

PHOTON ENERGY NEWS RELEASE

BROADCAST AUSTRALIA WINS AWARD FOR PHOTON ENERGY SOLAR BATTERY SYSTEM

The international trade association for suppliers of broadcast and media technology IABM has given its International Award for Excellence in Sustainability to Broadcast Australia for installing a solar battery solution designed and delivered by Photon Energy. In 2014, Photon Energy commissioned a unique 39 kWp / 215 kWh solar storage system, which delivers clean energy to a radio antenna in Muswellbrook, Australia. The now award-winning pilot project has demonstrated the reliability of solar power in demanding conditions. The radio broadcast tower delivers broadcasting, radio, and critical emergency services for over 50,000 end users within a 500 km radius. The project was installed in cooperation with the German Energy Agency dena.

Photon Energy installed the unique system in 2014 after a demanding design process, given the ruggedness and reliability demanded by the Australian outback, where many sites are extremely remote and operate under harsh conditions. Two years on, production and operations data clearly shows that solar power is now a reliable and economically sensible option for power generation in remote areas.

“Solar with batteries is no longer only the realm of small power needs. Now, we can just as effectively and reliably power large infrastructure such the Muswellbrook broadcast antenna”, explains Michael Gartner, Managing Director of Photon Energy Australia.

The system was designed as a hybrid power plant, providing 93 per cent of the energy needed from solar power and battery storage and the rest from either a diesel backup generator or the power grid. Thanks to an automated control system the temperature inside the battery container is kept at stable temperatures and the average state of charge was kept at approximately 70 per cent. Both factors contribute to longer battery life. The system has a production capacity of 39 kWp, while the 72 batteries can store 215kWh of power, producing enough solar energy to run the Muswellbrook transmission system for up to 43 hours and take just over 5.5 hours to charge at full efficiency.

The project was not without its challenges. The solar solution needed to be reliable enough to meeting a 24 hours per day load requirement, whilst still being commercially viable. The Muswellbrook site consumed over 40 MWh from the grid on annual basis, and therefore the system had to produce enough power to maintain optimum performance once offline. The incumbent 15kVA diesel generator was retrained as a backup system to counter periods of adverse sunlight.

The solution was mobilised in 2014 and achieved savings of 38 MWh per year (equivalent to 95% of the sites baseline), with a complete reduction in outages and zero disruption to services for their customers.

This project is part of the worldwide dena Renewable Energy Solutions Programme coordinated by Deutsche Energie-Agentur GmbH (dena) – the German Energy Agency – and co-financed by the German Federal Ministry for Economic Affairs and Energy (BMWi) within the initiative „renewables – Made in Germany“.

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ABOUT PHOTON ENERGY

Photon Energy NV is a global solar power solutions and services company covering the entire lifecycle of solar power systems. Since its foundation in 2008 Photon Energy has built and commissioned more than 50 MWp of solar power plants across two continents and supplied the technology for many more projects. Photon Energy's O&M division provides operations and maintenance services for over 190 MWp worldwide. Photon Energy is headquartered in Amsterdam and has offices in Europe and Australia. For more information please visit www.photonenergy.com

**EXPERTS FOR THE
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