



RENEWABLE ENERGY CORPORATION

THE WORLD'S MOST INTEGRATED SOLAR ENERGY COMPANY

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REC Group – a leading, global solar company



- Established in Norway 1996
- Vertically integrated with full ownership of all parts of the value chain: Polysilicon → wafers → cells → modules → systems
- Strong cost position and balance sheet
- Present in all key markets and segments
- Revenues of more than 956 million Euro in 2012
- Almost 2,300 employees, including over 800 in the US
- Headquarters Oslo, listed on the Oslo Stock Exchange (ticker: REC)



The world's most integrated solar company



- Full control throughout the value-chain → synergies, optimization, quality, flexibility
- A global and solid industry leader – in solar for the long run

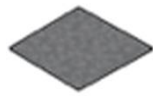
Polysilicon



Chemical process

Operations in USA

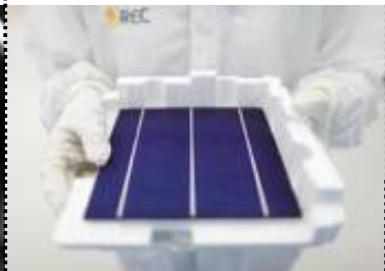
Wafer



Casting and cutting

Operations in Singapore

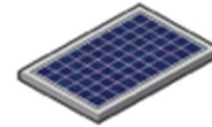
Cells



Surface treatment

Operations in Singapore

Modules



Assembly

Operations in Singapore

Systems



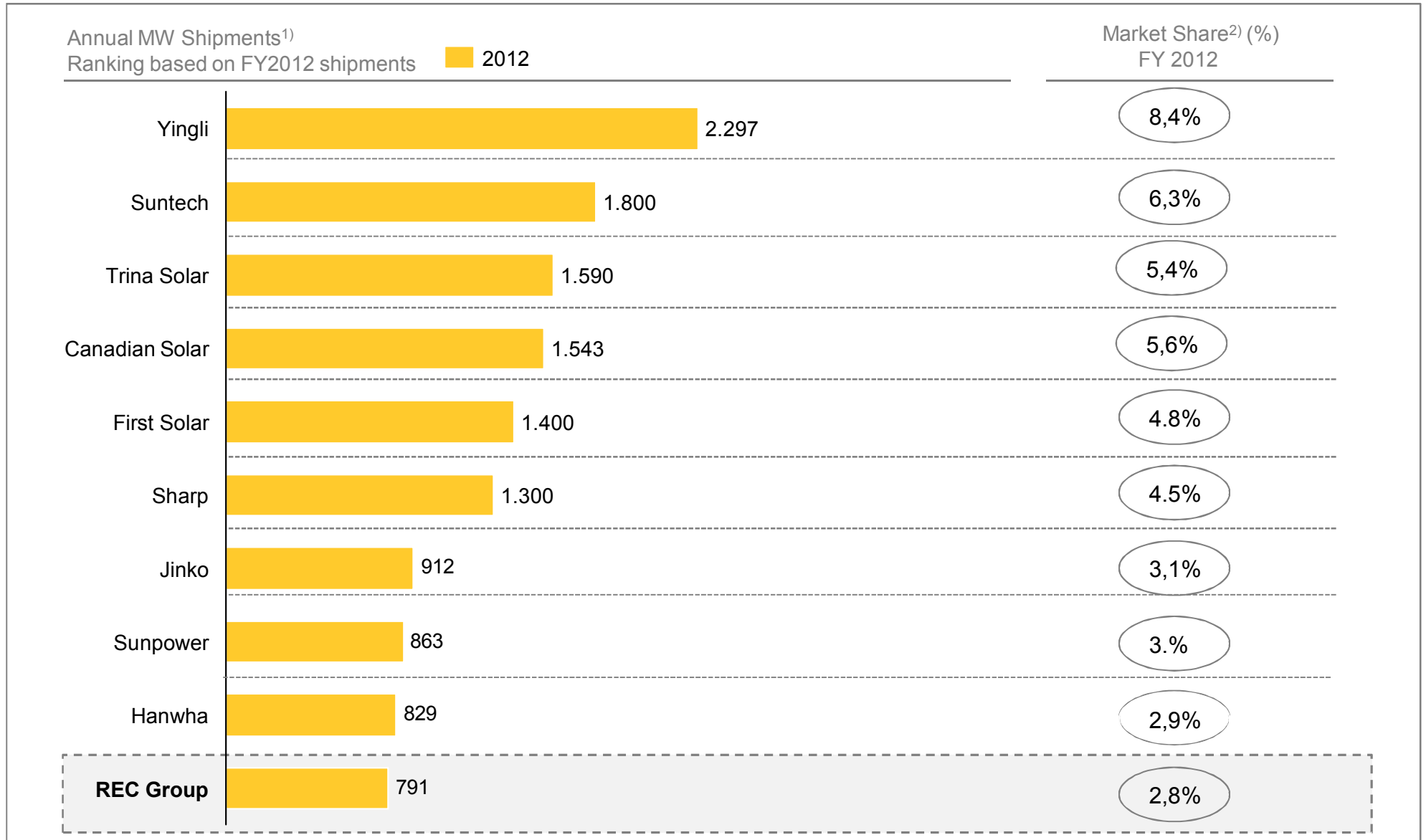
Project development, turnkey installations, financing

Operations in EMEA, USA, APAC

Global presence



4. REC is among the top 10 module suppliers



Notes: 1) Branded and OEM module shipments; 2) Total market:28.6GW
 Sources: Company reports

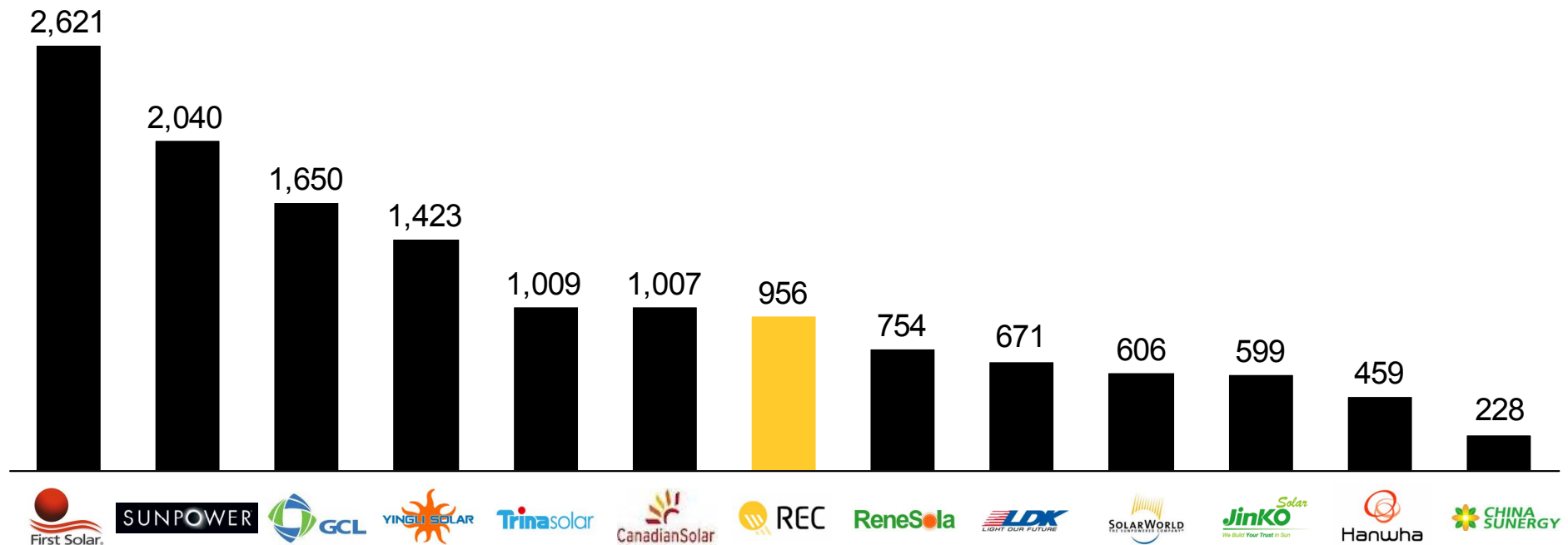
Revenue generation within the solar industry



