8%, Module 18.7%
- Approx. 10% more power output per unit, >20Wp per panel than industry average
- Reduction of land costs 8%, installation costs 6% and BOS cost 5%
- <2% annual power degradation, PID test achieve the best level [Class A]

High Reliability

- Fully automated production facilities using state-of-the-art plant technology from Germany
- Three level electroluminescence (EL) tests guarantee fault-free modules
- Double-printing cell processing to Lower contact resistance and optimize soldered connections
- Optimized low-light output performance

Products

Rainbow Mono Module

Mono 60 cell: 295-315wp

Mono 72 cell: 340-370wp

Premium, 20W>industry average

High Efficiency
Outstanding Cell efficiency 21.8%, Module 19.2%
Approx. 10% more power output per unit, >20Wp per panel than industry average
Reduction of land costs 10%, installation costs 9% and BOS cost 8%
<2% annual power degradation, PID test achieve the best level [Class A]

High Reliability
Fully automated production facilities using state-of-the-art plant technology from Germany
Three level electroluminescence (EL) tests guarantee fault-free modules
Double-printing cell processing to Lower contact resistance and optimize soldered connections
Optimized low-light output performance

Products

Certificates---product

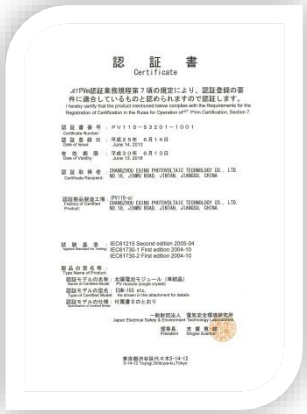
TUV

MCS

VDE

UL

CE



JET

CB

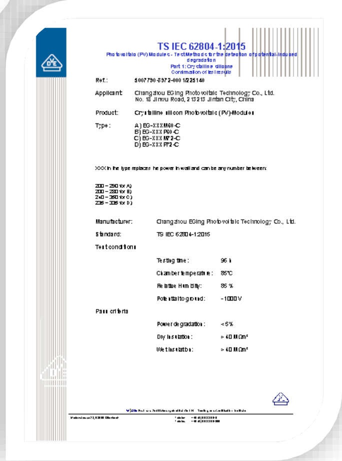
Products

Certificates---testing

VDE Lab

ROHS

Salt Mist



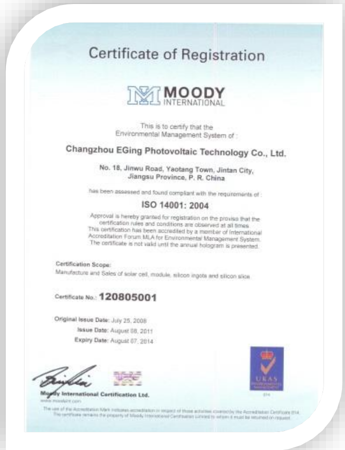
PID

Ammonia

Products

Certificates---management

OHSAS 18001



ISO14001:2004

ISO 9001:2008

IECQ

Products

Certificates---awards

Social Responsibility

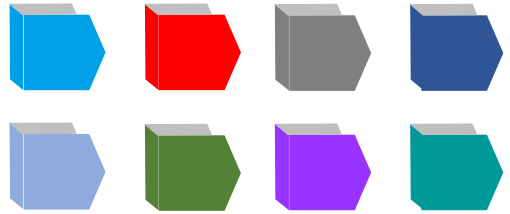
Technological Innovation

Products Reliability

Customers Services

Content

EGING PV



Project References

Global Footprint

Worldwide installation

10GW

*Data till 1Q11
wafer and cell shipments are excluded

Project References

Case Study

EGing is supplying both its premium and standard panels to the utility, commercial and residential applications, explore more about it at <EGing Project References>

