

De-Gasification Capability Statement

Company Profile

CAA has delivered 6 major replacements of gas-powered boilers with electrical heat pumps. With experience in both air-to air and water sourced solutions and converting both domestic hot water and HVAC heating systems to electric heat pumps we believe we are aware of the challenges that these projects present from both a technical as well as commercial perspective.

Having helped 2 asset owners de-gassify in the last 4 years where operations were 24/7 we understand that shut down planning, temporary connections and enabling projects are all required in preparation for this transition. Considerations such as electrical upgrades, augmentation to incoming gas and water supplies, sequencing of spatial requirements, structural upgrades, while ensuring that the impacts on operations in minimised and hot water and heating water is maintained throughout.

Typically, the existing systems are in poor condition, oversized and difficult to ascertain base load and peak demands especially if it's not monitored on the BMS. Working with contractors and consultants in the discovery phase we have experience with temporary metering for hot and cold-water flow rates to right-size the electrical heat pumps for today's peak demands. Our previous projects have proven to us that thermal loads required today are smaller than the original gas plants. Therefore, saving time and money on projects.

Where do we see our focus

Unlike other project managers, we focus exclusively on Mechanical, Electrical and Services projects. We will ensure systems are defined accurately to capture interfaces, get accurate pricing and ensure full coordination with the Structure and Architecture. We will work closely with our specialist supply chain to manage a seamless transition from design, through to build and a successful handover at practical completion.

How will we make a difference to ensure success?

Under our technical leadership, we will ensure the consultants and contractor team implement the necessary processes and management techniques to install and commission vital infrastructure and protect the programme of critical works. We have major project experience, a technical and curious mindset and a passion to deliver on the best service for our customers.



**Martin Simpson, Technical PM
/ Director**

Upon graduating in 2000 with a B Eng in Building Services Engineering from Scotland, Martin boasts 27 years of expertise in the construction sector. He has managed every stage of construction projects for Main Contractors, subcontractors and Clients



**Elliot Hartridge,
Technical PM**

With electrical trade qualifications and graduating honours degree in Construction Project Management in 2017 from University of Technology, Sydney, Elliot has boasts 15 years of on-site and management expertise in the construction sector. He has managed every stage construction projects for asset owners in Australia.



**Carl Sheffer,
Technical PM**

Carl has a degree in Mechanical Engineering and a Master of Business Administration as well as 13 years' experience delivering data centres, laboratories, plantroom upgrades, hospital refurbishments and industrial projects in operational, mission-critical facilities in both Australia and Germany.

Degasification Capability Statement

Project Highlights



University of Sydney - Chemistry Building



Status	Value	Duration	Contract Type
✓	\$	⌚	⚙️
Ongoing	\$10m	2 year	D&C

Key Info

Client	University of Sydney
Sector	Education
Role	Project Manager

Details:

- Replacement of existing 1.8 MW gas boilers and all field pipework with air-source heat pumps. Replacement and recommissioning of FCUs and heating coils for new HHW setpoints.
- Feasibility study for rooftop structural support, additional spatial allowance in courtyard, heat load calculations, electrical assessment, scoping and tender.
- 24/7 live laboratory with both teaching and research, requiring extensive stakeholder consultation
- Asbestos present in risers and existing pipe insulation. Removed or encased as part of project.

Star Casino, Gold Coast - The Grand Hotel



Status	Value	Duration	Contract Type
✓	\$	⌚	⚙️
Complete	\$1.1m	1 year	D&C

Key Info

Client	The Star Entertainment Group
Sector	Entertainment
Role	Senior Project Manager

Details:

- 600kw Electric Heat Pump installation to replace 35-year-old 800kw Gas calorifiers and hot-well for Domestic Hot Water and Heating Hot Water for the 500-bed hotel on levels level 5 to 21. Detailed pre-con water and energy analysis was required to understand peak and average demands before scope could be locked in.
- Air to Air sourced heat pump solution was chosen due to access to the roof along with upgrading the electrical supplies and risers up the building. Produced annual saving of \$150k on Gas and a 7% reduction in gas intensity.

Star Casino, Gold Coast - The Darling Hotel



Status	Value	Duration	Contract Type
✓	\$	⌚	⚙️
Complete	\$1.3m	1.5 year	D&C

Key Info

Client	The Star Casino - Gold Coast
Sector	Entertainment
Role	Design Manager / Project Manager

Details:

- 400kw Electric Heat Pump installation to replace 25 year old 600kw Gas calorifiers for Domestic Hot Water and Heating Hot Water for the property level 4 to Basement 4.
- Comprised of modular water-cooled heat pump units connected to site wide condenser water system.
- Produced annual saving of \$130k on Gas and a 10% reduction in gas intensity.

Star Casino, Gold Coast



Status	Value	Duration	Contract Type
✓	\$	⌚	⚙️
Complete	\$14m	2 year	D&C

Key Info

Client	The Star Casino
Sector	Entertainment
Role	Technical PM / Design Manager

Details:

- Partly due to de-gassification and asset age we replaced and upgraded 3 x HV Boards, RMU's, 7 x 4000amp MSB's and replacement of all cabling to DB's and 12MW of back power generation. This involved 160 electrical shutdowns throughout the property.
- Upgrade from 12Mva to 16Mva incoming HV supply via 11kV network with new metering stations and reconfiguration of local Zone Sub with Energen. This provided full redundant HV supply and designed in conjunction with the masterplan. And upgrade of Gas transe to allow more gas flow to the property

More Info: <https://www.caaengineering.com/blog>