COMPANY BACKGROUND

**What is Cogeneration**
Combined Heat and Power (CHP) is the simultaneous production of electricity and heat using a single fuel source.

**What is Trigeneration**
Trigeneration is the addition of an Absorption Chiller to a Cogeneration system to produce Electricity, Heating and Cooling at the point of use.

A FOCUS ON SUSTAINABILITY

The demand for energy is ever growing and becoming increasingly expensive. Businesses are seeking efficient power generation solutions to secure supply and reduce energy costs.

Cogeneration and Trigeneration Systems generate cost-effective electricity on-site and turn otherwise wasted heat into a useful energy source for heating and cooling purposes. Powered by natural gas, Co and Trigeneration Systems are highly energy efficient and low in carbon emissions.

WHO WE ARE

Simons Green Energy is Australia’s most trusted provider of sustainable energy efficient technologies for businesses.

We design, install and commission Cogeneration and Trigeneration systems that simultaneously generate low-cost power, heating and cooling for commercial and industrial sites.

Driven by our vision for a more sustainable Australia, we never stop innovating or serving our customers.

Our complete solutions will help your business achieve a cleaner, reliable energy supply, along with substantial cost savings lasting more than 20 years after your initial investment. This is supported by our proactive, passionate team, delivering a comprehensive suite of tailored support services from systems’ design and lifetime maintenance to energy auditing and monitoring.

We embrace openness, collaboration and trust. That spirit reflects our dynamic internal team culture, and the way we pursue and maintain partnerships with top suppliers from around the globe.

Thanks to our capacity for constant innovation, customers have continued to choose us and rely on us for 80 years and counting.

As our customer, you’re in capable hands.
Cogeneration

Cogeneration or Combined Heat and Power (CHP) is an extremely efficient technology that converts natural gas or biogas into electricity and heat in a single process at the point of use.

- Produces cleaner and cheaper electricity with “free” heating.
- Recovers wasted energy.
- Reduces energy costs and carbon emissions.
- Operates on Natural Gas and Biogas fuels.
- Space heating, domestic hot water, pool heating, process heat and more.
- Systems custom designed to clients’ electrical and thermal requirements.
- Total efficiency of up to 85% compared to 25% efficiency for conventional electricity.

How does an Absorption Chiller work?

Absorption Chillers use two working fluids: Lithium Bromide Salt (LiBr) and a Refrigerant, in this case, water.

The operating principle of an Absorption Chiller is similar to a standard HVAC Chiller, except that the electrical energy required to operate a standard Chiller through the use of a large pump, is replaced by a generator and an absorber.

Both chambers in the chiller are under vacuum (the top chamber at 1/10 standard atmospheres and the bottom at 1/100 atmospheres), which reduces the boiling point of the water. The absorption chiller also relies on the large amount of heat liberated from the combination (chemical reaction between) of LiBr, which is highly hydrophilic and Water.

Our Supplier

Shuangliang

There are over 20,000 Shuangliang chillers operating worldwide giving them a 15% world market share. Shuangliang can supply multi-energy chillers such as exhaust gas fired, hot water fired, steam fired, natural gas fired or a combination of above different energy streams. Shuangliang chillers provide one of the highest coefficients of performance in the world.

Continues operation is assured due to sophisticated auto purging and auto de-crystallization systems.

Chiller capacities are available from 100kW to 6000kW. Simons Green Energy can supply, commission and provide service for these absorption chillers Australia wide.
Projects
OUR INSTALLATIONS SPAN MULTIPLE SECTORS

CASTLE HILL RSL CLUB
Project 1 – 140 kW Cogeneration
Project 2 – 379 kW Trigeneration

RYDGES SYDNEY AIRPORT HOTEL
70 kW Cogeneration

SWINBURNE UNIVERSITY OF TECHNOLOGY
230 kW Trigeneration

CROWNE PLAZA RESORT & BREWERY
375kW Cogeneration

1 KING WILLIAM ST. ADELAIDE
310 kW Trigeneration

MINGARA RECREATIONAL CLUB
2 X 230 kW Cogeneration

LITTLE CREATURES BREWERY GEELONG
1.3 MW Cogeneration

WAGGA WAGGA OASIS AQUATIC CENTRE
229 kW Cogeneration System

DEVONPORT AQUATIC CENTRE
70 kW Cogeneration System

TWIN TOWN SERVICES CLUB BANORA
230 kW Trigeneration System

CANTERBURY HURSTTONE PARK RSL
500 kW Trigeneration

Our Services
From initial consulting and engineering design through to installation and lifetime maintenance. We deliver complete Cogeneration, Trigeneration and other energy management solutions for a range of industries.

- Feasibility Analysis
- Design, Supply and Install
- Commission
- Project Management
- Customer support and lifetime maintenance
- Energy Review, Monitoring and Audit
- Procurement Options

The key to our success is designing the right solutions to meet our clients’ needs from consulting to lifetime care. We offer a turn key solution.
A COMPLETE SOLUTION

Our engineering team will carry out an in-depth analysis of your project requirements, based on a review of current and projected energy usage and other relevant implementation factors.

Assuming a technical solution makes sense, the detailed engineering analysis will determine the optimum system size and configuration and result in a technical and financial feasibility report that will illustrate the benefits and costs of the proposed solution.

Working closely with your team, our engineers will prepare detailed design drawings to ensure a smooth integration with the other building services.

We can assist with design and specification, we can offer a “supply only” solution or a complete turnkey solution. Our team can complete all the procurement activities, including order processing, insurance, freight and logistics.

The installation and commissioning process will be carried out by our mechanical and services engineers. Later, our maintenance and service technicians will remotely monitor the units maximising the efficiency and lifetime operation.