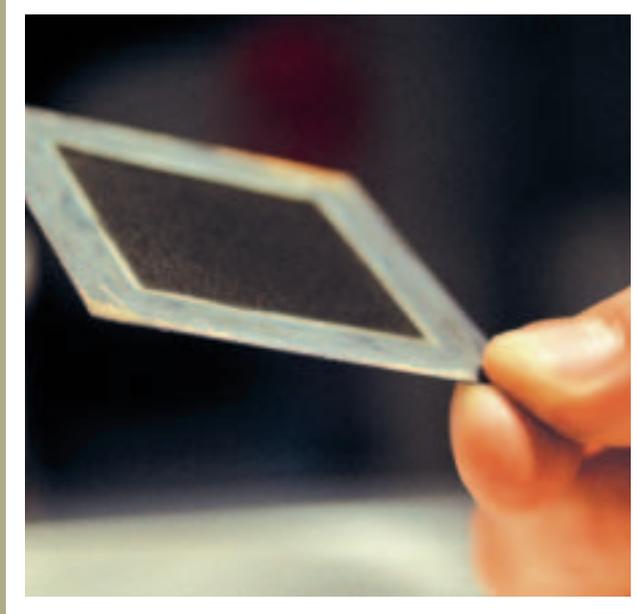


**CeresPower** 



**THIS DOCUMENT IS IMPORTANT AND REQUIRES YOUR IMMEDIATE ATTENTION. If you are in any doubt about the contents of this document you should consult a person authorised for the purposes of the Financial Services and Markets Act 2000 who specialises in advising on the acquisition of shares and other securities.**

This document has been drawn up in accordance with AIM Rules but is not a prospectus for the purposes of the Public Offers of Securities Regulations 1995. It is directed only at persons with professional experience in matters relating to investments of the type described in it, as such persons are described in article 19 of the Financial Services and Markets Act 2000 (Financial Promotions) Order 2001 ("FPO"), and at high net worth companies, unincorporated associations etc as described in article 49(2) of the FPO. Ordinary Shares to be subscribed under the Placing are only available to such persons and no other class of persons should rely on this document or act upon it.

**Application has been made for the ordinary share capital of Ceres Power Holdings plc to be admitted to trading on AIM. AIM is a market designed primarily for emerging or smaller companies to which a higher investment risk tends to be attached than to larger or more established companies. AIM securities are not admitted to the Official List of the UK Listing Authority. A prospective investor should be aware of the risks in investing in such companies and should make the decision to invest only after careful consideration and, if appropriate, consultation with an independent financial adviser. London Stock Exchange plc has not itself examined or approved the contents of this document. The Rules of AIM are less demanding than those of the Official List. It is emphasised that no application is being made for admission of such ordinary share capital to the Official List. It is expected that dealings in the Ordinary Shares will commence on AIM on 25 November 2004.**

Prospective investors should read the whole of the text of this document and should be aware that an investment in the Company is speculative and involves a high degree of risk. Your attention is particularly drawn to the section entitled "Risk Factors" in Part 3 of this document.

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# **Ceres Power Holdings plc**

*(Incorporated in England and Wales under the Companies Act 1985 with registered number 5174075)*

## **Placing of**

**17,966,418 million Ordinary Shares of 5p each**

**at a price of 120p per share**

**and Admission to the Alternative Investment Market**

**Nominated Adviser and Broker**

**NUMIS SECURITIES LIMITED**

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### **SHARE CAPITAL**

The following table shows the authorised and issued share capital of the Company immediately following the Placing.

<i>Authorised</i>			<i>Issued</i>	
<i>Number</i>	<i>Amount</i>		<i>Number</i>	<i>Amount</i>
100,000,000	£5,000,000	Ordinary Shares of 5p each	55,096,393	£2,754,820

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The New Ordinary Shares to be issued pursuant to the Placing will, on Admission, rank *pari passu* in all respects with the Ordinary Shares in issue at the date of this document and will rank in full for all dividends and other distributions declared, made or paid on the Ordinary Shares after Admission.

Numis Securities Limited, which is a member of the London Stock Exchange plc and is authorised and regulated by the Financial Services Authority, has agreed to act as the nominated adviser and broker to the Company in connection with the Placing and Admission. Persons receiving this document should note that, in connection with the Placing and Admission, Numis Securities Limited is acting exclusively for the Company and no-one else. It will not be responsible to anyone other than the Company for providing the protections afforded to customers of Numis Securities Limited or for advising any other person on the transactions and arrangements described in this document.