→ REC is among the leading solar companies in revenue generation

Total Revenues 2012 by Company

In EUR million



Note: GCL Poly revenues include only its Solar business

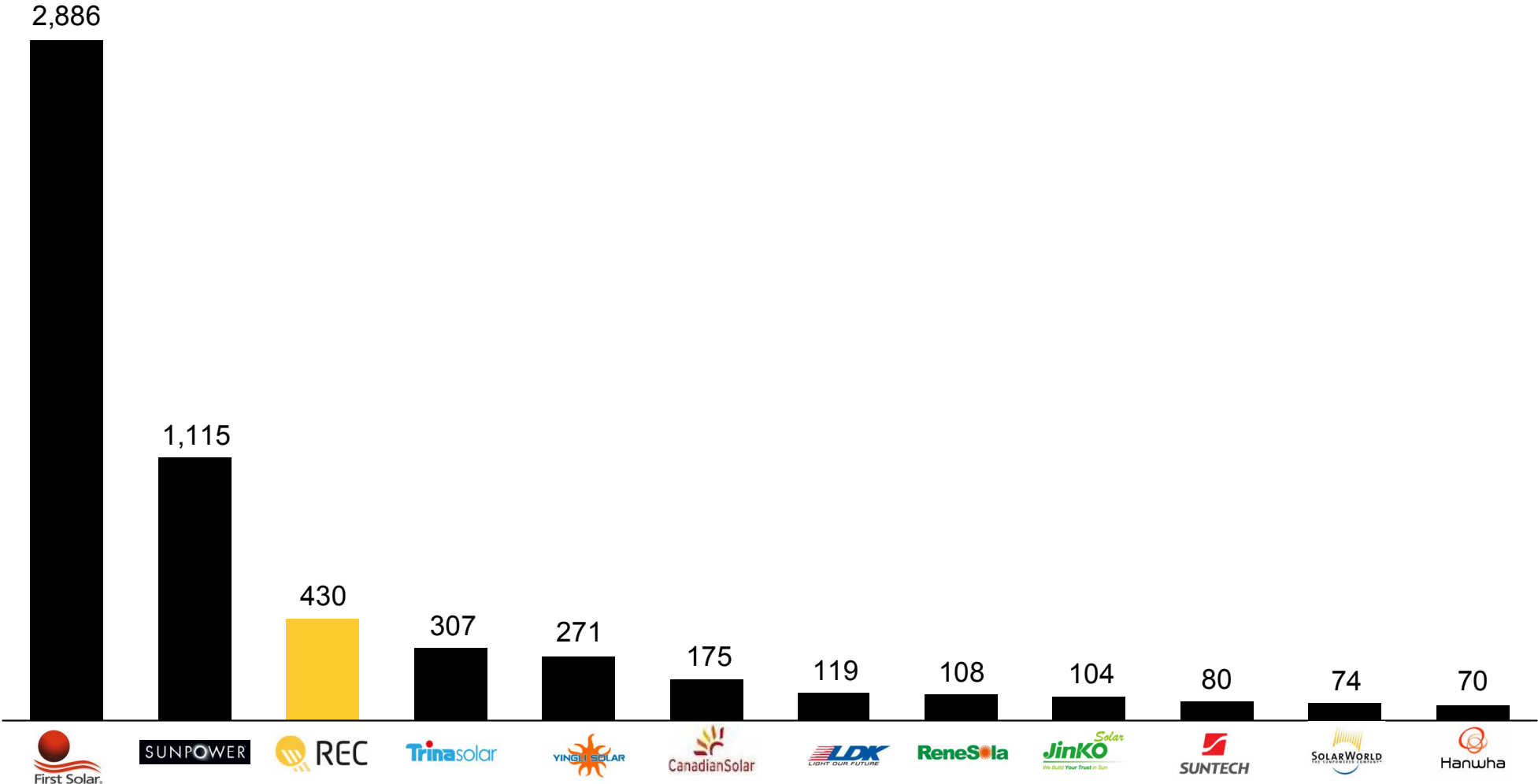
2012 avg. exchange rates: USD/EUR 0,778; HKD/EUR 0,1; NOK/EUR 0,133

Source: Bloomberg; Company websites

Equity value in the solar industry



Market capitalization* by company (in EUR million, as of May 8, 2013)



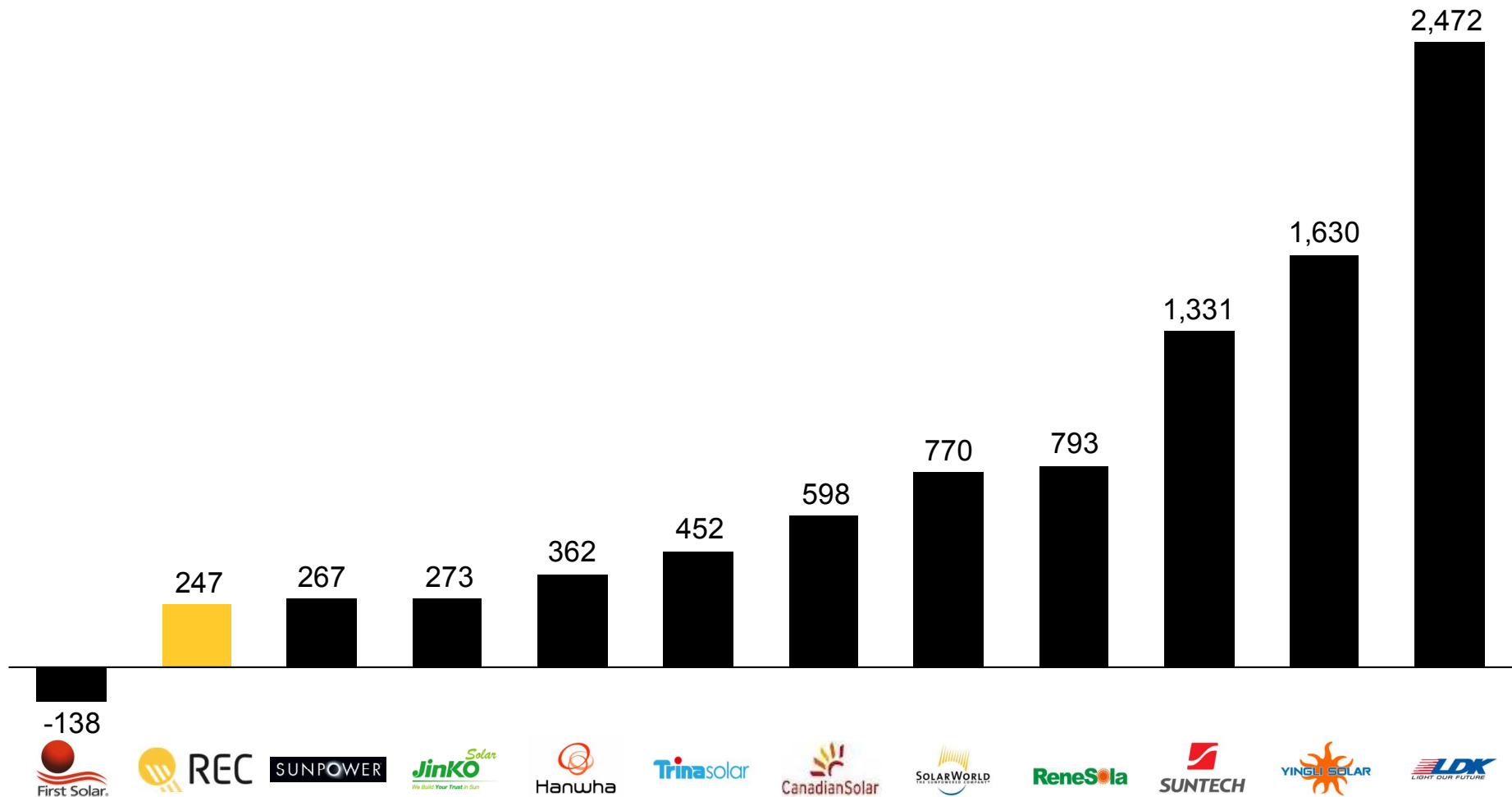
*Value of a company's equity as reflected in the company's share price multiplied by the number of shares

