

## Press Release

20 March 2006

### **Ceres Power secures £2.7 million programme with British Gas to accelerate the introduction of fuel cells into UK homes**

Ceres Power, the AIM-quoted fuel cell group, today announces its entry into a £2.7 million contract with Centrica plc (trading as British Gas), part funded by the DTI, to develop Combined Heat and Power (CHP) units for the UK residential market. The programme will design, build and evaluate fuel cell CHP units, delivering electricity, heating and hot water, and substantially reducing both energy bills and CO<sub>2</sub> emissions.

Today's announcement closely follows the Company's recent achievement of a major technical milestone: the successful delivery of a production-engineered 1kW fuel cell stack (the "Ceres Stack") generating sufficient power for the average home. The Ceres Stack is the fundamental building block of micropower generation products aimed at a variety of consumer and commercial uses. Under today's contract, Ceres will work closely with British Gas to accelerate the introduction of its fuel cells into UK homes.

The Government is strongly supportive of micropower generation, which represents a shift to the production of energy at the point of use rather than centralised generation, to help the country improve its energy security, meet its environmental obligations and deliver energy savings to consumers. Micropower products have the potential to supply over one third of Britain's total electricity needs.

Peter Bance, CEO of Ceres Power, comments:

"We are delighted to make this important announcement as it marks the transition of our partnership with British Gas to a commercial programme to deliver fuel cell products to the mass market. Ceres technology will enable up to two-thirds of UK households to use highly efficient and environmentally-friendly CHP appliances in their homes."

Dominic Shorrocks, British Gas, Director New Business Growth, comments:

"Making green energy a reality is an important part of our future strategy. This milestone brings us a step closer to delivering a technological revolution for consumers, which confirms our commitment to empowering British Gas customers to use energy efficiently, with the potential to dramatically reduce household energy bills and cut carbon dioxide emissions. Our partnership approach acknowledges our confidence in the future of micropower and the development of Ceres fuel cells, which are uniquely designed to appeal to the demands of a mass market."

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## **About Ceres Power**

Ceres is a successful AIM-listed fuel cell business developing a range of global market applications including residential combined heat and power, on-site / back-up generators and auxiliary power units for transport. Critically, the technology uses low cost materials and existing mass-production techniques. And unlike many fuel cells, the Ceres cell can run on widely available fuels like natural gas, LPG and biofuels as well as on hydrogen.

Since its formation in 2001, the Company has received major recognition for its technology and business credentials.

Ceres won the prestigious 2003 Carbon Trust Innovation Award for the UK's green technology with the best commercial potential.

More recently, Ceres secured a top industrial accolade by winning the Institute of Materials, Minerals and Mining's Gold Medal for 2005.

In January 2006, Ceres Power was selected as the only fuel cell company in the government's new Energy Research Partnership, contributing directly to national energy policy.

Ceres Power has raised over £25 million of funding through two rounds of private equity and its AIM IPO in November 2004. The company enjoys the support of many blue chip City institutions as financial backers including Fidelity, Morley and JP Morgan.

## **About Ceres Power's Technology**

Ceres fuel cell stacks are comprised of multiple fuel cells layered on top of one another, each made from stainless steel with tiny amounts of ceramic coating. The cells combine fuel and air to create electricity and heat via a quiet, solid state electrochemical process similar to a battery. As this process does not involve combustion, unlike an engine or burner, it is highly efficient and environmentally friendly.

Ceres has developed a unique adaptation of Solid Oxide Fuel Cell (SOFC) technology, able to operate at temperatures substantially lower than conventional designs which run at 800 – 1000 degrees C. By using a new generation of ceramic materials known as CGO (cerium gadolinium oxide) instead of the industry standard YSZ (yttria stabilised zirconia), operation at 500 - 600 degrees becomes possible. This in turn allows use of conventional stainless steel as the cell substrate, separating the functions of mechanical support from electrochemistry.

The electrochemical layers can then be made extremely thin and optimised for maximum performance, resulting in world-beating power density levels, whilst the stack material costs are radically reduced. The efficiency of converting fuel into electricity and heat is therefore very high and this efficiency is maintained across a wide part-load range. In addition, the heat-to-power ratio is approximately one-to-one making the technology ideal for applications such as CHP, where levels of electrical output need to be maintained even where heat demand is modest.

In contrast to totally ceramic cells, these metal-supported cells are mechanically highly robust and can be easily sealed (e.g. through welding) and have thermal

expansion coefficients well matched to their ceramic coatings. This allows great resistance to thermal shock, permitting rapid start-up times and the potential for thousands of ON / OFF cycles for everyday usability. In addition, the technology retains the fuel flexibility of SOFC, and has proven ability to run highly efficiently on commercially available fuels such as natural gas, LPG and biofuels.

In conjunction with the Ceres Stack programme, the Company has been developing the non fuel cell elements within the complete product, known as the balance of plant ("BOP"), as part of its systems integration activities aimed at delivering products for specific customers. Because of the unique attributes of the technology, Ceres Power has been able to dramatically reduce the time and cost of BOP development and systems integration by utilising mature component supply chains and ordinary, low cost materials. Unlike other fuel cell designs which operate at more extreme temperatures, time-consuming and expensive bespoke solutions for BOP components are not required.