



REC GROUP SOLAR MARKET INSIGHT

Q2 2017



SOLAR'S MOST TRUSTED

August 2017

- REC Group has launched a **new flagship product** with **unmatched performance** - the **REC TwinPeak 2S 72 Series** - the **highest power 72-cell multicrystalline** solar panel in the **world**
 - Up to 350 Wp nominal power output
 - Weighing just 22 kg, one of the lightest 72-cell panels on the market
- **CERTISOLIS** certifies the low carbon footprint of REC solar panels **for tenders in France**
 - Providing access to one of the most promising European PV markets
- **Best Q2 volume quarter ever** for REC in the **APAC** region, leading to a **record 1st half** as Q1 2017 already set an new record as best quarter ever
 - Record 1H sales in both India and Australia
- REC Group enjoys **tremendous growth** in the **flourishing Indian PV market**
 - The remarkable growth is based on the successful distribution network, a strong presence in the burgeoning rooftop market and successfully supplying into the utility scale market
- **REC Group** and new **Singapore Sustainability Academy** join forces to **combat climate change**
 - REC's donated solar PV installation is expected to supply all required energy for the building, enabling the zero-energy building concept and offer 20 years of expertise in the solar industry to be shared in trainings and workshops
- REC **invests in** cutting-edge and cost effective manufacturing technology to continue to provide highest-quality solar panels by placing an order for latest generation of **diamond wire cutting technology**

1 Global Performance Q2 2017

2 REC Highlights

3 Regional Performance

4 Outlook



15.53 MW, Kaua'i, USA

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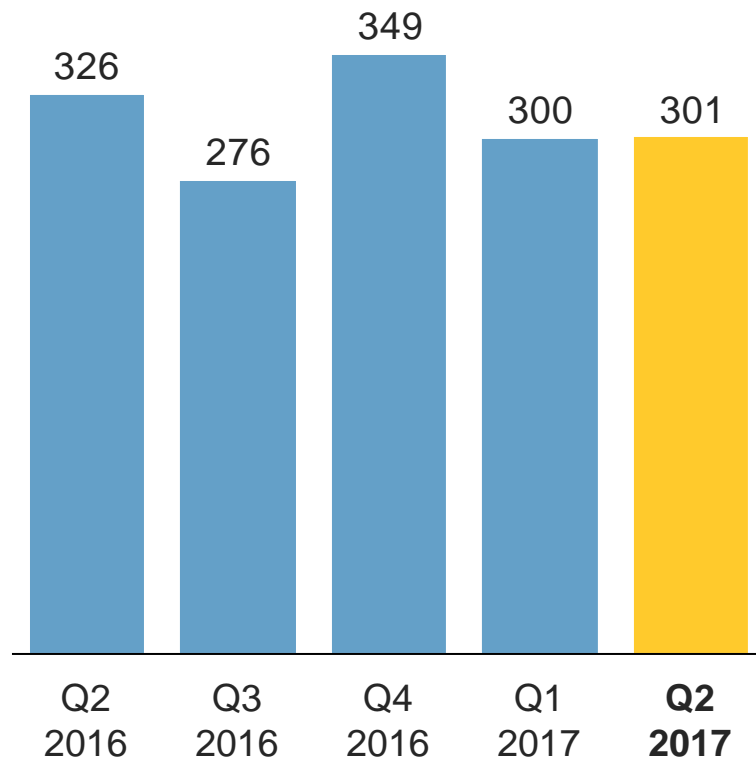
Global Performance – Q2 2017