Source: Google Finance

Net debt in the solar industry

→ Many solar companies are struggling with very high debt levels

Net Debt by company (in EUR million, as of March 7, 2013)



Source: Jefferies Cleantech Weekly

REC has a healthy debt/equity ratio compared to peers

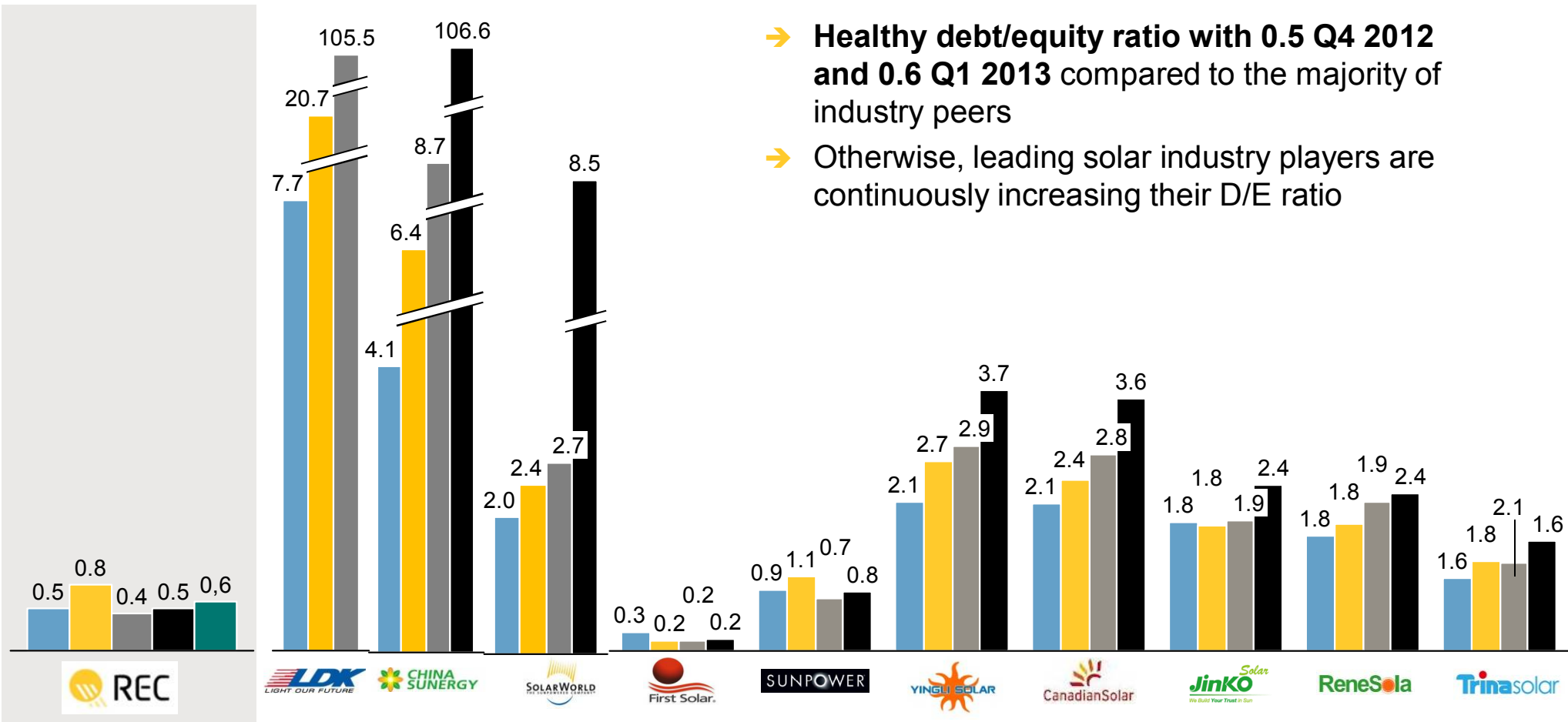


ESTIMATES; BASED ON PUBLIC DATA

Debt / Equity Ratio⁽¹⁾ comparison REC peers

Quarterly

Q1 2012 Q2 2012 Q3 2012 Q4 2012 Q1 2013



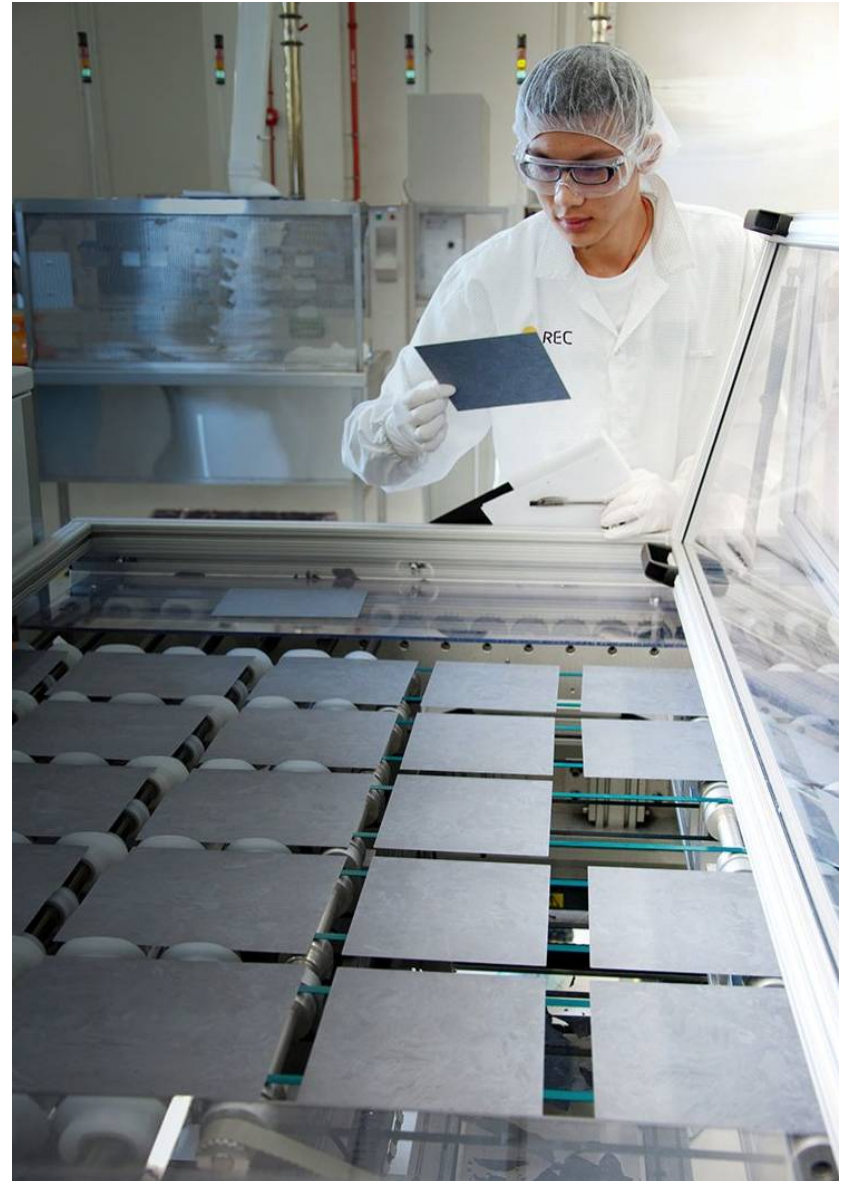
- **Healthy debt/equity ratio with 0.5 Q4 2012 and 0.6 Q1 2013** compared to the majority of industry peers
- Otherwise, leading solar industry players are continuously increasing their D/E ratio

(1) D/E= (short-term debt + long-term debt) / total shareholders equity; Calculation incl. bonds payable, notes payable and convertibles as part of debt

Source: Company statements

Operational excellence

- One of the world's largest and most advanced integrated solar manufacturing facilities in Singapore
- Highly automated to secure precision, reliability and quality – ISO 9001 certification
