TRAILBLAZER
RESOURCES TECHNOLOGY & CRITICAL MINERALS

JAMES COOK UNIVERSITY AUSTRALIA

Resources Technology and Critical Minerals Trailblazer

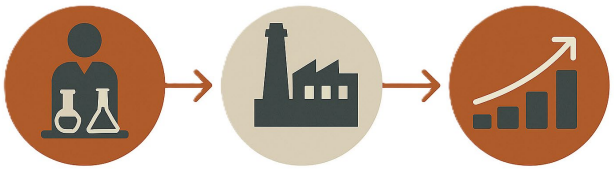
Transforming how industry, universities and research work together

Supporting optimization of resource operations by developing new technologies

Equipping innovators with the skills and knowledge to transform the sector

Project

Off-Grid EV Charging Solution with Cyclone-Resistant Solar Carport for Remote Mining Operations



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Off-Grid EV Charging Solution with Cyclone-Resistant Solar Carport for Remote Mining Operations

Project Description

Problem

High cost of conventional fuels.

No off-grid EV charging technology available for remote operations.

Cyclone-resistant design is critical for remote northern regions.

Aims

Develop an off-grid EV charging system with integrated battery storage and AI-based energy management.

Design cyclone resistant PV modules and carport structures.

Build functional prototype to validate performance.

Deliver feasibility, structural and operational reports to support commercial deployment.

Partnerships

Collaborators

James Cook University – Engineering, Cyclone Testing Station

Industry – My Energy Group

Project Lead

Dr Yang Du, JCU

Contributions

Industry ~ $1.2m

Trailblazer ~ $0.25m

Total Project Value ~ $1.45m

April 2026

For further information on JCU Trailblazer projects please send enquiries to: EGRU@jcu.edu.au