

Cooling tower could revolutionise energy generation in drought areas

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New technology from the University of Queensland could transform electricity generation, making it cheaper and more reliable for drought-affected areas.

The hybrid cooling tower technology at The University of Queensland's Gatton campus allows for the study and development of new methods to reduce water consumption in thermal power generation.

UQ School of Mechanical and Mining Engineering Senior Lecturer Dr Kamel Hooman said it had the potential to make [solar thermal power](#) generation viable in regional areas suffering from drought, where water consumption is a major issue.

"We are aiming to reduce water consumption in future Queensland [power generation](#) plants by over 70,000 megalitres per year by 2020, equivalent to about 28,000 Olympic sized swimming pools," Dr Hooman said.

"The implications of that are huge – offering up a reliable electricity supply without posing a significant environmental cost on rural communities.

"The hybrid cooling tower technology uses a combination of water and air cooling, depending on the conditions," he said. "It operates in the "dry" mode, which requires no water, for a majority of the year.

"For very hot days, commonly less than two weeks a year in Queensland, [thermal power](#) generation efficiency can be maintained without having to evaporate copious amounts of water," he said.

Queensland Minister for Science and Innovation Leeanne Enoch visited the facility today (23 September).

Ms Enoch said the technology could transform [electricity generation](#) in Australia and overseas, through its cutting of water consumption and operating costs.

"Water conservation is a significant challenge in arid areas and there is a substantial market for technologies that make the most efficient use of this valuable resource," Ms Enoch said.

"In Queensland, we're well aware of how precious water is and we know that in drought, you can't afford to waste a single drop.

"Electricity generation requires large quantities of [water](#) and, in response to this challenge, research organisations worldwide are seeking to develop efficient cooling technologies that reduce [water consumption](#).

"The University of Queensland has taken a giant leap forward in this field with the development of this hybrid cooling tower test facility," she said.

Provided by University of Queensland

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