

IEA-PVPS Task 13: Quality, Durability and Integration of PV in Different Environments & Applications

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Abstract

The International Energy Agency (IEA), founded in 1974, is an autonomous body within the framework of the Organization for Economic Cooperation and Development (OECD). The Technology Collaboration Programme (TCP) was created with a belief that the future of energy security and sustainability starts with global collaboration. The programme is made up of 6.000 experts across government, academia, and industry dedicated to advancing common research and the application of specific energy technologies.

The IEA Photovoltaic Power Systems Programme (IEA PVPS) is one of the TCP's within the IEA and was established in 1993. The mission of the programme is to "enhance the international collaborative efforts which facilitate the role of photovoltaic solar energy as a cornerstone in the transition to sustainable energy systems." In order to achieve this, the Programme's participants have undertaken a variety of joint research projects in PV power systems applications. The overall programme is headed by an Executive Committee, comprised of one delegate from each country or organisation member, which designates distinct 'Tasks,' that may be research projects or activity areas.

The IEA PVPS participating countries are Australia, Austria, Belgium, Canada, Chile, China, Denmark, Finland, France, Germany, Israel, Italy, Japan, Korea, Malaysia, Mexico, Morocco, the Netherlands, Norway, Portugal, South Africa, Spain, Sweden, Switzerland, Thailand, Turkey, and the United States of America. The European Commission, Solar Power Europe, the Smart Electric Power Alliance (SEPA), the Solar Energy Industries Association and the Copper Alliance are also members.

Within the framework of IEA PVPS, Task 13 aims to provide support to market actors working to improve the operation, the reliability and the quality of PV components and systems. Operational data from PV systems in different climate zones compiled within the project will help provide the basis for estimates of the current situation regarding PV reliability and performance.

The general setting of Task 13 provides a common platform to summarize and report on technical aspects affecting the quality, performance, reliability, and lifetime of PV systems in a wide variety of environments and applications. By working together across national boundaries, we can all take advantage of research and experience from each member country and combine and integrate this knowledge into valuable summaries of best practices and methods for ensuring PV systems perform at their optimum and continue to provide competitive return on investment.

Task 13 has so far managed to create the right framework for the calculations of various parameters that can give an indication of the quality of PV components and systems. The framework is now there and can be used by the industry who has expressed appreciation

towards the results included in the high-quality reports. The IEA PVPS countries participating in Task 13 are Australia, Austria, Belgium, Canada, Chile, China, Denmark, Finland, France, Germany, Israel, Italy, Japan, the Netherlands, Norway, Spain, Sweden, Switzerland, Thailand, and the United States of America. Technical Reports are available at: [Performance, Operation and Reliability of Photovoltaic Systems - IEA-PVPS](#).

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Biography

Name: Ms. Ulrike Jahn

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IEA PVPS Task 13 Task Manager

Ulrike Jahn graduated in physics and leads various research & development projects at VDE Renewables in Alzenau, Germany. Her work focuses on reliability of PV modules and on PV system performance analysis. She is the project manager of an international expert group, Task 13 of the PVPS programme of the International Energy Agency (IEA), dealing with technical and financial issues of PV performance and quality. She coordinates this network of 80 international experts in 25 countries in their joint efforts to assess and improve the performance, operation and reliability of PV systems over their lifetime. Since 2018, Ulrike is a Member of the Steering Committee of the European Technology and Innovation Platform for Photovoltaics (ETIP PV). In September 2021, the Becquerel Prize of the European Commission was awarded to Ulrike Jahn ([Becquerel Prize for Outstanding Merits in Photovoltaics: Becquerel Prize 2021 \(becquerel-prize.org\)](#)).

