



MEDIA RELEASE

Energy storage innovation heating up with GAS-TESS launch

South Australian energy innovator 1414 Degrees strides ahead with its unique patented thermal energy storage system (TESS) powered by biogas. The gas started flowing today from SA Water's Glenelg Wastewater Treatment Plant, the company's first commercial pilot site.

South Australian Minister for Energy and Mining, Dan van Holst Pellekaan, launched the GAS-TESS by releasing the biogas from the wastewater digestors.

Executive Chairman of 1414 Degrees, Dr Kevin Moriarty said "This marks a pivotal phase in the commissioning process, firing the burners for the first time and heating up the thermal energy store. Importantly, we will pay for the biogas we use and sell electricity at market prices to test the revenue model."

The GAS-TESS will enable SA Water to time-shift the use of its biogas to produce electricity and heat on demand, rather than use the biogas as its generated.

SA Water's CEO Roch Cheroux commented, "SA Water is working to reduce operational expenses to maintain low and stable water prices for our customers. Time shifting of heat and electricity output from the GAS-TESS is expected to provide more control over heat flows to maximise our biogas generation and result in reduced costs of our energy requirements."

"Partnering with us to pilot this world first technology demonstrates visionary leadership for SA," Dr Kevin Moriarty explained. "The wastewater management industry is watching closely, as are many other heat dependent industries looking to reduce energy costs, save jobs and lower environmental impacts."

Globally, biogas is an increasingly important source of energy, from wastewater management to agri-business and landfill gas.

Dr Kevin Moriarty states "Renewables are about more than wind and solar. It's time to put our vast sources of biogas to more efficient and sustainable use. Naturally occurring biogas has the potential to lower the cost and increase the stability of energy with reduced demand on fossil fuels."

The GAS-TESS is co-funded by the South Australian Government's Renewable Technology Fund (RTF) and 1414 Degrees shareholders. The development of the technology was assisted with a grant from the Federal Government's Department of Industry, Innovation and Science.

"This shows South Australia is leading energy technology development, something the Marshall Government is fully committed to. 1414 Degrees' TESS is the result of collaboration within our state's entrepreneurial ecosystem, leading to global opportunities for SA. This new thinking is solving problems and creating opportunities as we transition to a new energy environment. It will take innovative companies like 1414 Degrees to ensure energy security," said Minister for Energy and Mining, Dan van Holst Pellekaan

Executive Chairman Dr Kevin Moriarty said “We have a clear vision to scale our clean TESS technology to gigawatt hour capacity and stabilise renewable generation. Our progress today marks another step forward.”

1414 Degrees’ energy storage systems will support grid stability by feeding power back into the grid at peak times and provide heat for industrial purposes, thereby reducing costs for consumers and creating a more reliable source of power.

The Company commissioned its 10MWh electrically charged TESS-IND in late 2018, which was verified by international certification agency Bureau Veritas. The initial prototype was successfully demonstrated in 2016.

-ends-

For further information contact:

Penelope Bettison
Head of Corporate Services
0420 972 480
pbettison@1414degrees.com.au

NOTES FOR EDITORS

1414 Degrees offers a grid-scale energy storage solution developed in South Australia. The company is set to revolutionise the global energy environment with a system that costs significantly less than lithium ion batteries and pumped hydro, while offering the same electrical energy storage and the additional benefit of heat energy.

1414 Degrees’ world first, patented Thermal Energy Storage System (TESS) takes gas or electricity from any source and stores it as latent heat in silicon which melts at 1414°C. The energy from the latent heat can then be reclaimed and distributed as electricity and/or clean useful heat when required. It has a benign environmental impact and is location agnostic. It can be built to the scale of pumped hydro, but located where useful, instead of near hills or water.

The TESS is highly efficient, safe, clean and scalable - and unlike any other energy storage system in the world. The 1414 Degrees system helps solve the biggest issue for renewable energy – intermittent supply – and thereby facilitates major growth of low cost energy without sacrificing reliability.

During the past 10 years, 1414 Degrees has developed its technology with support from its shareholders, the South Australian Government, and a division of the Federal Government’s Department of Industry, Innovation and Science, Accelerating Commercialisation. The company’s head office is in Adelaide, South Australia and its research and development facility is at Southlink Industrial Park, south of the city.

Approximately \$30 million has been invested in the company since December 2016, when 1414 Degrees became an unlisted public company – including \$16.3 million that was raised in its Initial Public Offering (IPO) last year. 1414 Degrees was listed on the Australian Securities Exchange (ASX:14D) on 12 September 2018.