



2 June 2023

ASX:14D

INVESTOR PRESENTATION

1414 Degrees Ltd ("1414 Degrees" the "Company") has received significant interest from investment advisors regarding the potential of the Company's technology in decarbonising industrial processes. This interest follows the recent announcement of stable heat flow from the Company's SiBox® Demonstration Module, which showcases the viability of the technology under simulated industrial conditions and serves as a testbed for the innovative SiBrick™ silicon storage media.

Accordingly, the Company has prepared a presentation to provide insights into the Company's technology, its capabilities, and the potential it holds for addressing the challenges of decarbonisation in various industrial sectors.

It is important to note that such presentations are intended to be accompanied by a narrative that offers further context and explanation. Shareholders are encouraged to reach out to the Company directly should they require any clarification on specific points.

AUTHORISED BY:

Dr Kevin Moriarty, Executive Chairman on behalf of the Board of Directors

ABOUT 1414 DEGREES LIMITED

1414 Degrees is an innovative clean energy company focused on the development and commercialisation of thermal energy storage solutions. Its proprietary silicon thermal storage, SiBrick™, is the key component in its SiBox® thermal energy storage solution. SiBox delivers high temperature carbon free industrial heat by harnessing silicon's extremely high latent heat capacity. This enables intermittent renewables to provide flexible, ultra-high temperature heat 24/7 for large industrial applications.

The Company commissioned a module of the SiBox technology in 2023 to accelerate the commercialisation of its silicon storage media as a competitive clean energy solution.

In 2019 the Company made the strategic purchase of the Aurora Energy Project (AEP) located near Port Augusta, South Australia. The project is a long-term renewable energy initiative to deliver reliable electricity to the region and National Electricity Market. The AEP has approval for 14D to pilot and demonstrate a large commercial scale version of the SiBox technology.

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

For investor enquiries or further information, please contact:
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THE FUTURE OF CLEAN HEAT

A low-carbon revolution
for industry

JUNE 2023



SIBOX™ TECHNOLOGY



DISCLAIMER



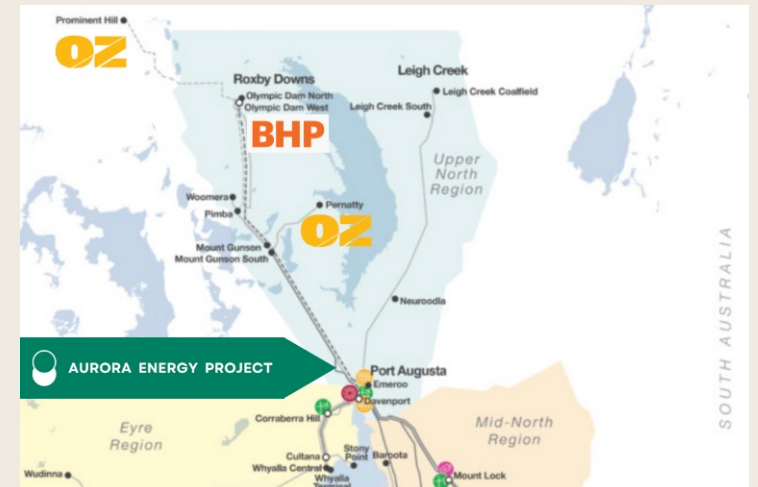
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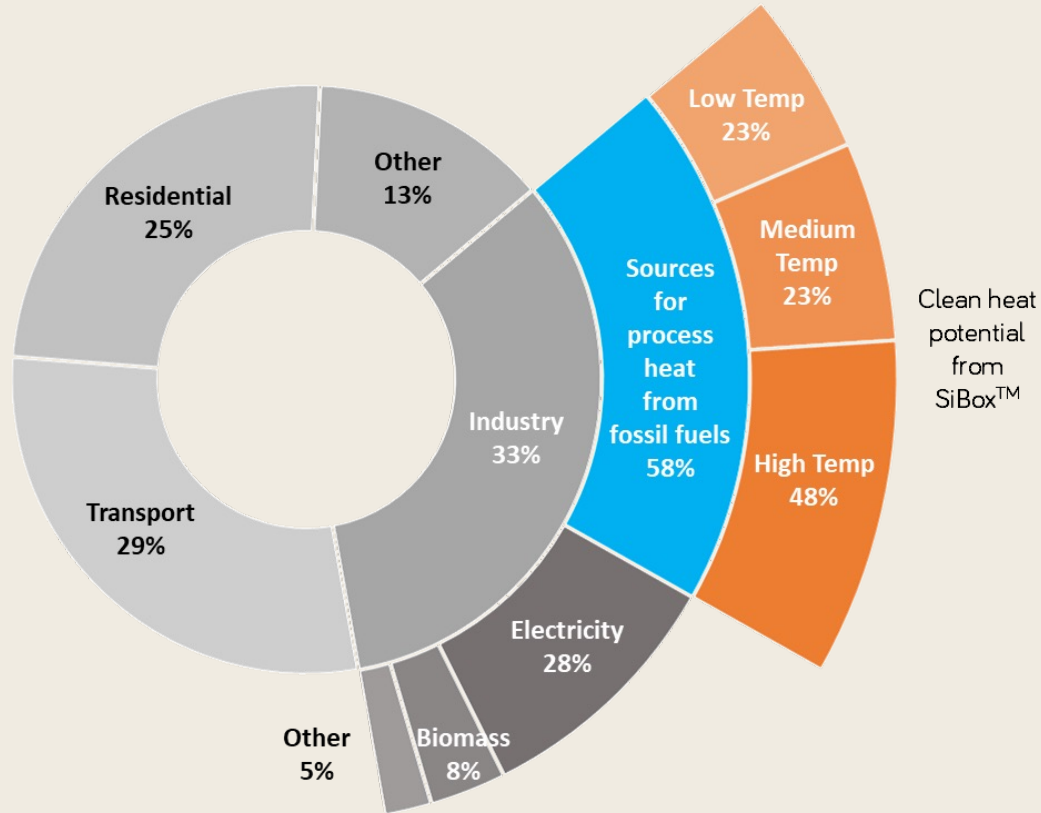
This presentation contains information which was reported in ASX announcements which can be viewed online at <https://1414degrees.com.au/>.