100MW, China
Biggest fishery solar project in China
Commissioned in 3Q15

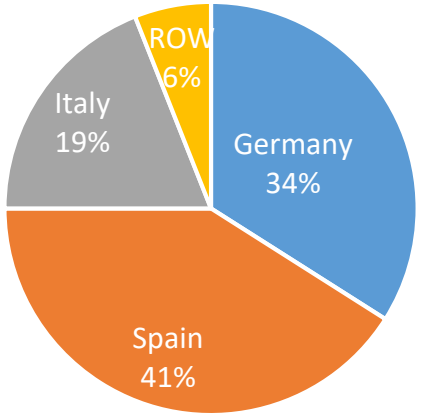
60MW, Denmark
Biggest solar project in Denmark
Commissioned in 1Q16

Download

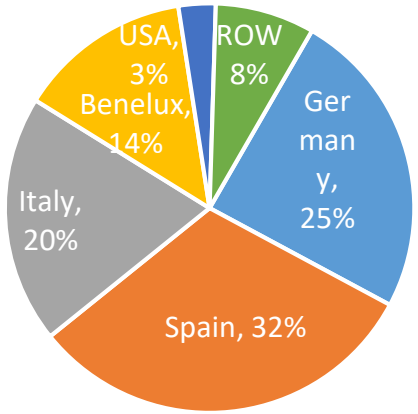
EGing Project References

PROJECTS

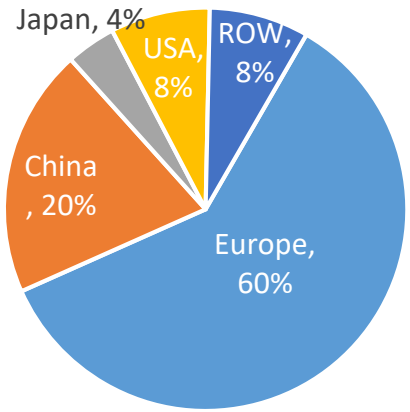
Geographic Diversification



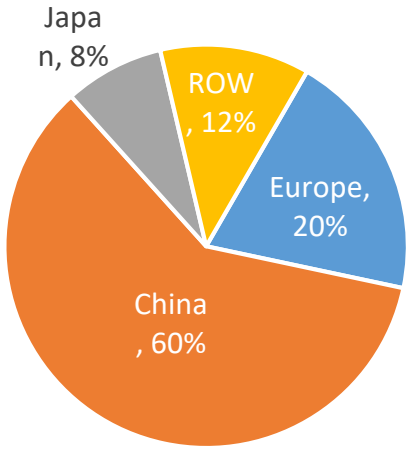
2011
400 MW



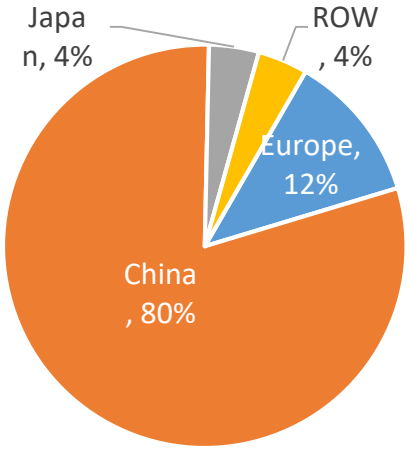
2012
600 MW



2013
800 MW



2014
1000 MW



2015
1500 MW

Module shipment since 2005, EU market dominated

JP market keep stable shipment since 2012

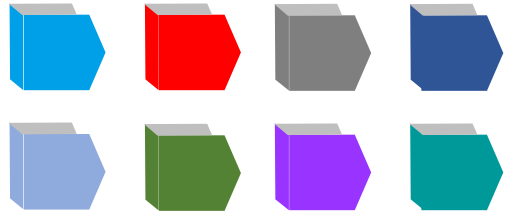
EU market declined since 2014, EGing still keep stable shipment about 200MW the MIP quota per year

EU market declined since 2014, EGing still keep stable shipment about 200MW the MIP quota per year

CN market keep solid position since 2013, Top5 panel supplier in domestics

Content

EGING PV



BANKABILITY

EGING PV

Tier 1 Bloomberg NEW ENERGY FINANCE

1. BNEF Tier1
2. Listed 2years continuous
3. White list in various banks

BRAND

EGING PV

1. China PV Brand Top10
2. Since FY12
3. Listed 4years continuous


EGING PV
Thank you!