PRESS RELEASE – Global Sustainable Energy Solutions Pty Ltd (GSES)

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FOR IMMEDIATE RELEASE

GSES releases a technical paper on oversizing PV arrays to inverters

Global Sustainable Energy Solutions Pty Ltd (GSES) has released a technical white paper, entitled *Oversizing PV Arrays,* to address issues faced when designing photovoltaics (PV) systems so that the array has a higher peak capacity than the inverter.

Owing to the recent decreasing cost of PV modules, oversizing of PV arrays has become an economically viable way to increase system output, and GSES has received several requests for information on this. However, care must be taken when designing such a system, as incorrect calculations could lead to overloading of the system, with potentially dangerous results.

As detailed in the article: "Some inverters can protect themselves from currents greater than their specified range, but all inverters will be damaged from open circuit voltages above their specified range. Before designing an oversized array, assurance, preferably in writing, must be gained from the inverter manufacturer that their equipment is suitable for this application and that using the inverter in this way will not void the warranty."

Regarding the pros and cons of oversizing, the article states: "By oversizing the array, the system will produce more power in the morning and evening, and during other times of low solar irradiation. In effect, this will increase the amount of time that inverters are operating at their nameplate capacity. The downside of oversizing is that when solar conditions are favourable, the output of the array is 'clipped' and potential energy from the system is lost."

Susan Neill, Director of GSES, said of the article: "It is essential that system designers understand the limitations of oversizing the solar array and how this affects the performance and economics of solar systems."

GSES provides white papers and technical information on its website Resources and Information page for all readers, including system designers, installers and owners. Topics covered to date include *DC Isolator Sizing Requirements* and *Sealing Roof Penetrations*; future papers will include *Potential Induced Degradation (PID)*, *Microfractures and their Effects on PV Modules*, and *How Temperature Affects System Output*.

The *Oversizing PV Arrays* technical paper is available to view and download now free of charge from the GSES website.

GSES is a multi-disciplinary renewable energy engineering, training and consultancy company specialising in PV solar design, online and face-to-face solar training, solar book publishing and PV system audits. Collectively, GSES has over 50 years of local and global experience undertaking projects in Australia, New Zealand, Asia, Africa and the Pacific Islands. GSES leads Australia in education and training in the Renewable Energy Innovation and Technology Sector and actively partners with government, private enterprise and local communities on a global scale in facilitating the growth and development of the renewable energy industry through education, training, engineering, consulting and publications.

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Link to *Oversizing PV Arrays* article: http://www.gses.com.au/publications/resources-and-information/oversizing-pv-arrays
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