Year-over-year REC grew its customer base by 57% and the number of deals by 140%



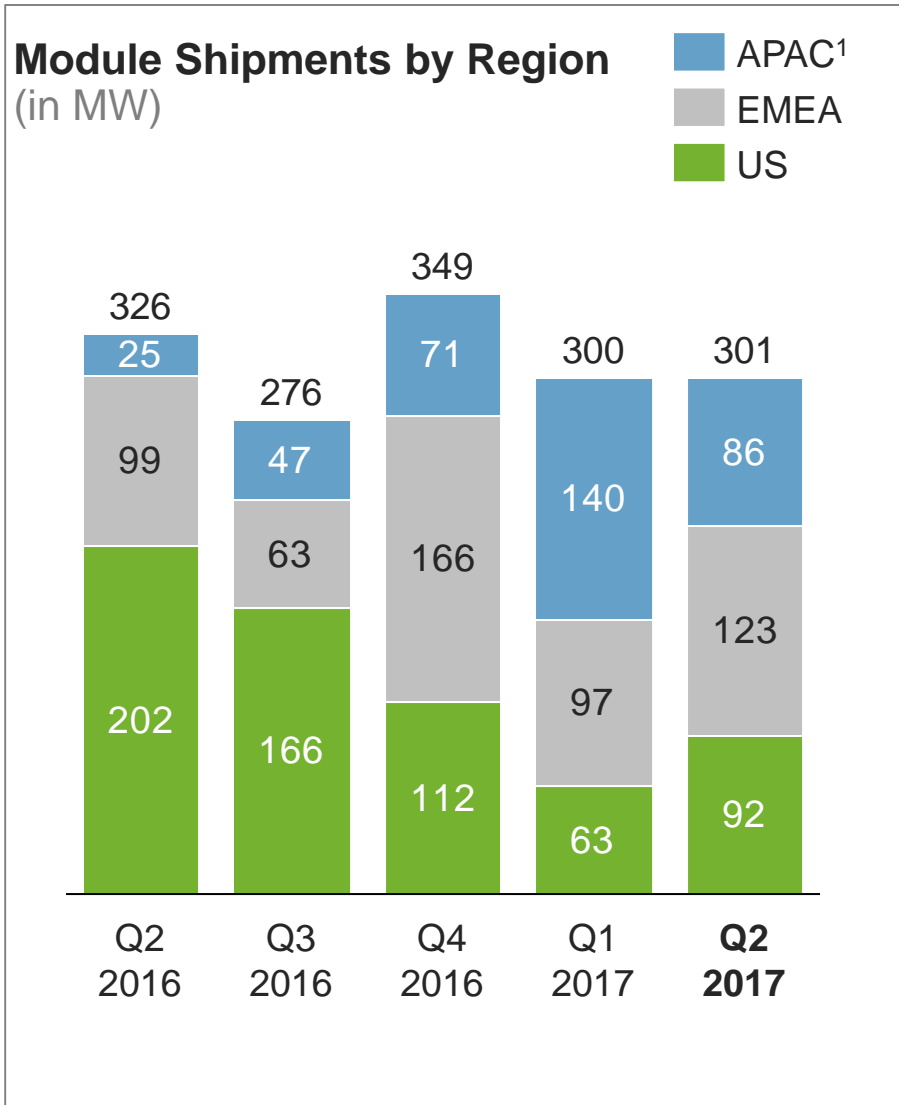
Module Shipments by Quarter
(in MW)



- **Q2 2017** module shipments totaled **301 MW**, ending the **1H 2017** with total shipments of **601 MW**
- Y-o-Y shipments declined by ~8% due to ongoing **manufacturing line upgrades** as well as **new product introductions**
 - In the first half of 2017 REC launched **three new flagship products** – including the world’s most powerful 60 and 70 cell Multi modules and the all-black TP2 Blk
 - Upgrading REC lines to **100% PERC** and **TwinPeak**
- REC **increased the number of deals in 1H’17 by 140% compared to 1H’16** and we expanded our **customer base y-o-y by ~57%**

1 APAC only (i.e. excluding Japan)

The APAC region saw new record Q2 sales while EMEA accounted for the largest share of quarterly shipments



