

Sustainable solutions

HOW CLEAN ENERGY CAN HELP PROTECT THE GREAT BARRIER REEF



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What is your favourite waterway in the Mackay-Whitsunday-Isaac region?
My favourite waterway is the Pioneer River. It was such a huge part of my life growing up in Mackay. I have many special memories of swimming in the gorges and rock pools, jumping off the rocks at Dumbleton Weir and BBQs by the river with family and friends.

What does sustainability mean to you?
Sustainability is about achieving a balance of three key pillars - the environment, the economy and social equity. I believe it requires an urgent focus on advancing and adopting cleaner, renewable sources of energy, like wind and solar, which cannot be depleted and will remain viable for generations to come.

Decarbonising energy production

Decarbonising electricity generation is central to reducing greenhouse gases, which is critical to limit global warming and mitigate the effects of climate change threatening biodiversity and natural environments like the Great Barrier Reef.

Energy production, especially electricity generated from fossil fuels, is the largest contributor to Australia's carbon emissions.

Ark Energy specialises in utility-scale wind and solar energy generation, battery energy storage systems and renewable hydrogen.

Wind and solar are the cleanest, safest and cheapest sources of electricity. Battery storage systems add firming capacity so that variable renewable energy sources like these can provide a stable and reliable supply to the grid. Renewable hydrogen can also be stored and is a clean fuel source for transport and industrial processes like manufacturing.

Queensland is blessed with abundant wind and sunshine, and renewable energy sources are being integrated into the electricity market. In 2023 renewable sources, mostly wind and solar, contributed 39.4% of Australia's and 27.5% of Queensland's electricity generation¹. Reaching emissions reduction targets (43% on 2005 levels nationally by 2030, 75% in Queensland by 2035 and net zero by 2050²) requires adding a lot more, at speed and scale.

¹ Clean Energy Council, Clean Energy Australia 2024 report
² Climate Change Act 2022 (Cth), Clean Economy Jobs Act 2024 (Qld)



Ark Energy's Collinsville Green Energy Hub, proposed for an area near Collinsville and south-west of Bowen, is in the early planning and design stage. It's intended generation capacity of at least 3,000 megawatts of clean, renewable electricity will support decarbonisation of Queensland's electricity network and production of renewable hydrogen for domestic use and export.

Protecting the natural environment

Avoiding, minimising and mitigating the environmental impacts of the project is a priority and will be done through careful planning and management.

Comprehensive and rigorous assessment of the potential environmental impacts on the site, surrounding areas and downstream is required. This includes on waterways, erosion risk, and aquatic and marine habitats and species. It will be done from the perspectives of the region's catchments including the Great Barrier Reef, and involve years of work including field studies, multi-seasonal surveys and targeted investigations for key species by specialist ecologists and survey teams.

Baseline studies will inform understanding of the existing water quality in creeks and water bodies on the site. New data and information will be shared with the Healthy Rivers to Reef Partnership.

During construction protecting water quality, minimising potential impacts on natural waterways and drainage patterns, and erosion control, will be done through leading practice and adaptive monitoring and management processes.

Specific and detailed plans will be done for rehabilitation management, erosion and sediment control during construction, site stabilisation during operation, and stormwater management. Erosion and sediment control measures will be implemented until construction is complete and exposed areas have been properly rehabilitated.

Opportunities to improve the quality of aquatic and marine environments in the region will also be explored as part of efforts to achieve environmental net gains and share project benefits with the local community.



Water sampling will be undertaken throughout the development phase to form a baseline understanding of existing water quality on site.

Development approach

- Iterate the project's design as more information becomes available, to avoid and minimise environmental impacts to the maximum extent achievable.
- Consult widely with environment stakeholders and workshop solutions where required, to find workable compromises with meaningful benefit.
- Invest and collaborate on strategies and commitments for repair such as rehabilitation of the initial construction disturbance.
- Develop strategic initiatives to increase the quality and size of protected habitat areas and habitat connectivity for key species, such as environmental offsets and tailored management regimes (e.g. fire management, feral pest management and weed control).

- Focus on net gain for biodiversity and key species in the project area over the longer term.

MORE INFORMATION

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