




CERAMIC FUEL CELLS LIMITED

Clean power for your home

# BlueGEN

Operating at:

VicUrban 



26 May 2010

[www.cfcl.com.au](http://www.cfcl.com.au)



## 'Mini power station for your home'

**Converts natural gas into power and heat**

**Makes all the power for an average home over a year, plus export to the power grid**

- Plus heat for hot water and space heating

## **Easy to install and operate**

- Uses existing gas, power and water connections
- Remotely monitored and controlled over the internet

## **Highest electrical efficiency in small scale generators**

- More power from less fuel
- Large carbon savings

## **Wholly developed in Australia**





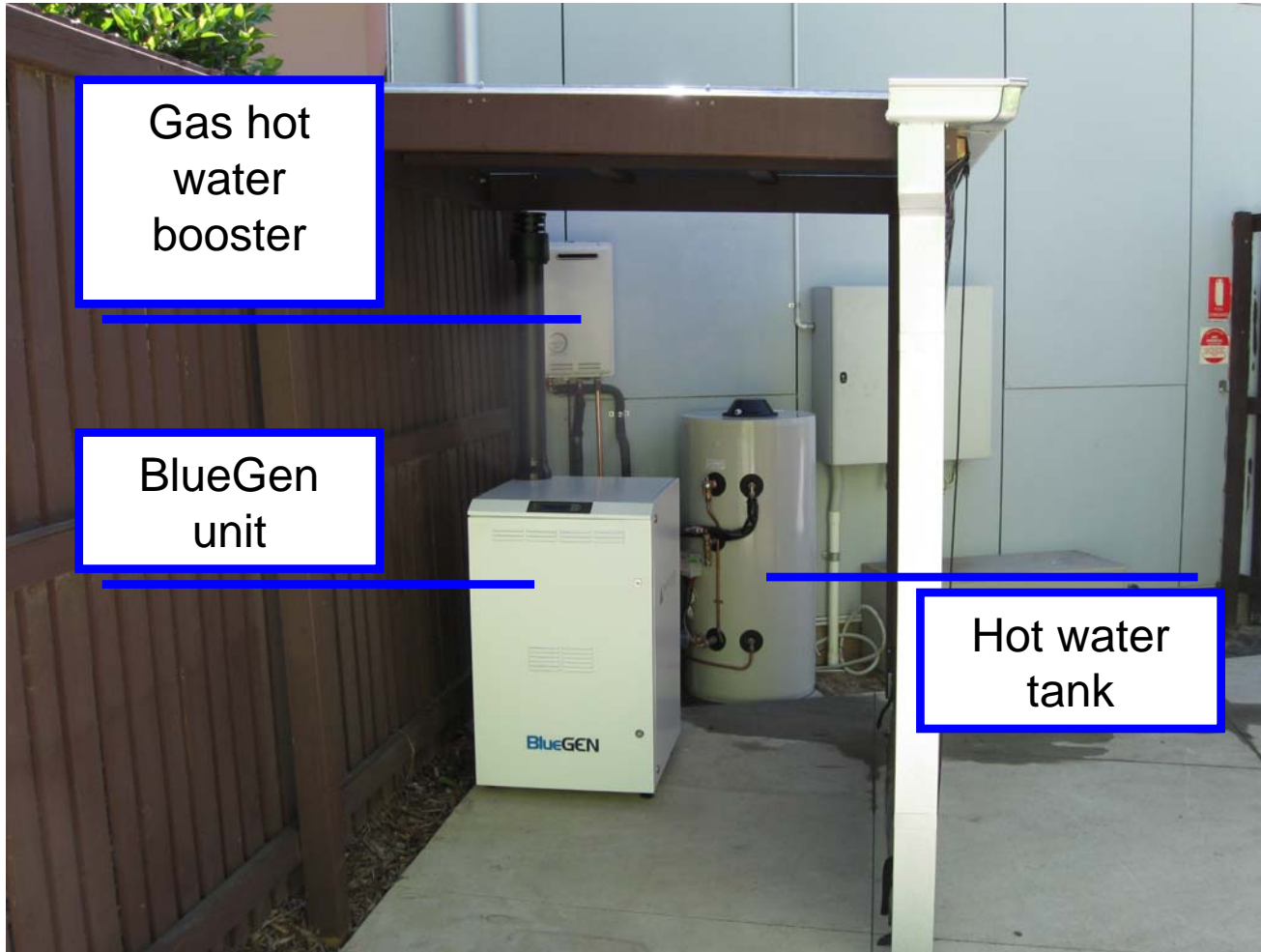
## BlueGen at VicUrban

- **VicUrban is the Victorian Government's sustainable urban development agency**
  - One of Victoria's largest residential land developers
  - Committed to delivering high quality, sustainable communities
- **First BlueGen unit installed at VicUrban's Aurora community in Epping North, Melbourne**
  - Aurora is the largest sustainable residential development of its kind in Australia
  - Two more BlueGen units to be installed at other VicUrban sites
- **BlueGen installation**
  - Connected to the existing natural gas pipeline, water and electricity grid
  - Installed with a 200 litre hot water tank and a supplementary gas hot water booster
  - Connected to the internet for remote monitoring and control
- **BlueGen began generating power from 29 April 2010**
  - Designed to generate 1-2 kW of electricity constantly, at a very high electrical efficiency (up to 60%) and a total efficiency including the heat output of up to 85%
  - This is more than twice as efficient as the current Victorian power grid
  - Very high efficiency = large carbon savings
  - Also uses much less water than current Victorian power stations
- **Origin Energy will buy back excess electricity generated by the VicUrban BlueGen units**





## Aurora Site



**CFCL is arranging scheduled group visits to the Aurora site to view the BlueGen unit in operation**

**To register for a site visit please contact CFCL at [receptionist@cfcl.com.au](mailto:receptionist@cfcl.com.au) or phone 613 9554 2300**



