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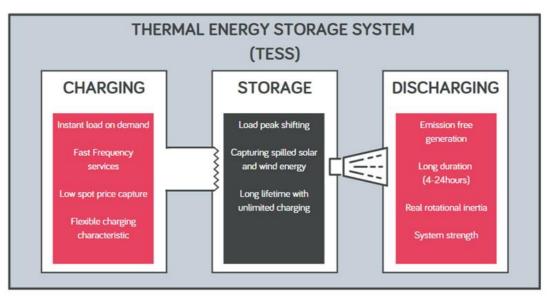
QUARTERLY SHAREHOLDER UPDATE

- Progressing Aurora Project development
- GAS-TESS specifications delivered to SA Water
- Positive outlook for revenues from evolving energy market and policies
- Strong cash position of \$5.4m at end quarter
- Measures taken to conserve cash in response to market conditions

Chairman's letter

The acquisition of the Aurora Project with development approval attracted considerable interest from large-scale solar developers, utilities and financiers during the quarter. Notwithstanding the coronavirus and economic fallout that have severely restricted travel and communication, our business development team has been undertaking presentations and virtual tours leading to negotiations with potential partners for a Silicon Power Plant. These negotiations are continuing with the aim of reaching an agreement in the current quarter and commencing the first stage 70MW solar PV development with TESS-GRID. As reported below in the business development section, the Company is, therefore, updating the engineering report and has commissioned Electranet to prepare for transmission connection.

We were also contacted by major institutions assessing the potential for our TESS-GRID technology to improve the economics of their existing renewable projects in Australia and elsewhere. They are assessing the potential for our technology to supplement revenue by selling system strength services from the high-current, fast charging storage, and longer term peak generation from spinning turbines. We are looking forward to progressing these opportunities when travel restrictions ease so their technical teams can inspect the GAS-TESS and evaluate TESS-GRID applications with our engineers.



The Energy Security Board has just released a series of discussion papers outlining the basis for a market in these critical services that a TESS-GRID can deliver (Renew Economy: "ESB begins push to re-shape markets for a renewables-dominated grid"). Recognising the value of these services will supplement the unique revenue stack and value proposition of our technology.



As reported below in the operations section, we delivered specifications to SA Water to complete their business case evaluation for engines, solar PV and TESS at the Glenelg Wastewater Treatment Plant. Our evaluation shows that GAS-TESS is a more comprehensive solution in that it does not require gas pretreatment and completely separates biogas disposal from electricity generation. We assess that the technology provides the greatest benefits when continuously burning gas and operating the turbine to supply plant needs, thereby eliminating any gas flaring and allowing for fast ramping at peak electricity demand and revenue opportunities. Importantly the partnership with SA Water has allowed our engineering team to plan the next stages of the GAS-TESS development to increase efficiencies through design improvements and optimised component selection.

Encouragingly, the Australian Renewable Energy Agency (ARENA) released an announcement on Tuesday seeking input into Australia's Bioenergy Roadmap, recognising the undervalued market targeted by the GAS-TESS. It follows a request from the Federal Energy Minister, Angus Taylor in late 2019 to inform policy decisions.

During the recent quarter, engineering contractors attracted by the TESS and the Aurora Project, have told of poor performance after clients disregarded advice on suitability of certain energy storage devices for their operating environment. They are interested in the TESS as a robust energy storage solution for variable operating conditions, and most engineers would consider that to be a significant consideration in the selection of technologies.

Our intensive engineering and commercial analysis of the GAS-TESS and studies for a TESS-GRID at the Aurora Project has highlighted a unique position for our technology in the current energy transition and future energy storage landscape. While other technologies can provide electricity storage and generation, our technology must be evaluated in a broader context to appreciate its versatility. For example, it offers independent charging and discharging, multiple choices of energy recovery system, the potential to timeshift biogas electricity generation, charging on AC directly from the grid, provision of grid stability services through instant switching of high alternating current loads and, of course, heat supply. The moves by the Energy Security Board could create new markets for grid services from our innovative TESS-GRID at Aurora and elsewhere.

In closing, I want to acknowledge the contributors to this new look report, in particular, Engineering - Jordan Parham, Corporate - Penelope Bettison, Business Development -Maretta Layton and Marie Pavlik, and their teams that have continued to deliver for shareholders in the extraordinary disruptive and unrewarding conditions.