- **Best second quarter ever for APAC²**
 - **Increase** in shipments of **244% year-over-year**
 - Sales were driven by **India, Australia** and **Japan**
- The **EMEA** region accounted in Q2'17 with 41% for the **largest share of REC shipments**
 - Strong performance with **27% shipments growth quarter-over-quarter**
 - Germany, Netherlands, Spain and Belgium were key markets
- **The US saw rising shipments** due to strong demand pull from the market via **strongly growing** and **diversified customer base**
 - **Number of customer grew by 85%** from 1H'16 to 1H'17 while the number of deals increased by over 240%

¹ Including Japan, Excluding China; ² APAC only (i.e. excluding Japan)



258 MW Tranquility Project, California

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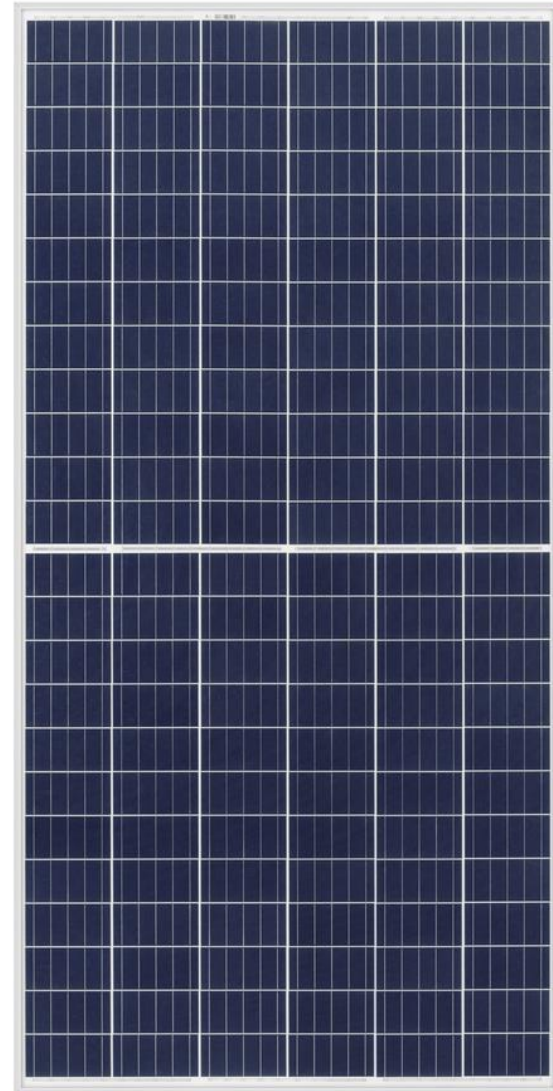
REC Highlights – Q2 2017



REC launches TwinPeak 2S 72 Series, the highest power 72-cell multicrystalline solar panel in the world



- In April, 2017 REC launched the latest addition to its **award-winning** Twin Peak technology platform – the **REC TwinPeak 2S 72 Series**
- Rated **up to 350 Wp**, the REC TwinPeak 2S 72 panel sets a **new world record in power output for 72-cell multicrystalline panels at competitive cost** - competing with monocrystalline (mono) and mono-PERC products
- Next to its unmatched power output performance, the panel is also **one of the lightest 72-cell modules on the market weighing just 22 kg** - enabling easier handling and quicker installation times
- With the TwinPeak 2S 72 Series, REC demonstrated once more **global leadership in multicrystalline technology** and a **strong focus on addressing the needs of customers** in the C&I and utility-scale segments

