

City of Sydney Setting the Low Carbon Example

Town Hall House Trigen, Sydney



Project Notes

Site Owner:

City of Sydney

Commission date:

2016

System components:

C800 & C600 with HRMs

Cogeneration capacity:

1.4MW Power, 2MW Heat, 1.3MW Chill

Fuel source:

Natural Gas

System Application:

Combined Cooling, Heat & Power (CCHP)

Key outcomes

- Carbon emissions have been reduced by 40,000T
- Annual savings of \$140,000
- 10 year fixed price maintenance

Innovation

- Retrofitted to a busy CBD Site
- First to export power in Sydney CBD

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The City of Sydney, are taking big steps towards reducing 70% of their carbon emissions by 2030. Currently, 80% of the city’s greenhouse gas emissions come from the consumption of grid electricity that is mainly produced by coal-fired power stations. Nearly two-thirds of the energy produced at these stations is then wasted due to heat from cooling towers, long-distance transmissions and distribution over power lines to Sydney.

As a start to helping the City of Sydney move closer to their carbon reduction goals, Optimal have cut the emissions of their Town Hall and adjacent office tower by 40,000 tonnes over the next 30 years. This was achieved by installing a Capstone C600 and C800 microturbine to generate a significant amount of their power, heating and cooling.

To ensure that none of the energy produced goes to waste, the microturbines also incorporate Combined, Cooling, Heating and Power (CCHP) capabilities. This means that any waste heat that comes from the turbines is converted into free heat and cooling for the town hall and office tower. In addition to this, the microturbines can be run at maximum output - allowing for heating and cooling to be harvested and exported back to the grid.

This was a truly unique and exciting project for The City of Sydney, that has not only brought them closer to meeting their carbon reduction goal but has also cut their energy costs by \$140,000 per annum for the next 30 years.

If you would like you hear more about this project or are interested in receiving a free cost-assessment, give us a call on 1800 678 476 or email us at sales@optimalgroup.com.au.

