



MEDIA RELEASE

28th March 2025

FOR IMMEDIATE RELEASE

**Cairns Aquarium to power 100% of Aquatic Life Support Systems
with Large Scale Renewable Energy Microgrid**

With over 5 million litres of water on site running through 14 plantrooms and 71 living displays, housing some 16,000 fish and aquatic organisms including ocean-going sharks, rays and grouper, within a 7,800 square metre airconditioned building, Cairns Aquarium is one of the city's largest energy users.

In an effort to reduce its reliance on fossil fuels, improve resilience to power spikes and power cuts during inclement weather, and as part of its journey for sustainability and action on climate change, the Cairns Aquarium has installed a 401 kw roof top solar array spanning almost an acre, some 4,000 square metres of roof top space.

The \$400,000 renewable energy investment will provide 100% of the Aquariums energy needs to power its Life Support Systems (LSS) which includes aquatic pumps and mechanical and biological filtration that operates 24 hours a day, 365 days a year to provide purified water for the inhabitants.

The significant local investment in renewable energy generation was supported through co-funding from the Queensland Government's Building Resilient Tourism Infrastructure Fund (BRTI).

The 401 k/w system will provide enough energy daily to power the equivalent of 125 homes.

Cairns Aquarium CEO Daniel Leipnik said that the installation, involving almost 700 x 585W solar panels was an important sustainability initiative for the business.

"The hallmark of the Cairns Aquarium is our ability to educate people about the beautiful underwater world of the Great Barrier Reef and its adjoining mangrove and freshwater ecosystems. Each day our team members present educational talks to thousands of visitors about these beautiful environments and what people can do to protect the planet. Having a large scale renewable energy power source on site demonstrates our efforts to reduce fossil fuel use and support action against climate change."

The project involved considerable hurdles such as designing and engineering a system that could work alongside grid sourced power without impacting sensitive computerised water quality plant and equipment.

A large team of specialist consultants and engineers across Australia joined forces to engineer a solution for large scale onsite renewable energy needs for the Aquarium. Contractors worked with Ergon energy to ensure compliance while providing the ability for the Aquarium to generate renewable energy.

"Between the sheer volume of panels, weight loads on an existing roof, energy generation considerations, and electricity protection, a whole team approach was needed in this instance," Mr Leipnik said.

A key design feature was the use of a multiple large inverters to manage power transmission.



“GoodWe HT Inverters were selected due to an overall specification focused on continual performance and maximising of solar energy yields to provide the lowest levelized cost of electricity (LCOE). In addition, the enhanced safety features such as IP66 ratings, lightning surge protection and internal humidity monitoring, made GoodWe the ideal choice in a tropical climate and Cairns Aquarium’s specific application.”

Despite being located on the building’s 11 metre high roof top, visitors to the Cairns Aquarium can still see the energy generation in real time through a live display screen in the Aquarium’s lobby.

“Typically, you would only ever see systems this large at airports or shopping centres.” Leipnik added.

The renewable energy generated by the massive solar array will deliver tangible environmental benefits for the city which includes the equivalent reduction in greenhouse gas emissions of 12,872 trees planted each year or the avoidance of 213,830 litres of fuel used per year or the avoidance of 243,017 kilos of coal burnt each year.

The solar array, one of the largest to be installed in Cairns, will be switched on, on the 28th March 2025

“Our whole team is excited to see this significant infrastructure project completed, installed and generating renewable energy.” Leipnik concluded.

Assistant Minister for Tourism, Ms Bree James, MP, joined company executives to inspect the solar array.

In the wake of Tropical Cyclone Jasper, Assistant Minister for Tourism Bree James highlighted the critical need for Cairns’ tourism operators to implement sustainable and resilient initiatives to better protect against future natural disasters.

“As a key tourist attraction in the region, Cairns Aquarium plays an important role in showcasing the wonders of North Queensland’s natural environment.

“The roof top solar array funded through the BRTI fund will allow Cairns Aquarium to reduce their reliance on the grid, lower their carbon footprint and future-proof themselves against natural disasters while continuing to offer quality experiences to tourists in an environmentally friendly way.

“It’s great to see the aquarium embracing renewable energy and I’m confident that this investment will not only help them run more efficiently but also encourage other tourism operators to follow suit.”

The \$10.9m Building Resilient Tourism Infrastructure Fund (BRTI): Tropical Cyclone Jasper, was provided as part of the \$29.15 million Tourism Recovery and Resilience Package jointly funded under the joint Australian and State Disaster Recovery Funding Arrangements.

The Building Resilient Tourism Infrastructure Fund (BRTI): Tropical Cyclone Jasper, provided grants for impacted tourism businesses to build resilience and aid their response to future flooding and natural disasters through innovative solutions and bespoke engineering projects, such as flood prevention infrastructure, equipment such as alternative power, safety upgrades, or flood levees.

“Cairns Aquarium was one of 75 North Queensland tourism businesses to receive funding support for projects that build resilience against future disaster events.”



“I’m really pleased to see the successful delivery of this project to enable a local tourism business to be better equipped with its own onsite energy generation” Ms James added.

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Media Photo Opportunity:

WHEN: 10:00am 28th March 2025 –
WHERE: Cairns Aquarium, 5 Florence Street, Cairns
WHAT: Inspection of the 400 k/w roof top solar array at the Cairns Aquarium.
WHO: Assistant Tourism Minister, Ms. Bree James, MP
Cairns Aquarium, CEO Daniel Leipnik
Solenergy Pty Ltd, CEO, Mark Ridgely
GoodWe Australia Pty Ltd, Country Manager, Dean Williamson



Image: The Cairns Aquarium 1 acre inner city rooftop transformed into a microgrid with almost 700 High efficiency solar panels.



About the Cairns Aquarium

The Cairns Aquarium is a major tourism attraction which provides visitors with a guaranteed experience and interaction with fish and aquatic animals from the Great Barrier Reef and surrounding Wet Tropics ecosystems. The world class indoor attraction is located at 5 Florence Street on the corners of Abbott, Florence and Lake Street in Cairns. The award-winning attraction is only a block or two walk from all of Cairns major hotels and city attractions and just 7 minutes' drive from the Airport.

The two level, 7,800 square metre facility houses over 16,000 endemic fish and aquatic organisms housed in an immersive and life-like journey. Visitors enjoy a 2-hour interactive experience through 11 Tropical North Queensland eco-systems including: The Great Barrier Reef, Tropical Rainforest, Forest Floor, Rivers Systems, Creeks & Streams, Coastal Zones, Mangroves, Gulf Savanna, Ribbon Reef, and the Coral Sea. In addition to the 71 live exhibits, the Cairns Aquarium's research arm conducts vital research and bio-technology development of Northern Australia fisheries and crustacean species.

Some of the notable attractions include a 400,000 litre flooded waterways and billabongs exhibit with giant barramundi and freshwater whiptail rays, a 10 metre tall, 300,000 litre Outer reef exhibit with over 1000 brightly coloured marine fish, and a 1.8 million litre Coral Sea oceanarium filled with ocean going predatory fish such as sharks, rays, grouper, trevally and snapper. Make sure you look out for some of the world's deadliest marine creatures on display in the "Dangers of the Reef" zone.

The Cairns Aquarium provides an educational and enjoyable experience of the regions marine's life prior to a trip to the Great Barrier Reef or a perfect follow up to see the reef creatures you may have missed. The Cairns Aquarium is suited to all ages, cognitive levels and mobility types. The building is air conditioned, open 365 days a year and fun for the whole family.

For more information, please visit www.cairnsaquarium.com.au

For more information, please contact:

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