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- Gas replacement technology to electrify industrial processing
- Efficient thermal energy storage for reliable heat supply
- Multi-disciplinary team of technical specialists
- Listed on ASX in Sep 2018 (ASX:14D) >3500 shareholders
- Dedicated workshop for silicon storage media R&D backed by strategic industry and university collaborations to access specialised skills and experience
- Agreements with high calibre companies for the commercialisation and manufacture of SiBox[®] and SiBrick[™]
- Significant net revenue potential from proposed 140MW battery on 275kV transmission line at Aurora Energy Project from 2024
- Refreshed board of experienced invested directors:
Kevin Moriarty; Graham Dooley; Randolph Bowen



OUR MARKET IS HIGH TEMPERATURE INDUSTRIAL HEAT



Total global final energy consumption (~400 Exajoules)

- McKinsey & Company estimate **long duration energy storage**, including thermal, would produce energy savings of US\$540 billion per year
- High temperature industrial heat has **no commercial options** to stop the use of fossil fuels
- 14D's **silicon** technology is the most advanced storage technology able to replace fossil fuels at temperatures over 800°C

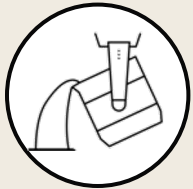
20% of global energy-related CO₂ emissions stem from industrial heat
i.e. excluding electricity

DECARBONISING HIGH TEMPERATURE PROCESS HEAT



Cement

- 4.1 Billion tonnes produced in 2022
- 4,300 TWh of energy required
- 27% of world's industrial CO₂ emissions
- \$160 billion annual energy costs



Alumina

- 140 Million tonnes produced in 2022
- 440 TWh of energy required
- 0.2% of world's industrial CO₂ emissions
- \$15 billion annual energy costs



Iron and Steel

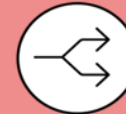
- 1.9 Billion tonnes produced in 2022
- 10,000 TWh of energy required
- 29% of world's industrial CO₂ emissions
- \$220 billion annual energy costs