- Flexible and scalable – can quickly be reconfigured and expanded to meet new demands
- Best practice in environmental design and performance – ISO 14001 certification
- Costs reduced at a high rate – automation makes cost level fairly independent of labor costs



REC Module Plant

- 880 MWp capacity / 99.4% utilization
- 4 Module lines
- 8 Operators/line
- total 340 Modules / hour

RIGHT HERE AT REC

REC production plant, Tuas, Singapore

REC Peak Energy Series



- REC Peak Energy (PE) series 60 Cell
 - Power output 245-265Wp
- REC Peak Energy (PE) series 72 Cell
 - Power output 295-315 Wp
 - 1000 VDC UL Certified
- -0/+5Wp tolerance
- 3 Bus Bar REC Peak Energy Cells
- US Silicon
- IP 67 JBox with MC4 Connectors
- 25 Year linear power output warranty
- 10 year materials and workmanship warranty



Granular Silicon is manufactured into ingots



REC Wafer produces G5 ingots, weighing 300 kg each. Out of one ingot we get about 11,000 wafers.

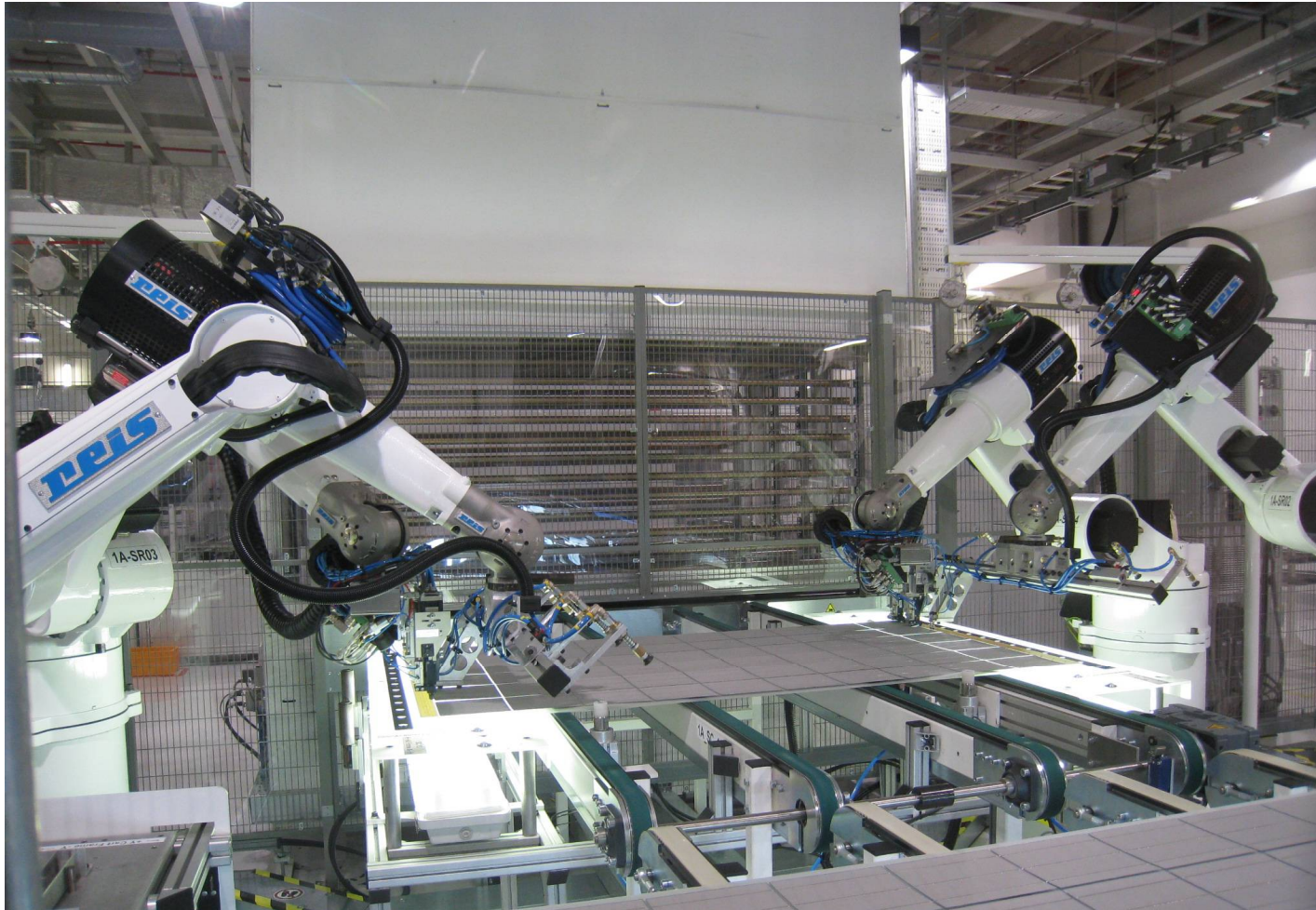
Ingots are sawed into blocks, and then blocks into wafers
- 100% traceability across entire value chain



