



**CERAMIC FUEL CELLS LIMITED**

*Clean power for your home*

# Quarterly Update

## Quarter to 30 June 2010



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28 July 2010

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



# Highlights

## As at 28 July 2010:

- Orders for 49 BlueGen units from 14 customers in 6 countries
  - Order for 30 BlueGen units from the Victorian Government
  - Second order from Mitsui & Co / Osaka Gas
  - First order in Canberra, Australia
- Total of 12 integrated units and BlueGen products installed and operating in five countries
- Integrated mCHP units operating with leading utility customers and appliance partners in three countries
- Report from CSIRO, Australia's leading research body, confirms significant carbon savings from BlueGen
- Victorian Government consultation on a new feed-in tariff for low emissions technologies such as CFCL products
- Appointed Harvey Norman Commercial Division as a BlueGen distributor in New South Wales and ACT
- Winner of the prestigious Innovation NRW.INVEST AWARD for 2010
- Licence agreement with NexTech Materials Ltd for CFCL's patented formulations



## Products

- **BlueGen modular power and heat generator (= power + hot water)**
  - Orders from leading energy companies and other foundation customers in Europe, Japan, Australia
  - Strong interest from many global markets
- **Integrated mCHP products (= power, hot water + space heating)**
  - First units installed with partners in Germany, UK and France
  - In discussions to confirm details of next orders
- **Common Fuel Cell Module, with the World's Highest Electrical Efficiency**
  - CFCL Gennex fuel cell module is the core technology in both the integrated mCHP and BlueGen products
  - Units operating in Germany, France, the UK, Japan and Australia
  - All of the integrated mCHP and BlueGen products have achieved initial electrical efficiency of between 59.3% and 62.4%
  - Repeatable world-leading electrical efficiency in a range of real world conditions in many markets



# BlueGen Sales

## **Victorian Government Order**

- Order for 30 BlueGen units from the Victorian Government's Office of Housing
- Units to be installed in public housing properties in metropolitan Melbourne and regional Victoria
- Conditional on agreeing a model for the delivery of future BlueGen maintenance services, and on formal funding approval
- CFCL and the Office of Housing working to finalise these conditions during August

## **First Order in the Australian Capital Territory**

- BlueGen sale to the Canberra Institute of Technology's (CIT) new Sustainable Skills Training Hub
- New "green skills" training facility, showcasing the latest sustainable energy technologies. Building is funded by the Federal Government
- High profile site in Canberra, ideal venue to showcase BlueGen to the Australian Federal government

## **Second Order from Mitsui & Co / Osaka Gas**

- Order for a second BlueGen unit from Mitsui & Co, to be installed with leading Japanese gas utility Osaka Gas
- Follows on from the first BlueGen unit, installed at Osaka Gas's testing facility in April 2010



# BlueGen Sales

## Continuing Strong Interest

- During the quarter CFCL installed BlueGen units with several leading German energy utilities
- Continued strong interest from German energy utilities
- Strong prospects in other global markets, including Japan, the US and new markets in Europe

## Leading Partners

- Customers and Partners are some of the largest energy companies in Europe and Japan

## Meeting Demand

- CFCL is building BlueGen units now to meet expected customer demand
- Recruiting additional staff to meet demand, to be based in Heinsberg, Germany:
  - Two European sales & support staff
  - Several staff to manage product installation and support



At 28 July 2010:

# BlueGen Order Book

<i>Customer</i>	<i>Country</i>	<i>Number of units</i>	<i>Status at 28 July</i>
Energy Australia	Australia	1	Installed, awaiting final regulatory approval
VicUrban	Australia	3	1 <sup>st</sup> unit operating 2 <sup>nd</sup> and 3 <sup>rd</sup> units to be installed in coming months
Paloma	Japan	1	Operating
EWE	Germany	3	1 <sup>st</sup> unit installed
Kiwa-Gastec / Gasterra	The Netherlands	1	Operating
RheinEnergie	Germany	1	Installed
E.ON Ruhrgas	Germany	1	Operating
Alliander	Germany	1	Operating
Cosvegas	Switzerland	1	Operating
Mitsui / Osaka Gas	Japan	2	1 <sup>st</sup> unit operating; 2 <sup>nd</sup> unit to be installed in August
German Gas Association	Germany	2	1 <sup>st</sup> unit operating in Essen 2 <sup>nd</sup> unit operated, awaiting planned re-location
Ideal Boilers	United Kingdom	1	Unit delivered to the UK
Canberra Institute of Technology	Australia	1	Order placed in July, to be installed in August
Victorian Government, Department of Human Services	Australia	30	Installations from October, subject to finalising order conditions
<b>14 customers</b>	<b>6 countries</b>	<b>49 units</b>	



