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CLEAN SCALABLE ENERGY STORAGE™

28 October 2020 ASX:14D

QUARTERLY SHAREHOLDER UPDATE

- Encouraging results for revenues from a hybrid power plant on the Aurora Project
- GAS-TESS recommissioned to prepare for electricity export to grid
- More than 90% efficiency predicted from **SiBox** for long duration storage on grid

CHAIRMAN'S LETTER

The quarter saw a number of internal and external developments that will contribute to realising the technical and commercial success of your company's technology. The need for long duration energy storage to firm intermittent renewable energy was recognised by the Australian Government as one of its technology priorities in its first Low Emissions Technology Statement. This was demonstrated shortly thereafter when, in a world first, the South Australian portion of the National Electricity Market (NEM) ran on 100% solar energy for one hour in October, with the aid of significant dispatchable power resources to manage the stability and reliability of the grid.

In internal developments, your Company has built on the results of its technology review by focusing its technical team on perfecting our thermal energy storage and partnering with expert technology companies to deliver the energy recovery systems for our TESS products. The goal is to ensure the most robust, cost-effective and efficient thermal storage technology is developed and demonstrated as quickly as possible.

The technical team have continued testing and modelling the new SiBox thermal energy storage technology. Technical analysis indicated that our SiBox design can achieve efficiencies of 90% or better from storing renewably sourced electricity and delivering heat to conventional turbines or to process industry. As the cost of solar PV is now competitive with conventional fuels, and its cost is reducing further, a TESS-GRID based on our SiBox technology can be a cost-effective dispatchable power station using PV generated electricity and electricity regenerated from turbines, as in fossil fuel plants. As with most thermal technology, larger scale drives higher efficiency and lower unit cost, so the plan is to develop and demonstrate the technology in stages at Aurora.

Late in the quarter, SA Water requested 1414 Degrees to have the GAS-TESS operational by the end of October to prepare for electricity export to the grid as an embedded generator on the National Electricity Market. The Glenelg Wastewater Treatment Plant can generate electricity from gas engines, solar PV and the GAS-TESS but has not been able to export to the grid pending SA Power Networks approval. The connection will drive development opportunities for commercialisation of the GAS-TESS, pending improvements to the external heat exchanger and storage capacity upgrades.

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During the quarter we reported encouraging revenue indicators from the modelling of a hybrid PV-battery on our Aurora project. When the modelling was extended to include our TESS, it predicted an uplift of revenue potential through the complementary short and long-term capacities of the technologies, thereby servicing larger segments of the NEM. The modelling confirmed previous predictions that the TESS can earn revenue from the FCAS market by switching its charging load on or off. Its ability to absorb high current for long periods has advantages over batteries which degrade quickly in such conditions.

The revenue modelling of the hybrid PV-battery-TESS has driven the business case for the Aurora project. The first stage will comprise a hybrid plant combining photovoltaic generation to the grid and a large battery selling energy and frequency support to the National Electricity Market. A second stage will incorporate 1414 Degrees TESS. In another possible development, 1414 Degrees and Vast Solar executed a Memorandum of Understanding (MOU) to investigate the commercial feasibility of incorporating Vast Solar's modular Concentrated Solar Thermal Power (CSP) technology in a dispatchable renewable energy park on the Aurora project. The parties will assess the mutual benefits of increased utilisation of the transmission assets, reduction of potential spilled energy and maximisation of revenue stacks to demonstrate competitive levelised cost of energy (LCOE) and levelised cost of storage (LCOS).

The Aurora business case requires technical studies for the transmission connection, system integration and engineering. The first requirement is to determine which of the two high voltage lines will be used for the project. This will be followed by detailed engineering analysis for a transmission connection and generator performance study. Your board decided to launch a share purchase plan to finance these objectives. It attracted strong shareholder support, closing above target at $3.175 million in the current quarter, and the board has authorised immediate action to advance the Aurora project.

1414 Degrees had $3.6m in cash at quarter end, subsequently augmented by $3.175m from the SPP. An R&D tax rebate is pending. The payroll continued to be supported by JobKeeper receipts and this is expected to continue until the end of December. With economic uncertainties from the Covid 19 response, your Company continues to maintain stringent fiscal controls over cash flow, while progressing core priorities of the Aurora project and energy storage technology development.

Workplace productivity remained high, with 95% of team members working from the corporate office and our research facility.

Your company continued its corporate restructure to meet key strategic goals of revenue generation and technology development. These included the appointment of Richard Willson to the board to meet a casual vacancy and the appointment of Dr Jordan Parham as interim CEO. Several redundancies were affected to align the team with our objectives. Further key appointments are under consideration.

The quarter was productive, laying the groundwork for major growth and results for shareholders.

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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.

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