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## CONTENTS

	<i>Page</i>
<b>Expected Timetable of Principal Events</b> .....	<b>3</b>
<b>Placing Statistics</b> .....	<b>3</b>
<b>Directors and Advisers</b> .....	<b>4</b>
<b>Definitions</b> .....	<b>5</b>
<b>Glossary</b> .....	<b>7</b>
<b>Part 1 Information on the Group</b> .....	<b>9</b>
<b>Part 2 Technical report on the Ceres IT – SOFC Programme</b> .....	<b>19</b>
<b>Part 3 Risk Factors</b> .....	<b>36</b>
<b>Part 4 Financial Information on Ceres Power Holdings Plc</b> .....	<b>39</b>
<b>Part 5 Financial Information on Ceres Power Limited</b> .....	<b>44</b>
<b>Part 6 Additional Information</b> .....	<b>65</b>

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## **EXPECTED TIMETABLE OF PRINCIPAL EVENTS**

Dealings in the Ordinary Shares commence on AIM	8.00 a.m. on 25 November 2004
CREST accounts credited in respect of the Ordinary Shares to be issued in uncertificated form	25 November 2004
Share certificates in respect of the Ordinary Shares dispatched (if applicable) by	2 December 2004

## **PLACING STATISTICS**

Placing Price per Ordinary Share	120p
Number of New Ordinary Shares being placed on behalf of the Company	13,333,333
Number of Ordinary Shares being placed on behalf of the Selling Shareholders	4,633,085
Number of Ordinary Shares in issue immediately following the Placing	55,096,393
Market capitalisation at the Issue Price	£66.1 million
Percentage of the enlarged issued share capital available in the Placing	32.6 per cent.
Net proceeds of the Placing receivable by the Company	£14.6 million

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## DIRECTORS AND ADVISERS

### Directors

Philip Holbeche *(Chairman)*  
Peter Bance *(Chief Executive Officer)*  
Nigel Brandon *(Chief Technology Officer)*  
Harry Fitzgibbons *(Non-executive Director)*  
John Gunn *(Non-executive Director)*

*all of*

Unit 18  
Denvale Trade Park  
Haslett Avenue East  
Crawley  
RH10 1SS

### Company Secretary

Steven O'Dea

### Registered Office

Unit 18  
Denvale Trade Park  
Haslett Avenue East  
Crawley  
RH10 1SS

### Company Number

Registered Number: 5174075

### Nominated adviser and stockbroker to the Company

Numis Securities Limited  
Cheapside House  
138 Cheapside  
London  
EC2V 6LH

### Auditors and Reporting Accountants to the Company

PricewaterhouseCoopers LLP  
Abacus House  
Castle Park  
Cambridge  
CB3 0AN

### Solicitors to the Company

Taylor Wessing  
Carmelite  
50 Victoria Embankment  
Blackfriars  
London  
EC4Y 0DX

### Bankers

National Westminster Bank plc  
South Kensington Station Branch  
PO Box No 592  
18 Cromwell Place  
London  
SW7 2LB

### Registrar

Computershare Investor Services PLC  
The Pavilions  
Bridgewater Road  
Bristol  
BS99 7NH

### Solicitors to Numis

Shepherd + Wedderburn  
12 Arthur Street  
London  
EC4R 9AB

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## DEFINITIONS

In this document, unless the context otherwise requires, the following expressions shall have the following meanings:

“Act”	the Companies Act 1985, as amended
“Admission”	admission of the Ordinary Shares including the New Ordinary Shares to trading on AIM becoming effective in accordance with the AIM Rules
“AIM”	a market operated by the London Stock Exchange
“AIM Rules”	the rules of the London Stock Exchange governing the admission to and operation of AIM
“Articles”	the articles of association of the Company, a summary of which is set out in paragraph 5 of Part 6 of this document
“Board” or “Directors”	the directors of the Company
“Ceres”	Ceres Power Limited, a wholly owned subsidiary of the Company
“Company”	Ceres Power Holdings Plc
“CREST UK System”	the facilities and procedures for the time being of CREST
“CREST”	the relevant system (as defined in the Uncertificated Securities Regulations 2001) in respect of which CRESTCo Limited is the operator in accordance with which securities may be held and transferred in uncertificated form
“DTI”	The Department of Trade and Industry
“Group”	the Company and Ceres
“Imperial College” or “Imperial”	Imperial College London
“Issue Price”	120 pence
“London Stock Exchange”	London Stock Exchange Plc
“New Ordinary Shares”	the 13,333,333 new Ordinary Shares to be issued by the Company pursuant to the Placing
“Numis”	Numis Securities Limited
“Ordinary Shares”	ordinary shares of 5p each in the capital of the Company
“Placing Agreement”	the placing agreement dated 19 November 2004 between Numis (1), the Company (2), the Selling Shareholders (3) and the Directors (4), further details of which are set out in paragraph 9 of part 6 of this document
“Placing”	the conditional placing by Numis of the New Ordinary Shares and the Sale Shares at the Issue Price pursuant to the Placing Agreement
“Sale Shares”	the 4,633,085 Ordinary Shares being sold by the Selling Shareholders pursuant to the Placing

