



REC GROUP SOLAR MARKET INSIGHT

Q1 2017



ENERGIZING LIFE TOGETHER

May 2017

- REC saw shipments of **300 MW in Q1 2017**
- **Q1 2017** marked the **best quarter ever** for **volume** in the **APAC¹** region, with sales driven by India and Australia
- REC ranked as the **#1** module supplier in Germany in FY 2016
- REC successfully commissioned the **first canal project with private sector investment** in the state of Punjab (India)
- During Q1, REC launched **two exciting new products**
 - In January, REC introduced **TwinPeak 2 Series** – at **295 Wp**, this is the **highest power multicrystalline module** on the market
 - In March REC launched **TwinPeak 2 BLK2**, a **full-black high efficiency** multicrystalline panel with optimized aesthetics for rooftop applications
 - REC also developed a new panel **specifically for the Japanese residential market**
- **Formation of REC Solutions**, a joint venture between REC and Graess Engineering, to deliver **premium turnkey solar solutions**



1 Global Performance Q1 2017

2 REC Highlights

3 Regional Performance

4 Outlook





15.53 MW, Kaua'i, USA

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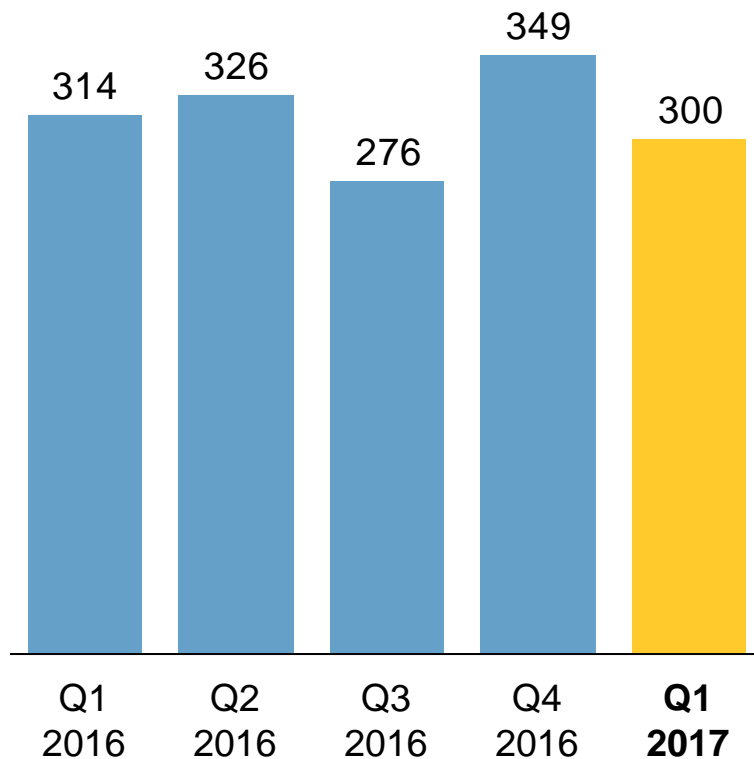
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Global Performance – Q1 2017



