FACT SHEET FOR PUBLIC PRESENTATION OF THE USER-PROJECT

A) General Information

Acronym	**TESCABI**
Title of the User-Project	**Testing Scheme for MPPT charge controllers and battery inverters**
TA Call	Feb. 29, 2012 (Deadline)
Host Research Infrastructure	**AIT Austrian Institute of Technology GmbH**
Starting Date	June 25 - July 6, 2012 (first stay), Dec. 10 - Dec. 14, 2012 (second stay)
End Date	March 28, 2013 (final validation)
Lead User (Name-Institution-Country)	Michael MÜLLER, Steca Elektronik GmbH, Germany
Additional Users (Name-Institution-Country)	Ortwin ARZ, Werner Miller, Steca Elektronik GmbH, Germany

B) Summary of the User-Project

MPPT charge controllers are of more and more importance for all kind of off-grid applications. It makes sense to invest in MPPT chargers just to be able to use cheap grid-connected solar modules. Also the average system size rises. This also supports the usage of battery inverters as well as MPPT charge controllers. For both, battery inverters and especially MPPT controllers today it is difficult for end users to compare different products as manufacturers often do not give relevant and sufficient information. Furthermore, it is difficult to compare given values as most values refer to different criteria. The present project developed relevant and standardized test procedures for both battery inverters and MPPT charge controllers. For both product types different models of several manufacturers were measured and compared. The static MPPT tracking performance according to DIN EN 50530 showed that some samples have a very low performance of only 85% resulting in a significant loss of energy for the user. As manufacturers up to now are not stating the MPPT tracking performance it is not possible for the user to decide for a product with good performance
In conclusion, and as a result of this project, the following recommendations can be given:
 the data sheet of manufacturers should be normalized and should be extended by more detailed information especially relating to the DC-DC converting efficiency under different input-output-voltage relations.
 the MPPT tracking performance according to DIN EN 50530 should be part of the qualifying measurements of manufacturers and should be stated in the datasheet.

D) Dissemination of the Results

The results of the performed work have been presented during 28th Symposium Photovoltaische Solarenergie, 6. – 8. 3. 2013 in Bad Staffelstein, Germany. Since the developed testing method will allow to compare the tested products, a relevant “best product list” for the specific mentioned product category can be generated. These results will be presented to manufacturers and to the PV industry during the largest annual PV conference. The consortium applied for another publication to be presented during the 28th European PV Solar Energy Conference and Exhibition, 30th Sept. – 4th of Oct. 2013 in Paris, France. Another goal is to infer important conclusions from the development of standardized test procedures for both battery inverters and MPPT charge controllers and publish the work in international scientific journals or/and at international conferences. Another abstract submission of the project results was prepared for the ISES 2013 (Solar World Congress) in Mexiko, to be held from Nov.3-7, 2013

E) Use of the Resources

Access Days/Units	**13 (9+4)**
Stay Days	**19 (14+5)**