~\$400 billion annual energy costs in just these three industries

Criteria for clean INDUSTRIAL heat



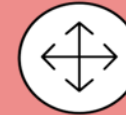
Ultra-high temperature



**Flexible operation
Power, temperature**



**Robust 24/7 operation
20+ years lifetime**



**Modular, scalable storage
Suitable for GWh scale**



**Location independent
Easy integration**

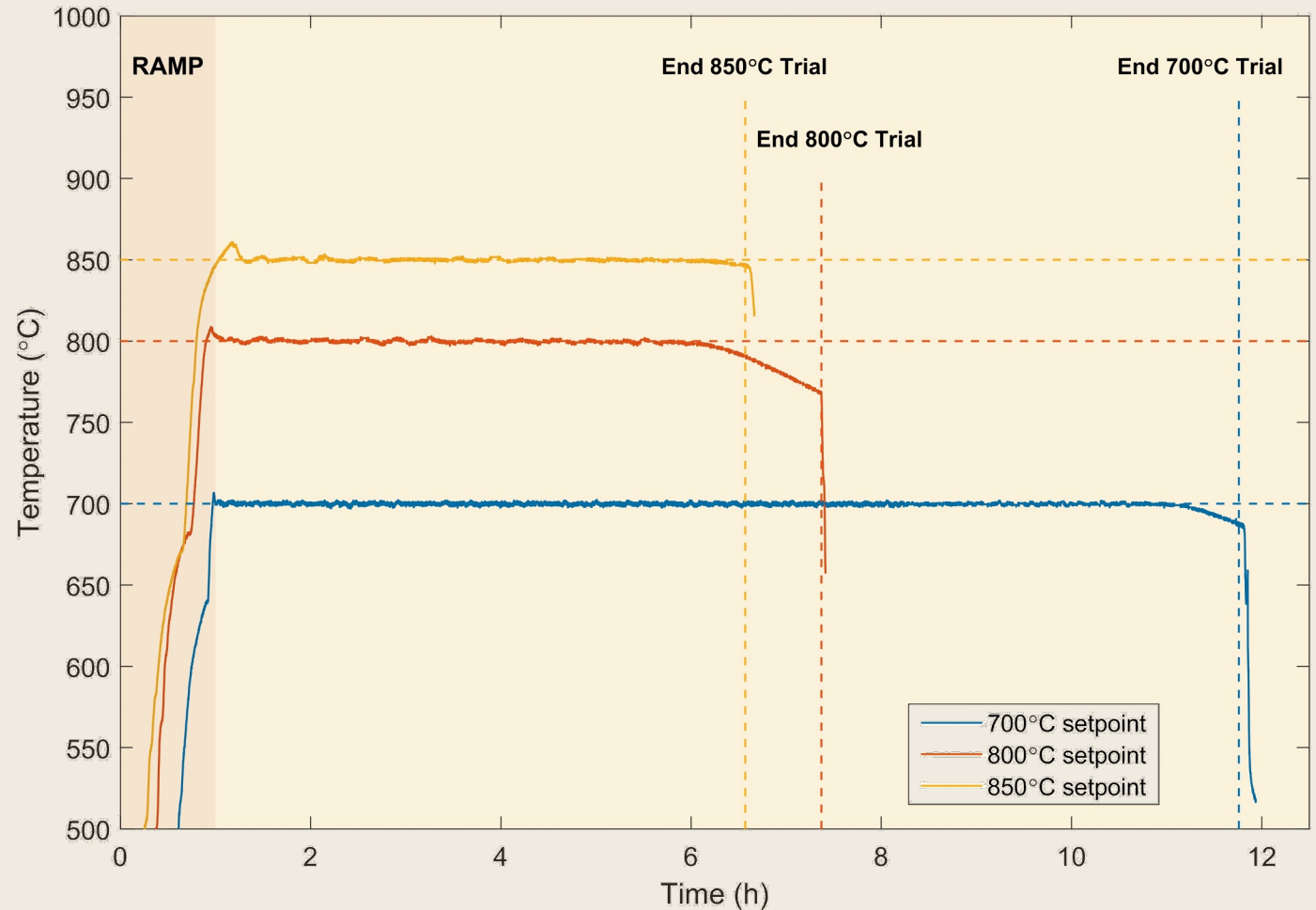


**High efficiency
Low cost**

PROVING PERFORMANCE WITH SIBOX DEMONSTRATION MODULE

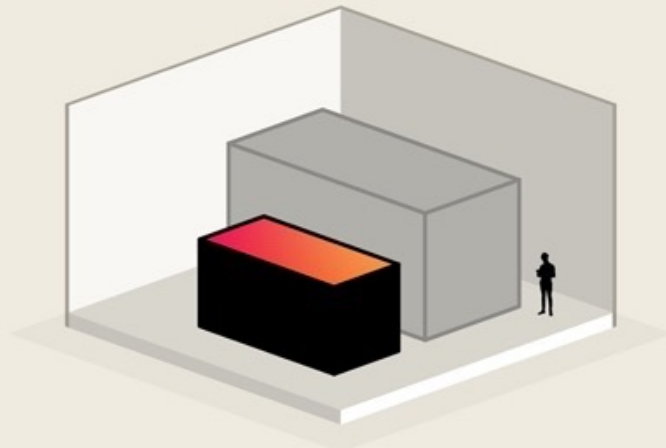
Compact storage delivers big result for industrial processing

- ✓ Trial runs used stored heat only
- ✓ Latent heat of silicon provided stable air output at 800°C for 5 hours without control system
- ✓ With control system:
 - ✓ 11 hours of very stable output at 700°C
 - ✓ >6 hours very stable output at 800°C
 - ✓ 6 Hrs at 850°C
- ✓ Scale up of storage will provide longer duration at higher temperatures

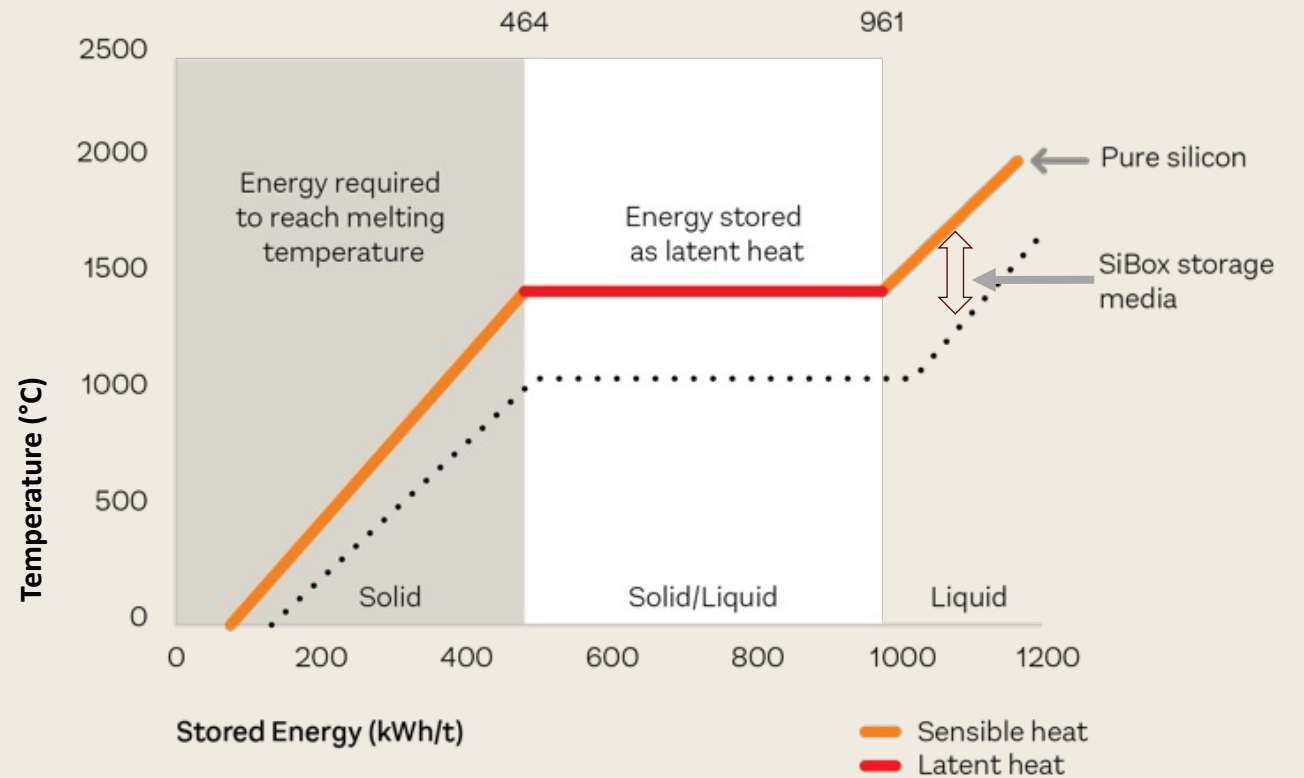


THE SCIENCE OF SILICON

SiBrick™ harnesses the high temperature latent heat of silicon, to convert renewable electricity to zero-carbon heat for high temperature industries