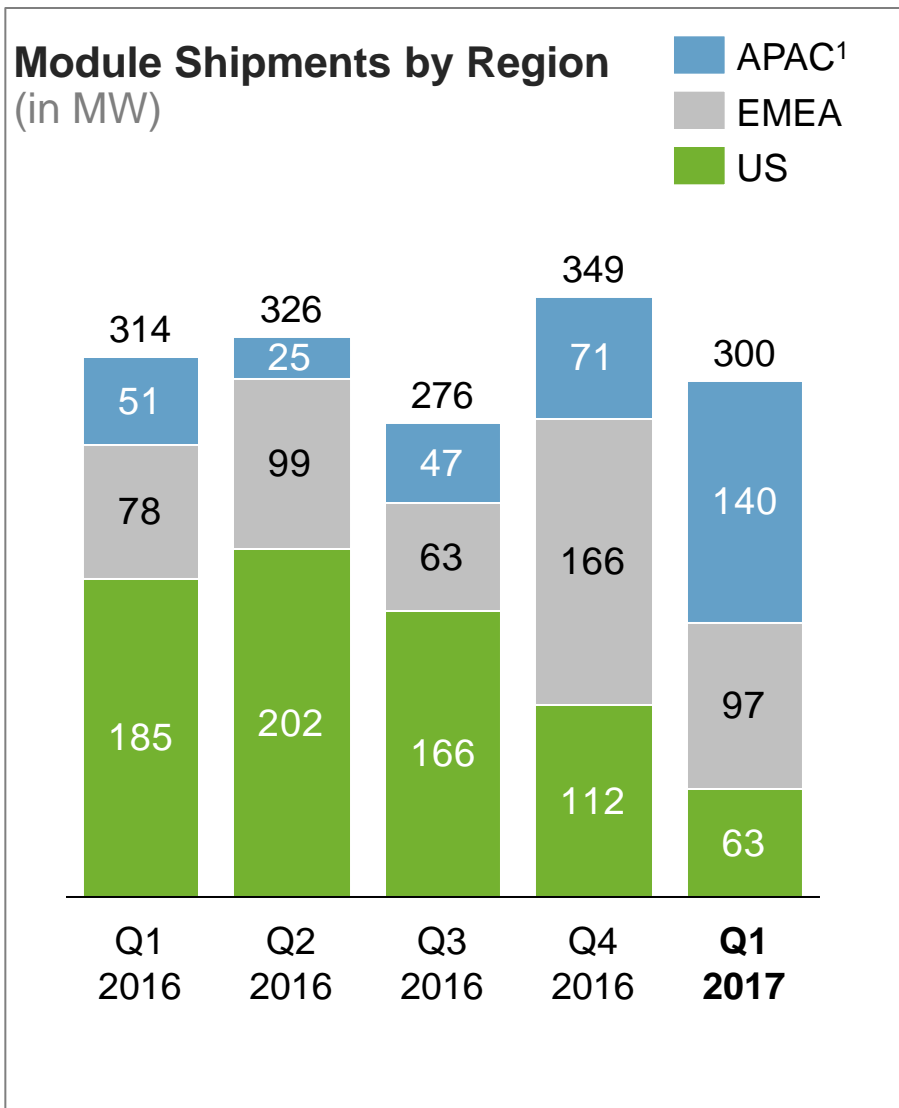
Module Shipments by Quarter (in MW)



- Q1 2017 module shipments **totaled 300 MW**
 - **Best quarter ever for volume** in the APAC¹ region
- Shipments declined by ~5% compared to Q1 2016 as REC **upgrades its manufacturing lines to 100% PERC and TwinPeak** production, and launches **new products to expand its high quality high efficiency portfolio**
- REC **increased the number of deals year-over-year by 130%** and **grew customer base year-over-year by ~63%**

¹ APAC only (i.e. excluding Japan)

The APAC region had its best quarter ever, with a shipment growth of 175% year-over-year



- **APAC including Japan** accounted for the **highest share of REC shipments** in Q1 2017 with 47% of total shipments
 - **Best quarter ever** for APAC²
 - **Increase** in shipments **quarter-over-quarter by 98%** and an **increase of 175% year-over-year**
 - Sales were driven by **India, Australia and Japan**
- After its best quarter ever in Q4'16, the **EMEA region** saw a decline in volumes driven by usual seasonality, but **finished the quarter on a strong note**
- Shipments to the **Americas** declined compared to previous quarter as the region transitioned off large contracts and reallocated supply to APAC

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



258 MW Tranquility Project, California

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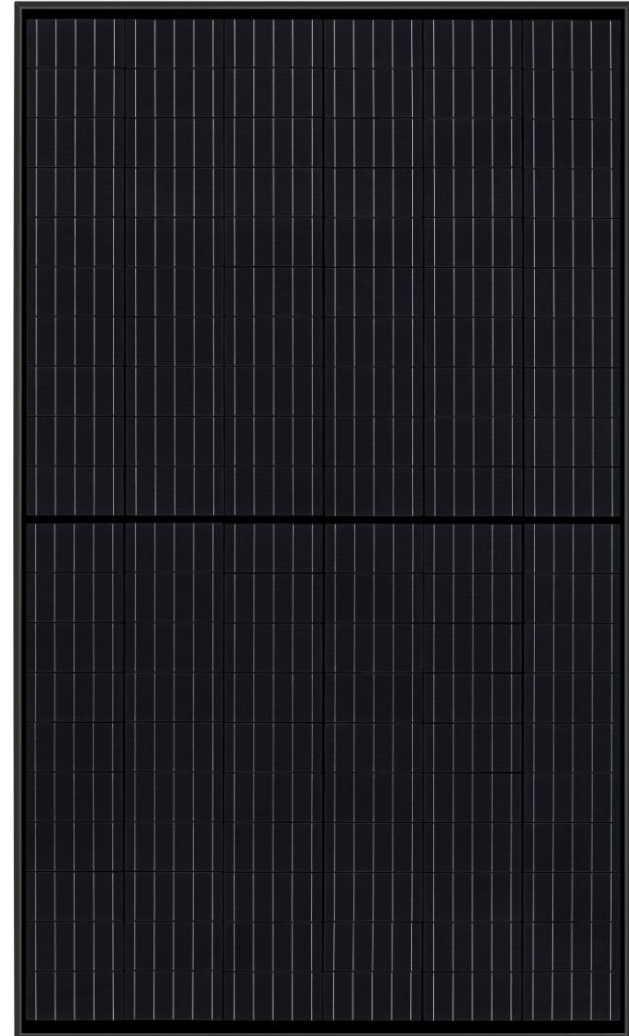
REC Highlights – Q1 2017



