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ASX:14D

Positive outlook for Aurora revenues

- A green hybrid storage solution for Aurora Project takes shape
- Simulation of past five year data indicates strong revenue prospects



Image: 1414 Degrees concept for Aurora Solar Energy Project with TESS-GRID near Port Augusta, South Australia

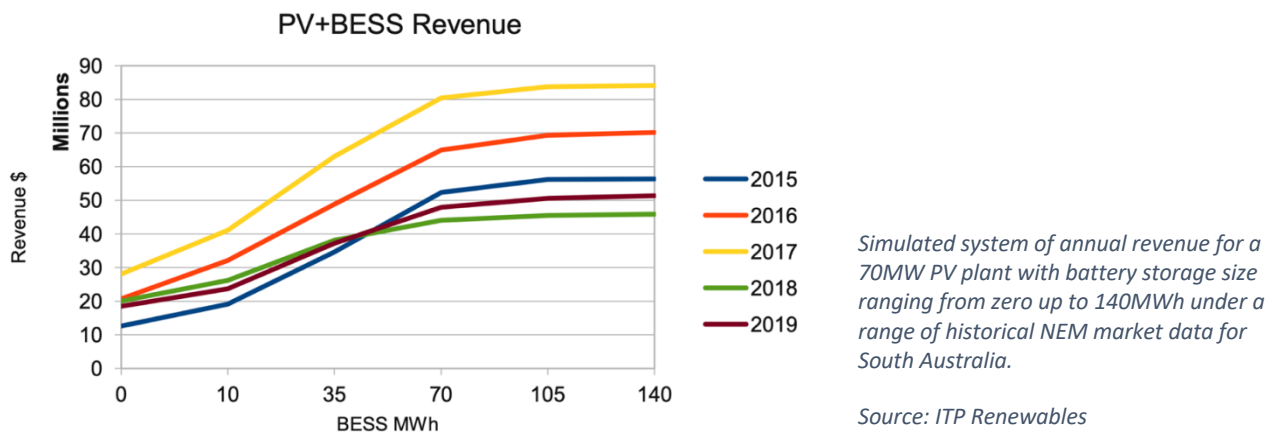
A revenue generating hybrid energy storage solution for the Aurora Project near Port Augusta, South Australia is looking promising, involving a mix of solar PV, batteries and 1414 Degrees' TESS. Together these allow access to revenue stacks ranging from power purchase agreements (PPAs), ancillary services (FCAS), wholesale energy trading and highly valued long-duration firm power sales.

1414 Degrees is pioneering this competitive solution for grid stability under the leadership of Marie Pavlik, who is preparing for development by commissioning optimal asset modelling from specialist agencies CQ Energy and ITP Renewables (ITP), and teaming with energy retailers to bid on PPAs.

To support marketing of the Aurora Project power, CQ Energy modelled 20 years of solar PV generation with allowance for declining output. CQ Energy also provided guidance on maximisation of revenue from

battery storage including spot price arbitrage and FCAS revenue. 1414 Degrees has used the results for competitive pricing of PPA tenders and offers.

ITP have now provided a progress report using solar profile data collected over several years at the Aurora site to simulate operation of a 70MW solar PV farm with a battery energy storage system (BESS) to maximise National Electricity Market (NEM) wholesale and ancillary services (FCAS) revenue. It varied battery size from zero to 140 MWh and allowed for degrading performance to reflect real efficiencies. The modelling utilised a maximum 70 MW transmission connection as initially accepted by ElectraNet in its Connection Options report for 1414 Degrees. In a subsequent modelling, ITP will extend the optimal revenues from additional long duration (firmed) generation by a 1414 Degrees TESS-GRID.