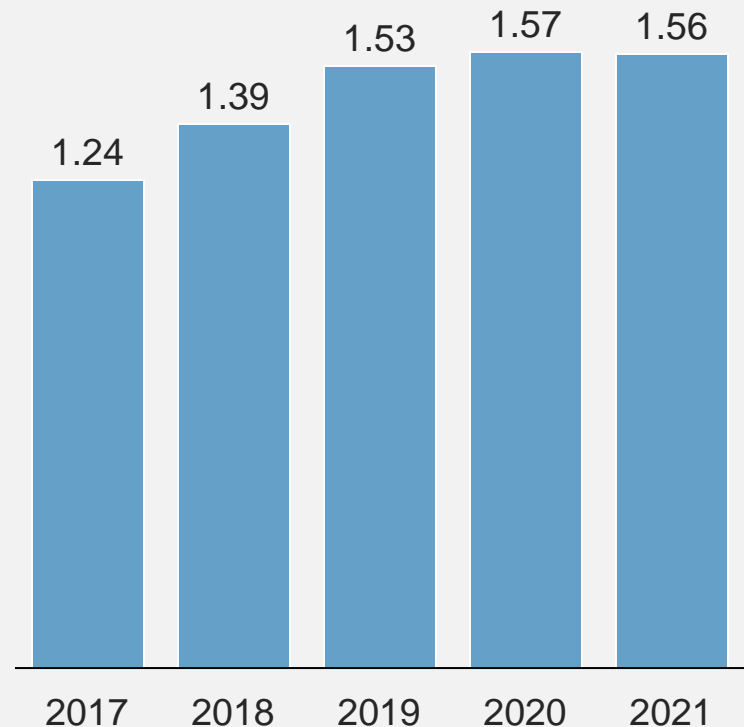


CERTISOLIS certifies the low carbon footprint of REC solar panels for tenders in France



- REC TwinPeak 2 product obtained **CERTISOLIS certification** in May 2017
- The certification qualifies REC's high performance products to **participate in French tenders (CRE3 and CRE4 periods 1 & 2)**
- The **low carbon footprint** of REC panels combined with **high product quality** and **competitive pricing** and renowned **REC reliability** on its multicrystalline cell platform makes REC now a preferred product for CRE 3 and 4 tenders in France
- We have already signed **several deals for supplying our panels** into tender projects in Q3 and Q4 2017
- REC takes advantage of its **extremely environmentally friendly silicon production in Norway** with **almost zero emissions** - a fact now validated by ADEME and confirmed by CERTISOLIS certification
- CERTISOLIS certificate is an important milestone for REC **to further boost our presence in France**, a market we expect to grow significantly. Overall, REC expects **France** will need **to install around 1.5 GW per year** to hit their new renewable energy targets

France – Annual PV Installations
(in GW)

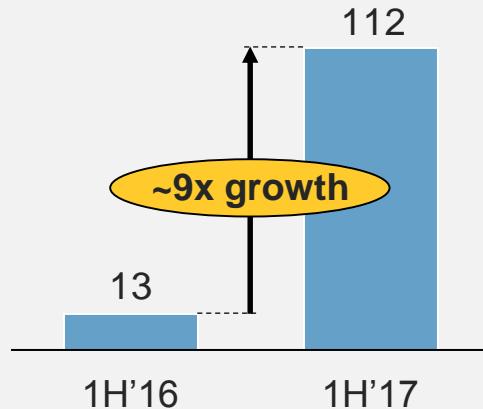


Source: IHS Markit, PV Demand Market Tracker - Q2 2017, May 2017

REC is now the largest European manufacturer in India – the world's most buzzing solar market (1/2)



REC India H1 2017 Vs. H1 2016 performance, (in MW)



REC's stellar growth is based on:

- **Broad national distribution network** enabling access to fastest growing small & medium rooftops segment
- **High quality, reliability, leading performance and proven track record** – recognized in the burgeoning **rooftop market**
- Successful entry in the **large utility scale market** proving the financial viability and providing optimum ROIs for large scale developers

- In a highly competitive and challenging market environment like India, **REC has emerged as the largest European manufacturer**
- **Customer retention has been a whopping 85%** - showcasing REC's incomparable service towards customer commitment - **From Design to Commissioning**
- **With cumulative installations over 200 MW** by the end of 1H 2017, this is especially remarkable considering we have been conceived as a niche player till now
- India's PV market has witnessed tremendous growth owing to strong government support and increased customer acceptance
 - The **rooftop market offers** immense potential with a current install base of 1GW and 40 GW of steep target till 2022
 - Further, with ~300 million Indians still out of grid and the lowest per capita consumption of electricity across the developing nations, India truly is unique in its attractiveness quotient