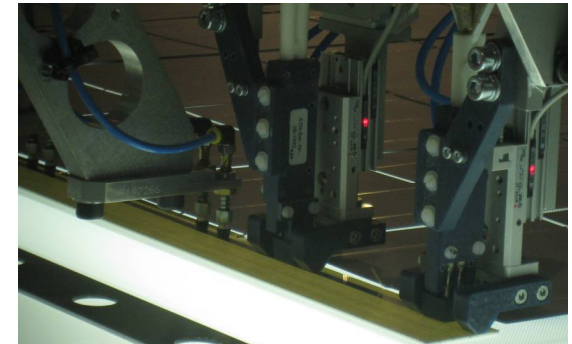
→ REC is vertically integrated with manufacturing of their own Si, Wafers, Cells and Modules – no contract manufacturing or outside sourcing



100% Controlled Robotics Soldering



Automated interconnection soldering for accurate placement and consistent good soldering



100% controlled induction soldering



Dual Interconnection Preparation unit

Assembly and Soldering



Manual soldering at a Chinese assembly site

Durability: A Top Priority at REC



- Hail Resistance – Dallas Texas, Sept 2011
- The building received hail damage after the solar panels were installed
- All of the windows on the north and west sides of the house were broken or cracked



Durability: A Top Priority at REC



Hail Resistance – Virginia, 23 March 2012 - “Attached is a picture of hail from a storm that hit one of my PV customers. It landed during a tornado watch. They say it averaged about 1" in diameter. There were dented cars, neighbors with broken windows and destroyed vinyl siding but apparently NO damage to the PV modules.”

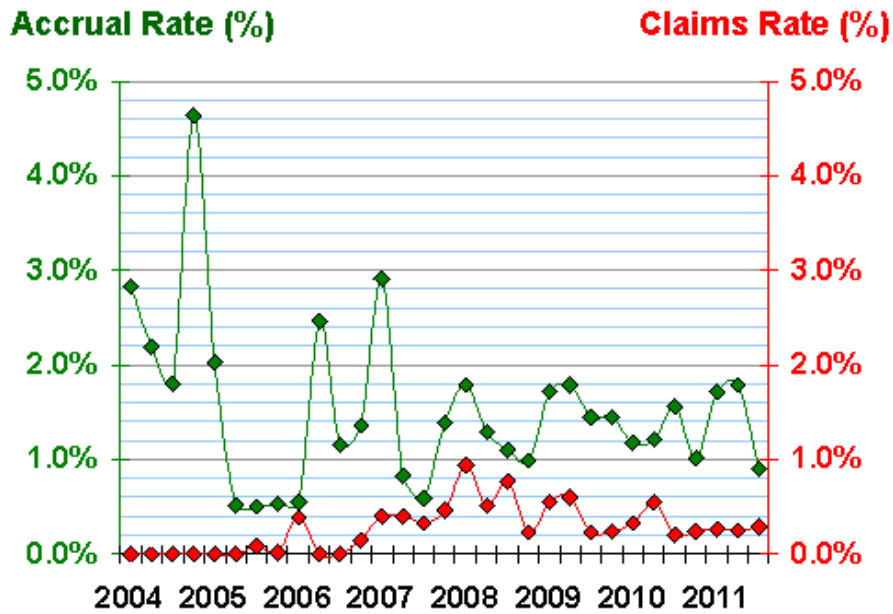


Hail damage photo courtesy DIRECT CONNECT SOLAR & ELECTRIC LLC

Warranty Claim Rates and Accrual Rates

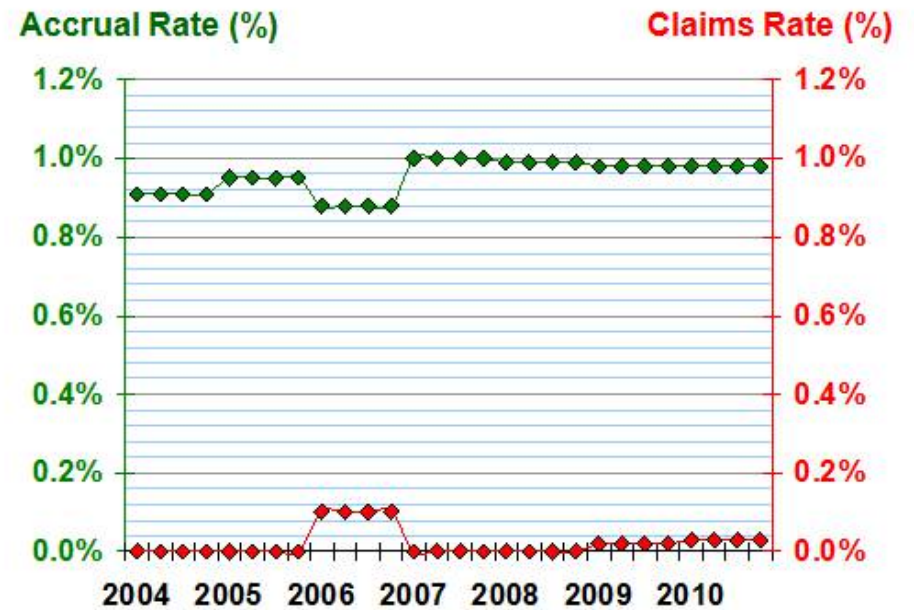


Figure 1a
SunPower Corp.
Warranty Claims & Accrual Rates
 (as a % of product sales, 2004-2011)



Source: WarrantyWeek

Figure 7a
Canadian Solar Inc.
Warranty Claims & Accrual Rates
 (as a % of product sales, 2004-2010)



Source: WarrantyWeek

Warranty Claim Rates and Accrual Rates



Figure 6a
Yingli Green Energy Holding Co. Ltd.
Warranty Claims & Accrual Rates
 (as a % of product sales, 2004-2010)

