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Geothermal project for clean energy and fresh water

RMIT University researchers are developing new dual geothermal technology to meet two of the greatest challenges facing Australia today.

The all-in-one system to simultaneously produce clean electricity and drinking water will be developed through a \$1.12 million research project, conducted with industry partner Greenerth Energy.

The project was officially launched last week at RMIT's Bundoora campus by Victorian Energy and Resources Minister, Peter Batchelor.

At the launch, Mr Batchelor said it was crucial for industry, academia and governments to work together to make advances in the area of renewable energy and drinking water.

"The impact of climate change requires that we harness the best and brightest of minds," he said.

"This project has the potential to be an extremely valuable and important technological innovation.

"It almost sounds too good to be true and that's the really exciting part about it."

Professor Aliakbar Akbarzadeh is leading the team of researchers – including Associate Professor John Andrews and Professor Jiyuan Tu – developing an innovative system that combines fresh water production with electricity generation using entirely renewable sources.

"Our research focuses on the development of a dual geothermal system that can desalinate hydrothermal waters while generating renewable power," he said.

"While our dam levels may be low, Australia has billions of litres of hot salty water stored in geothermal reservoirs between two to four kilometres underground.

"With the environmental pressures facing our hot, dry continent, we need to develop systems that can effectively tap into this vast and under-utilised resource."

Researchers have seen promising results from a small-scale concept prototype developed at the Thermo-Fluids Laboratory in RMIT's School of Aerospace, Mechanical and Manufacturing Engineering.

The three-year project, funded through an Australian Research Council Linkage grant and Greenerth Energy, will focus on further development of the prototype, and performance improvement and evaluation of the dual geothermal system.

Greenerth Energy Managing Director, Mark Miller, said the research outcomes, if successful, would be used to develop commercial systems for a range of applications, including units capable of producing 0.1MW of electrical power and 75,000L of



The dual geothermal system combines fresh water production with electricity generation.



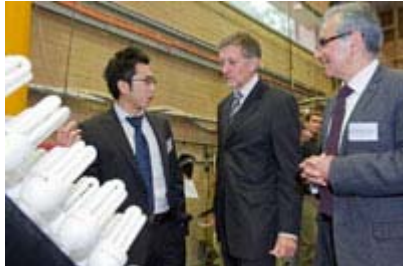
Victorian Energy and Resources Minister Peter Batchelor officially launches the project.

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water per day, suitable for small and isolated communities off the main electricity grid.

"This project could pave the way for the effective use of suitable hydrothermal waters, offering export opportunities through the commercial manufacture of small to medium-scale dual geothermal systems," Mr Miller said.



Professor Aliakbar Akbarzadeh looks on as Master of Engineering student Fulaqi Bai explains the functions of the concept prototype to Victorian Minister Peter Batchelor.



Acting RMIT Vice-Chancellor and Pro Vice-Chancellor (Research), Professor Daine Alcorn.



RMIT's Professor Aliakbar Akbarzadeh, Greenerth Energy Managing Director Mark Miller, Greenerth Energy Chairman, Simon Molesworth AM, and Associate Professor John Andrews.

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