

# Capability Statement



Cut Costs. Cut Carbon. Stay Hot.

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## About MGA Thermal

Industrial heat is overdue for disruption - and MGA Thermal is leading the charge.

Founded in 2019, we're an Australian clean energy innovator. Our next generation latent heat Electro-Thermal Energy Storage (ETES) system uses proprietary Miscibility Gap Alloy (MGA) blocks to convert intermittent renewable electricity into continuous, industrial-grade steam - available 24/7.

With heat responsible for 42% of industrial energy use in Australia (25% globally) - and much of it still generated from fossil fuels - we're offering leading organisations a smarter, more cost-effective solution.

### Our Vision

*Continuous renewable energy*

### Our Mission

*Empower renewables through thermal energy storage.*

## Our Value Proposition: Beyond Decarbonisation

Industrials are facing pressure on multiple fronts - rising energy costs, supply chain volatility, net-zero mandates and uptime demands. Finding effective solutions is key to staying competitive.

We're partnering with forward-thinking Industrials, helping to:

- Cut their energy costs by 20-40%
- Lock in long-term cost certainty and reduced reliance on fossil fuels
- Improve energy security with dispatchable heat
- Reduce downtime for improved productivity
- Reduce scope 1 & 2 emissions and avoid carbon liabilities
- Access revenue upside through grid services and green premiums

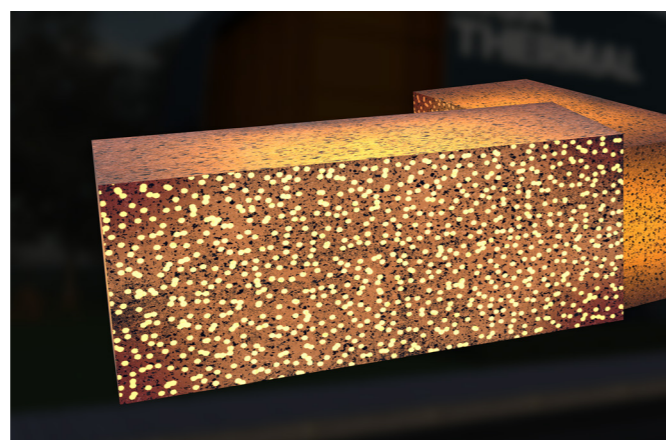
## Technology Breakthrough

MGA's breakthrough technology delivers the ideal trifecta; affordability, reliability, and sustainability.

At the heart of our solution is a purpose-invented material - MGA blocks - that store energy through a solid-liquid phase change, unlocking up to 200% plus greater energy density compared to conventional sensible heat systems.

MGA blocks are compact and stackable, requiring up to 24x less land than battery deployments. They can be deployed within existing infrastructure without costly overhauls or extended operational downtime.

Our tech isn't just clean - it's economically smart and energy-efficient, helping leading organisations shift to low-carbon operations while maintaining performance.



## How It Works

Designed for the client use case.



Engineered for industrial use across the optimal temperature range of 150–550°C.

## Reference Projects

### Project One: 5 MWh Demonstration Plant

Located at MGA's Tomago site is a fully operational [demonstration plant](#). Measuring 12 meters long, 3 meters wide, and 4 meters tall, the unit stores 5 MWh of energy and delivers 500 kW of thermal dispatch power. It can generate continuous superheated steam for 24 hours straight - enough to supply energy to over 270 homes for the same duration.

Proving our technology at scale, this unit offers a firsthand look for those eager to see the ETES in action.



### Project Two: Australia's Largest (180 MWh) Industrial-Scale Thermal Energy Storage Project

MGA Thermal, in partnership with [Knode](#), and in collaboration with [Tronox](#), [GHD](#) and a diversified global mining company, completed a Pre-Feasibility Study in June 2025, for what will be Australia's largest thermal storage project.

Located in Western Australia, the project represents one of the country's most advanced industrial decarbonisation initiatives, capable of delivering 20 tonnes per hour of steam to industrial sites while being economically competitive with traditional fossil fuel technologies.

The project is now advancing toward Front-End Engineering and Design phase, with construction targeted for 2027 and operations beginning in late 2028.

This project demonstrates that viable clean steam solutions can remove reliance on natural gas while maintaining economic competitiveness.

## Industries We Serve

Our solutions are ideal for industries with high thermal energy demand looking to enhance the competitiveness of their operations, whilst meeting decarbonisation goals, including:

- Mining and metals
- Food and beverage processing
- Chemical manufacturing
- Building materials
- Pulp, paper and packaging
- Pharmaceuticals
- Textiles

## Business Model

Our business model plays to our strengths, whilst leveraging the capabilities and expertise of our partners.

MGA Thermal is a specialised Original Equipment Manufacturer (OEM), responsible for a design pack for the thermal storage system and the supply of MGA Blocks.

MGA partners with global engineering procurement construction companies (EPC) to deliver the turnkey scope. The partner is responsible for detailed engineering, procurement, installation, commissioning and operations. MGA will remain engaged throughout project delivery and operations as the specialist thermal storage OEM.

The EPC selection is undertaken in consultation with the end-client. MGA can recommend an EPC company from its existing partners, or can work collaboratively with the end customer's preferred engineering partner.

## Core Capabilities

MGA Thermal continues to assemble a world-class team to support its core operations and services.

**Research and Development:** MGA Thermal boasts over a decade of materials science R&D, culminating in the invention of Miscibility Gap Alloy (MGA) technology.

Our R&D laboratories are crucial for quality control, whilst our continued research efforts are focused on enhancing system performance and unlocking new industrial applications.



