



MARKET RELEASE
For Immediate Release
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Joint Venture Partner Presentation Asia-Pacific Solar Research Conference

The Company's joint venture partner, Sunlands Co., recently presented at the Asia-Pacific Solar Research Conference. The conference provides a regional forum for communicating technology developments generally in solar related research and includes recent developments in thermal storage. A copy of the presentation is attached.

FOR FURTHER INFORMATION CONTACT:

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ABOUT QUANTUM GRAPHITE LIMITED

QGL is the owner of the Uley flake graphite mineral deposits located south-west of Port Lincoln, South Australia. The company's Uley 2 project represents the next stage of development of the century old Uley mine, one of the largest high-grade natural flake deposits in the world. For further information, qgraphite.com.



The Sunlands Co.



Back to the Future



ASIA-PACIFIC
SOLAR RESEARCH
CONFERENCE

16 - 17 December 2021 SYDNEY



The Challenges to an Emissions Free Grid

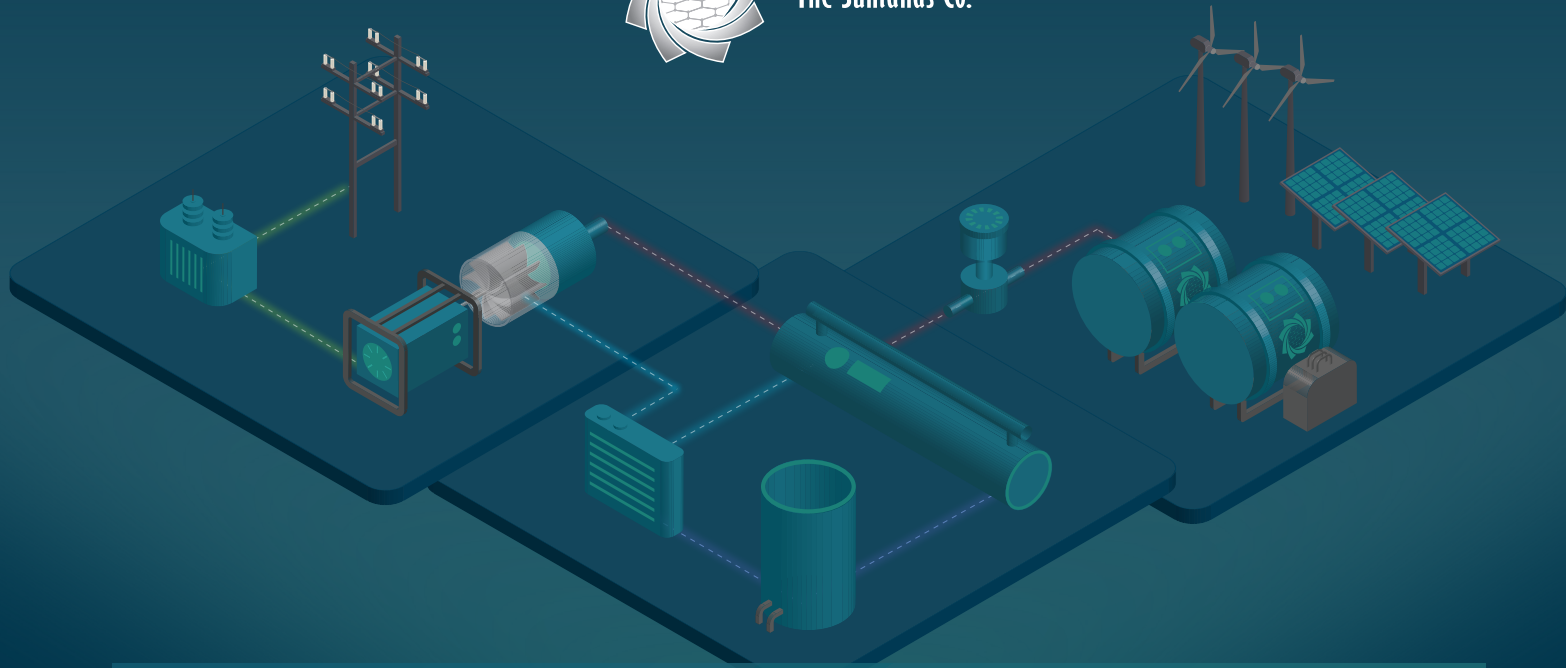
Community expectations, corporate ESG standards and government policy settings have set us on the path to decarbonisation. Here is the challenge...

- Renewables generation numbers
 - ~20% of NEM load
 - ~35% of generation capacity
 - ~2.4 million solar PV systems delivering ~10.7GW
- Factors slowing continued penetration of renewables:
 - Operational and regulatory challenges associated with intermittency
 - Low marginal value of dispatch
- Most coal fired generators are within the final 7-15 years of end of technical life and solutions to replace loss of inertia and dispatchability remain illusive

The Solution...



The Sunlands Co.



Scalable Long Duration Energy Storage

The only thermal storage technology designed to drive utility scale steam turbine generators. With an operating temperature range of 670° Celsius to more than 2,000° Celsius our TES cells are uniquely capable of restoring baseload generation and critical inertia to grid networks.

Simplicity of the Thermal Cycle

- a flake graphite based thermal storage media and heat transfer fluid that undergo no phase change
- conventional heat transfer with water to produce superheated steam
- variable steam delivery up to the thermal power plant's nameplate rate



Superior Operational Control

- charging of TES cells is agnostic of power supply – any available power supply can be used to heat TES cells
- charging and discharging of TES cells can occur simultaneously
- no limit on number of annual/monthly/daily cycles
- seamless inertia and dispatchability



- joint venture with Quantum Graphite Limited guarantees reliable supply of flake graphite free of the significant challenges associated with the increasing demand for this critical mineral and the more immediate global supply chain constraints
- negligible environmental footprint with every component recyclable at very low-cost utilising convention technologies
- safe operating environment, no requirement for complex safety systems
- round trip efficiency limited only by efficiency of prevailing turbine technology
- capable of supplying needs of sub critical, super critical and ultra-super critical turbines
- very long life, many times that of electric batteries
- unrivalled TES cell scalability, doubling storage hours is a fraction of the cost of comparable scaling of electric batteries





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