REC started commercial production of its new full-black TwinPeak 2 BLK2 Series, rated up to 285 Wp



- Commercial production of REC's new TwinPeak 2 BLK2 Series started in Q1 2017 – this module combines high power output, renowned REC quality and optimized aesthetics
- The full-black panel series has a nominal power rating of up to 285 Wp and incorporates several evolving REC TwinPeak technologies:
 - Cells made from larger wafers
 - Five busbars for reduced cell resistance
 - Half-cut cell technology to reduce resistive power loss in the panel
 - PERC technology for increased light capture
 - Split junction box allowing innovative panel design and improved performance in shaded conditions
- Thanks to its highly innovative proprietary cell technology, REC has succeeded in the production of uniformly black-colored multicrystalline cells, assembled with a black frame and black backsheet
- REC TwinPeak 2 BLK2 is of real benefit in residential markets in the U.S. and European countries, where panel aesthetics are highly valued



Already recognized as the leading European brand in Japan, REC introduces a tailored product for that market



- At PV Expo in Japan during March 2017, **REC announced** the launch of the REC Peak Energy 2S Mono 50 BLK: a product designed specifically for the Japanese market
- REC demonstrates its **longstanding commitment to the Japanese market**
- Key highlights of the **tailored** panel include: **50 cells** and **mono c-si** technology, **rated up to 250 Wp**
- Production for the new panel is scheduled to begin at the **end-Q2 2017**
- **REC is already the #1 European brand of solar panels in Japan¹**
 - >500 MW of REC manufactured panels installed in Japan since 2013
 - Used by leading companies and brands in Japan: IKEA, Marubeni, Suzuyoshoji, WQ, GRID, Hiji Denki, etc.
 - Leading Japanese distributors are members of REC's Partner Program



¹ Based on MW of panels manufactured by REC installed in Japan

REC has formed a joint venture with Graess Engineering to deliver premium turnkey solar solutions



- REC is pleased to announce the formation of its JV “**REC Solutions**” with Graess Engineering, a leading Swiss/German provider of expert services, for the realization of solar systems
- **Benefits for REC customers** via the JV include:
 - Premium turnkey solutions
 - Best-in-class components from European suppliers, including high-quality REC solar panels
 - German engineering and planning knowhow
 - Tailored insurance and warranty packages as add-ons
 - Support as EPC partner for large tenders
- With REC Solutions, REC is well placed to address the growing market for tenders globally by **providing high-quality solar installation with long-term reliability and secured returns to investors**