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“Selling Shareholders”	means those Shareholders selling shares in the Placing
“Shareholders”	holders of Ordinary Shares
“Share Option Scheme”	The Ceres Power Holdings plc 2004 Employees’ Share Option Scheme, further details of which are set out in paragraph 7 of Part 6 of this document
“Subsidiary”	a subsidiary undertaking, as defined by the Act
“UK”	the United Kingdom of Great Britain and Northern Ireland
“VAT”	Value Added Tax
“Warrants”	warrants detailed in paragraph 9.1(c) and (d) of Part 6 of this document
“\$”	United States dollars

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## GLOSSARY

*The following glossary of terms applies throughout this document unless otherwise stated or the context otherwise requires:*

“anode”	the negative electrode of the fuel cell where fuel is oxidised to steam or carbon dioxide
“APU”	Auxiliary Power Unit (a device that meets the on-board electrical demand of a vehicle so that the engine/prime mover is freed up for purely locomotion)
“array”	a collection of cells on a common interconnect (i.e. in a 2-dimensional arrangement)
“BOP”	Balance Of Plant (all the components other than the fuel cell which are needed to make a complete fuel cell product, e.g. heat exchangers, power conditioning, control system, fuel processor, etc)
“brassboard”	an early pre-commercial prototype system which contains all necessary components to demonstrate basic function, but with little or no attempt made at application-specific product integration
“CAGR”	Compound Annual Growth Rate
“cathode”	the positive electrode of the fuel cell where oxygen is reduced to oxygen ions
“Ceres Fuel Cell”	a solid oxide fuel cell developed by Ceres utilising a combination of thermally matched materials, including stainless steel
“Ceres Fuel Cell Stack”	a 3-dimensional mechanical assembly of a number of individual Ceres Fuel Cells on top of each other separated by gas flow channel plates, sealed with gaskets and including end plates with some form of fastening
“CGO”	Cerium Gadolinium Oxide (the electrolyte material used by Ceres)
“CHP”	Combined Heat and Power (a device that creates both electricity and heat from the same unit with high overall efficiency); the prefix micro ( $\mu$ ) is typically used to describe systems where the total electrical power output is only sufficient for a single home (e.g. <10kW)
“Distributed Generation” or “DG”	a model analogous to the personal computer versus the mainframe for creating electricity where many relatively small units are sited at or near the points of use / electrical loads (as opposed to centralised generation where several large power stations create the power which is then distributed via a transmission grid to users)
“electrolyte”	the middle layer of a fuel cell whose function it is to conduct ions between the electrodes
“fuel cell” or “cell”	fuel cells generate electricity and heat from a simple electrochemical reaction in which oxygen and hydrogen combine to form water
“fuel cell stack”	a 3-dimensional mechanical assembly of a number of individual fuel cells layered on top of each other, separated by gas flow channel plates, sealed with gaskets and including end plates with some form of fastening

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“green house gas”	gases such as carbon dioxide that are believed to contribute to global warming
“hotel load”	the electrical requirement on a stationary vehicle
“IP”	Intellectual Property (e.g. patents, trademarks, copyrights, design rights)
“IT-SOFC”	Intermediate Temperature SOFC (for Ceres this refers to operating temperatures of 500-600°C, well below the industry standards of ~800-1000°C)
“kW”	unit symbol for kilowatts of electrical power (one kW equals one thousand watts)
“LPG”	Liquefied Petroleum Gas (typically a mixture of propane and butane usually transported and packaged in steel cylinders of various sizes)
“mW”	unit symbol for megawatts of electrical power (one MW equals one million watts)
“mW/cm <sup>2</sup> ”	milliwatts per square centimetre, the symbol for unit of electrical power density (a key metric on how powerful a single fuel cell is per unit area)
“OEM”	Original Equipment Manufacturer (a type of company that is often also a system integrator that sells products to a large number of end-users via established market channels)
“off-grid”	term used for power generation and use that does not rely on main grid supplied electricity, or mains piped gas. Examples include small liquid fuelled internal combustion generator sets (diesel gensets), such as those found on building sites, acting as back-up units to telecommunications towers or in-field military power generating units
“PV”	Photo Voltaic, the use of semiconductor technology to generate electrical current from sunlight
“reformat”	gas mixture coming out of a reformer, a mixture of hydrogen, carbon monoxide, carbon dioxide and steam
“reformer”	fuel processing element of a complete fuel cell system (transforms hydrocarbon fuels into other/simpler constituents for use in the fuel cell stack)
“SOFC”	Solid Oxide Fuel Cell (a type of fuel cell where the electrolyte is a solid oxide/ceramic material typically operating at elevated temperatures from about 500 - 1000°C)
“substrate”	the support material and structure upon which the fuel cell is fabricated
“UPS”	Uninterruptible Power Supply (a product which is used to ensure that electrical power continues to be delivered to a device or consumer if the electrical grid fails or becomes unstable)
“YSZ”	Yttria Stabilised Zirconia, the electrolyte used by most solid oxide fuel cell developers

