



CERAMIC FUEL CELLS LIMITED

Clean power for your home

# Fuel Cell Manufacturing Investment and Volume Order



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## Today's Announcement

- Ceramic Fuel Cells (CFCL) is investing €12.4 million in a manufacturing plant in Heinsberg, Germany for the commercial production of its fuel cell systems
- CFCL has received an order from Nuon, The Netherlands' largest energy company, for 50,000 micro-combined heat and power (m-CHP) products, based on meeting agreed performance conditions
- Fuel Cell Stack power output doubled to 2kW per unit





## Fuel Cell Plant, Heinsberg

- **Scale up Manufacturing to make commercial fuel cell modules**
- **Manufacturing processes already proven in Melbourne**
- **Site prepared, hired local staff 2007**
- **Initial capacity 10,000 units per year**
  - Existing leased building
  - Total project cost €12.4m
  - Completion June 2009
  - Off-take order from Nuon
- **Future expansion**
  - 160,000 units per year in the same building
  - Option to buy Greenfield site
- **Long term supply partnerships**





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## Building Refurbishment





## Volume Order from Nuon

- **Order for 50,000 mCHP units**
- **10,000 units per year for five years, from H2 2009**
- **Based on commercial mCHP unit specifications**
  - Physical weight and size
  - Power and heat output
  - Efficiency
  - Lifetime
  - CO2 savings
  - Price
- **Substantial revenue over the five year period**





## Increased Power Output

- Fuel Cell module power output doubled from 1kW to 2kW
- More power from the same balance of plant
- Significantly lower cost per kW
- Higher CO2 savings per unit
  - Saves up to 3 tonnes of CO2 per year compared to existing grid
- Fuel cell stack design frozen





## Customers and Partners



5<sup>th</sup> largest German utility. Leader in DG, fuel cells. 5,200 staff, sales of €7.4B. [www.ewe.de](http://www.ewe.de)



Specialist boiler maker, various brands. [www.bruns-heiztechnik.de](http://www.bruns-heiztechnik.de)



Largest gas utility in Europe, sales of €22.4B. 11M customers in France. Entering the electricity market. [www.gazdefrance.com](http://www.gazdefrance.com)



Largest gas heating company in France. Extensive distribution network. Part of the Remeha group. [www.dedietrich-heating.com](http://www.dedietrich-heating.com)



Large, innovative Benelux utility, operations in Germany. >2M customers, sales of €5.6B. [www.nuon.com](http://www.nuon.com)



Large global boiler and heating systems manufacturer. Sells into 40 countries. 2,500 staff, sales of €540M. [www.remeha.com](http://www.remeha.com)



E.On group is the world's largest investor owned utility. UK's largest integrated power and gas company, 8.5M customers. Experience with deploying CHP units. [www.eon-uk.com](http://www.eon-uk.com)



Largest boiler and storage vessel expertise in the UK. <http://www.gledhill.net>



Leading global gas appliance company. Based in Japan, operations in Asia, Oceania, Americas. Largest water heater manufacturer in the USA. Revenue of US\$2.5 billion, 15,000 staff. [www.palomaglobal.com](http://www.palomaglobal.com)