**Project Delivery:** MGA Thermal's engine room is an exceptional team of engineers and project managers, collectively bringing over 100 years of experience in executing complex industrial and engineering projects.

This in-house expertise is complemented by the experience and expertise of our engineering and EPC partners, to ensure seamless integration and reliable operation of our ETES solution on live brownfield client sites.



**Manufacturing:** MGA Thermal currently manufactures its MGA Blocks at its Australian facility with a production capacity of 100 blocks per day (approx. 30 MWh per annum).

The manufacturing process is designed for high reliability and quality control for initial client deployments. We will next commence procurement for a scale-up block production line capable of producing 3,000 blocks per day or 1.4 GWh of storage capacity per annum.



## Protecting What Matters

At MGA Thermal, safety is a core pillar of our operations - embedded in every stage of our technology development, system deployment, and daily practices. From the initial design phase to full-scale implementation, we prioritise rigorous safety protocols to ensure the integrity of our thermal energy storage systems and the wellbeing of our team, partners, and communities.

## Environmental, Social, and Governance

We're dedicated to responsible business practices that drive sustainable growth. We are currently developing an ESG strategy that will prioritise environmental stewardship, ethical governance, and positive social impact. From reducing our carbon footprint to fostering inclusive workplaces and transparent leadership, we aim to integrate ESG initiatives into every aspect of our operations. We believe long-term success is built on accountability, innovation, and a genuine commitment to doing what's right-for people and the planet.

## Recognised for Excellence

MGA Thermal continues to earn acclaim for its groundbreaking work in thermal energy storage, recently receiving prestigious awards that underscore its impact and innovation:

- 2025 Australian Renewable Heat Award for Outstanding Industrial Electrification Project (Winner)
- 2025 Financial Review Energy Awards for Innovation (Finalist)
- 2024 Australian Climate Tech Award in the Impact category (Winner)
- 2022 Innovation Aus Translation Hero Award for excellence in research commercialisation (Winner)



*MGA Thermal have a ground-breaking energy storage solution. They represent the next generation of energy innovators.*  
- **Beyond Zero Emissions**

## Our Collaborators





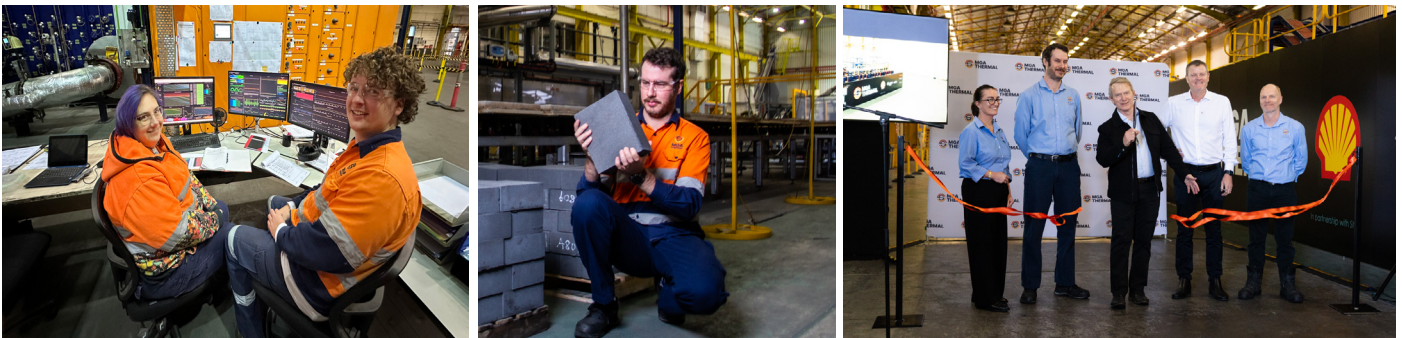
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## Partner With Us

MGA Thermal is working with leading organisations across Australia and globally to shape a cleaner, more profitable industrial future. Whether you are seeking to reduce energy costs, meet carbon targets, or modernise your manufacturing, our team is ready to help.

**Next Steps:** Schedule a demonstration at our Tomago facility or request an ROI analysis tailored to your requirements.



## In the Media

- [Australia's largest thermal storage project takes important next step](#)
- [Australia's largest thermal storage project passes another hurdle in path to commercialisation](#)
- [The heat is on!](#)
- [CSIRO: Full \(renewable\) steam ahead!](#)
- [Newcastle startup unveils world-first renewable steam system](#)
- [5 MWh pilot plant provides new impetus for thermal energy storage startup](#)
- [VC dollars start flowing for Aussie climate-tech manufacturing](#)
- [University of Newcastle wins Research Commercialisation prize](#)
- [Newcastle scientists angling for a coal substitute](#)

## Company Milestones & Industry Partnerships

- [MGA Thermal Recognised for Pioneering Work at 2025 Renewable Heat Awards](#)
- [MGA Thermal and Knode advance Australia's largest industrial-scale thermal storage project in Western Australia](#)
- [MGA Thermal achieves world-first latent heat leap - unlocking 24/7 renewable industrial steam](#)
- [MGA Thermal selected by Chevron for innovative clean steam solution study](#)
- [Strategic investment amid strong growth outlook for climate tech](#)
- [MGA Thermal wins Impact Award: Australian Climate Tech Awards](#)
- [Additional ARENA Funding Boost](#)
- [MGA Thermal secures an additional \\$5.7M](#)
- [MGA Thermal wins Innovation Aus Award 2022](#)