

# AUSTRALIAN MICROGRID EXPERIMENT

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Will microgrids become popular in Australia? The microgrid concept will become very popular in Australian communities in the near future. Renewable energy penetration, in particular Solar PV proliferation in many countries including Australia, has changed the dynamics of power systems. Australia now has more than 2 million households fitted with rooftop solar PV systems.



Can microgrids improve energy reliability in remote communities? Many of the microgrid feasibility studies aimed to improve energy reliability in remote communities. An interviewee involved in the microgrid feasibility study in a small remote community in Western Australia highlighted that the town is on a 100 km radial line. Any fault on that line can disrupt the power supply in the whole town.



How resilient are microgrids in Australia? Resilience was found to be a particularly strong driver for microgrids in Australia, while microgrids are expected to have a critical future role as part (islanded or not) of the electricity network. A lack of national policy framework for microgrids was identified as a major barrier that would hamper their implementation.



What are the potential impacts of microgrids on indigenous communities? The potential range of impacts is enormous, from energy and cost savings for a single vineyard to renewable energy providing sustainable power for a whole community, to microgrids enabling Indigenous communities to sustain their way of life on homelands. a??



Are microgrid feasibilities funded by a national government program in Australia? In Australia, significant government funding is being provided to projects undertaking microgrid feasibilities for rural and remote communities. This research explored the attitudes and experiences of those involved in 25 microgrid feasibility projects funded by a national government program in Australia.

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Are microgrids a viable alternative to the national electricity grid? In Australia and around the world, many communities are attracted to renewable energy microgrids. The benefits include energy security, reliability, equity, autonomy and emissions reduction. Above all, microgrids offer a viable alternative to the national electricity grid.



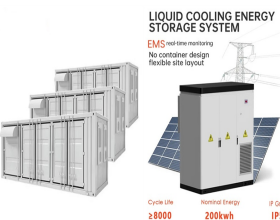
We investigated 20 microgrid feasibility projects in regional and remote locations across Australia. Wright, S., et al (2024) Energy Research & Social Science, CC BY-ND The Marlinja microgrid is a



In Exmouth, Western Australia, microgrid technology will be used to help the town achieve 100 percent renewable energy. Another project will focus on a 1-MW solar and battery microgrid that will combine the energy needs of several industrial businesses into an aggregated network. The structure will provide cost savings for the clients and increase



The Australian Power Quality Research Centre (APQRC) at University of Wollongong (UOW) has received \$1.1 million from the NSW Government to establish Australia's first mixed-use, precinct-based microgrid that will provide critical research infrastructure for microgrid-based electricity generation, storage, consumption, demand management and a?]



On 24 May 2021, the Australian Microgrid Centre of Excellence (AMCoE) and Climate KIC Australia announced a new agreement relating to cross-contributions and cross-activities to participate in both the Australian Ocean Energy Group (AOEG) funding, contributions and/or activities. The consortium agreement commenced from 24 May 2021 and was in



The regulatory regime applicable to a microgrid in Australia will differ significantly depending on several factors, including whether a microgrid is connected to the National Electricity Market (NEM), whether the proponent is a local distributor or another party, and the jurisdiction in which the

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microgrid is located.

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Many communities in Australia hit by bushfires, floods, unreliable electricity and extended power outages are looking into community microgrids, but a number of obstacles stand in the way, according to a report by two researchers from the Institute for Sustainable Futures at the University of Technology Sydney.



Divergent Engineering works on some of the most interesting and complex challenges across the energy, electrical, resources and mining sectors. They help to understand, balance, and manage economic, environmental, social and governance risks and opportunities. They embed sustainability in strategy, projects, and operations. Divergent Engineering has embraced a?



This variety of drivers is reflected in the collection of contemporary microgrid projects underway in Australia and captured in renewable energy project databases (i.e. Australian Renewable Energy Agency (ARENA) projects [71] and Energy Networks Australia's Stocktake: Database of renewable energy grid integration projects [72]) (see Table 2 for a?)



Rizqiawan et al. [38] designed a grid-connected inverter experiment module for a microgrid at a laboratory scale. The inverter was developed modularly to help students understand the basic concept

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4 . This study investigated how community engagement was applied by nineteen organisations that received funding to undertake microgrid feasibility studies for ninety a?]



