

# KYOCERA recognized as "Top Performer" in 2016 PV solar module reliability scorecard

Only solar manufacturer to be named as a "Top Performer" across all tests in both editions of the Scorecard

Kyoto, Japan / Neuss, Germany, May 31, 2016 – Kyocera has been recognized as a "top performer" across all test categories for its solar modules by DNV GL (formerly PV Evolution Labs), an international provider of independent expert advisory and certification services, in its 2016 PV Module Reliability Scorecard released this month in collaboration with GTM Research.

Amid the dramatic increase in both business and residential solar installations over the past five years, DNV GL created its third-party Scorecard to provide insights into the expected reliability of various brands of solar modules by subjecting them to unparalleled technical comparisons. Kyocera is the only manufacturer to appear as a "top performer" in all categories of both the 2014 and 2016 PV Module Reliability Scorecards, the only two published to date.

The five test categories in the 2016 Scorecard cover each of the major sources of performance degradation over the lifespan of a solar module — repeated Thermal Cycling, Dynamic Mechanical Load stress, Humidity-Freeze conditions, Damp Heat exposure, and Potential-Induced Degradation. The number of manufacturers participating in each testing category ranged between 17 and 22.

With the recent solar boom, 85% of the world's total installed solar capacity has been in the field for less than five years, according to GTM Research. This makes assessing long-term performance and reliability difficult for users.

#### Contact:

Kyocera Fineceramics GmbH Daniela Faust Manager Corporate Communications Hammfelddamm 6 41460 Neuss Germany

Tel.: +49 (0) 2131/16 37 - 188 Fax: +49 (0) 2131/16 37 - 150 Mobil: +49 (0) 175/7275706 daniela.faust@kyocera.de www.kyocera.eu

Grayling München Sebastian Paulus Landwehrstrasse 61 80336 München Germany Tel.: +49 (0) 89 411 123 217 Mobil: +49 (0) 151 6561 2841

Grayling Frankfurt Elena Lindenzweig Hanauer Landstr. 147-149 60314 Frankfurt am Main

sebastian.paulus@grayling.com

Germany Tel.: +49 (0) 69/96 2219 - 66 Fax: +49 (0) 69/96 2219 - 96 elena.lindenzweig@grayling.com



Additionally, the influx of new industry players means that many of today's producers have been manufacturing solar panels for fewer than 10 years, even those offering 25-year warranties. These factors underscore the need for an independent, third-party source of performance and reliability data.

"Kyocera is one of the only companies in the world with more than 40 years of experience in researching, developing and manufacturing solar modules," said Hitoshi Atari, President of Kyocera Solar Inc. "The industry-leading reliability of Kyocera modules is documented not only by third-party testing, but by the real-world performance of Kyocera modules operating in the field continuously for decades."

DNV GL specifically designed its tests to surpass traditional methodologies represented by the International Electrotechnical Commission (IEC) 61215 and Underwriters Laboratories (UL) 1703 tests. While the IEC tests provide a minimum baseline assessment and the UL tests address product safety, DNV GL's Scorecard incorporates other stringent protocols to replicate real-world operating conditions over time, while measuring the relative degradation in power output among the various brands of solar modules.

"Solar continues to grow in popularity, but it's crucial to select equipment that performs successfully over the long term," said Jenya Meydbray, Vice President of Strategy and Development at DNV GL. "Developing an understanding of how modules perform as they age in the field will highlight technology risks and enable the implementation of an effective procurement quality assurance strategy."

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Kyocera PV modules have demonstrated outstanding reliability by other metrics as well:

- 2014: Kyocera PV modules pass TUV Rheinland's rigorous Salt Mist Corrosion Tests.
- 2012: Kyocera modules are certified PID (Potential Induced Degradation) resistant, exhibiting no performance degradation after high-voltage stress testing by the Fraunhofer Center for Silicon Photovoltaics.
- 2010: Kyocera modules are first in the world to be certified by TUV Rheinland's Long-Term Sequential Test.

For more information about Kyocera: www.kyocera.eu

# **About Kyocera**

Headquartered in Kyoto, Japan, Kyocera Corporation is one of the world's leading manufacturers of fine ceramic components for the technology industry. The strategically important divisions in the Kyocera Group, which is comprised of 235 subsidiaries (as of March 31, 2016), are information and communications technologies, products which increase quality of life, and environmentally friendly products. The technology group is also one of the oldest producers of solar energy systems worldwide, with more than 40 years of experience in the industry.

The company is ranked #531 on Forbes magazine's 2016 "Global 2000" listing of the world's largest publicly traded companies.

With a global workforce of over 69,000 employees, Kyocera posted net sales of approximately

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€11.59 billion in fiscal year 2015/2016. The products marketed by the company in Europe include printers, digital copying systems, microelectronic components, and fine ceramic products. The Kyocera Group has two independent companies in the Federal Republic of Germany: Kyocera Fineceramics GmbH in Neuss and Esslingen and Kyocera Document Solutions in Meerbusch.

The company also takes an active interest in cultural affairs. The Kyoto Prize, a prominent international award, is presented each year by the Inamori Foundation — established by Kyocera founder Dr. Kazuo Inamori — to individuals and groups worldwide who have contributed significantly to the scientific, cultural, and spiritual betterment of humankind (converted at approximately €360,000 per prize category).

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