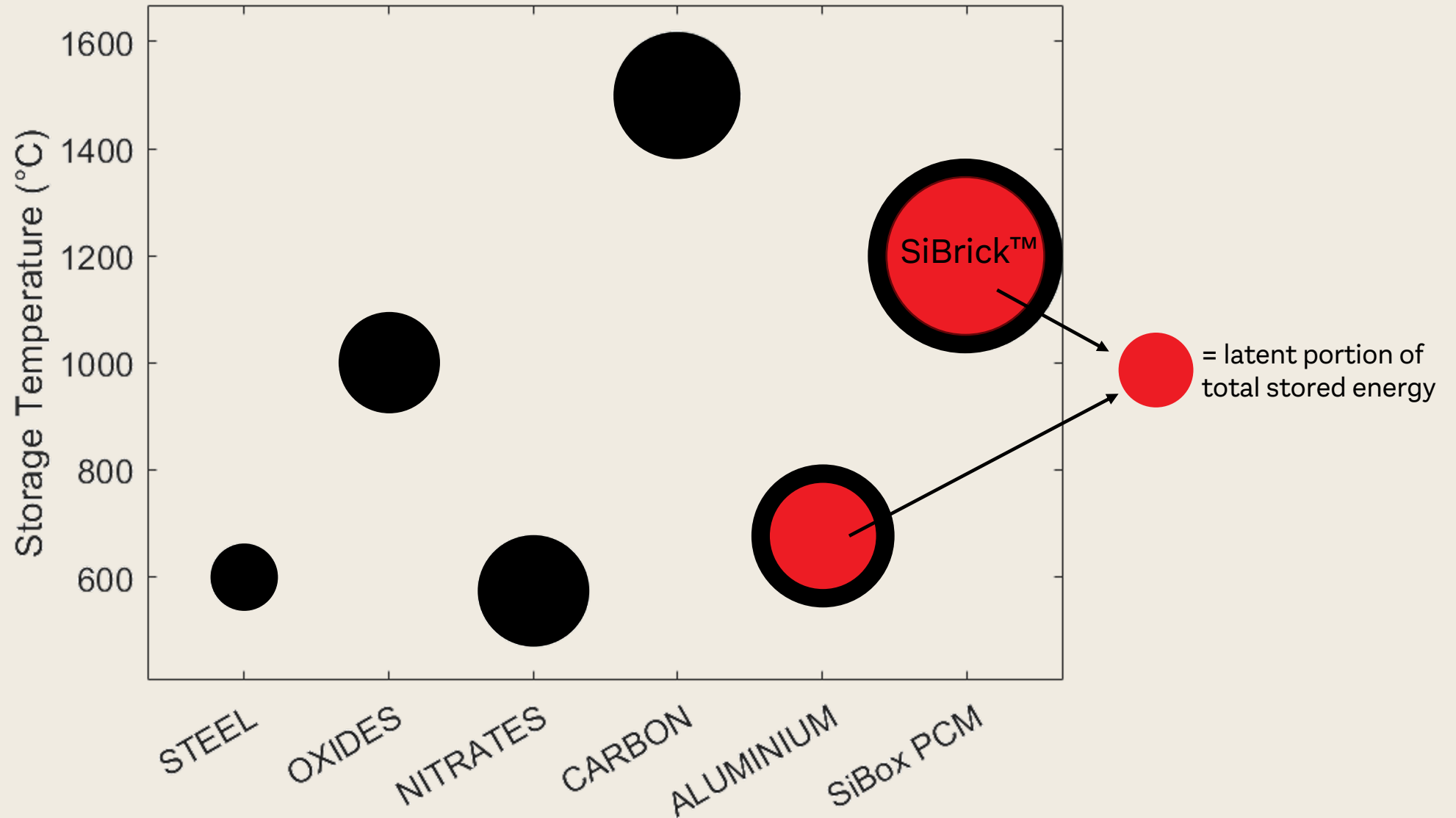


SiBox® energy storage vs sensible heat storage



Silicon's latent heat is key to stable high temperature heat supply and high density energy storage

SIBRICK OUTPERFORMS FOR THERMAL STORAGE



SIBOX IS COMPETITIVE WITH FOSSIL FUELS



SiBox for gas replacement

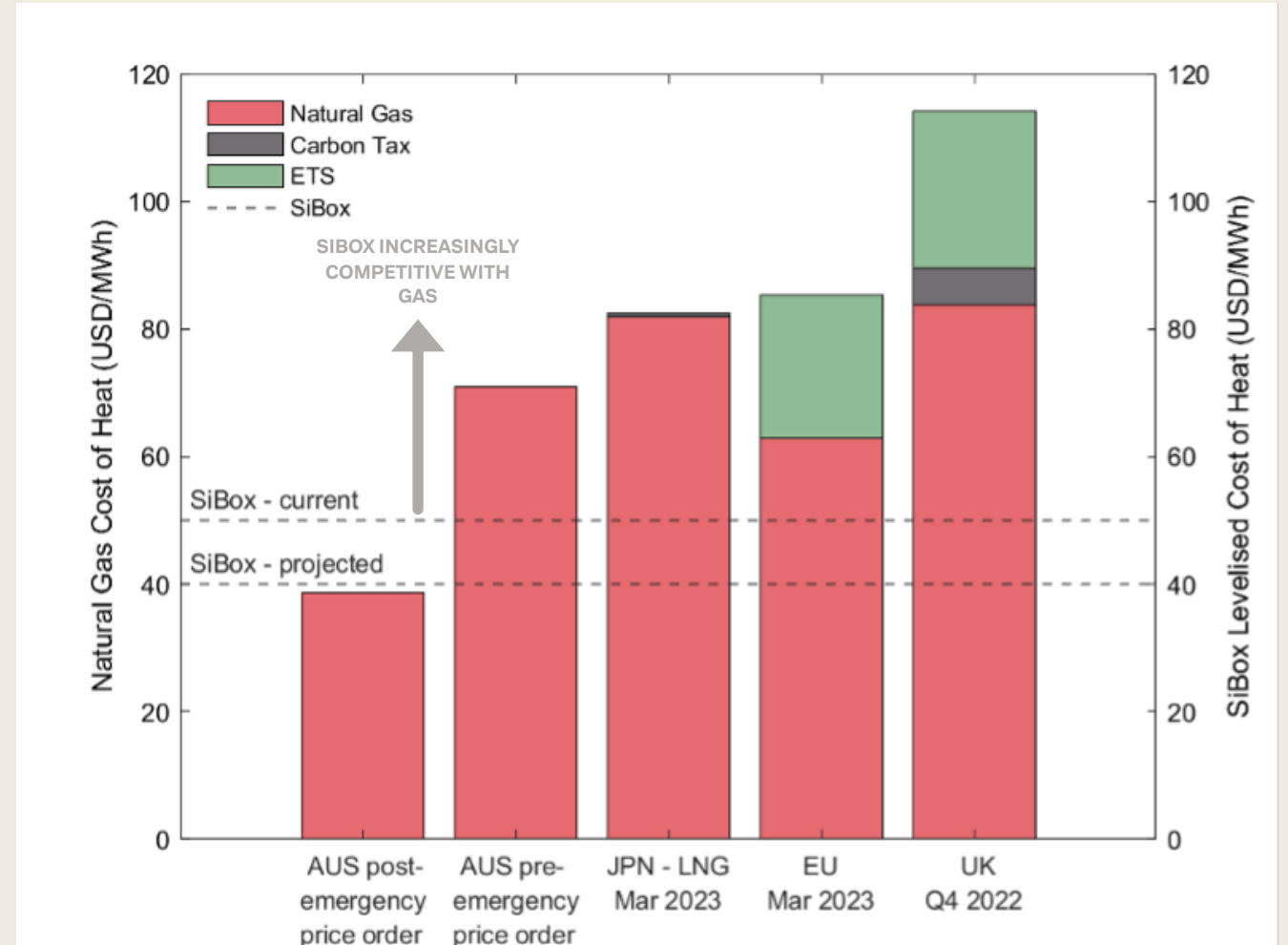
Stable high temperature air supply

Can charge and discharge simultaneously and independently

Can be programmed to charge from electricity when prices are low to reduce energy cost