## Germany



*Alliander, Heinsberg*

## BlueGen Installations



*German Gas Association, Essen*



## Japan



*Osaka Gas, Osaka*

## BlueGen Installations



*Paloma, Sapporo*



# BlueGen Installations

## Australia



*Energy Australia, Sydney*



*VicUrban, Melbourne*



# BlueGen Distribution in Australia

## Harvey Norman Commercial

- CFCL has appointed Harvey Norman's Commercial Division as a non-exclusive distributor of BlueGen units, initially in New South Wales and the ACT
- Harvey Norman Commercial Division is the largest Harvey Norman franchise. They sell a wide range of home products including solar hot water and solar power systems to commercial customers
- Harvey Norman Holdings Limited is listed on the ASX (code HVN) and the Harvey Norman group is one of Australia's largest and best known retailers

## Neco

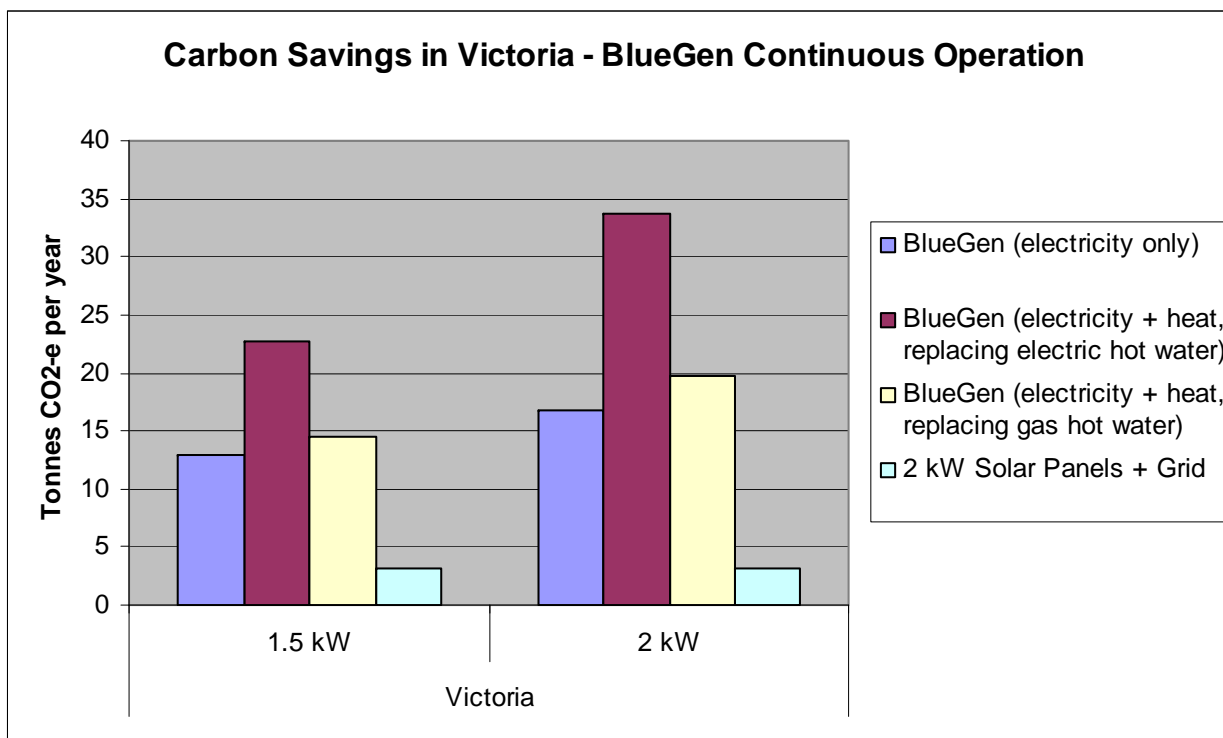
- Green retailer Neco is an existing BlueGen distributor, based in Melbourne

**Initially marketing BlueGen to commercial customers like energy utilities, local Councils, housing and 'green building' developers and Governments**



# CSIRO Report on BlueGen Carbon Savings

- June 2010 report by CSIRO confirms significant carbon savings from BlueGen
- In Victoria each BlueGen unit can save **14 tonnes** of carbon per year (1.5 kW continuous operation, replacing a gas hot water unit). Savings are much higher if replacing an electric hot water unit.





