



**CERAMIC FUEL CELLS LIMITED**

*Clean power for your home*

# Company Update

## European BlueGen Sales

## UK Feed In Tariff



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- **Modular co-generator: turns natural gas into power (2kW) and hot water**
  - **Installed in homes and other buildings**
  - **Electrical efficiency of 60% - world's highest in small scale generators**
  - **Energy bill savings, carbon savings, power grid savings**
  - **Turns homes into mini power stations: sell excess power to the grid**
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- **Nine BlueGens ordered since October 2009:**
    - Australia - VicUrban 3 units, Energy Australia one unit
    - Australian reseller – Neco ([www.neco.com.au](http://www.neco.com.au))
    - Japan – Paloma one unit
    - Germany – EWE 3 units
    - Netherlands – Kiwa Gas Technology one unit





## European BlueGen Sales

### EWE

### *Germany*

- Three BlueGens, delivery in Q2 and Q3 2010
- Operated in EWE facilities and family homes in North West Germany
- EWE is a leading German utility for fuel cells and distributed generation, working with CFCL since 2005

### Kiwa Gas Technology

### *The Netherlands*

- One BlueGen unit, delivery in Q2 2010
- Kiwa will test and operate the BlueGen on behalf of GasTerra
- GasTerra is a leading gas utility based in The Netherlands. Fortune 500 company, 2009 revenues of 25 billion Euros.
- GasTerra is actively investing in highly efficient gas appliances like small scale power and heating products



## **UK Feed In Tariff**

- **UK Government has announced a feed-in tariff for small renewable and low-emission electricity generators, including natural gas combined power and heating products up to 2kW**
- **A feed-in tariff is a premium rate paid for electricity generated in the home and fed back into the electricity grid**
  - Rewards small scale power generation
  - Helps early customers get a better economic return
- **Not a grant or Government subsidy. Tariff is paid by the energy retailers, who recover the costs through their other customers.**
- **UK energy retailers will pay homeowners two tariffs:**
  - 10 pence for every kilowatt hour of electricity generated, plus
  - 3 pence for every kilowatt hour of electricity exported to the power grid
- **Applies from 1 April 2010, for ten years from when the unit is installed**
- **Applies to the first 30,000 micro power and heating products installed, with a Government review after 12,000 units installed**
- **Feed-in tariffs for small gas power and heating products also available in Germany, France, Ireland and The Netherlands**



## UK Feed In Tariff – Worked Example

- **Assuming:**

- A typical UK home, using 4,000 kWh electricity per year
- BlueGen heat output is used for home hot water (instead of a 'A' rated gas condensing boiler)
- The homeowner currently pays 10 pence per kWh for power and 3.5 pence per kWh for gas
- BlueGen operates 24x7x365 at constant 1.5kW output, at peak electrical efficiency of 60%

*Highest electrical efficiency*

*= more power, less heat*

*= makes power all year round*

- **Then:**

- One BlueGen unit generates ~13,100 kWh of electricity
- Of this, the home uses 4,000 kWh and exports 9,100 kWh to the grid

*The home becomes a 'mini power station'*



## UK Feed In Tariff – Worked Example

Illustrative financial benefits, before capital and maintenance costs:

### ■ Annual feed in tariff payments

- Generation tariff:	10p * 13,100 kWh	= £1,310
- Export tariff:	3p * 9,100 kWh	= £273
- Total payment received:		£1,583

### ■ Plus Savings

- Avoided electricity cost:	10p * 4,000 kWh	= £400
- Avoided gas cost (for hot water)	3.5p * 4,850 kWh	= £170
- Total saving:		£570

### ■ Minus Natural gas used

- Gas costs for power and heat	3.5p * 21,700 kWh	= £760
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**Payment received + savings – gas cost = £1,393 per year**

*This is a simplified example. Actual operating hours and efficiency levels will vary depending on installation and performance. Payback and financial return will also depend on capital and maintenance costs.*



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