REC growing from strength to strength in India by supplying panels to several flagship project's (2/2)

REC serves several flagship projects in the Indian market

- **REC has supplied 40 MW of modules to Greenko Group**
 - REC has supplied **40 MW** of its modules to **Greenko Group in Q1 2017** for the Ultra Mega Park- Kurnool - The World's Largest Power Plant currently.
 - Greenko is one of India's largest IPPs backed by strong shareholder base and currently has over 2.5 GW of operating capacity.
- REC supplied **5.3 MW of modules for a canal project** in the state of Punjab, commissioned in Q1 2017
 - **Unique** features of this projects include a **suspended structure** and it's the first canal project with **private sector investment** in India
 - The solar PV modules will cover the canal and canal banks to produce **eco-friendly power** while **minimizing the use of valuable land** and **shrinking of water supplies** during scorching Indian summer
- Apart from these REC has supplied to leading brands in **IT, Textile, Real State, Colleges, Non-Profits** in all parts of the country, firmly establishing itself as first choice for customers



REC Group and new Singapore Sustainability Academy join forces to combat climate change

- The **combat against climate change** and the **push towards sustainability in housing** is at the heart of REC mission
- As example, REC is **partnering** with Singapore's City Developments Limited and the Sustainable Energy Association of Singapore to launch the **Singapore Sustainability Academy (SSA)**
- The Academy aims to promote a low-carbon economy, resource efficiency, and sustainable practices among businesses, academics and the community
- For REC, **sustainable architecture** of buildings is an important global issue and **zero-energy houses** are a key driver for the **reduction of greenhouse gases** and solar PV technology plays a crucial part
- REC contributes to the SSA project via
 - **Trainings and workshops** to share knowledge in renewable energy
 - **Donation of a rooftop solar PV system** for the SSA building – generating over 60,000 kWh of clean energy each year, mitigating 33t of CO2 emissions annually supplying all required energy - **enabling the zero-energy building concept**



REC invests in cutting-edge and cost effective manufacturing technology to continue to provide highest-quality solar panels

- As an industry leader for high-power multi-crystalline solar panels for many years, REC continuously invests in **cutting-edge and cost effective manufacturing technology**
- REC has placed an order for **latest generation diamond wire cutting** platform for multi-crystalline silicon block slicing
- Delivery of the equipment will start in Q3 2017, shifting REC's **entire** multi-silicon wafer slicing to **diamond wire cutting** technology
- The upgrade to diamond wire cutting technology enables **REC to continue to provide high-quality solar panels with a strong reliability at a competitive price**





24 MW, Canino, Italy

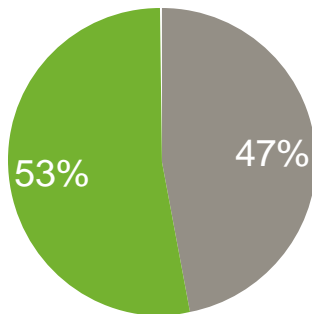
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Regional Performance Q1 2017



Q2 2017 Module Shipments split by Segment¹ (in %)

- Commerical / Utility
- Residential / Distribution



REC Performance Highlights

- In the **1st quarter of 2017**, REC is the **joint #1 most popular panel brand** for residential installations in the **entire U.S.**²
- REC holds rankings **among the top 5 suppliers in each of the largest 5 residential solar PV markets** in the US³
- Q2'17 saw also the **1st installation of REC TwinPeak 2 BLK 2 all black solar panels**, which feature an **innovative design with high panel efficiency and power output**, enabling customers to get the most out of the space used for the installation
- **Number of customer grew by 85%** from 1H'16 to 1H'17
- **Strong order backlog (200MW+)** moving into the second half of 2017 and **booking orders into 2018**