We are all striving to build value for our over 3,300 shareholders.

CORPORATE OPERATIONS

1414 Degrees is in a strong financial position with \$5.4m in cash at quarter end after receiving its R&D tax rebate in the quarter. The intended raise of \$3m through a Share Purchase Plan to fund Aurora project development was cancelled as the evolving Covid-19 crisis and collapse of oil prices reversed investor sentiment. Accordingly, several measures were adopted to defer and reduce expenses while maintaining your Company's core objectives to progress its technology development and projects, including Aurora.

The Board and senior management agreed to remuneration cuts of between 25% and 75% and made other staffing changes, including redundancies and reduced hours.

The reduced hours and remuneration have had an impact on the productivity of the company at a critical time for both commercial development and research and development of our new scalable thermal storage technology.

In response, as reported in early April, the Board considered issuing shares to staff to top up salary. It was decided that this would be difficult to administer and could be inequitable for shareholders while share prices are impacted by crisis. Instead, it was agreed that the Company's existing performance rights scheme







was an appropriate means to incentivise the delivery of the Company's programs. Accordingly, in addition to their contractual entitlement, some staff have been offered performance rights linked to their performance or the share price escalation over the four months to July 31 when their Covid-19 interim contracts will expire and the board will again review the situation.

It is hoped that these measures will maintain workplace productivity to deliver on the opportunities presented by our versatile technology.

The Company's IT systems allow staff to work from home if required, and we conducted a successful working from home trial at the declaration of the Covid-19 pandemic. Critical team members continued to work on site at our research facility and the Glenelg Wastewater Treatment Plant. Safety procedures are now fully implemented, and most of the team are onsite.

ENGINEERING OPERATIONS

SA Water Glenelg Wastewater Treatment Project

The Company has continued to engage with SA Water to refine the GAS-TESS design best suited to its Glenelg site requirements. Engineering and finance data for several of these GAS-TESS options have been provided to inform their technical evaluation and business case process. This has focussed on upgrades to the existing Mark I build to deliver a "commercial ready" unit that can provide benefits to the site as soon as possible in the current pandemic restrictions.

The engineering team has also continued to design a higher specification GAS-TESS Mark II unit, incorporating further developments to enhance commercial viability, particularly focussed on improving the efficiency of the energy recovery system (ERS). These specifications have also been provided to SA Water for consideration under its asset acquisition program.

Testing of the co-firing burner system showed that it extends the duration of maximum gas stream temperature, and hence turbine electrical output from the GAS-TESS. However, a key limiting factor has been under-performance of the external heat exchanger. It has now been established that it must be operated at a significantly lower temperature than the original specifications provided by the manufacturer, reducing the energy available to the turbine, and lowering its efficiency and energy output.

With the business case concluded, on site testing has been suspended pending resolution of the heat exchanger performance limitations with the manufacturer.

GAS-TESS development

The GAS-TESS device has operated well and is capable of supplying all the heat requirements of the Glenelg site. The gas burners have performed to expectations, cleanly burning the biogas and supplying heat to the thermal storage. As our first longer term operating device, the GAS-TESS has also provided vital specifications for ERS equipment selection. Overall, the trial for SA Water has shown how to increase the electrical output and efficiency to provide a comprehensive solution for wastewater treatment plants, including time shifting of energy value, lower operating costs and gas burning without pre-treatment.

Research and development

As previously announced, the Company has responded to capital market and health constraints by deferring manufacture and installation of our new silicon phase change thermal storage for the GAS-TESS. Our technical team have, however, continued intensive testwork on highly scalable systems for containing and storing heat in molten silicon phase changes materials (PCM). This includes collaborating with leading R&D and manufacturing technology partners in Europe to ensure robust thermal storage is ready for deployment on our projects. We are also continuing to collaborate with Australian universities on research to deliver lower cost PCM and storage.

Our engineering team is also further improving the TESS energy recovery system (ERS) to maximise the efficiency of heat and electricity supply. They are engaging with key equipment suppliers and refining







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thermodynamic and financial models to select equipment that will be implemented on the GAS-TESS or TESS-GRID.

