



Media Release

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Renewable geothermal heat pumps trialled at Blacktown greenfield estate

The Australian Renewable Energy Agency (ARENA) has today announced \$500,000 in funding to Climate-KIC Australia to lead a three-year longitudinal study into the benefits of geothermal energy in the residential sector and greenfield estates.

The \$1.7 million project will study a commercial-scale demonstration of renewable ground-source heat pumps being deployed in the Fairwater master-planned residential community in Blacktown, Western Sydney.

Climate-KIC will lead the project team comprising University of Technology Sydney (UTS), Curtin University, Wattwatchers and the Green Building Council of Australia, with \$180,000 each of funding as well as in-kind support over three years from the NSW Office of Environment and Heritage, and the developer of Fairwater, Frasers Property Australia.

If successful, the project will pave the way by establishing a business case for industry-wide adoption of ground-source heat pumps within local, renewable and efficient energy systems.

Geothermal heat pump systems will supply heating and cooling to each of the over 800 new dwellings in the Fairwater precinct.

The project is based on the living laboratories concept of using existing buildings to evaluate performance of energy efficiency and sustainability initiatives.

ARENA CEO Darren Miller said the project would demonstrate the potential of using geothermal energy to power households.

“Ground sourced thermal energy being installed in new housing estates could reduce energy consumption and cost as well as benefiting the network by lowering peak demand and the associated need to invest in expensive infrastructure,” Mr Miller said.

“If successful, this study could help demonstrate the value of geothermal energy to

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greenfield developers, potentially seeing further housing developments implement this renewable technology,” he said.

Frasers Property Australia Executive General Manager – Residential Anthony Boyd said Frasers were always looking at opportunities to invest in smart sustainable technology that benefits its customers and the environment.

“This real-world research will provide important data for the industry to optimise the deployment of geothermal technology in communities of the future. It’s the type of study that will help accelerate the pace of change the Australian property industry must embrace if, as a country, we are to meet our international climate change obligations,” Mr Boyd said.

Climate-KIC Australia CEO Christopher Lee said the Fairwater Project represented a unique opportunity to measure, evaluate and understand the use of new technologies.

“Working with a proactive property developer, leading researchers, start-ups and industry bodies allows us to bring a broad range of skills to a complex project. We are excited to be able to develop important insight for the property sector going forward.”

Project Lead Investigator Associate Professor Leena Thomas from UTS said the Fairwater Living Laboratory will include detailed energy and environmental monitoring, community engagement, and feedback from residents about their everyday experience of the homes and the precinct.

“The research will deliver a better understanding of the opportunities and barriers for wider adoption of the innovative geothermal heat pumps and other sustainable design features included at Fairwater.

“Additionally, the living laboratory offers a unique opportunity for our cross disciplinary team of experts from architecture and building to science, health and sustainable futures, to evaluate how this six star Green Star precinct performs in terms of sustainability, resilience, commerciality, health and wellbeing”, Associate Professor Thomas said.