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## **PART 1**

### **INFORMATION ON THE GROUP**

#### **Introduction**

Established in May 2001 to acquire fuel cell intellectual property rights developed over the preceding ten years by Imperial College, award winning Ceres has developed and aims to exploit its patented fuel cell technology. It is envisaged that such exploitation will involve producing core fuel cell components in-house and working with partners to integrate such components into finished products for end-users in the global distributed power generation market.

Ceres is developing a core fuel cell product that will initially be aimed at 1-25kW electrical generation applications (with the capability to produce similar quantities of heat). Ultimately, the global market for the Ceres Fuel Cell could include power generation products in homes and businesses and a wide range of commercial uses incorporating the Ceres Fuel Cell. Such uses include domestic boiler replacement, semi-portable energy generating devices for consumers, small commercial energy generating applications, and off-grid applications. For specific technical and commercial reasons, Ceres has determined not to target either the very small "battery replacement" applications (e.g. to power consumer electronics devices like cell phones and laptops) or very large scale industrial systems (e.g. central power stations). Ceres recently achieved a significant milestone when it entered into agreements with two partners aimed at developing products in the CHP and off-grid markets. Ceres has generated initial revenues from these agreements. It is envisaged that the scope of collaboration with these and other partners should lead to more significant partnerships and joint development agreements in due course.

At its headquarters in Crawley, West Sussex, the Group employs high profile fuel cell experts and in 2003 the Carbon Trust endorsed the Ceres Fuel Cell when Ceres was awarded the Carbon Trust Low Carbon Innovator of the Year award, judged on innovation, greenness and commercial potential.

#### **History and background**

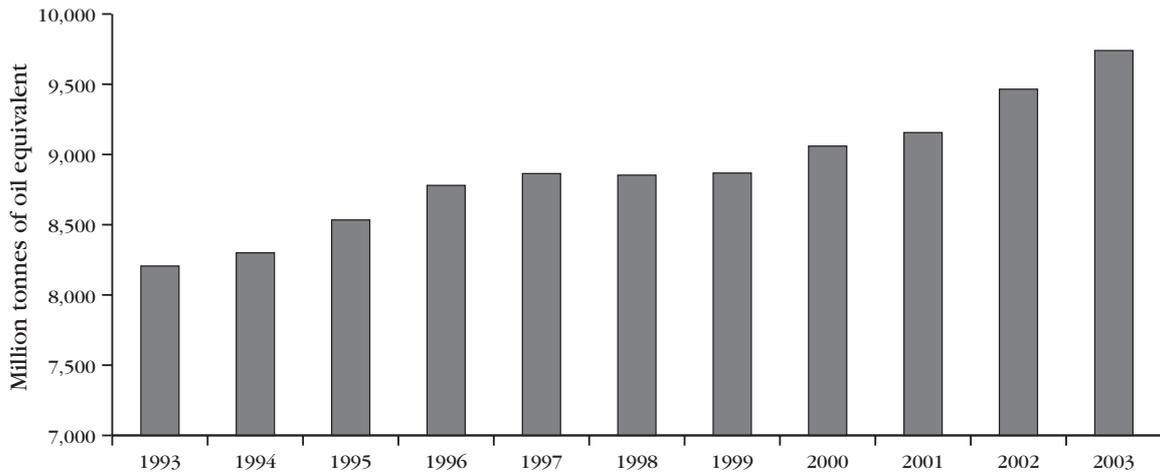
The core materials science technology that supports the Ceres Fuel Cell was developed over a period of ten years at Imperial College before the intellectual property rights were transferred from Imperial to Ceres. The consideration for such transfer, which completed on 14 June 2001, was satisfied by the issue of new shares in Ceres. On 19 May 2004, Ceres was granted a patent in the UK covering the design of its solid oxide fuel cell utilising a combination of thermally matched materials, including stainless steel. The Directors believe that the Ceres Fuel Cell offers notable advantages over current fuel cells through the potential for low cost manufacture and the ability to operate on a range of fuels whilst retaining the inherent advantages of a fuel cell. Such advantages include high operating efficiency, near silent operation and low emissions when operating on existing hydrocarbon fuels (or no emissions when operating on hydrogen).