U.S. Market Development Highlights

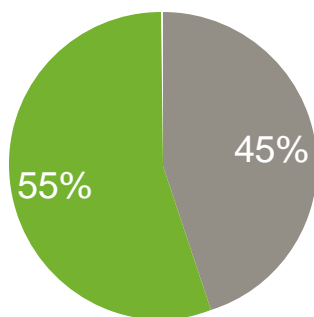
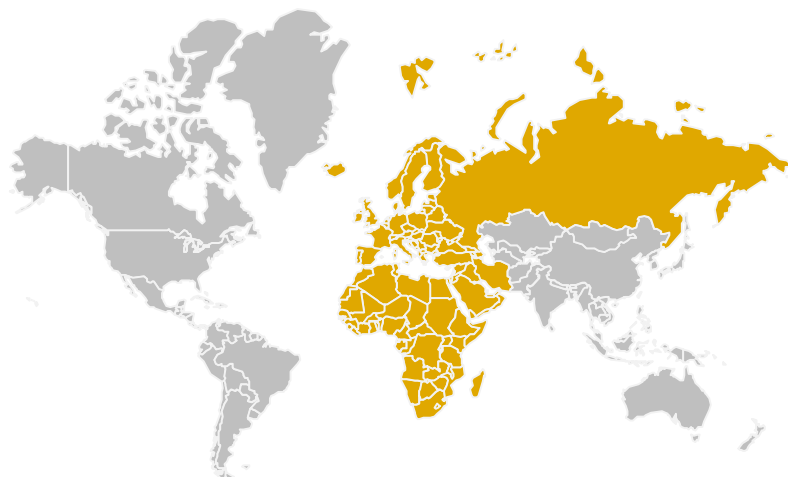
- Strong U.S. market demand prior to Suniva's Section 201 trade case ruling in 2017, which leaves the future of the US solar industry uncertain, esp. in the utility and large commercial segment going into 2018
- Some more States find arrangements on rooftop residential net metering

¹ REC market segment module shipment volume splits are best estimates; ² Based on Q1 2017 data by GTM, published June 2017; ³ Top 5 residential markets which are tracked by GTM for supplier ranking

Q2 2017 Module Shipments split by Segment

(in %)