## Prestigious German Innovation Award

- In July CFCL was awarded the prestigious Innovation NRW.INVEST AWARD for 2010, by the Government of North Rhine-Westphalia in Germany
- More than 11,000 foreign companies based in North Rhine-Westphalia are eligible for the NRW.INVEST awards. Each year three awards are presented, for outstanding achievements in the categories of Innovation, Expansion Investment and New Investment.
- CFCL was honoured to have received the 2010 award for Innovation. The 2009 winner of the Innovation award was Research in Motion, the developer of the BlackBerry device.
- Australian Ambassador to Germany, Mr Peter Tesch: *"I am convinced that Ceramic Fuel Cells will shape the world market and especially the German market of private energy supply."*



# Feed-in Tariffs

## Victorian Government Feed-in Tariff Review

- In late June the Victorian Government commenced a review into the expansion of feed-in tariffs to include low-emissions technologies like fuel cells
- A feed-in tariff is a rate paid for electricity fed back into the electricity grid from designated renewable and low emission electricity generation sources
- In Victoria there is a 'standard' feed-in tariff (equal to the retail price for electricity, or about 20 cents per kWh) for wind, solar, hydro and biomass of up to 100 kW capacity; plus a premium tariff (of 60 cents per kWh) for solar PV up to 5kW
- CFCL welcomes the Government's review and has made a submission

## United Kingdom Feed-in Tariff

- In April 2010 the UK Government introduced a feed-in tariff for small scale power and heating products
- Energy retailers pay homeowners 10 pence per kWh generated plus an additional 3 pence per kWh exported to the grid
- To be eligible for the tariff, the product must be certified under the Microgeneration Certification Scheme (MCS). CFCL is working with industry partners to apply the relevant MCS standards to the Company's products. Expect to achieve MCS certification during the September quarter.



# Manufacturing

## Heinsberg, Germany

- Plant for the volume assembly of fuel cell stacks. The plant includes automated and semi-automated equipment.
- BlueGen unit has been operating at the plant since September 2009
- All assembly processes are fully commissioned and operating, including the ink mixing equipment and the robotic seal dispensing and assembly machines
- Currently making fuel cell stacks at the plant using a lower volume furnace
- Also continuing to make stacks in Melbourne, to comfortably meet current demand
- To increase the volume of stacks the Company will need to use its larger furnaces already installed at the Heinsberg plant. CFCL is currently working with the supplier of the large volume furnaces to ensure the furnaces will produce fuel cell stacks in larger volumes at acceptable quality standards

## BlueGen Assembly

- CFCL examined several alternatives for BlueGen assembly, including toll manufacturing
- To preserve product quality whilst reducing costs, CFCL is assembling complete BlueGen units in-house
- BlueGen assembly currently in Melbourne; from early 2011, BlueGen assembly in the Heinsberg plant



## **Licence Agreement with NexTech**

**In June 2010 CFCL entered a licence agreement with USA-based NexTech Materials, Ltd for NexTech to commercially offer solid oxide fuel cell interconnect coating solutions based on CFCL's patented formulations**

- CFCL has patented a technology which protects metal interconnect plates from chromium poisoning. This solution, which CFCL uses in its own fuel cell products, is useful for other developers of solid oxide fuel cells.
- Based in Ohio, NexTech Materials is a leading provider of technology solutions for the solid oxide fuel cell market. NexTech's customers are located in more than 35 countries and include fuel cell researchers, developers and manufacturers.
- CFCL will receive a royalty from NexTech Materials' sales, creating an additional revenue stream from CFCL's existing intellectual property.
- CFCL's Fuel Cell Interconnect Device is patented in the United States, Japan, Europe (France, Germany, Italy and the United Kingdom), Australia and New Zealand.



## Financial Review

### Cashflow for the June Quarter

- |   |                       |
|---|-----------------------|
| ■ Underlying net operating cash outflow   | AUD 4.7 m (GBP 2.7 m) |
| - In line with last quarter   |                       |
| ■ Receipts from customers   | AUD 0.4 m (GBP 0.2 m) |
| - Including initial payments by customers on the signing of BlueGen orders  |                       |
| - Initial payment from the Victorian Government order for 30 BlueGen units expected in September quarter  |                       |
| ■ Cash outflow from investing activities  | AUD 1.1 m (GBP 0.6 m) |
| - Lower than last quarter   |                       |
| ■ Net cash outflow  | AUD 5.3 m (GBP 3.1 m) |
| - AUD 1.3 m (GBP 0.7 m) lower than last quarter   |                       |
| ■ Net operating cash outflow for the fiscal year  | AUD 14.1m (GBP 8.1m)  |
| - Receipts from customers for FY10  | AUD 1.6m (GBP 0.9m)   |
| - Includes AUD 0.9m (GBP 0.5m) of payments for BlueGen inventory components. Inventory building up to meet expected future demand. At year end the value of these items in inventory was AUD 1.3m (GBP 0.7m). |                       |
| ■ Cash at 30 June 2010  | AUD 11.5m (GBP 6.6m)  |

### Litigation against Oakvale Capital Limited

- Legal action against former investment and treasury advisor relating to losses suffered on financial investments. Funded by ASX-listed litigation funder IMF Australia Limited
- Case is being heard in the Federal Court in Melbourne. Trial is expected to conclude by the end of July 2010.



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