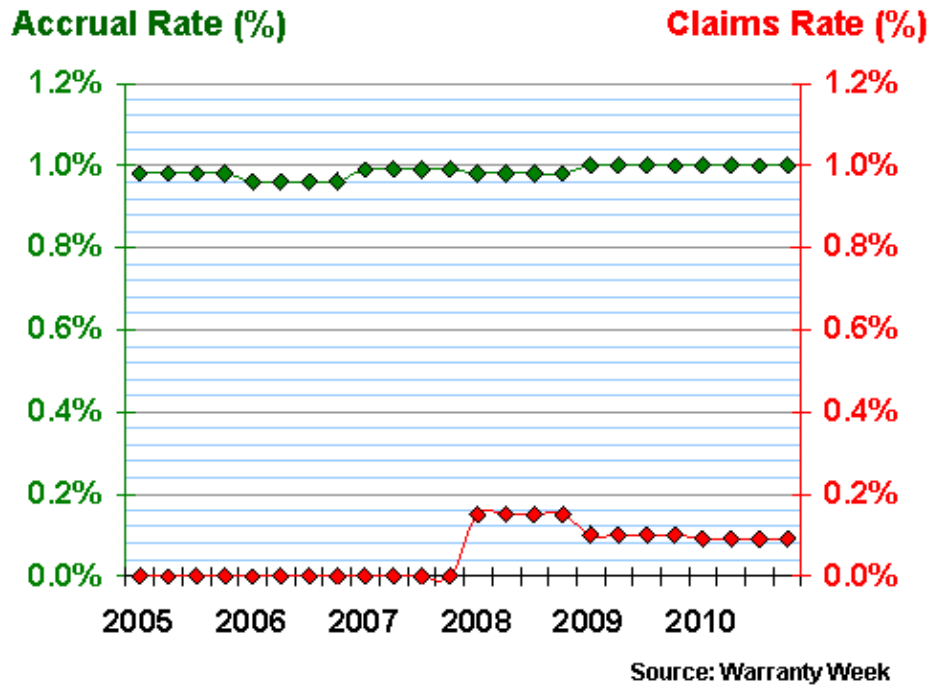
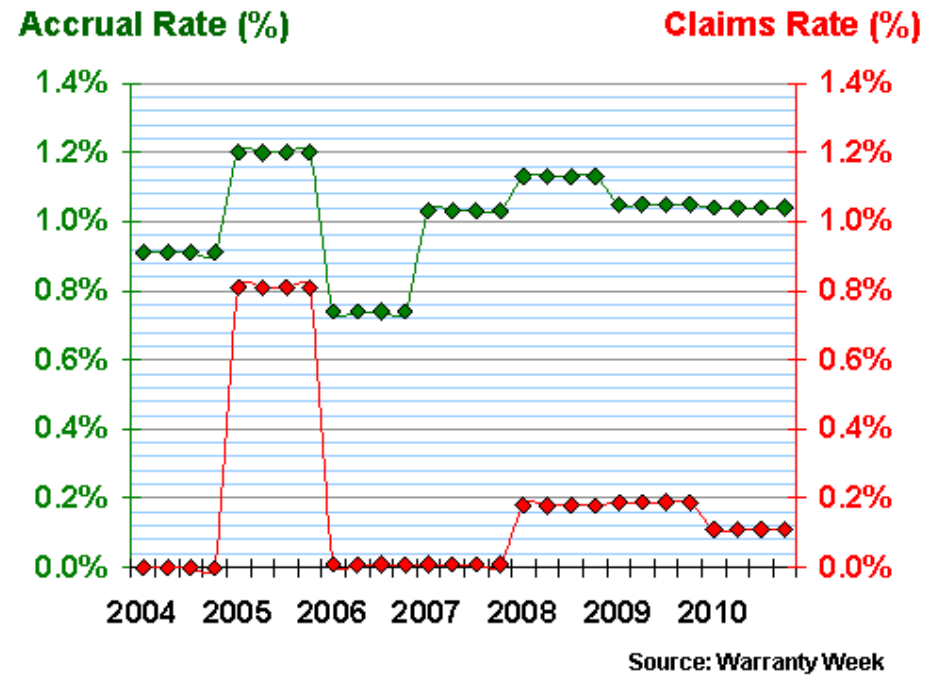


Figure 4a
Suntech Power Holdings Co. Ltd.
Warranty Claims & Accrual Rates
 (as a % of product sales, 2004-2010)



Warranty Claim Rates and Accrual Rates



Figure 2a
First Solar Inc.
Warranty Claims & Accrual Rates
 (as a % of product sales, 2004-2011)

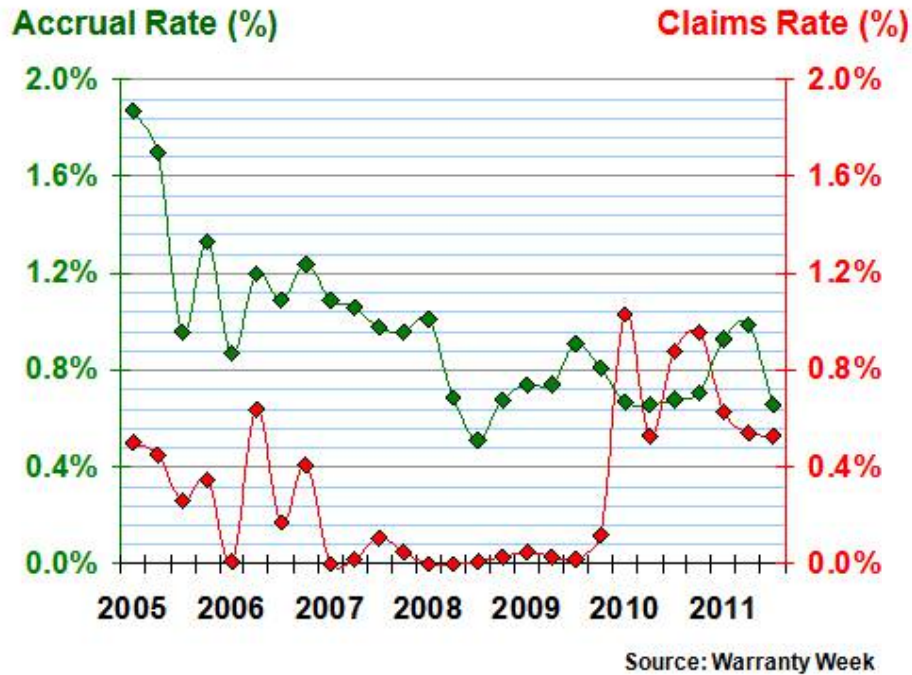
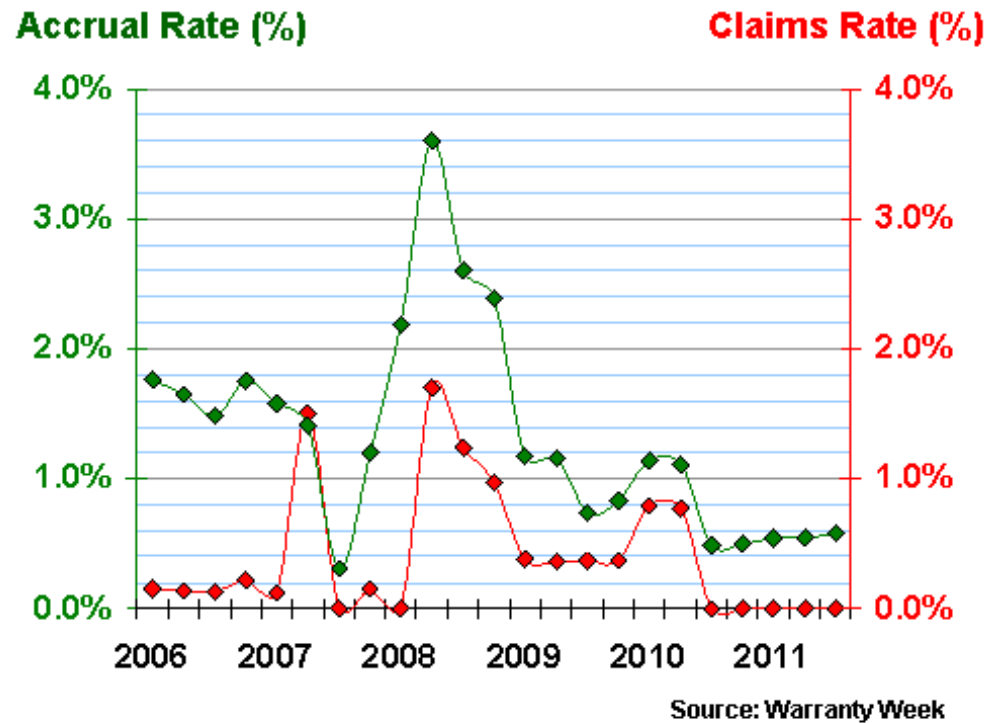