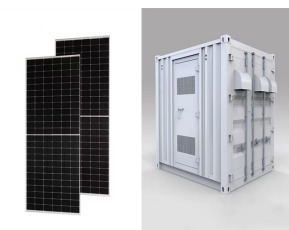
Meet our Committee Terry Mohn (Chairperson) Alex Ogg (Vice Chairperson) Om Dubey (Treasurer) Tirthankar Banerjee (Secretary) Alberto Balbo Gwen Cohen Larisa Dobriansky Greg Fonti Chris Kearney Michael Wake Colleen Yates



The new policy package, which will also put \$10 million towards local wind turbine manufacturing, was announced by the McGowan government on Wednesday, after it scrambled to deal with the Liberal Opposition's refreshingly ambitious New Energy Jobs plan that includes a zero emissions grid by 2030. Of the \$259 million earmarked, the vast majority will a?]



Australia is experiencing a surge in the development and implementation of microgrids, particularly in regional and remote areas. This trend is driven by several factors: Increased reliability and resilience: Microgrids can operate independently of the main grid, providing a reliable power source during outages caused by extreme weather events or other a?]



The findings confirm that the development of microgrids in Australia remains nascent, with projects in differing locations grappling with similar opportunities and barriers. Ownership and business models continue to evolve, complicated by legacy regulation and entrenched market players within and between the states and territories. Technology

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It appears that budding solar ?prosumers? and leading edge distributed clean-tech services providers in Australia feel the same way, but we'll just have to wait and see how this new energy ?experiment? pans out. a?|



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On behalf of the Australian Government, the Australian Renewable Energy Agency (ARENA) has today announced the launch of the \$50 million Regional Australia Microgrid Pilots Program (RAMPP) to support a?|



Join Mr. Terry Mohn, Chairperson of AMCOE, in an insightful brief analysis that explores the impact and considerations of Distribution Energy Resources (DER), Distribution System Operators (DSO), and Embedded Microgrids. From the perspectives of consumers and utilities, Mr. Mohn examines the significant differences in economics, reliability, and a?|



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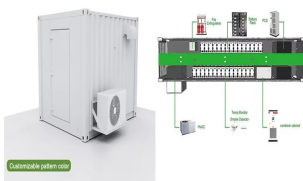
Endeavour chose Kioloa and Bawley Point for its microgrid experiment due to a relatively rare combination of factors. The communities are located at the end of a 30-kilometre feeder line with few other users, have a history of power outages, and have a high proportion of houses with rooftop solar and batteries.



The Western Australian government has released the results of a first-of-its-kind project, combining hydrogen and solar to create a microgrid. which combined hydrogen and solar to create a



The Cook Government has today released a Public Knowledge Sharing Report on the Denham Renewable Hydrogen Microgrid - the first of its kind in Australia. The project, which is now fully operational, includes a 704-kilowatt solar farm, 348kW hydrogen electrolyser and a 100kW fuel cell located in Denham, providing an innovative alternative to diesel a?]



A Review of Australian Microgrid Technologies 7 We then assess various vendors in the Australian market using the framework developed in the first section. This allows you to see the framework in action, and how it can be applied to reviewing different types of vendors such as hardware suppliers, software suppliers, and market participants.



Small collections of electricity generators, or microgrids, have long been used in disaster recovery, when network supply falters during bushfires or cyclones. But now the technology is being used to provide secure, 24-7 supplies of clean energy in Australian communities where connection to the main electricity grid is but a pipedream.



Two communities that went without power during Black Summer are getting a microgrid to keep the lights on during network outages. As another dangerous fire season looms, is this technology the way

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The team's earlier research, led by Dr Wright, was published in Sustainability (2022), "Australian Renewable-Energy Microgrids: A Humble Past, a Turbulent Present, a Propitious Future", highlights the important role of a?]



The development of a custom control program that allows for the autonomous management of the sub-systems that make up a hybrid solar and green hydrogen microgrid helping to power the Western Australian town of Denham is among the key lessons outlined in a new report released by the state government.