

# MEDIA RELEASE



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## Research funding to shed light on the next generation of solar technologies

The Minister for Resources and Energy, the Hon. Martin Ferguson AM MP, today announced a significant boost for solar research with more than \$83 million for collaborative projects between Australian and United States researchers.

The funding, made available through the Australian Solar Institute's (ASI) United States-Australia Solar Energy Collaboration (USASEC), includes \$68 million for two, eight year research programs and \$15.5 million for 11 collaborative research projects.

ASI Chief Executive Mark Twidell said the investment leverages the strengths of both countries and aims to accelerate the pace of solar innovation.

"Our funding unites the complementary strengths of both nations to fast track the commercialisation of new solar technologies by lowering costs," Mr Twidell said.

Two programs with real potential to deliver the next generation of solar technologies include the \$33 million US-Australia Institute for Advanced Photovoltaics, led by the University of New South Wales, and the \$35 million Australian Solar Thermal Research Initiative, led by CSIRO.

"We joined forces with the Australian Renewable Energy Agency (ARENA) to fund two, eight year collaborative national research programs to drive innovation, build human capacity and provide pathways to commercialisation for new technologies," he said.

As part of a national technology strategy, CSIRO and the University of NSW (UNSW) will manage nodes of research across a range of institutions in Australia and the United States.

More than \$95 million has been invested through the USASEC to date, leveraging over \$160 million from over 40 leading research institutions and industry players from Australia and the United States. This brings the total leveraged value of the USASEC portfolio to more than \$255 million.

ASI and its projects will be merged into ARENA from 1 January 2013.

A list of projects follows on the next page. Read more about each successful project at [www.australiansolarinstitute.com.au](http://www.australiansolarinstitute.com.au) and further information about ARENA at [www.arena.gov.au](http://www.arena.gov.au)

## **Strategic Research Initiatives supported by ASI**

**US-Australia Institute for Advanced Photovoltaics (USAIAP) supported by the Australian Solar Institute (ASI) and ARENA.** A \$33 million project to develop the next generation of photovoltaic technologies, providing a pipeline of opportunities for performance increase and cost reduction.

University of New South Wales (Partners: Australian National University, University of Melbourne, Monash University, University of Queensland, CSIRO, Suntech R&D Australia, BT Imaging, BlueScope Steel, NSF-DOE QESST, National Renewable Energy Laboratory, Sandia National Laboratories, Molecular Foundry, Stanford University, Georgia Institute of Technology, University of California – Santa Barbara, Trina Solar).

**Australian Solar Thermal Research Initiative (ASTRI) supported by ASI and ARENA.** A \$35 million project to transform Australia into a global leader in Concentrating Solar Power technologies.

CSIRO (Partners: Australian National University, University of Adelaide, University of Queensland, University of South Australia, Queensland University of Technology, Flinders University, National Renewable Energy Laboratory, Sandia Corporation, Arizona State University).

## **Open Funding Round projects supported by ASI**

**CSIRO: Optimisation of central receivers for advanced power cycles.**

\$1,150,879 for a \$3,229,398 project to inform and improve theoretical modelling of optics and heat transfer through experiential knowledge of real-world heliostat and receiver performance and costs for Concentrating Solar Power systems in partnership with Graphite Energy, the National Renewable Energy Laboratory (NREL) and Sandia National Laboratories.

**CSIRO: Australian Solar Energy Forecasting System (ASEFS) Stage 1.**

\$3,089,000 for a \$7,595,000 project to deliver the first phase of an Australian Solar Energy Forecasting System in partnership with the Australian Energy Market Operator (AEMO), Bureau of Meteorology (BoM), University of NSW (UNSW), University of South Australia (UniSA) and the National Renewable Energy Laboratory (NREL).

**CSIRO: Plug and play solar power: simplifying the integration of solar energy in hybrid applications.** \$1,292,725 for a \$2,913,449 project to simplify the integration, accelerate the deployment and lower the cost of incorporating solar energy with more traditional non-renewable generation by developing a 'plug and play' technology in partnership with ABB Australia and the National Renewable Energy Laboratory (NREL).

**The Australian National University: Machine-learning-based forecasting of distributed solar energy production.** \$799,522 for a \$2,624,909 project to explore real-time data mining of some of the 650,000 widely distributed residential PV systems in Australia in partnership with NICTA (Australia's ICT Research Centre of Excellence), ActewAGL, University of California San Diego, University of Central Florida, Laros Technologies and Armada Solar.

**Brisbane Materials Technology: A pilot-scale plant for the production of solar anti-reflection (AR) coatings.** \$1,262,000 for a \$4,809,875 project to construct and operate a pilot-scale manufacturing facility for novel anti-reflection coatings based on durable metal oxide materials in partnership with EV Group Inc., General Electric Company and Areva Solar.

**CSIRO: Deployment of combined cycle using solar reformed gas in North Western Australia.** \$351,453 for a \$702,906 project to develop a renewable combined cycle power plant using solar thermal energy to upgrade abundant natural gas into synthesised gas with a higher chemical energy content in partnership with GE Australia and GE Global Research Center U.S.

**The University of NSW: Tools for design and scale-up of solar thermochemical reactors.** \$1,083,320 for a \$5,322,156 project that will use supercomputing and detailed laser diagnostics to isolate and expose flow phenomena in solar thermochemical reactors, leading to improved tools for design and scale-up of a novel class of solar and hybrid energy systems, in partnership with University of Adelaide and the National Renewable Energy Laboratory (NREL).

**The University of NSW: Low cost, high efficiency copper-zinc-tin-sulphide (CZTS) on silicon multi-junction solar cells.** \$1,511,828 for a \$6,692,607 project to develop a new generation of silicon wafer cell technology in partnership with the National Renewable Energy Agency (NREL) and the Colorado School of Mines.

**The Royal Melbourne Institute of Technology (RMIT): Micro Urban Solar Integrated Concentrator (MUSIC) Centre.** \$4,521,191 for a \$13,228,371 project to develop innovative lightweight, thin, concentrating collector platforms for the delivery of up to 400 degrees Celsius thermal energy and electricity from building rooftops in partnership with the Australian National University (ANU), University of NSW, CSIRO, Rheem, Fielders, Arizona State University, University of California and the University of Tulsa.

**Australian Photovoltaic Association (APVA): Data collation and analysis for development of a climate-based PV module rating scheme.** \$268,320 for a project to provide a comprehensive photovoltaic (PV) module and systems performance database to enable consumers to select the most efficient PV system for their location and circumstances in partnership with the University of NSW, CAT Projects, Clean Energy Council, Murdoch University and the National Renewable Energy Laboratory (NREL).

**Australian Photovoltaic Association (APVA): Consumer and utility interest in active participation in the distributed energy market.** \$173,550 for a project to develop the business models and regulatory frameworks required for active participation of electricity consumers in the distributed energy market in partnership with CSIRO and the University of Arizona.