The Company was incorporated in July 2004 as a private limited company to acquire the entire issued share capital of Ceres by way of a share-for-share exchange. This transaction was completed on 3 September 2004 and as a result the shareholders of Ceres became shareholders of the Company and Ceres became a wholly owned subsidiary of the Company. On 16 November 2004 the Company was re-registered as a public limited company to enable its Ordinary Shares to be admitted to trading on AIM.

#### **The global energy market**

BP plc has estimated that the global energy market, as measured by primary energy consumption, has grown steadily over the last decade from 8.2 billion tonnes of oil equivalent in 1993 to 9.7 billion tonnes of oil equivalent in 2003.

### Global Primary Energy Consumption

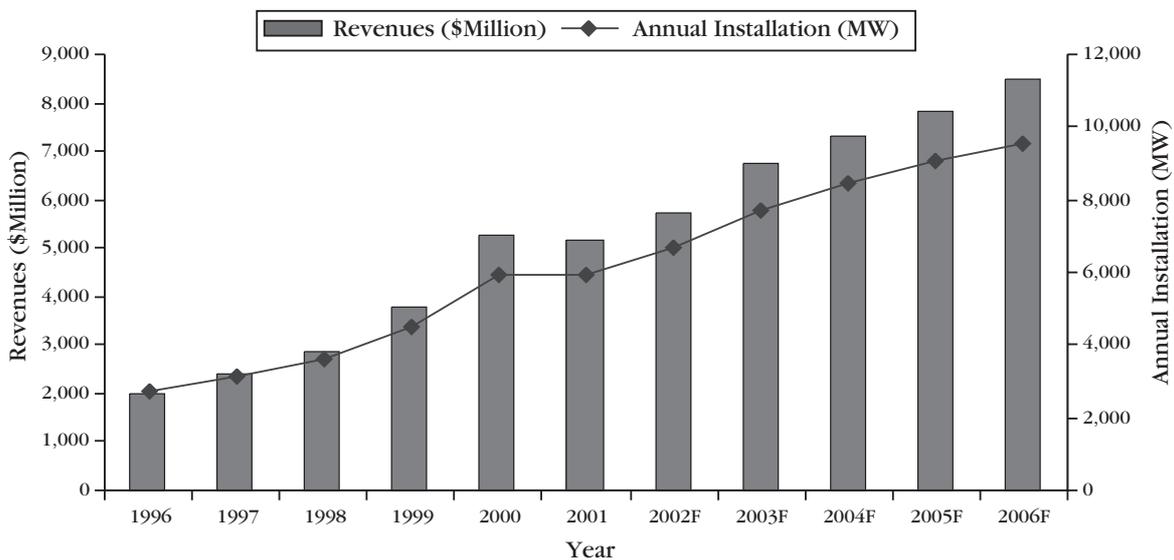


Source: BP Statistical Energy Review 2003

Traditional forms of electricity generation, with large power stations and extensive transmission networks, are increasingly stretched to supply this growing demand. There has also been a drive towards alternative sources of energy supply due to a reluctance to invest in the expansion of existing electrical generation and distribution assets. This drive, combined with governments and consumers demanding energy savings and lower CO<sub>2</sub> emissions, is providing commercial opportunities for alternative methods of power generation and supply.

Commentators believe that together these factors have made Distributed Generation (DG), where power is produced at or close to the point of use, an attractive method of satisfying the demand growth in energy generation. The chart below demonstrates that between 1996 and 2001 the DG market in Europe grew by 158%. Frost & Sullivan have predicted the European DG market to be worth \$8.5 billion in 2006.

### Total Distributed Power Generation Technology: Market Forecast (Europe) 1996-2006



Source: Frost & Sullivan, 2002

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The attributes of the Ceres Fuel Cell are particularly well matched to DG applications, including high operational efficiency at small scale, and near silent operation with low or no emissions. Not only is DG a viable alternative to centralised power generation, but it should also offer improved supply security when combined with the grid.

The Directors believe that the Group has the potential to commercialise a range of products based on the Ceres Fuel Cell for the DG market.

### **The Ceres Fuel Cell**

Ceres has developed a metal supported solid oxide fuel cell capable of delivering electricity at temperatures of or below 600°C. The Ceres Fuel Cell is capable of being sold separately or integrated into a stack (in which a number of cells are assembled into a single structure to combine and collect their power). The Company is currently developing the Ceres Fuel Cell Stack which the Directors anticipate will be capable of meeting the power requirements of individual applications.

The Ceres Fuel Cell Stack will require integration with other supporting components into a larger system to meet the ultimate requirements of end-users. In this way, through application-specific system integration it is envisaged that a number of market applications could be targeted employing a common fuel cell platform and/or component to provide the core function of each of the end-user products.