Enables industries to maintain process function at lower cost

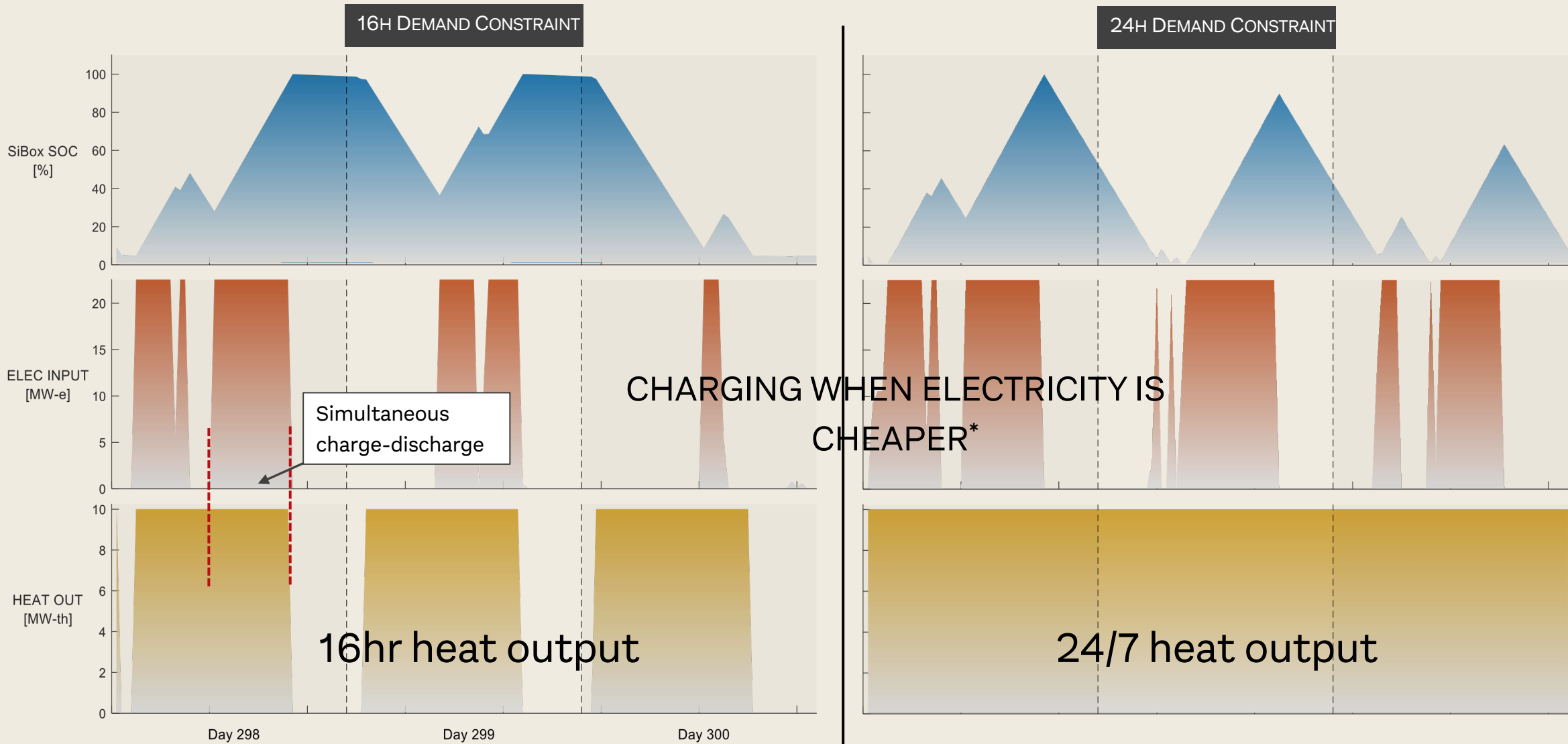
Cost competitive on the basis of gas price in EU & Japan, and will become more so in future as SiBrick™ technology advances



SiBox levelised cost of heat (LCOH) versus costs of natural gas (including efficiency losses).
Note: gas operating overheads (Opex) and gas Capex are not included in gas cost whereas Opex and Capex are factored into SiBox LCOH.



