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\$41.5 million in funding for ultra low cost solar research

On behalf of the Australian Government, the Australian Renewable Energy Agency (ARENA) has today announced it has awarded \$41.5 million in funding across 13 research projects to support research and development (R&D) and commercialisation activities that aims to significantly reduce the cost of solar.

Funding for ultra low cost solar R&D will build on ARENA's previous investment into solar PV and is supporting projects that align with ARENA's 'Solar 30 30 30' target of 30 per cent module efficiency and 30 cents per installed watt at utility scale by 2030. To support this ambitious timeframe, funding has also been made available to focus on commercialisation prospects, which will take place after each project's core R&D phase, to assist getting the new technologies into the market.

The funding has been awarded to researchers from three Australian universities; The University of New South Wales (UNSW), The Australian National University (ANU) and The University of Sydney (USYD).

ARENA initially opened for applications in February this year and increased the funding allocated by a further \$1.5 million due to the strength of the applications that have the potential to reduce the levelised cost of solar PV and improve cell and module efficiency across two streams:

- **Stream 1 – Cells and Modules:** Building on Australia's leading track record of R&D and innovation in solar cells and modules (*\$27.5 million in funding*)
- **Stream 2 – Balance of System, operations and maintenance:** Seeking to broaden the approach to accelerate innovation that can drive down the upfront and ongoing costs of utility scale solar PV in the field (*\$14 million in funding*).

Ultra low cost solar will be a key input into ARENA's strategic priorities for scaling up the production of low cost renewable hydrogen and unlocking decarbonisation pathways for heavy industry including low emission materials such as green steel and aluminium.

ARENA has championed ultra low cost solar and set an ambitious target of 'Solar 30 30 30' to improve solar cell efficiency to 30 per cent and reduce the total cost of construction of utility scale solar farms to 30 cents per watt by 2030.

ARENA CEO Darren Miller said the funding will go to some of Australia's leading universities and researchers in solar PV that have helped to make Australia world leaders in solar innovation.

"Australia's solar researchers have helped to make solar PV the cheapest form of energy in history, but to create a future in which Australian solar energy supplies the world with clean power, fuels and products, we need to be ambitious and drive the cost of solar even lower," Mr Miller said.

"ARENA is supporting these universities with \$41.5 million in funding to get behind the target of 'Solar 30 30 30' to deliver ultra low cost solar, helping to optimise Australia's transition to renewable electricity and achieve our emissions reduction targets."

Since 2012, ARENA through its R&D programs has committed \$118.5 million in grant funding to 145 solar PV projects with 17 institutions. In addition to this, ARENA has also supported the Australian Centre for Advanced Photovoltaics (ACAP) with \$128.99 million in funding over 18 years up until 2030.

For more information on the below funding recipients, visit the [ultra low cost solar funding page](#).

Ultra Low Cost Solar R&D Funding Recipients and Projects	ARENA Funding	Total Project Cost
Stream 1 – Cells and Modules		
University of New South Wales		
Silver-lean screen printing for sustainable low-cost industrial PV manufacturing at the terawatt scale	\$3,364,455	\$17,276,751
Efficient and Stable Chalcogenide-Si tandem cells: integrating commercialised PV technologies	\$3,082,000	\$11,554,429
Industrial high-throughput inspection methods for high-efficiency multijunction solar cells	\$2,727,949	\$8,042,401
Low-cost >30% efficient silicon photovoltaic solar cells achieved through singlet fission	\$4,836,546	\$14,629,604
Rear-Junction p-type PERC/TOPCon Hybrid Solar Cells (RJ-PERP)	\$3,740,423	\$14,831,036
Australian National University		
Next generation silicon solar cells >26% efficiency in mass production	\$2,702,721	\$11,259,586
Cost-effective Si/perovskite tandem modules on passivating contact Si cells	\$4,308,107	\$19,015,354
University of Sydney		
Commercialising Si perovskite tandem in Australia	\$2,783,525	\$8,653,065
Stream 2 – Balance of System, Operations and Maintenance		
University of New South Wales		
Daytime Inspection Solutions for Advanced Operation and Maintenance of Solar Farm	\$2,853,813	\$9,153,598
Machine learning applications for utility-scale PV	\$2,587,980	\$10,324,568
Optimal O&M-strategy and LCOE-modelling for ground-mounted PV	\$3,746,878	\$16,365,844
Low-cost and sustainable PV systems for the terawatt scale	\$2,426,656	\$6,519,866
Australian National University		
Low-cost integration of PV for large-scale industrial heat supply	\$2,350,604	\$7,006,057
TOTAL FUNDING		\$41.5 million

Quotes attributable to:

University of New South Wales

Prof Bram Hoex, Professor and Deputy Head of School (Research) at the School of Photovoltaic and Renewable Engineering UNSW Sydney, said he was humbled by the strong support from ARENA for the broad range of projects put forward in close consultation with UNSW's domestic and international industry and academic partners for this R&D round.

"ARENA's 'Solar 30 30 30' target is perfectly aligned with our mission to accelerate the worldwide development and adaptation of renewable energy. This funding will allow us to continue to be in the driver's seat of technology development and commercialisation with an increased focus on utility-scale solar, and so driving down emissions and growing the Australian economy at the same time.

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**For more
information**
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University of Sydney

Professor Anita Ho-Baillie, the John Hooke Chair of Nanoscience in the University of Sydney's School of Physics and Sydney Nano Hub, said: "Thanks to the support of ARENA, we are thrilled to be able to work with SunDrive to accelerate the development of perovskite-silicon tandems for commercialisation"