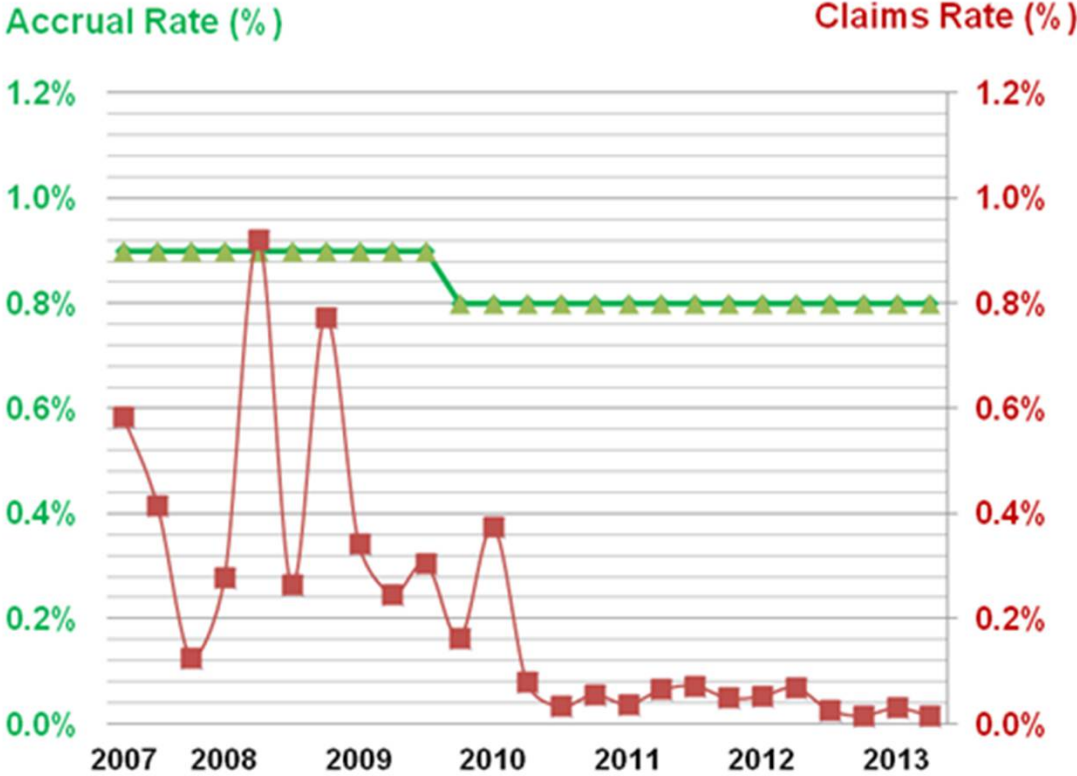
Figure 3a
Westinghouse Solar Inc.
Warranty Claims & Accrual Rates
 (as a % of product sales, 2006-2011)



Warranty Claim Rates



REC Solar AS
Warranty Claims and Accrual Rates
(as a % of product sales, 2007 - 2013)



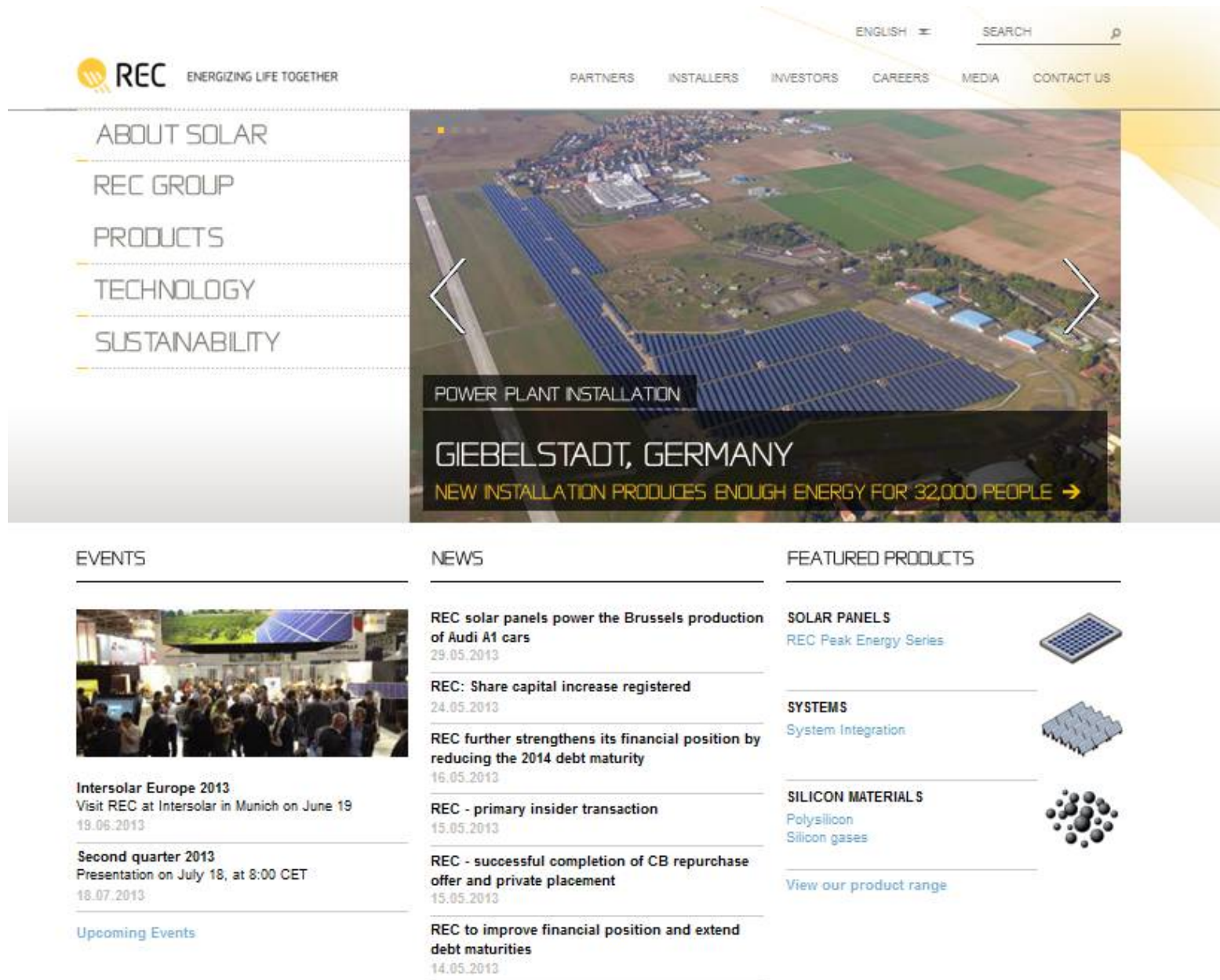
Source: KPMG Audited Financials

Higher reliability leads to lower in-field failure rates



What do failure rates mean to a project owner?

Claims rate 2011	%	modules/MWp	annual failures/MWp
Sun Power	0.003	3448	10.34
First Solar	0.0043	8000	34.40
SunTech	0.001	4000	4.00
Candian Solar	0.0004	4000	1.60
Yingli	0.001	4000	4.00
RECG	0.000074	4000	0.31



The screenshot shows the REC Group website homepage. At the top left is the REC logo with the tagline "ENERGIZING LIFE TOGETHER". To the right is a navigation menu with links for "PARTNERS", "INSTALLERS", "INVESTORS", "CAREERS", "MEDIA", and "CONTACT US". A search bar is also present. Below the navigation is a large banner image of a solar power plant in Giebelstadt, Germany, with the text "POWER PLANT INSTALLATION" and "GIEBELSTADT, GERMANY". Below the banner are three columns: "EVENTS", "NEWS", and "FEATURED PRODUCTS".