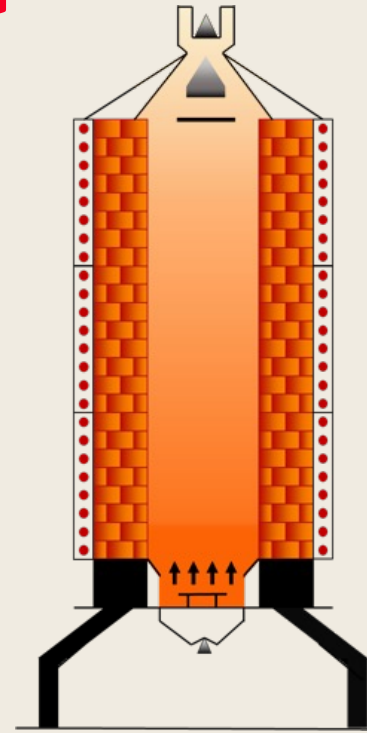
SIBOX: DECOUPLED CHARGE-DISCHARGE GIVES FLEXIBILITY & COST CONTROL



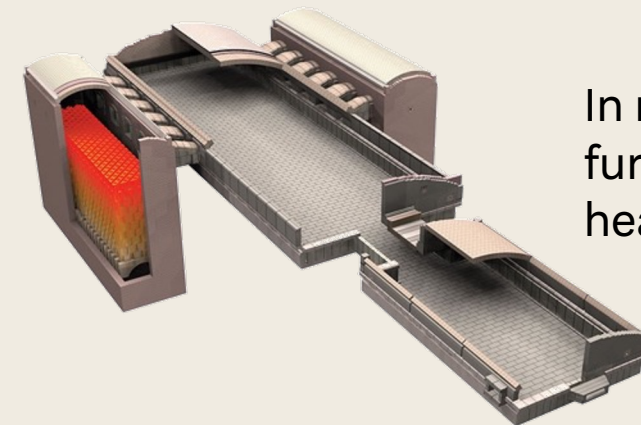
USING SIBRICK TO ELECTRIFY INDUSTRIAL PROCESSING



In SiBox hot gas generator for industrial processes



In novel electric reactor lining with storage



In regenerative furnaces for heat recovery

SIBOX DEMONSTRATION MODULE



- 1 MWh thermal storage device commissioned 2023
- Electric elements store heat in wall of bricks
- Delivers stable hot air supply at set temperatures ranging up to 900°C
- Design prioritises access to storage media bricks. Commercial scale >90% efficient
- Features a single SiBrick module. Can replicate horizontally for commercial scaleup to GWh

Demonstrating an operational device to industry



TECHNOLOGY COMMERCIALISATION PARTNERS

Global refractory brick market of ~1.3 trillion bricks per year

TOP-TIER REFRACTORY MANUFACTURER

- Refractory manufacturer develops, manufactures, and installs high-grade refractories for high-temperature industrial processes
- Systems supplier offering customised and all-inclusive refractory solutions for all major industrial sectors
- Since 2019 has partnered with 1414 Degrees to develop and commercialise silicon storage media
- Has first rights to manufacture 1414 Degrees storage media
- Storage media IP owned by 1414 Degrees
- Manufacturing process IP owned by refractory maker

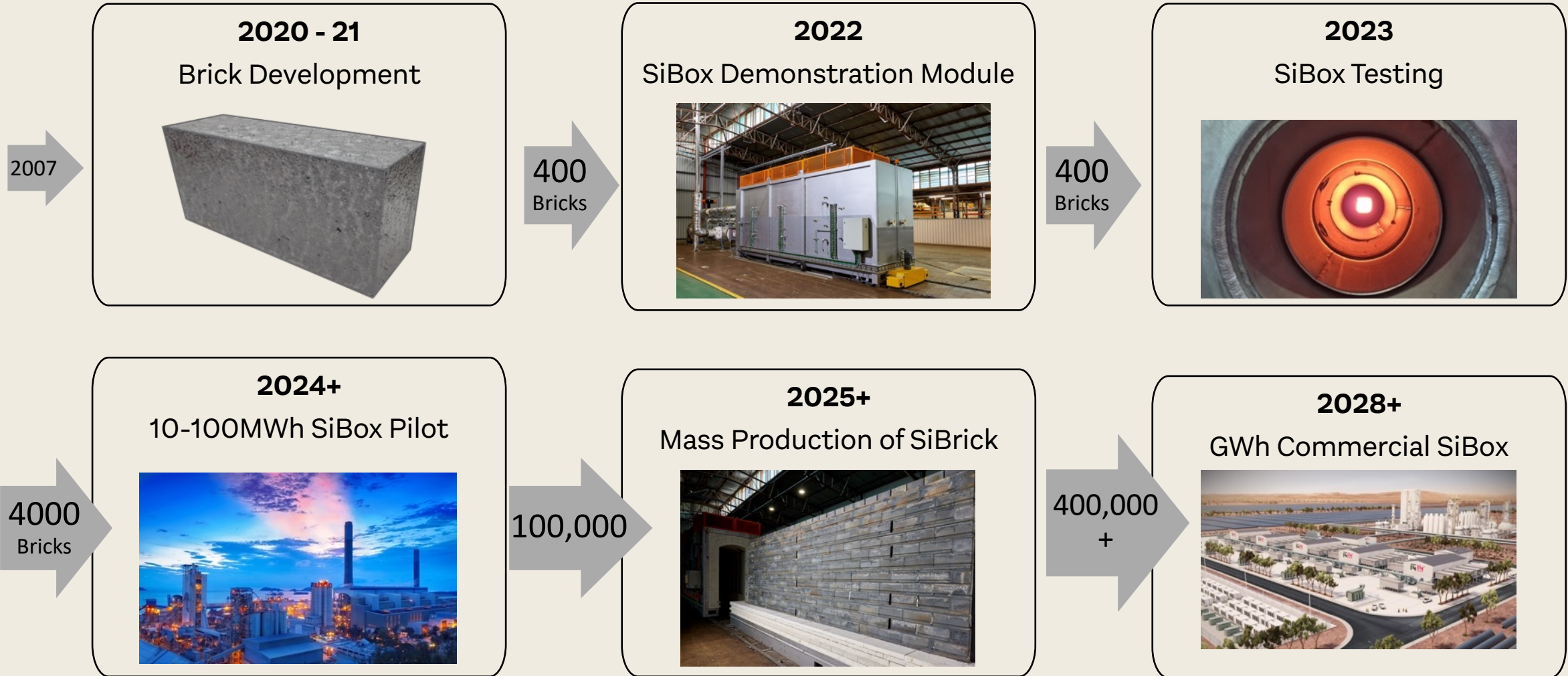
Global market for high temperature heat energy is >\$400 billion in just three industries. Mostly supplied by fossil fuel.

