



Uni SA Low Carbon Living Electrifying Industry

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1414 Degrees Overview

- › Our vision: Deliver energy for all, at all times.
- › The Company has been in research and development for 10 years and is now starting commercialisation.
- › Demonstrated the prototype in 2016.
- › Listed on Australian Securities Exchange in September 2018 (ASX: 14D)
- › Commissioned the electrically charged 10MWh TESS-IND in late 2018.
- › Currently completing installation of the 10MWh GAS-TESS at SA Water's Glenelg Wastewater Treatment Plant.

Thermal Energy Storage System (TESS)



Energy Use in Australia

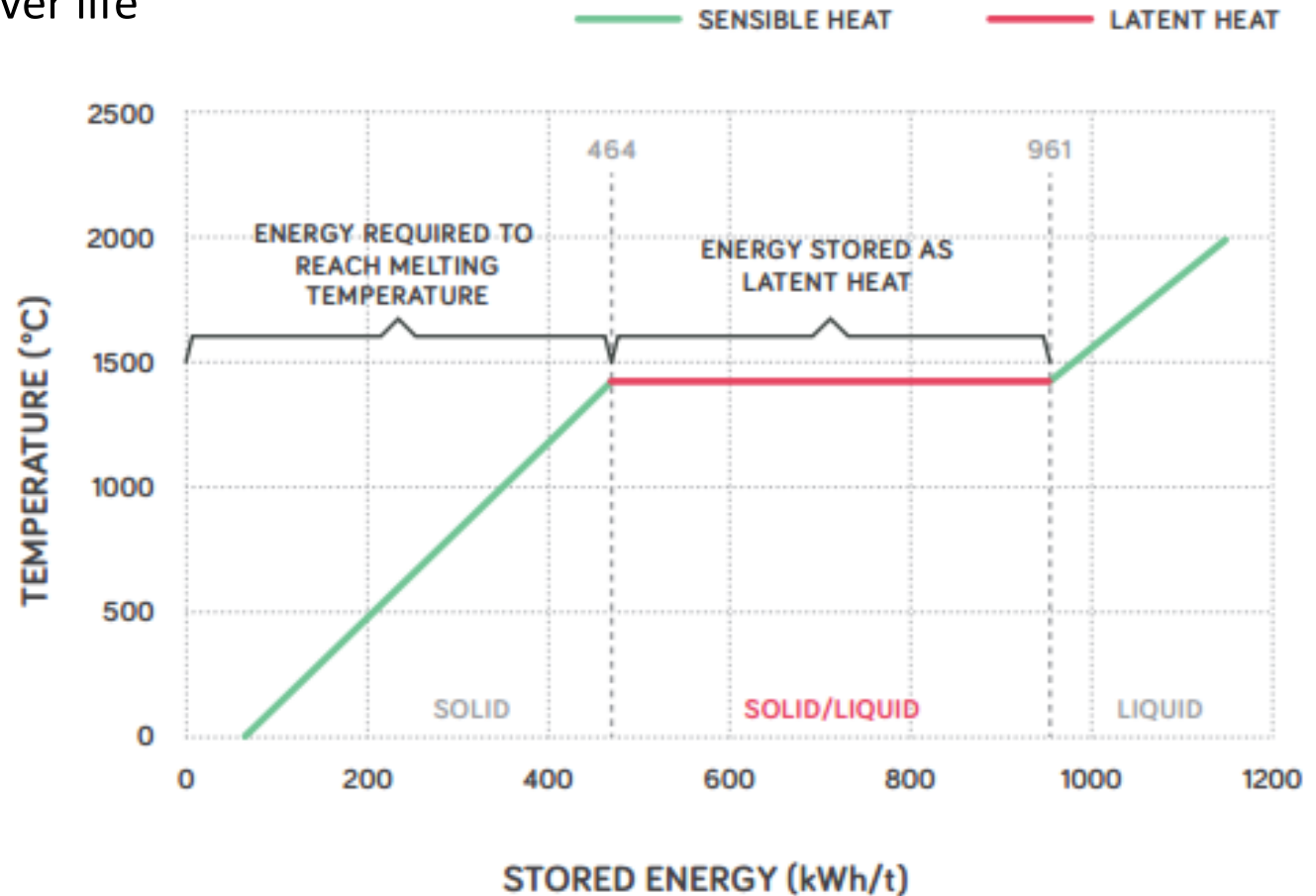
More Heat than Electricity



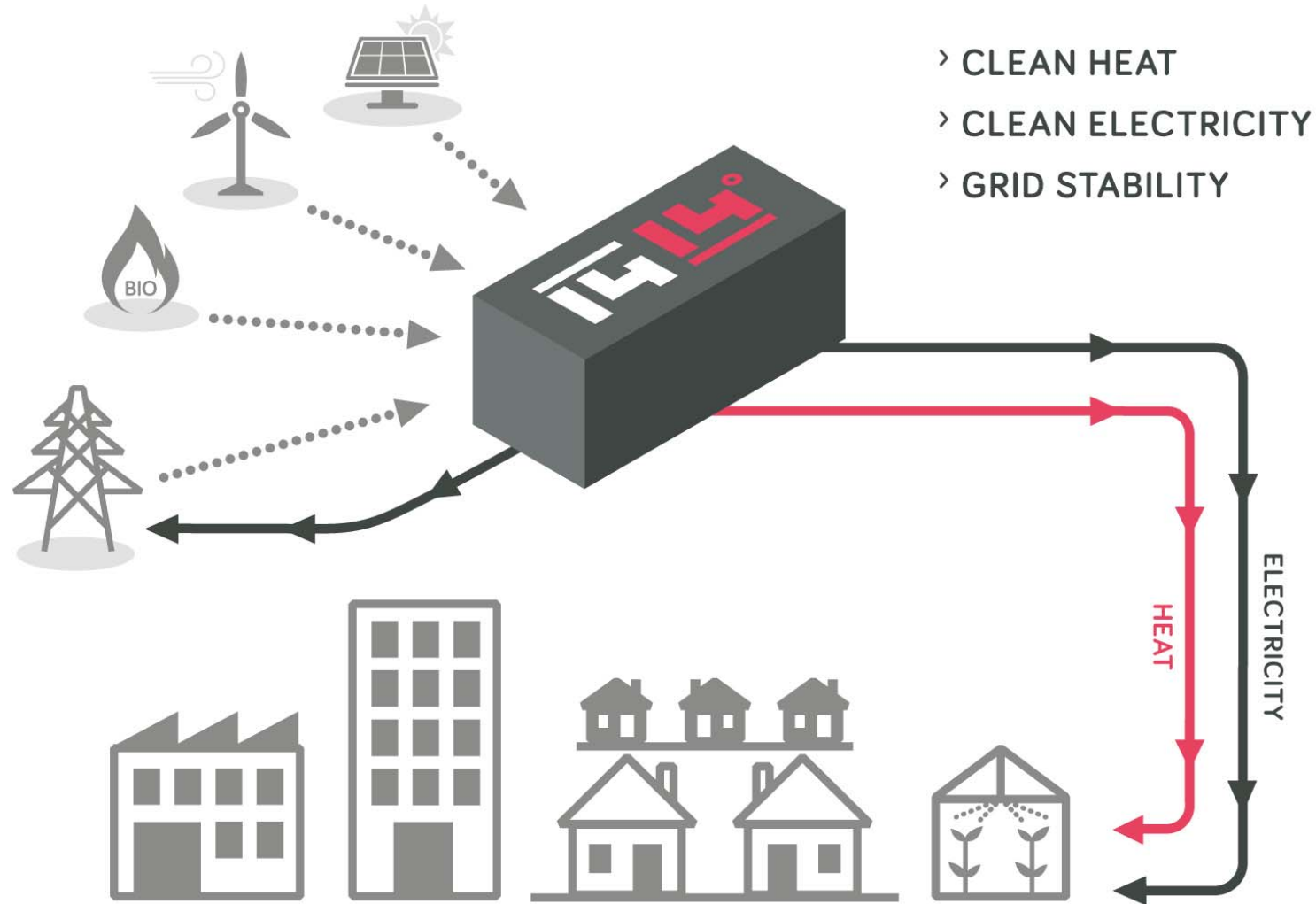
Information sourced from the Department of Industry, Innovation and Science, Australian energy supply and consumption, 2014-15. Including assumptions of end user energy usage for heat generation based on industry experience from 1414 Degrees personnel.

Silicon - Phase Change Storage

- › Silicon is cheap, plentiful and sustainable
- › High energy storage capacity of 500kWh/t per tonne as latent heat
- › The TESS operates at a constant temperature of 1414°C
- › Capacity does not degrade over life



Applications



TESS-IND 10MWh+

Industrial Scale Energy Storage

- › Successful 20x scale up of Demonstrator
- › Electrical input from any source
- › Designed for heat intensive industry
- › Time-shifts energy availability
- › Commissioned in 2018
- › Typically 8-16 hour charge or discharge cycle
- › Modifiable to suit many applications

Approximate size: 40ft Shipping Container



GAS-TESS 10MWh+

Compact Biogas Energy Storage

- › Variation of TESS-IND with biogas input
- › Located at SA Water Glenelg Wastewater Treatment Plant
- › Commissioning on-site soon
- › Separates combustion of biogas from generation of electricity and heat
- › Time-shifts energy availability



TESS-GRID 200MWh+

Future Development: Low-Cost Bulk Energy Storage

- › Designed for grid scale energy storage or large industrial users
- › Electrical input from any source
- › Time-shifts energy availability
- › Typically 8-16 hour charge or discharge cycle
- › Modifiable to suit many applications





Questions?

1414degrees.com.au