- Commerical / Utility
- Residential / Distribution



1 REC market segment module shipment volume splits are best estimates

Source: REC

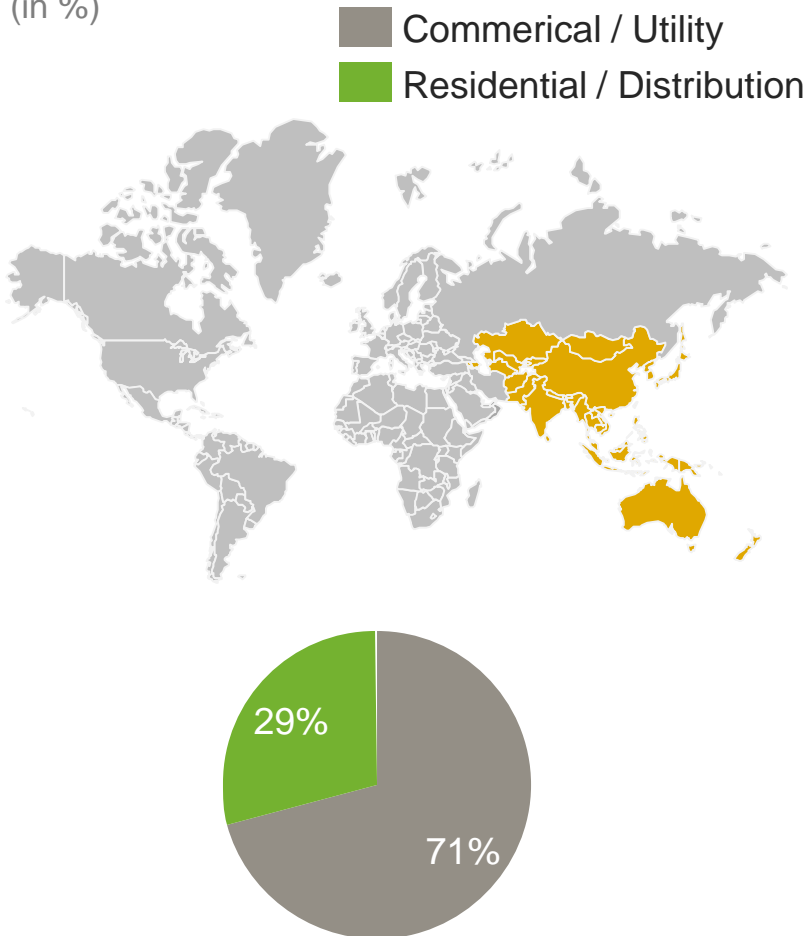
REC Performance Highlights

- **Germany has been the top market for REC** in Q2 as well as in the 1st half of 2017
- REC also shows a strong sale performance in the **Netherlands, Spain and Belgium**
- We are continuously **growing our customer base across Europe** – with the **31% growth** in the number of customers between **1H'16 and 1H'17** as REC benefits from highly regarded **brand and quality reputation**
- REC enjoys a **healthy split** between the **residential and distribution** segment and **commercial & utility customers**

EMEA Region Development Highlights

- Europe moves on from feed-in tariffs to **tenders** (i.e. Germany, France, Poland, Spain – **creating significant utility-scale pipelines**) and **self-consumption** (i.e. Netherlands to extend net metering beyond 2020 to 2023)
- **PV & storage solutions** increasingly grab the attention of policy makers (i.e. **Austria** approved a new support scheme for PV + storage; **Italy** simplified rules for PV storage to further support development of storage and distributed generation across the country)

Q2 2017 Module Shipments split by Segment (in %)



REC Performance Highlights

- **Best second quarter** ever for REC in APAC²
 - After its **all-time record quarter in Q1'17**² saw another record performance with Q2'17 shipments of 86 MW (+244% q-o-q)
 - **India and Australia are key markets with sales at record levels in 1H 2017**
 - Growing distributor network in several countries
 - REC's **number of customers in 1H'17 nearly double compared to 1H'16**
 - Positive demand outlook across segments for the remainder of the year
- In **Japan**, REC is enjoying
 - Robust demand from via **distribution partners** in the **Commercial & Industrial** segment as well as
 - Firm orders for **utility scale projects**
 - REC grew its **number of deals by 71%** in 1H'17 compared to the same period last year

APAC Region Development Highlights

- India has officially started an investigation into the import of solar cells and modules from China, Taiwan and Malaysia; Further, India's GST to come into effect on 1-July-2017
- Taiwan's high efficiency certification opens for solar surge

1 REC market segment module shipment volume splits are best estimates; 2 referring to only APAC shipments (i.e. excluding Japan)

Source: REC; IHS Markit, Bloomberg



3.2 MW, Indianapolis, USA

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Outlook



- **REC Q3 outlook**

- Expected **sequential volume growth** of approximately 8-10%
- Growth in shipments across all regions
- **Launch of first mono offering by REC** - the new REC Peak Energy 2S Mono 50 BLK panel is specifically designed for the **Japanese residential market**
- **Strong firm order** outlook for **Q3 2017**

- **FY 2017**

- Moving into 2H with our **best-ever sales pipeline of firm orders** as well as **order bookings into 2018**
- Strengthening reputation in the marketplace as the most reliable company with the most reliable products – **“Solar’s Most Trusted”**
- REC will embark on **significant investment projects** ensuring **technology leadership** and a **competitive cost position**
- We expect continuous **strong demand** from the **APAC** region (i.e. India and Australia) as well as the **US and Europe** (i.e. France, Turkey)
- Balanced approach to serve all segments - **rooftop & ground-mounted** - thanks to **REC’s broad product portfolio, quality, reliability and competitive cost**

Thank you!

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