Emissions reduction using SiBox long duration energy storage can be cost effective in supplanting fossil fuel

WOODSIDE ENERGY TECHNOLOGIES

- Woodside Energy Ltd is a global energy company aiming to provide low cost, lower carbon energy
- Since 2021 has partnered 1414 Degrees to develop and commercialise SiBox® technology
- Stage one: Woodside co-funding SiBox Demonstration Module with Australian Government -\$4.2m in grants
- Stage two: Woodside can earn up to 49% of IP by funding SiBox commercial scale pilot
- Silicon media IP to be in SPV with Woodside. 14D responsible for commercialisation but Woodside have preferential price

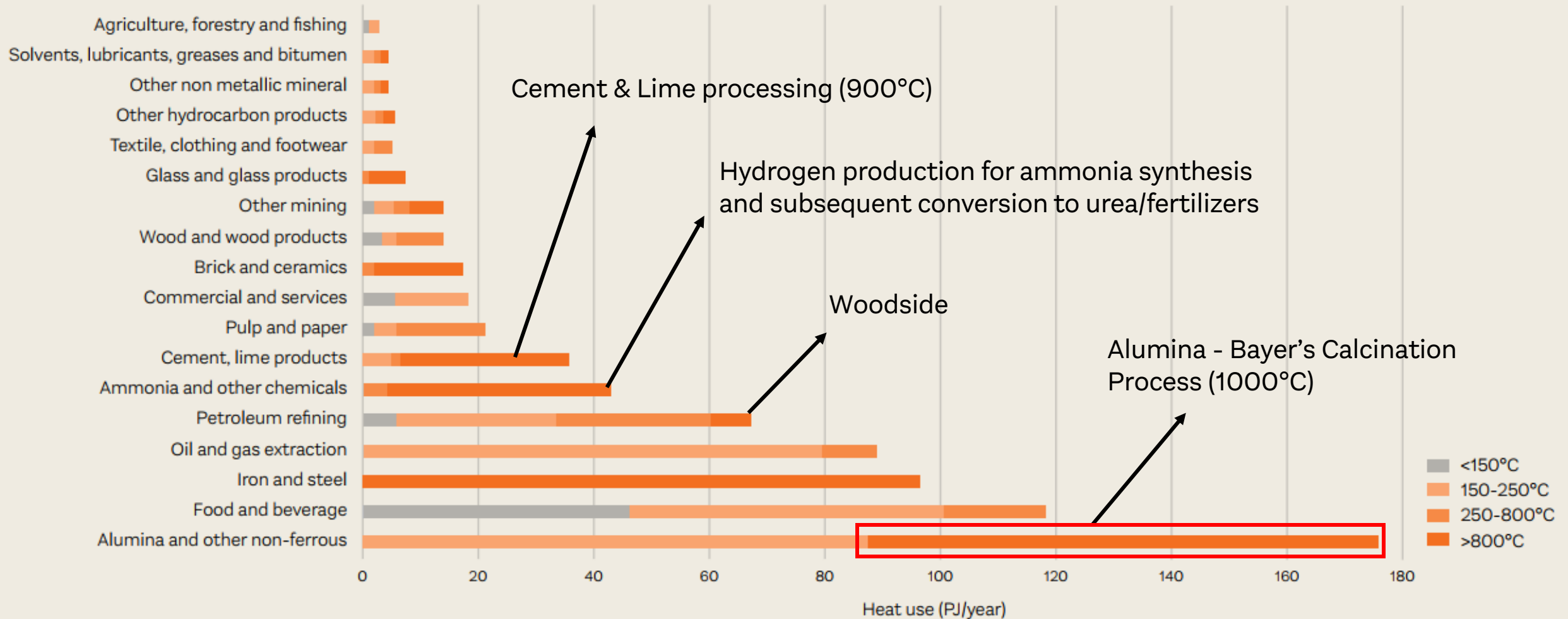
PROJECTED TECHNOLOGY COMMERCIALISATION TIMELINE



HIGH TEMPERATURE CLEAN HEAT APPLICATIONS ARE SIGNIFICANT



High Temperature Applications [$>800^{\circ}\text{C}$]



A HUGE MARKET IS OPENING TO LONG DURATION ENERGY STORAGE

SiBox will initially target three industries with energy costs exceeding \$400 billion

SiBox can increase their production efficiency

SiBox can reduce emissions by displacing a share of fossil fuel use in existing plants

SiBox will make other energy transition technologies more feasible, technically and economically

SiBox can go to market in realistic but valuable steps

SiBox efficiency gains and fuel displacement can save industries billions while achieving emission reduction targets



AURORA ENERGY PROJECT

Near term cash
flow potential



AURORA ENERGY PROJECT



AURORA ENERGY PROJECT 140MW BESS

140MW battery system on 275kV transmission line connected to NEM

SA Crown land lease with approvals

Electranet own and operate the 275kV line

Requires BHP to agree to share and convert transmission line to dedicated network asset (DNA)