The Directors believe that the Ceres Fuel Cell can be used with only minor modifications to address a wide range of markets across different applications, customer types and geographies. Information on the proposed applications and the target markets are set out on pages 13 and 14 of this document.

The Directors believe that the Ceres Fuel Cell overcomes many of the challenges facing existing fuel cell technologies. For instance, operating at around 550°C, the Ceres Fuel Cell overcomes limitations of high temperature operation (such as high costs and complex engineering) while capitalising on the advantages (including fuel flexibility and high efficiency). Its unique operating characteristics, combined with a choice of fuel supplies that include natural gas, LPG, gasoline, methane and methanol (in addition to hydrogen) should offer Ceres the opportunity to exploit the needs of the rapidly expanding global distributed energy market.

The Directors consider that the Ceres Fuel Cell is ideally suited for the DG market because it:

- demonstrates high fuel efficiency compared to conventional technology of similar power rating;
- operates on a wide variety of available fuels (including natural gas and LPG);
- has near silent operation; and
- produces reduced emissions.

Ceres has recently expanded its facilities in Crawley and is in the process of commissioning the necessary equipment to produce 20,000 Ceres Fuel Cells a year. The Directors believe that this capacity will provide Ceres with sufficient fuel cells to conduct stack and system development trials for potential customers.

### **Business development strategy and customer relationships**

Since 2002, Ceres has been working with strategic partners to develop a better understanding of the types of products required to satisfy end-user demands in mass market applications. Several of these relationships have been formalised into closer working partnerships, and now form part of Ceres' market entry strategy. To date Ceres has focussed on developing an understanding of the DG sector and ensuring that its technology matches end-user requirements as defined by Ceres' proposed customers, as indicated by market surveys and as reported following other DG fuel cell related public trials.

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Ceres is positioned as a developer of the key functional element in complete fuel cell products for its target market – Distributed Generation. Ceres sources raw materials from several suppliers and intends to target a variety of mass market DG applications by establishing sales channels to end users, in conjunction with partners. The Directors believe, for this business model to succeed, that it is critical for Ceres to build relationships with a range of partners. Existing partners include global materials and component suppliers, manufacturers with specialist scale-up experience, system integrators, fuel providers and branded channels to market. The Group’s achievements thus far in building such relationships have enabled Ceres to:

- generate initial commercial revenues from internationally recognised companies with channels to mass markets;
- help tailor its technology and activities towards meeting specific customer needs; and
- lay the necessary groundwork for future orders.

The Company’s business development strategy is to manage a pipeline of an increasing number of relationships with high quality partners, each bringing specific contributions. Typically, such relationships have evolved over months or years through several distinct stages:

- informal discussions exploring potential mutual interests;
- more detailed exchanges identifying specific business opportunities under the protection of non-disclosure agreements;
- collaborations with both parties making tangible contributions, formalised through signing letters of intent, heads of agreement or memorandums of understanding; and
- commercial contracts involving specific co-development activities and/or testing programmes (typically generating revenue and/or in-kind contributions for Ceres).

Ceres is managing a number of application-specific relationships which have matured through these stages, with the aim of securing joint development agreements leading to the launch of mass market products. This endorsement from knowledgeable industry leaders, such as global packaged gas suppliers including BOC and a major engineering and system integration company in the US, gives the Directors confidence that Ceres’ technology is well suited to its target applications.

The Company is working towards understanding potential customer requirements. Following further refinement of the technology and successful alpha and beta testing, Ceres hopes to be in a position to sell Ceres Fuel Cells to an informed and receptive customer base.

### **Revenue model**

Given that the fuel cell industry is currently in a development phase, there is still some uncertainty as to how the value chain in Ceres’ target markets will evolve and what the precise nature of the revenue streams will be. The Directors believe that the structures of existing contracts being managed by Ceres indicate that early revenue streams from potential customers are likely to be derived from:

- data and results from testing trials;
- resources committed in co-development collaborations;
- technical services; and
- leases and/or loans of fuel cell hardware for field trials.

The Directors consider that, should a market for its fuel cell products develop, Ceres would be in a position to derive revenue from the profits on sales of hardware to market channel partners (rather than end-users).

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In addition, other potential sources of revenue may include:

- a share in user energy savings delivered by fuel cell devices;
- a share in CO<sub>2</sub> credits captured due to the “greenness” of the technology; and
- technical services and/or maintenance contracts.

As reflected in Part 2 of this document, Ceres has conducted some initial cost modelling of its technology. The Directors believe that these models indicate that the low-cost nature of the core materials and processes used by Ceres should enable the Group to meet industry price targets for Ceres’ core applications.