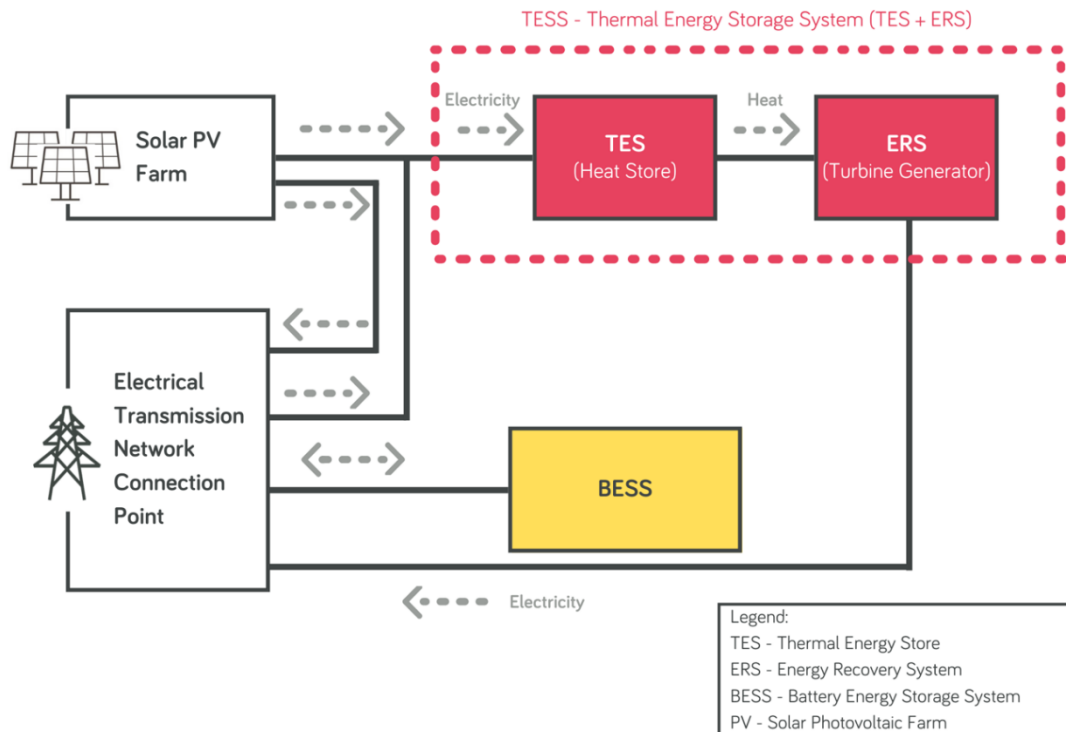
Their simulation based on the past five years of NEM and FCAS trading showed that an optimum battery size of 70 MWh with sale of electricity from the PV would have generated annual revenues ranging from \$44m to \$80m. The historical pricing showed that 70 MW of PV without batteries would have generated annual revenues ranging from \$12.5m to \$28m.

1414 Degrees Executive Chairman Dr Kevin Moriarty, said, “Although based on historical data that may or may not be a guide to future conditions, these revenue simulations are very encouraging for the development of our Aurora Project. We are working to lock in PPA’s to secure cash flows for the first stage of PV generation to complement the BESS revenue streams. The addition of our TESS will provide a complete green hybrid solution for a global market as renewable penetration increases.

The Aurora Project can provide robust system strength throughout the NEM because it is situated on major transmission lines, generating revenue stacks from many different services.”

Background

1414 Degrees is developing thermal energy storage systems (TESS) in South Australia. A NEM connected solar PV farm with BESS and TESS will attract revenues across wholesale energy, frequency control and ancillary services (FCAS) markets. The full system under consideration is depicted in the following block diagram:



The progress report describes the modelling to maximise NEM revenues under a configuration that includes only the Solar PV Farm and the BESS system. The combined system is assumed to be transmission network connected and can participate both in wholesale energy and FCAS markets.

The second phase of this modelling will include TESS-GRID operational dispatch decisions of the complete system.



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ABOUT 1414 DEGREES LIMITED

1414 Degrees believes in a sustainable energy future, where energy is available to all, at all times. Its clean energy storage is set to reduce energy costs by increasing the efficiency of renewable generation and stabilising grid supply. The 1414 Degrees thermal energy storage system (TESS) is unlike any other energy storage system in the world.

1414 Degrees' technology stores energy generated from electricity or gas and supplies both heat and electricity in the proportions required by consumers. It is unique in its combination of low cost, flexibility of location, scalability, and sustainability. Following the successful development of its electrically charged TESS demonstrator, and commissioning of its pilot GAS-TESS at SA Water's Wastewater Treatment Plant, the Company is now in an early stage of product development and commercialisation.

ABOUT CQ ENERGY

CQ Energy was established in 2008 to provide corporate advice and services in electricity, gas and renewables. It is recognised as one of the leading energy advisory firms in Australia and has developed a substantial client base both within Australia and overseas. CQ Energy is a multi-faceted energy business with a proven record of delivering value to clients in the energy sector. It focuses on assisting clients with optimal commercial solutions in electricity, gas and renewable energy.

ABOUT ITP RENEWABLES

ITP Renewables (ITP) is a global leader in renewable energy engineering, strategy, construction, and energy sector analytics. Its technical and policy expertise spans the breadth of renewable energy, energy storage, energy efficiency and smart integration technologies. It is part of the international ITP Energised Group, one of the world's largest specialist engineering consultancies focusing on renewable energy, energy efficiency, and carbon markets. The Group has undertaken over 2,000 contracts in energy projects encompassing over 150 countries since it was formed in 1981.

For more information please visit www.1414degrees.com.au