



Validation of performance modelling for 1.2MWth solar array with high temperature receiver and integrated thermal storage

VAST SOLAR PTY LTD, TWYNAM AGRICULTURAL GROUP, THE UNIVERSITY OF NSW, RMIT UNIVERSITY

AT A GLANCE

Grant Recipient
Vast Solar Pty Ltd

ASI Funding
\$0.4 million

Total Project Value
\$1.3 million

Central receiver (power tower) concentrating solar thermal power plants are demonstrating significant scope for achieving breakthrough reductions in the Levelised Cost of Electricity and dependable supply (thermal storage). Various design strategies are being trialed in the US, Europe and elsewhere.

Vast Solar has developed unique technical innovations in the design of high efficiency / low cost components for solar thermal central receiver power plants with integrated thermal energy storage. These components have been tested individually and as an integrated system. This project seeks to validate performance modeling at increased system scale by extending an existing testing and demonstration facility in NSW.

Vast Solar will:

- construct and deploy an addition 500 heliostats
- develop a higher temperature receiver to replace the current device
- operate the facility for 18-24 months to gather performance data
- determine operational requirements for the chosen heat temperature fluid.

The data collected will be used to refine plant controls, refine economic modeling and optimise model configuration. Importantly, it will provide a tangible demonstration of the technology to potential investors in future plants.

“This project will provide Vast Solar with data on system performance that will support the continued development and commercialisation of CST technology that can break the \$100/MWh barrier.”

James Fisher, Principal Investigator

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