REC ENERGIZING LIFE TOGETHER


ENGLISH SEARCH

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ABOUT SOLAR
REC GROUP
PRODUCTS
TECHNOLOGY
SUSTAINABILITY

POWER PLANT INSTALLATION
GIEBELSTADT, GERMANY
NEW INSTALLATION PRODUCES ENOUGH ENERGY FOR 32,000 PEOPLE →

EVENTS


Intersolar Europe 2013
Visit REC at Intersolar in Munich on June 19
19.06.2013

Second quarter 2013
Presentation on July 18, at 8:00 CET
18.07.2013

[Upcoming Events](#)

NEWS

REC solar panels power the Brussels production of Audi A1 cars
29.05.2013

REC: Share capital increase registered
24.05.2013

REC further strengthens its financial position by reducing the 2014 debt maturity
16.05.2013

REC - primary insider transaction
15.05.2013

REC - successful completion of CB repurchase offer and private placement
15.05.2013

REC to improve financial position and extend debt maturities
14.05.2013

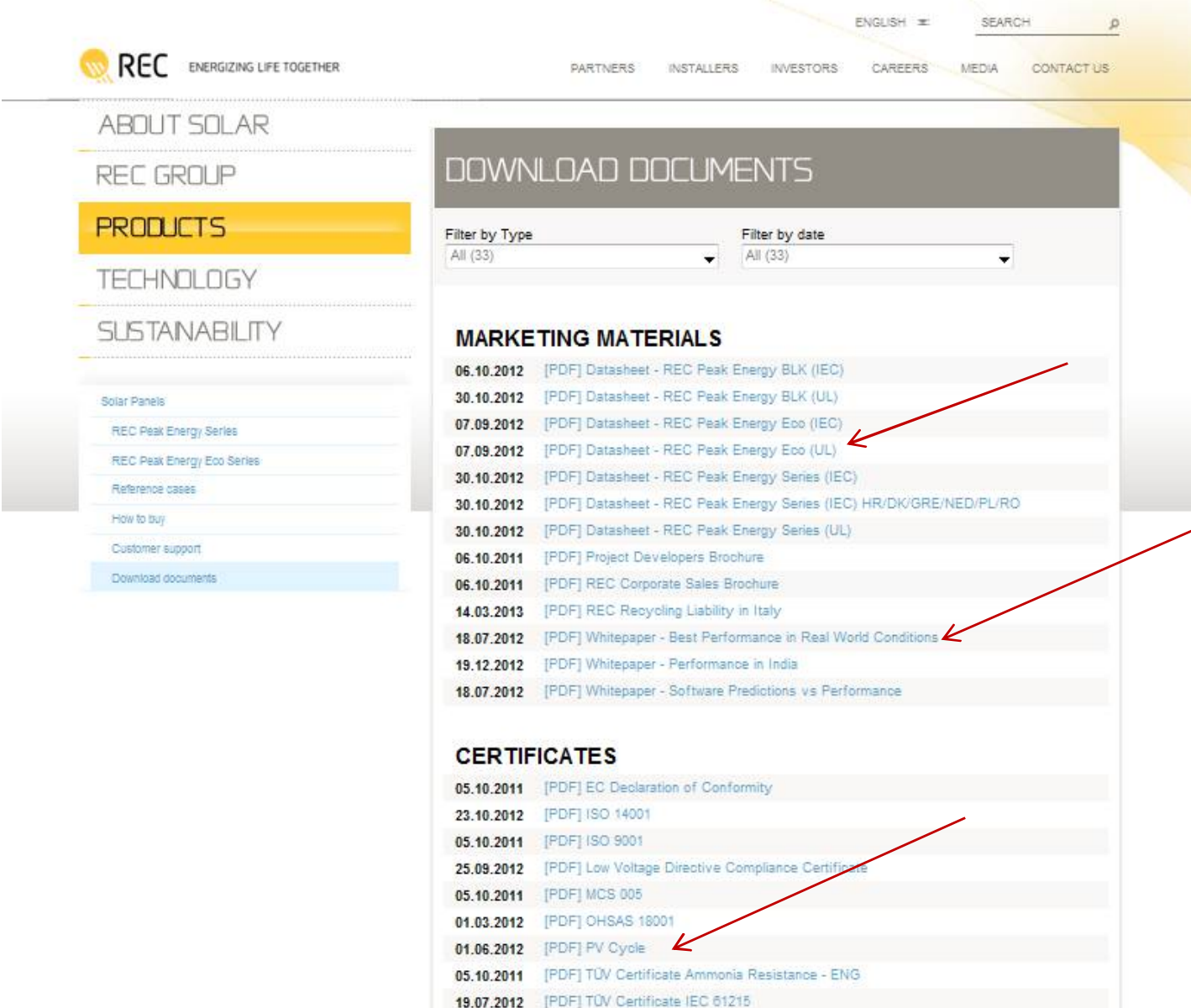
FEATURED PRODUCTS

SOLAR PANELS
[REC Peak Energy Series](#)

SYSTEMS
[System Integration](#)

SILICON MATERIALS
[Polysilicon](#)
[Silicon gases](#)

[View our product range](#)



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SUSTAINABILITY

Solar Panels

REC Peak Energy Series

REC Peak Energy Eoo Series

Reference cases

How to buy

Customer support

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DOWNLOAD DOCUMENTS

Filter by Type: All (33) Filter by date: All (33)

MARKETING MATERIALS

- 06.10.2012 [PDF] Datasheet - REC Peak Energy BLK (IEC)
- 30.10.2012 [PDF] Datasheet - REC Peak Energy BLK (UL)
- 07.09.2012 [PDF] Datasheet - REC Peak Energy Eoo (IEC)
- 07.09.2012 [PDF] Datasheet - REC Peak Energy Eoo (UL)
- 30.10.2012 [PDF] Datasheet - REC Peak Energy Series (IEC)
- 30.10.2012 [PDF] Datasheet - REC Peak Energy Series (IEC) HR/DK/GRE/NED/PL/RO
- 30.10.2012 [PDF] Datasheet - REC Peak Energy Series (UL)
- 06.10.2011 [PDF] Project Developers Brochure
- 06.10.2011 [PDF] REC Corporate Sales Brochure
- 14.03.2013 [PDF] REC Recycling Liability in Italy
- 18.07.2012 [PDF] Whitepaper - Best Performance in Real World Conditions
- 19.12.2012 [PDF] Whitepaper - Performance in India
- 18.07.2012 [PDF] Whitepaper - Software Predictions vs Performance

CERTIFICATES

- 05.10.2011 [PDF] EC Declaration of Conformity
- 23.10.2012 [PDF] ISO 14001
- 05.10.2011 [PDF] ISO 9001
- 25.09.2012 [PDF] Low Voltage Directive Compliance Certificate
- 05.10.2011 [PDF] MCS 005
- 01.03.2012 [PDF] OHSAS 18001
- 01.06.2012 [PDF] PV Cycle
- 05.10.2011 [PDF] TÜV Certificate Ammonia Resistance - ENG
- 19.07.2012 [PDF] TÜV Certificate IEC 61215

Summary

- A global and bankable industry leader
– in solar for the long run
- Industry leading module performance
- Dedicated to the partner model