TESS-GRID development

Design and development work on the TESS-GRID is focussed on delivering a pilot unit to the Aurora project site incorporating approximately 40MWh of our scalable silicon thermal storage technology. New concepts for maximising the efficiency of the ERS are being assessed through computational models and in conjunction with equipment providers. Outcomes of these evaluations are being incorporated into the overall project specifications and financial models before commencing detailed engineering.

Having built and operated two large TESS units over the past two years (TESS-IND and GAS-TESS), we now have a comprehensive data set regarding the performance of the technology, its limitations and lessons learnt to improve its design and operation. As reported early in 2019, there were significant challenges to overcome to deliver silicon storage technology that was scalable and stable for larger TESS operating in hot atmospheric conditions. We therefore brought in qualified team members to lead the intensive technological development that is now delivering a new, improved and scalable silicon PCM and containment solution.

Similarly, the first builds of the scaled up ERS also did not perform according to expectations. While such results can be anticipated at an early stage of technology development, management was surprised by the extent to which available third-party components limited TESS performance. We therefore augmented our engineering team with specialists who have been evaluating the status of our current devices and third-party components to produce a practical road map for TESS development and commercialisation in the context of our new Aurora project and the Glenelg Wastewater Treatment Plant. The aim is to deliver this in the current quarter.

BUSINESS DEVELOPMENT

The potential of the TESS technology and the opportunities opened by the Aurora project have continued to keep our business development team busy. Like many companies, we have had to embrace new ways of working during this unprecedented time and have conducted numerous online meetings, presentations and virtual tours of our technology.

We have been approached by global companies investigating both the development opportunities of the Aurora project and opportunities the TESS-GRID technology can afford them in the future.

Stone & Wood project: Last quarter Stone & Wood Murwillumbah brewery were delivered a feasibility study to replace their LPG fuelled steam generation with a TESS-STEAM to produce steam into the existing accumulator. Stone & Wood continue to be very supportive of our technology; however, like many businesses, have found themselves facing a volatile and unknown future in recent times. The parties have agreed to reassess as the situation evolves. In the meantime, we are continuing to engage with the distribution utility for an arrangement that encourages off-peak energy storage.

SA Water Glenelg Wastewater Treatment Project: SA Water has been supplied with data for their business modelling, and we continue to learn that the strength of the GAS-TESS technology is the ability to provide much more than a gas engine solution for wastewater treatment plants.

Aurora Project: 1414 Degrees acquired SiliconAurora Pty Ltd to demonstrate 1414 Degrees' grid scale thermal energy storage in a power station delivering firmed renewable generation. The Company is evaluating staged development scenarios to maximise the current and future revenues from the project.

The current focus is to partner with established solar PV developers and financiers to develop the first stage of the project, incorporating 70 MW from solar PV and a TESS. The engineering studies for the development approved solar PV are being updated for procurement quoting. Our intention is to incorporate a pilot 35-40 MWh TESS-GRID to be charged from the farm and share the grid connection.





Electranet has been commissioned to commence work on transmission connection requirements to the site. The site has access to multiple lines giving us the capacity to match the planned stages, up to 400MW. We are working with the South Australian Government to review the granted approvals to ensure they are in line with the proposed stages of development and updating terms where necessary.

Several energy industry consultants, engaged to assess the economics of the first 70MW stage, presented a variety of commercially viable options based on revenues from Power Purchase Agreements (PPA) and additional revenues from the National Electricity Market. The TESS-GRID delivers emission-free, synchronous inertia and system strength to compensate for asynchronous renewable generation. The high current electrically charging TESS also adds value with its ability to instantly stop and start charging, assisting in managing frequent grid load changes. In comparison, batteries require a rigid charging regime to maintain safe operation and prevent ageing. This charging flexibility of the TESS-GRID can generate revenue from frequency control or demand response services contracted by the Australian Energy Market Operator (AEMO).

Feasibility: Your Company has advanced a feasibility study for a large South Australian heat user. However, there is uncertainty over their ability to commit to a longer-term agreement in the current market conditions. We will update the market as and when we are able.

Events: We were due to present and exhibit at several conferences and exhibitions, but all have been postponed. When circumstances allow, we look forward to appearing at OzWater, Australian Energy Storage Conference and Exhibition, Australian Energy Week, the Green Power Festival and others.

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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