The Directors also believe that the structure and timing of any Ceres revenue streams will be dependent upon, amongst other matters, geography, industry application and customer type.

### **Applications**

The Directors believe that the Ceres Fuel Cell is potentially capable of widespread application as a power generation product in homes and businesses.

Examples of such potential applications are set out below.

**CHP** (Combined Heat and Power) - a single unit providing both heat and electricity from one fuel supply.

Traditionally, CHP systems have been restricted to large installations (for multi-dwellings or industrial applications) but recently major utilities have shown that there is a market for much smaller, domestic sized units for individual households. The Directors believe that a Ceres based offering should provide both heat and electrical output with nearly silent operation, thereby offering, for many applications, an efficient product with reduced CO<sub>2</sub> emissions and be in a position to enable cost effective residential CHP. Given that more than 1.2 million<sup>(1)(2)</sup> UK domestic boiler units are installed each year, there is the potential for a sizeable market for sales of home CHP units.

The maintenance and expansion of the existing electricity generation and distribution networks will, the Directors believe, require significant capital expenditure. The widespread introduction of CHP units in homes and businesses may enable the utility companies to optimise the use of their existing infrastructure with increased demand being met in part by CHP units. An additional benefit of locally based CHP units is that they could supply both electricity and heat directly to the user and be capable of operating at extremely high overall efficiency (in the region of 80-85%). This level of efficiency is in contrast with today’s central generation model where often over 50% of the energy is lost as heat at the power station with further losses through transmission. The Directors consider that the widespread use of CHP units would benefit both consumers and utility companies through the provision of more efficient and reliable power supplies.

**APU** (Auxiliary Power Unit) - an emerging transport application whereby a fuel cell based APU would provide the electrical power for the truck, car etc, and the engine primarily drives the wheels.

Following discussions with major automotive companies, expressions of interest in fitting vehicles with fuel cell APUs based on Ceres technology have been received. The objective is that the APU would meet the ‘hotel load’ of the vehicle. Studies conducted in the US have revealed that heavy trucks, for example, spend between 20 per cent. and 40 per cent. of operating time at ‘discretionary idle’<sup>(3)</sup> rather than with the engine off. This ‘discretionary idle’ is both to provide power for operator

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(1) Keynote Market Report, Domestic Heating 2003

(2) Frost & Sullivan, Western European Residential Boiler Markets, 2003

(3) Potential Benefits of Utilizing Fuel Cell Auxiliary Power Units in Lieu of Heavy-Duty Truck Engine Idling, Institute of Transportation Studies UCD 2001

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comfort (eg. air-conditioning, television) when at rest and also simply to avoid restarting the vehicle on completion of a delivery. Diesel engines are both inefficient at idle and produce high levels of environmentally damaging emissions. Utilising a fuel cell APU to provide power would reduce the pollution while providing power and heat both for the 'hotel load' and to make engine restarting easier and faster. A combination of these benefits could enable a change in 'discretionary idle' behaviour, reduced fuel consumption and thus significantly reduce green house gas emissions. These changes are desirable as HGV operators would then spend less on fuels and the lower emissions would assist operators and government in meeting environmental targets (e.g. Kyoto protocols).

**Off-grid** - provision of electrical power when connection to the electrical grid is impossible, undesirable or difficult.

There are many areas where it is impractical or uneconomical to connect users to grid-supplied electricity from centralised power stations, for example rural sites for applications such as telecommunication stations, temporary supply to building sites, road works, and island power provision. These 'off-grid' users often require better solutions than are available from today's on-site generation offerings in the form of costly battery banks, diesel generators requiring frequent maintenance or intermittent PV or wind systems. The North American market for portable generator sets was worth \$489 million in 2002 based on 499,000 units shipped, with an estimated revenue CAGR of 7.8% for the period of 2002-2009<sup>(4)</sup>. Ceres intends to address this market by developing off-grid applications to generate early revenue and has already developed relationships with global packaged gas distributors with a view to exploiting this market.

**UPS** (Uninterruptible Power Supply) - a product which is used to ensure that electrical power continues to be delivered to a device or user if the main power supply fails or becomes unstable.

There are a number of industries for which the provision of reliable power is crucial. These industries include healthcare, banking, telecommunications and computing. The Directors believe that a Ceres Fuel Cell could help provide reliable power independently of the electricity grid as an attractive UPS solution.

### **Strategy**

The business plan for the Group is to grow revenues, move into profitability and generate positive cash flow, exploiting the Ceres Fuel Cell and related technology through collaborative and/or joint development agreements with third parties. The Directors intend to target domestic CHP applications which are believed to have mass market potential both in the UK and abroad. In addition, Ceres is looking to access other less price sensitive application such as remote/off-grid power. In this way, the Group intends to address both large growth opportunities as well as more functionally driven, less regulated applications with the potential for generating early revenue.

