MEDIA RELEASE

17 November 2011

United States and Australia Partner on Solar Energy Innovation

The Australian Solar Institute (ASI) today welcomed over $32 million in funding for collaborative United States-Australia solar research projects, announced by the Governments of Australia and the United States of America (U.S.) on the occasion of the visit of U.S. President Barack Obama to Australia on 16 November 2011.

ASI Chair Ms Jenny Goddard said the Australian Government, through the ASI, has committed nearly $12 million for seven Foundation Projects under the United States-Australia Solar Energy Collaboration (USASEC) to accelerate the widespread rollout of solar energy technologies in both countries.

“This has leveraged a combined private-public investment of over $32 million, including in-kind contributions from universities in both countries and the U.S. Department of Energy (DoE) national laboratories,” Ms Goddard said.

ASI CEO Mark Twidell said the projects will improve the efficiency, reliability and application of solar technologies and have real commercial potential.

“The combined world leading solar research expertise of Australia and the United States will hasten our efforts to drive down the cost of solar energy technologies to make solar a competitive energy source for Australia’s electricity needs,” Mr Twidell said.

Mr Twidell said the Australian Government, through the ASI, is also supporting three high calibre early-career researchers to undertake a Research Exchange in the United States.

“Three of Australia’s next generation of leading researchers will work alongside the best and brightest solar researchers in the United States, including a Nobel Laureate, to advance our shared goals for accelerating solar innovation,” Mr Twidell said.

“This program enhances the capacity of the Australian and United States solar research sectors to deliver the innovations that will make a real and lasting difference to our future energy mix and environment.”

The funding was announced during President Obama’s two day stay in Australia on the 60th anniversary year of the ANZUS alliance and follows the establishment of USASEC in November 2010, announced by the Prime Minister and U.S. Secretary of State Hillary Clinton.

Over coming months the DoE and the ASI with the Department of Resources, Energy and Tourism, will engage on planning for 2012 solar energy programs to best coordinate and leverage remaining USASEC funding and activity.

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The Foundation Projects were selected under a competitive review process. Projects and Research Exchange awardee details below.

Full project summaries are available on the ASI website
www.australiansolarinstitute.com.au

Foundation Projects

- **The University of New South Wales: Cost-effective GaAsP top solar cell grown on a high performance, low cost silicon solar cell.** $2.48 million funding for a $6.31 million project to develop a cost-effective high voltage solar cell that can be grown directly on a crystalline silicon solar cell to lead to a 50 per cent increase in efficiency over a silicon solar cell. Project partners include the National Renewable Energy Laboratory (NREL), AmberWave Inc., Veeco Inc., Yale University, University of Delaware and Arizona State University.

- **The University of New South Wales: Multi-Junction c-Si Solar Cells Based on Virtual Ge Substrates.** $1.27 million funding for a $6.03 million project to develop the first silicon based cell above 30 per cent efficiency in partnership with NREL.

- **The University of New South Wales: Towards a Practical Hot Carrier Solar Cell.** $2.28 million funding for a $6.55 million project to improve the cost effectiveness of solar cells using Hot Carrier technology. Partners include Lawrence Berkeley National Laboratory, NREL, Arizona State University, and Birck Nanotech Center at Purdue University.

- **Commonwealth Scientific and Industrial Research Organisation (CSIRO): Solar-driven supercritical CO_2 Brayton Cycle.** $2.5 million funding for a $6.24 million project to reduce the levelised cost of electricity by bringing together various advanced technology developments including high efficiency receivers, thermal storage and a carbon dioxide Brayton cycle. Partners include Sandia National Laboratories, NREL, University of Sydney, Queensland University of Technology, and Barber Nicholls Inc.

- **CSIRO: Improving translation models for predicting the energy yield of photovoltaic power systems.** $1.32 million funding for a $2.69 million project to gain a more detailed understanding of the relative importance of the various technical factors, including spectral variation, that impact energy output and drive revenue projections. Partners include NREL, CAT Projects – Desert Knowledge Australia Solar Centre, and Lend Lease.

- **The Australian National University: Improved High Temperature Receivers for Dish Concentrators.** $1.44 million funding for a $3.34 million project to investigate heat

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losses from the focal 'receiver' of solar thermal power plants, and develop next-generation receiver designs. Partners include Sandia National Laboratories and CSIRO.

- **CSIRO: Integrated Solar Radiation Data Sources over Australia.** $713,000 funding for a $1.43 million project to develop Australia's first comprehensive solar radiation data set that can be used to estimate solar power production. Partners include NREL and the Bureau of Meteorology.

Research Exchange awardees

- **Dr John Pye from The Australian National University** will spend 6 months at Sandia National Laboratories in Albuquerque to develop improved open-access models for the performance of concentrated solar thermal systems, to aid in financial and technical decision-making.

- **Dr Jacek Jasieniak from CSIRO** will work with 2000 Nobel Prize winner, Prof. Alan Heeger, at the University of California Santa Barbara for 12 months on a project to overcome barriers to increasing solar cell efficiency and therefore increase the competitiveness of solar energy.

- **Benjamin Duck from CSIRO** will spend 12 months at NREL, an international leader in the field of standards development. He will work to better predict the yield of photovoltaic systems, which is critical to attracting private sector investment in large scale solar.

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