REC Solutions: range of solar services



Turnkey EPC



Turnkey EPC +
Finance facilitation for
developers



Turnkey EPC
for final investor



Tendering support



24 MW, Canino, Italy

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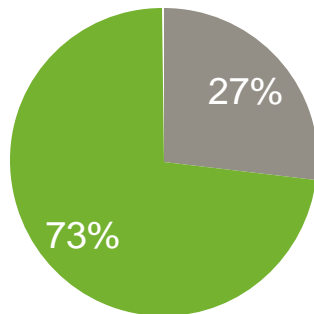
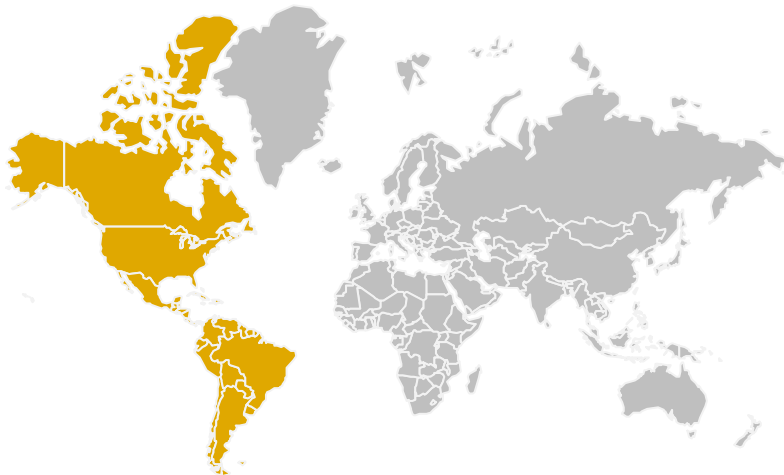
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Regional Performance Q1 2017

Q1 2017 Module Shipments split by Segment¹ (in %)

- Commerical / Utility
- Residential / Distribution



REC Performance Highlights

- Thanks to our brand and superior quality, REC achieved strong sales in the highly demanding residential market
- For all of 2016 REC ranked as²:
 - #2 most popular** panel brand for residential installations in **California** and **#1 in Colorado**
 - #3 most popular** panel brand for residential installations in the **entire U.S.**
- REC is enjoying a **strong breadth and depth of pipeline** for the **next few quarters** and continues to focus on further expansion

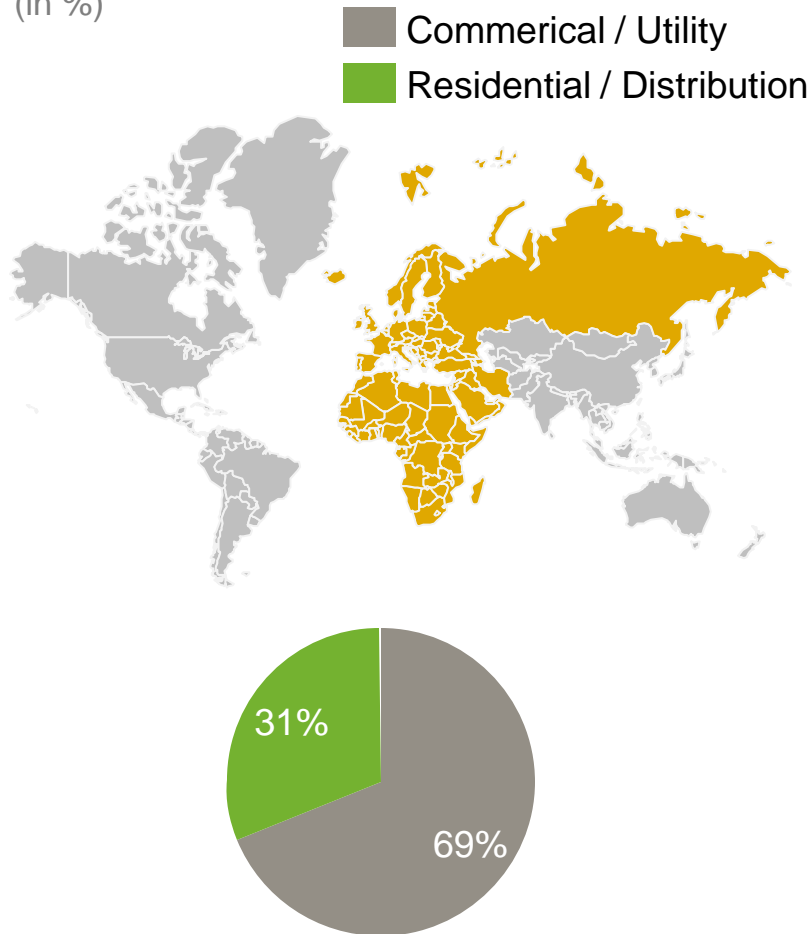
U.S. Market Development Highlights

- Increasing diversification among residential installers with smaller players gaining market share in a relatively sluggish market environment
- Several states expanded their Renewable portfolio standards (RPS)

¹ REC market segment module shipment volume splits are best estimates; ² Based on FY2016, published March 2017

Source: REC; GTM Research US PV Leaderboard Q1 2017 ; IHS Markit

Q1 2017 Module Shipments split by Segment (in %)



