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## **ENERGY ASSOCIATIONS SAY DISTRIBUTED GENERATION OF ELECTRICITY A “GREAT OPPORTUNITY” FOR IMPROVED ENERGY DELIVERY**

Ceramic Fuel Cells Limited (AIM/ASX: CFU) – a leading developer of high efficiency and low emission electricity generation units for homes and other buildings – today announced that several responses to Prime Minister’s Task Group’s Energy Efficiency Issues Paper have highlighted the benefits of distributed generation of electricity using fuel cells.

Distributed electricity generation is the production of electricity at the point of use. Currently, only about 25% of electricity produced at centralised coal-fired power stations ends up being used. The balance – 75% – is lost as heat at the plant or in transmission and distribution.

In its response to the Energy Efficiency Issues Paper, **The Energy Networks Association** (ENA) – the peak national body for Australia’s gas and electricity network providers – says:

“Australia’s energy use is growing, and total demand for energy is projected to continue to increase with growth in Australia’s economy and population, growing by more than 25 per cent over the next decade. This growth will require substantial investment to maintain and update Australia’s electricity infrastructure. This investment is already having an impact on electricity prices and will continue to do so.

“ENA recognises the scale and impact of line losses as electricity is transported by way of existing transmission and distribution networks, and the benefits which can be delivered over the long term by a move to more distributed, local generation.

“In the future, a typical active customer could potentially transform their energy profile by purchasing a 3kW combined heat and power (CHP) fuel cell, a 1.5kW solar PV system, a 5 kWh battery and a Home Area Network (HAN). They could reduce their reliance on the grid – which features 90% coal-fired generation, 60% combustion and line losses and around 10% renewable generation – and move towards a more environmentally sustainable profile based on natural gas-fired generation, 15% energy conversion losses and 30% renewable generation.

“Active customers are also likely to be net exporters of electricity. This example highlights the fact that greater deployment of distributed generation has the potential to significantly improve the energy efficiency of individual businesses and households, which may have consequences for energy prices and the overall efficiency of the total energy delivery chain.”

Similarly, the **Gas Industry Alliance** (GIA) states in its submission:

“The GIA has identified two key areas of great opportunity to drive a stepwise change in energy delivery and use throughout Australia. Firstly small to medium sized distributed generation including co/tri-generation and fuel cell technologies have the potential to

deliver significant low cost emission intensity reductions in the stationary energy use sector. The second key opportunity is the increased use of gaseous fuels (LPG, CNG and LNG) in the transport sector.”

**Jemena**, a large gas and electricity distribution business, says in its submission:

“Jemena considers stimulating small to medium-scale cogeneration fuel cell units in the residential sector as key low hanging fruit for delivering a national energy efficiency ‘step change’ outcome, given the low [greenhouse gas] emissions intensity and cost effectiveness of these systems.”

The **City of Sydney** says in its submission:

“Removing the regulatory barriers to decentralised energy (cogeneration, trigeneration, fuel cells and renewable energy) will stimulate the decentralised energy market and make a significant contribution to energy production efficiency and reductions in CO2 emissions.”

**Origin Energy** states its submission:

"Small scale co-generation, or Combined Heat & Power (CHP), can deliver significant energy efficiency gains, and represents an opportunity that has slipped through the gaps of existing government policy. Origin recommends that CHP can impact both energy and peak demand with high levels of both fuel & carbon efficiency."

**Origin Energy** states that key opportunities for Australia to drive a step change improvement in energy production efficiency and derive greater energy from its existing stock of natural resources include: fuel switching; distributed generation; and co-benefit utilisation (ie the use of heat in combined heat and power (CHP) units enables a production efficiency of up to 80%).

The **Task Group’s Issues Paper** itself says:

"Energy efficiency measures and cost-effective distributed generation (such as solar roof panels, wind turbines, co-generation and tri-generation) can help delay the need for new electricity infrastructure investment.

"Energy efficiency and distributed generation may play a role in increasing the security, stability and cost-effectiveness of energy markets. Distributed or embedded generation can result in lower transmission line losses because the generator is located close to the load. Distributed generators are also capable of higher overall energy efficiency if using co-generation or tri-generation, because waste heat can be used for heating and cooling. Distributed generation can help delay the need for new electricity infrastructure investment."

The Task Group will make its final recommendations to the Minister for Climate Change, Water and Energy Efficiency and the Minister for Resources and Energy by the middle of this year.

Submissions are available at:

<http://www.climatechange.gov.au/government/submissions/pm-task-group/paper.aspx>

## **BACKGROUND**

Ceramic Fuel Cells’ BlueGen units generate electricity in the home at more than double the efficiency of current Victorian coal-fired electricity generators, cutting energy bills and reducing carbon emissions by up to two-thirds.

About the size of a dishwasher, BlueGen uses fuel cell technology to convert natural gas into electricity. Over a year, each BlueGen can produce twice the electricity needed to power an average Victorian home – the excess power can be exported to the power grid. BlueGen also produces enough heat to meet the average home's daily needs for hot water.

Ceramic Fuel Cells has achieved electrical efficiency of 60 percent, far higher than any other technology in the rapidly expanding global market for small scale power and heating generators. When heat is recovered from the electricity production process, total efficiency is up to 85 percent – more than twice as efficient as the average among current Australian power stations.

Ceramic Fuel Cells is continuing to build its order book for BlueGen units from major utilities and other foundation customers in Germany, the United Kingdom, Switzerland, The Netherlands, Japan and Australia.

The Victorian Government recently placed a conditional order for thirty BlueGen units to be installed in social housing units in Melbourne and regional Victoria.

Using the same fuel cell technology, Ceramic Fuel Cells is also developing fully integrated power and heating products with leading energy companies E.ON UK in the United Kingdom, GdF Suez in France and EWE in Germany.

## **ENDS**

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## **About Ceramic Fuel Cells Limited**

Ceramic Fuel Cells Limited is a world leader in developing fuel cell technology to provide highly efficient and low-emission electricity from widely available natural gas. The Company is developing micro combined heat and power and distributed generation units that generate electricity and heat for homes and other buildings. Ceramic Fuel Cells is demonstrating products with leading appliance partners and utility customers in Germany, France, the United Kingdom and Japan. In 2009 the company launched its BlueGen gas-to-electricity product.

Ceramic Fuel Cells is headquartered in Melbourne, and has operations in the UK and Germany. The Company is listed on the London Stock Exchange AIM market and the Australian Securities Exchange (code CFU).

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