



## GRAPHITE ENERGY RECEIVES GREEN LIGHT TO DEVELOP \$29 MILLION SUSTAINABLE ENERGY PRECINCT IN LAKE CARGELLIGO

**Lake Cargelligo, Australia: 12 September 2023** — Graphite Energy, an Australian technology company that has developed a proprietary thermal energy storage system for the decarbonisation of industrial and manufacturing operations, has received development approval to develop its Lake Cargelligo facility in New South Wales.

Graphite Energy's Lake Cargelligo facility will commence construction in late 2023 and mark the first stage of the company's Lake Sustainable Energy Precinct masterplan. The new Lake Cargelligo facility will extend Graphite Energy's current site to house a new manufacturing research facility, which will play a vital role in the testing and design of systems that will deliver the Lake Sustainable Energy Precinct.

Upon completion, the Lake Sustainable Energy Precinct will generate renewable energy to power sustainable agriculture and create a robust circular economy, serving as an Australian-first pilot model that can be scaled and replicated throughout Australia and the rest of the world.

The ground-breaking \$29 million Lake Sustainable Energy Precinct is a collaborative effort between Graphite Energy and Cygnus Ag, as well as other key stakeholders from industry, research and government. The project aims to demonstrate how renewable energy and agriculture can coexist, using industry advancements to enable renewable energy sources without forgoing farmland.

The Lake Sustainable Energy Precinct masterplan will include a 5MW solar photovoltaic (PV) field combined with multiple forms of integrated energy storage, including:

- battery energy storage for providing electricity
- thermal energy storage for providing heating, cooling and drying
- hydrogen energy storage for providing electricity and diesel fuel substitution

The energy will then be used to power sustainable agriculture operations, which will include:

- agrivoltaics - protected cropping operation underneath and between the solar panels
- greenhouse - protected cropping for the production of vegetables and leafy greens
- fish farm – tank-based aquaculture system to produce fresh fish

Once fully operational, it's estimated that the Lake Sustainable Energy Precinct will avoid over 250,000 tCO<sub>2</sub>-e in carbon emissions over its lifetime, serving as the poster project for how new technology can be leveraged to deliver viable green energy alternatives.

The surplus energy generated by the Lake Sustainable Energy Precinct will be exported to the grid and the waste streams generated from the agricultural operations will be recycled to create compost and fertiliser.

Graphite Energy Chief Executive Officer, Peter Lemmich, said the approved Lake Sustainable Energy Precinct represents a significant step forward for energy independence and a cleaner, greener future.

"As well as playing an instrumental role in supporting local agriculture in Lake Cargelligo, the Lake Sustainable Energy precinct will pioneer a pathway for the decarbonisation of agriculture more broadly,



which will be a difficult to abate sector of the economy. We hope this will become a model that can be replicated elsewhere as we transition to a lower carbon economy,” said Mr Lemmich.

The creation of new renewable energy and sustainable agricultural operations will support the local economy by increasing employment opportunities. It’s estimated up to 30 new jobs will be created once the precinct is fully operational, in addition to 100 jobs through the various stages of the construction process. The welcomed boost in employment also opens up new clean energy career pathways in regional Australia.

The project is the result of concerted efforts by various stakeholders, including the Australian Government which has supported Graphite Energy through its MMI Program. The funding is testament to the recognition of the potential to use innovative technology to drive the progress of industrial decarbonisation.

This visionary project underscores Graphite Energy’s dedication to sustainable energy solutions, the decarbonisation of industry and agriculture, and its alignment with a larger movement toward a circular economy and environmentally responsible practices.

Construction of the first stage is earmarked for completion by July 2024. For more information about Graphite Energy, visit: <https://www.graphiteenergy.com/lake-sustainable-energy-precinct>

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**MEDIA CONTACT**

**Sandra Brkic**

**PR Director**

**[sandrab@thedostory.com](mailto:sandrab@thedostory.com)**

**+61 401 686 177**