



# COGENERATION



## Delivering sustainable energy efficient technologies...

The Simons group are leaders in clean and efficient water heating and cooling, steam and distributed energy equipment in Australia. We provide solutions to our customers' needs with outstanding products, technology and service quality which makes a meaningful contribution to improving the planet and our customers "bottom lines".



Specialists in energy systems for over 80 years

# COGENERATION AND TRIGENERATION

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

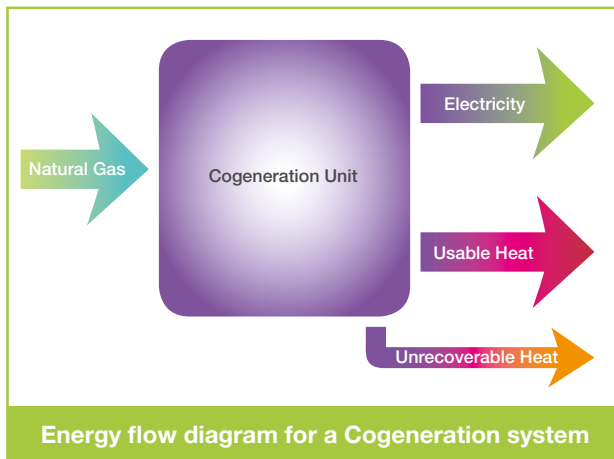
**Cogeneration**, sometimes known as Combined Heat and Power (CHP), is the simultaneous production of two forms of energy: electricity and heat from a single fuel source.

**Trigeneration** goes a step further and turns this heat into usable cooling by the addition of a chiller to the system to provide cooled water for air conditioning purposes.

Co and Trigeneration systems turn otherwise wasted heat into a useful energy source by capturing this heat and using it to heat a building, pool or run a system in industry.

When properly managed, natural gas Co and Trigeneration systems can produce energy with less than half of the carbon output of grid produced electricity. This is because a Cogeneration system uses Natural Gas (or Biogas) which is a much less carbon intensive fuel than Coal. Additionally, the typical efficiency of a cogeneration system is about 85% compared to around 30% for the coal fired electricity grid system. All of this means that using a Cogeneration system is 4 times more efficient than buying grid electricity for power and burning gas for heat. Co and Trigeneration offer major economic and environmental benefits to companies wishing to reduce both their energy bills and their environmental footprint.

Cogeneration systems may be either run in parallel to the grid (in addition to grid produced electricity) or operate in island mode to provide a backup for essential electrical services in case of grid failure. At all times, the cogeneration unit will have equivalent safety as the electrical grid.



## Applications for Cogeneration/Trigeneration

- Hotels, Leisure Centres & Clubs
- Aquatic Centres
- Hospitals
- Universities, Colleges and Schools
- Military Bases
- Municipal Buildings
- Airports
- Wastewater Treatment & Landfill sites
- General Industry
- Piggeries & Chicken Farms
- Breweries, Distilleries

## The Benefits

### Environmental

- Improve corporate image through sustainable energy efficiency
- Reduced CO<sup>2</sup> emissions with the use of natural gas as a fuel instead of electricity
- 85% electrical conversion efficiency of Cogeneration

### Financial

- Stabilise the risks associated with rapidly rising electricity prices. Relatively Short pay back periods
- Mitigate the impact of the proposed future Carbon Taxes.

### Operational

- Improve the security of your Electrical supply
- Meeting the base load thermal requirements of your site using Cogeneration
- Enhance the rating of your building under NABERS & Green Star Rating programs.

**Simons Green Energy Co and Trigeneration systems are specially designed to suit your site requirements of electricity use, thermal energy use, acoustics, environmental and building requirements.**



ENER-G's experience in the Cogeneration market dates back to 1984 when they began designing, manufacturing, installing and maintaining Cogeneration systems. They are now firmly positioned as Europe's leading supplier of Cogeneration systems from 4kWe up to 10MW fuelled by natural gas, biogas, propane, biodiesel or pure plant oil (PPO). They bring a wealth of knowledge and experience about Cogeneration. To date ENER-G have manufactured over 2500 Cogeneration units, operating in 11 countries across the globe. Simons Green Energy are exclusive distributors of ENER-G Cogeneration systems in Australia.



Natural Gas Cogeneration system

Cogeneration units	Electrical Output kW (e)	Total Heat Output kW (t)
ENER-G 35	35	61
ENER-G 50	50	79
ENER-G 70	70	109
ENER-G 90	90	161
ENER-G 100	100	172
ENER-G 110	110	184
ENER-G 125	124	200
ENER-G 135	135	217
ENER-G 150	152	236
ENER-G 185	185	309

\*\* Other sizes also Available

Cogeneration units	Electrical Output kW (e)	Total Heat Output kW (t)
ENER-G 210	210	337
ENER-G 230	230	358
ENER-G 375	378	401
ENER-G 500	505	527
ENER-G 770	770	872
ENER-G 850	847	948
ENER-G 1150	1150	1428
ENER-G 1560	1557	1719
ENER-G 1600	1600	TBC
ENER-G 2000C	2000	TBC

\*\* Biogas Range also Available - please talk to our technicians



Absorption chiller

## 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.

# COMPANY BACKGROUND



The Simons group are leaders in clean and efficient distributed energy, water heating and cooling as well as steam equipment in Australia. We provide solutions to our customer's needs with outstanding products, technology and service quality. This leads to a meaningful contribution to improving the environment and our customers' financial situation.

## The Team

The company is made up of team of qualified engineers, a service and installations department, factory technicians, sales and marketing staff as well as corporate and support staff. With an office in Sydney and Melbourne, and network of distributors and service agents throughout Australia.

## FINANCE OPTIONS

Simons can partner you in finding the right financing option to suit your needs. Talk to us about Government grants.

## Capital Purchase

Fixed cost for a complete turnkey package.

## BOOM or BOOT Schemes

Simons Green Energy will install, operate and finance the Cogeneration installation, at no cost to you and simply contract the energy produced by the CHP back to you at a discounted rate. Benefits include:

- No capital outlay / risk
- No continual maintenance / aftercare costs
- Guaranteed capped energy costs for the duration of the agreement
- Faster route to scheme implementation and immediate saving.

## Flexible Finance & Project Funding

SGE are uniquely positioned to facilitate customised, project specific funding, which we are happy to discuss on an individual customer basis.

## Our services include:

Feasibility study

System specification

Design and build

Installation and commissioning

System testing

Ongoing operation and maintenance

Finance options



Providing Energy Solutions since 1932

HEAD OFFICE Sydney - 755 Botany Road, Rosebery NSW 2018 | Australia | T 61 2 8338 8660  
Melbourne - 34 Strong Avenue Thomastown VIC 3074 | Australia | T 61 3 9462 6700

E info@simonsgreenenergy.com.au  
www.simonsgreenenergy.com