BESS timing dependent on DNA agreement

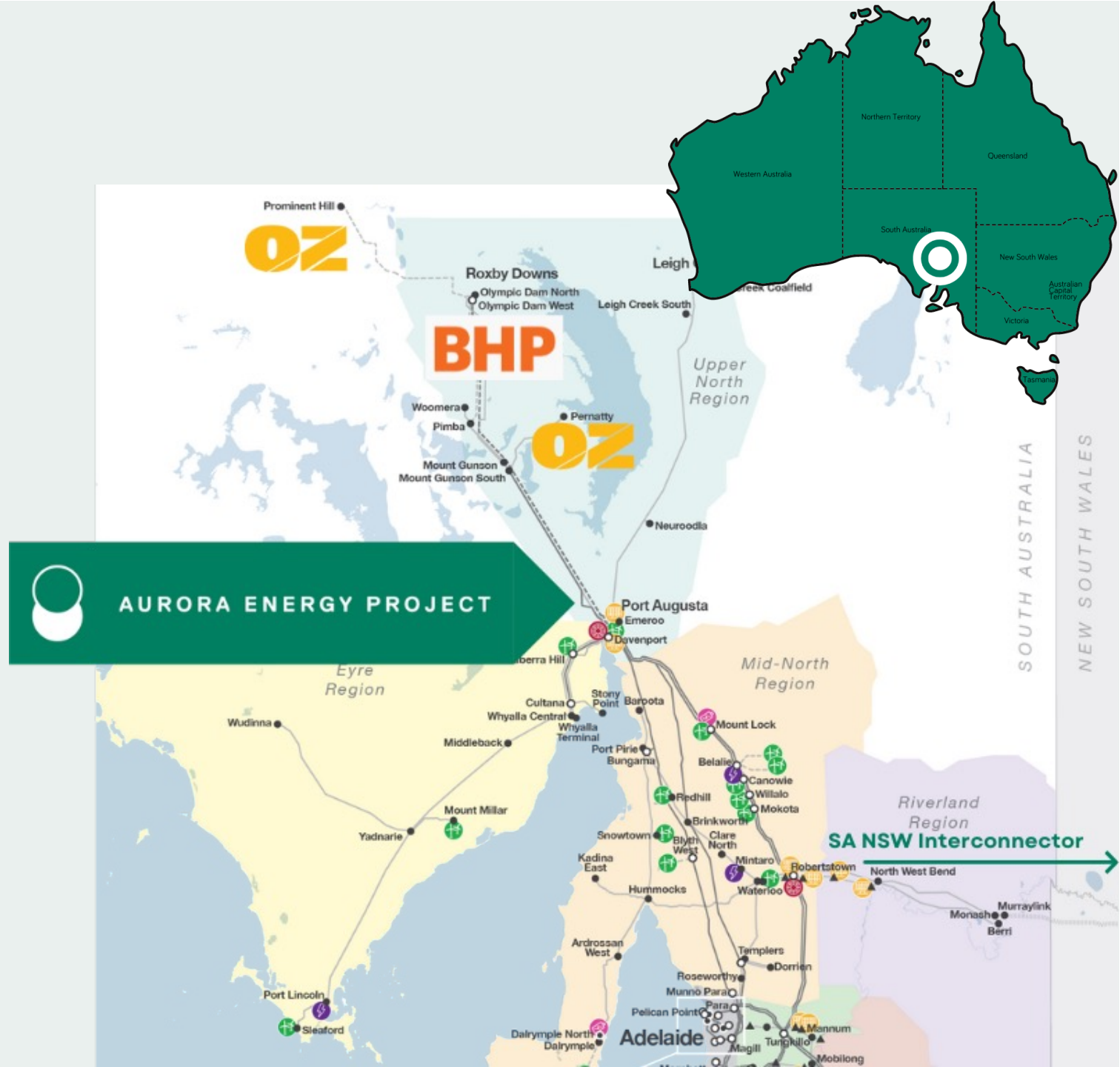
Generator Performance Study complete June 2023

Site works could commence early 2024

BESS commissioning could start late 2024





Vast share costs 50:50 and pay \$1.5m to 14D on transmission agreement

Regulatory approval for 70MW solar PV, grid scale SiBox pilot and CSP generation on site



AURORA ENERGY PROJECT

STRONG PROJECT TEAM

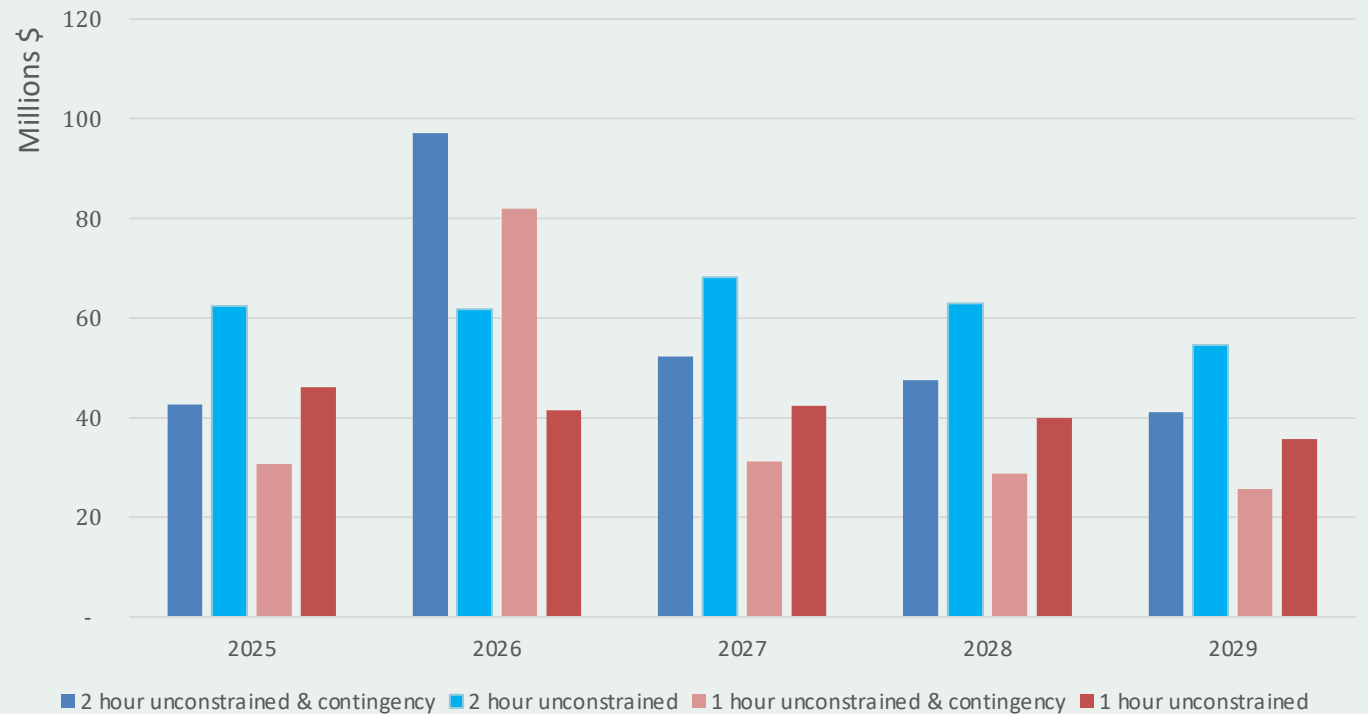
BESS	Tier One Provider *
Owner's Engineer	 Emanden Technical Solutions
GPS consultant	
Transmission Network Service Provider	
Integration	Vice Engineering
Legal Advisor (Approvals, Aboriginal Heritage)	

*Market confidentiality pending final award of contracts

FAST PAYBACK PROJECTED

Aurora 140MW BESS

Projected* first 5 year net revenues for modelled scenarios
1 and 2 hours of storage



*Projections by Cornwall Insight in 2021. To be updated in 2023



THE POWER OF CHANGE

1414 Degrees Ltd

ASX: 14D

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