## BlueGen Performance

### BlueGen unit performing well:

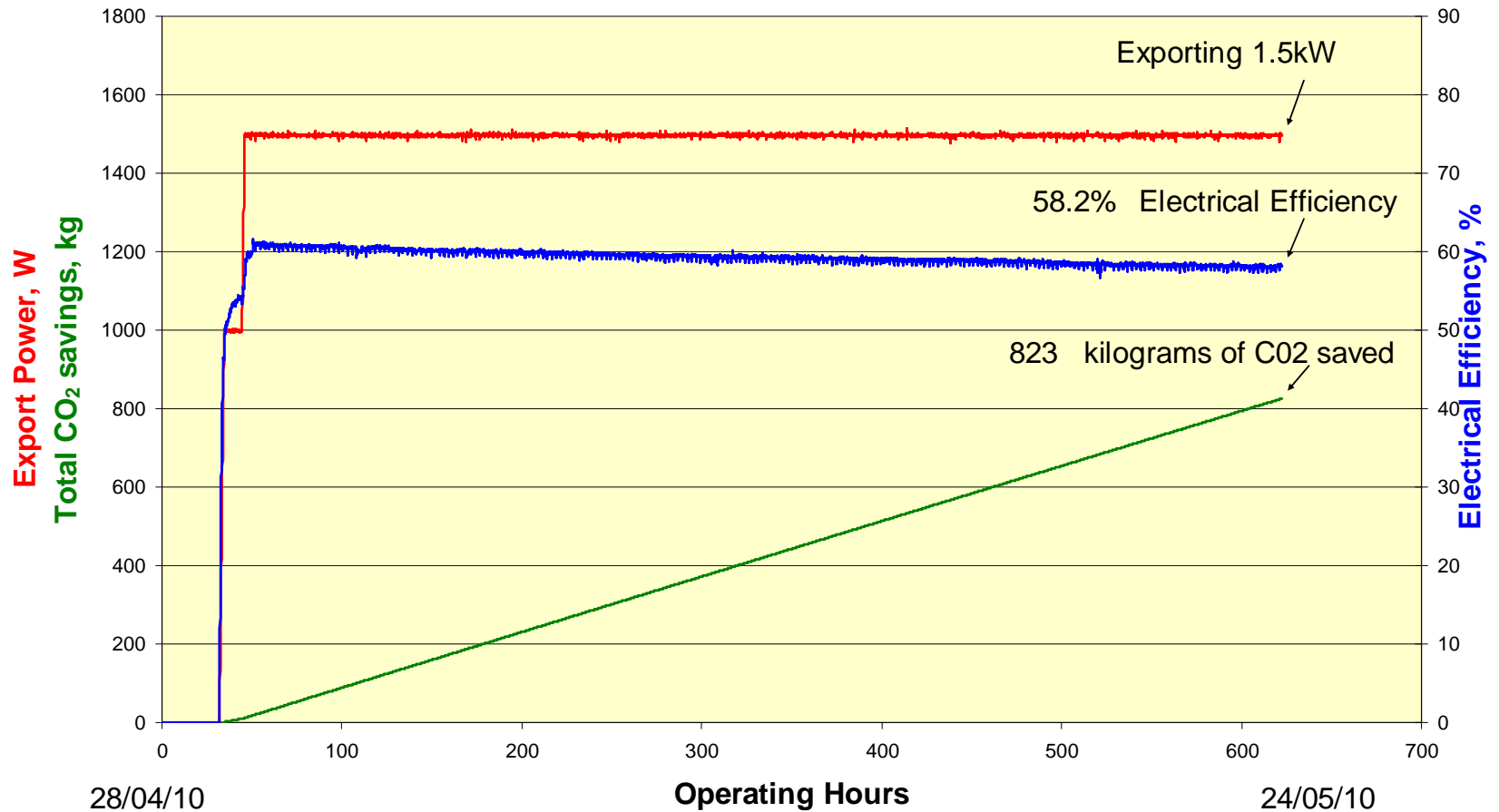
- **Current electrical efficiency of 58%, compared to about 25% efficiency for coal-derived electricity**
- **Constant output of 1.5 kilowatts of electricity**
- **Cumulative power exported to the grid of 876 kilowatt hours of electricity**
  - Equivalent to 12,500 kilowatt hours over a year, about twice the amount used by the average home in Melbourne
  - Excess power can be sold back to an energy retailer
- **Cumulative CO2 savings compared to the Victorian grid of 823 kg**
  - Equivalent to **12 tonnes** over the course of a year = 240,000 'black balloons' saved
  - Average Victorian home produces 10.7 tonnes (213,000 black balloons) of greenhouse gas emissions each year from energy used in the home

<http://www.saveenergy.vic.gov.au/blackballoons.aspx>



# BlueGen Performance

BG02 - Aurora





## Leading Customers

United Kingdom



Netherlands



France



Switzerland



Germany



Japan



Australia





At 26 May:

## BlueGen Order Book

<i>Month</i>	<i>Customer</i>	<i>Country</i>	<i>Number</i>
Oct 2009	Energy Australia	Australia	1
Nov 2009	VicUrban	Australia	3
Nov 2009	Paloma	Japan	1
Jan 2010	EWE	Germany	3
Feb 2010	Kiwa-Gastec / Gasterra	The Netherlands	1
Feb 2010	RheinEnergie	Germany	1
Feb 2010	E.ON Ruhrgas	Germany	1
Feb 2010	Alliander	Germany	1
Feb 2010	Cosvegas	Switzerland	1
March 2010	Mitsui / Osaka Gas	Japan	1
March 2010	German Gas Association	Germany	2
April 2010	Ideal Boilers	United Kingdom	1
April 2010	Victorian Government	Australia	30*
<b>Totals</b>	<b>13 customers</b>	<b>6 countries</b>	<b>47 units</b>

\* = conditional order



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