1 REC market segment module shipment volume splits are best estimates

Source: REC; IHS Markit

REC Performance Highlights

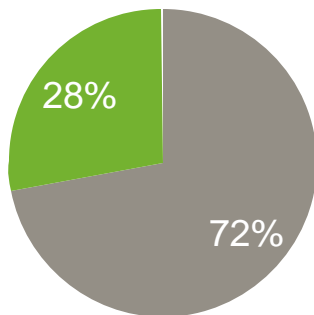
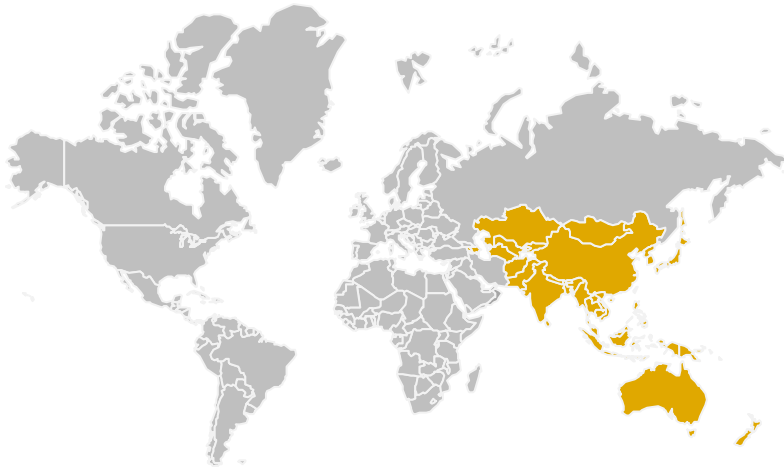
- **Germany and the UK were key markets for REC in Q1 2017**
- In Germany, REC gained new customers and further **expanding its footprint** in the **Commercial & Industrial segment**
 - REC ranked as the **#1 module supplier in Germany** in 2016
- REC sees a promising demand pick up in Italy
- REC benefits from its **long standing partnerships** with **leading project developers** and the highly regarded **REC brand**

EMEA Region Development Highlights

- Increasing number of auctions / tenders (i.e. Spain, Turkey)
- European Commission extended anti-dumping and anti-subsidy duties on Chinese solar products for 18 months; agreed on a MIP freeze during the interim investigation
- Turkey imposes anti-dumping tariffs against several China-based PV panel manufacturers

Q1 2017 Module Shipments split by Segment (in %)

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- Residential / Distribution



REC Performance Highlights

- **Best quarter ever for REC in APAC²**
 - **Strong sales in India and Australia and a positive outlook for the next quarter**
 - In India REC continues to perform well in a highly competitive market with focus on the company's core business – selling high quality products
- **In Japan,**
 - Continuous demand from the **Commercial & Industrial segment** via REC distributors / partners network
 - Growing demand from **multiple-unit residential customers**
 - Positive outlook due to opening of market for **module replacements in projects**

APAC Region Development Highlights

- Vietnam releases FIT and net metering scheme for solar
- India continues to see new record low bids in its reverse auctions
- Australia's solar capacity reached 6 GW and is expected to continue to grow
- Japan could remove granted FiT support for a significant number of renewables projects due to missed deadlines

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 Q2 outlook**

- Expected **sequential volume growth** of approximately **8-12%**
- Further **rebounds in Europe** (Germany, Mediterranean countries) and the Americas
- **New flagship products** such as the **REC TwinPeak 2S 72 panel**, rated **up to 350 Wp**, will broaden REC's quality focused product portfolio
- **REC** has **obtained its CERTISOLIS certification for French tenders** (CRE3 and CRE4) with low carbon footprint levels on TwinPeak products thanks to use of its low emissions and environmentally friendly silicon production in Norway

- **FY 2017**

- Continuous demand from **rooftop segment**, where **REC's quality, reliability and brand** is valued
- Strong demand outlook for **APAC, especially India and Australia**, for the remainder of the year
- REC is well positioned to **benefit** from the increasing **trend towards auctions** globally via 1) our long-standing **strong partnerships with project developers** and 2) **REC Solutions**
- REC expects a **modest growth** of the global PV market in 2017 compared to 2016, reaching approximately **80 GW**. Solar PV is already the lowest cost option for generating electricity in many parts of the world and this trend is expected to continue. REC expects to see further **demand diversification** while the **APAC region** (including China) will account for the **largest share of expected installations**.

Thank you!

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