PRESS

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Report from expert panel:
Operating photovoltaic systems more economically while detecting and analyzing errors in the field

- **VDE Renewables and TÜV Rheinland Solar worked with international research institutes to prepare the 10th report by the IEA PVPS Task 13 working group**
- **A new approach and standardized procedures enable technical and monetary risk assessments in the operation of photovoltaic systems**
- **A comprehensive error catalog makes it easier for maintenance teams, project planners and installers to evaluate and resolve errors reliably**

(Location, date) “Collecting and evaluating data has been our bread and butter for decades,” explains Ulrike Jahn, project manager at VDE Renewables and head of the IEA PVPS Task 13 working group. “For this report, however, we considered it particularly important to emphasize that technical issues with photovoltaic systems are not just vague values, but instead can be calculated precisely in monetary terms.” As the operational life of a photovoltaic solar installation is approximately 30 years, standardized processes and data evaluations to monitor all the relevant parameters are essential in protecting these investments.

4 percent vs. 30 percent loss of output

We can illustrate this approach very effectively by taking the cleaning process for solar installations as an example. In desert regions or areas with severe air pollution, deposited sand and dust particles can cause a substantial loss of output. The IEA PVPS Task 13 working group’s report calculates the precise output loss for a 10 MWp photovoltaic system near Abu Dhabi. Without cleaning, the system’s annual loss is 30 percent; with monthly cleaning – and taking into account the costs of this process – it’s just 4 percent. If these and other factors were taken into account when calculating operating and maintenance costs, it would be possible to operate photovoltaic systems much more economically.

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Traffic light system allows on-site error evaluation

Another essential component of the report is a collection of what are known as PV Failure Fact Sheets (PVFS). “As far as I know, this is the first comprehensive compilation and evaluation of potential errors in photovoltaic systems,” explains Ulrike Jahn. “Here, too, we focused on making a clear assessment based on data collected around the world.” This process makes it possible to describe errors in detail and classify them using a traffic light system. With this tool, installers, project planners and maintenance teams now have a well-founded, practical, troubleshooting guide which enables on-site personnel to quickly assess whether a fault is a safety-relevant problem or a minor defect with a minimal effect on output.

The report can be viewed here:
IEA PVPS Task 13 published a new report on the quantification of technical risks in PV investments (vde.com)

About the IEA PVPS Task 13 working group:

Task 13 was founded in 2010 as part of the International Energy Agency’s (IEA) Photovoltaic Power Systems (PVPS) program. The focus of the 80-strong expert consortium, which is headed by Ulrike Jahn and Boris Farnung (both of VDE), is on research into the performance and quality criteria for operating photovoltaic systems. The IEA’s Technology Collaboration Programme (TCP) was founded on the conviction that ensuring energy supplies and sustainability is rooted in international cooperation. Under the auspices of the TCP, thousands of experts from science, industry and politics carry out fundamental research and advance the application of specific energy technologies. For more information, visit www.iea-pvps.org.

About VDE Renewables:

VDE Renewables GmbH, a subsidiary of the VDE Group, provides quality assurance services in the global renewable energies market. The core competencies of the company, which is based in Alzenau, Germany, are quality testing and certification in accordance with the highest quality standards for safety, reliability and performance, as well as independent engineering and due diligence. VDE Renewables works closely with all structures of the VDE Group and boasts an international partner network which includes leading research and development bodies such as several of the Fraunhofer Institutes, as well as insurance firms such as Allianz and Munich Re. Together with our partners, VDE Renewables supports you and your customers in gaining access to new markets, differentiating yourselves from your competitors, or enabling you to receive more attractive insurance or financing conditions. More information at www.vde.com/renewables.

About VDE:

VDE, one of the largest technology organizations in Europe, has been regarded as a synonym for innovation and technological progress for more than 125 years. VDE is the only organization in the world that combines science, standardization, testing, certification and application consulting under one umbrella. The VDE mark has been synonymous with the highest safety standards and consumer protection for 100 years. Our passion is the advancement of technology, the next generation of engineers and technologists, and lifelong learning and career development “on the job”. Within the VDE network, 2,000 employees at over 60 locations worldwide, more than 100,000 honorary experts and 1,500 companies are dedicated to ensuring a future worth living: networked, digital, electric. We shape the e-dialistic future.

The headquarters of VDE (Association for Electrical, Electronic & Information Technologies) is in Frankfurt am Main. For more information, visit www.vde.com.

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