



Press Release

13 July 2007

European wide consensus reached of photovoltaic energy generation from long term operation of PV modules

Brussels, 13 July 2007 - In a recent international inter-comparison within the European Commissions FP6 Integrated Project *PERFORMANCE IP* **eight separate energy prediction methods developed independently across European Universities and Research Centres have shown agreement on the estimated energy generation of five different photovoltaic (PV) modules technologies.**

The modelling of PV energy generation is one of the four basic components required to develop an international energy rating standard for the benefit of European industry, end users and investors. **The remarkable results validated for the first time within this project are a direct response to the industry needs for consistent and harmonised international standards to improve their industrial competitiveness.**

The recently completed round-robin inter-comparison of eight different modelling methods in Europe found that **the agreement for all methods is within $\pm 5\%$ on an annual basis** if the environmental parameters are well described, i.e. the incident irradiance and the module temperature. This accuracy was also found when translating the energy yield measured at one location in Europe to another location for an identical module also for shorter time periods (months). The energy prediction methods have been validated for five different module technologies (crystalline (Si) and multicrystalline silicon (mSi), amorphous silicon (a-Si), Cadmium Telluride (CdTe) and Copper-Indium-Gallium-Diselenide (CIS)).

This work has demonstrated the generalised robustness of the methods and the unique ability to provide a single unbiased validation for all PV modules independent of the underlying technology. The consistency of results for all the methods used in the inter-comparison allows the use of different modelling methods for different climatic regions or technologies while assuring that there is no compromise in the quality and reliability of the resulting energy prediction; a prerequisite for any standard method.

Significantly higher errors were found when using different PV modules of the same manufacturer and technology predict the energy yield at other sites. Here the variation in module power rating dominated the results of the energy prediction methods. This issue is being addressed in the PERFORMANCE IP

project and a guide to the determination and labelling of photovoltaic module power will be proposed.

The performance IP Project is now developing these results in to a suitable form for the proposal of standard methods to be proposed as integral parts of future energy rating standards.

Further details of the study can be downloaded from the performance web site at www.pv-performance.org.

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