### **Reasons for Admission and use of proceeds**

The Directors believe that the Admission will benefit the Group through enhancing its market profile. This should result in a wider awareness of Ceres' patented technology. The Directors believe this increased profile and status should increase the number of commercial opportunities available to Ceres whilst its enhanced financial position should assist Ceres to negotiate agreements with technical and commercial partners from a position of strength.

The Company plans to use the net proceeds of the Placing as follows:

- to scale up cell production;
- to provide additional capital to increase the Company's ability to enter significant partner programmes and capture more long term value;

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<sup>(4)</sup> North American Portable Power Markets, 2003. Section 2-1, Total North American Portable Power Markets

- to finance the acceleration of the prototype development programme and thereby shorten time-to-market;
- to enable the recruitment of further high calibre employees;
- to increase the scope and depth of Ceres' existing IP; and
- to contribute to the development of alpha and beta units providing the basis for the launch of the first end-user products.

### Financial information

A summary of the Ceres profit and loss account is set out below. Grant income is recognised after cash has been received and is in respect of grants awarded by The Carbon Trust and the DTI. Operating costs include research and development expenditure which Ceres expenses as incurred.

	<i>14 months ended 31 July 2002</i>	<i>Year ended 31 July 2003</i>	<i>11 months ended 30 June 2004</i>
	£	£	£
Grant income	-	-	382,091
Operating costs	(887,507)	(1,525,933)	(2,154,052)
Operating loss	(887,507)	(1,525,933)	(1,771,961)
Interest receivable	44,483	65,060	110,098
Loss on ordinary activities before taxation	<u>(843,024)</u>	<u>(1,460,873)</u>	<u>(1,661,863)</u>

The information set out above has been extracted without material adjustment from the financial information set out in Part 5 of this document. In order to make a proper assessment of the financial performance of the Group's business, investors should not rely solely on the summary information set out above but should read the whole of this document including the Accountants' Reports.

Since 30 June 2004, the Group has continued to spend cash on its operating activities and capital expenditure. This, together with variances in the timing of the receipt of grant monies which is recognised on a cash received basis, has reduced cash balances and losses have continued to be incurred.

### International Financial Reporting Standards

The financial information in this document is presented in accordance with UK GAAP.

In June 2002, the Council of Ministers of the European Union approved a regulation (the "Regulation") requiring all companies that are governed by the laws of a member state of the European Union and whose securities are admitted to trading on a regulated market of any member state to prepare their consolidated financial statements in accordance with International Financial Reporting Standards ("IFRS") as adopted by the European Union. The Regulation is effective for each financial year starting on or after 1 January 2005 with respect to companies with listed equity securities. On 7 October 2004, the London Stock Exchange changed the AIM rules permitting AIM listed companies to continue to prepare annual accounts in accordance with UK GAAP but also announced that it intends to mandate the use of International Financial Reporting Standards for financial years commencing on or after 1 January 2007. This rule change means that the Company will be required to adopt IFRS in the preparation of its financial statements for the year ending 30 June 2008.

In March 2004, the International Accounting Standards Board issued the final accounting standards applicable for 2005, although some have still to be endorsed by the European Union. The Company has not yet determined the accounting policies it will adopt under IFRS, including the options available under the transitional arrangements. Consequently, the Company is unable to quantify the potential impact of the transition to IFRS on the financial information presented in this document.

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## **The Placing**

The New Ordinary Shares and Sale Shares represent approximately 32.6 per cent. of the Company's enlarged share capital following the Placing and Admission. 13,333,333 New Ordinary Shares are being conditionally placed by Numis on behalf of the Company to raise approximately £16 million gross (approximately £14.6 million net of expenses) for the Company and 4,633,085 Sale Shares are being sold on behalf of the Selling Shareholders. The commissions, stamp duty and stamp duty reserve tax relating to the placing of the Sale Shares will be borne by the Selling Shareholders.

The Placing is conditional, *inter alia*, on Admission of all of the Ordinary Shares in issue to trading on AIM becoming effective by 8.00 a.m. on 25 November 2004.

The New Ordinary Shares will be issued credited as fully paid and will, on issue, rank *pari passu* with the existing Ordinary Shares already in issue on Admission, including the right to receive all dividends and other distributions thereafter declared, made or paid.

Further details of the Placing Agreement are set out in paragraph 9 of Part 6 of this document.

## **Directors**

### **Philip Holbeche**, *Chairman, Aged 60*

Mr Holbeche, a founding shareholder of Ceres has been chairman since incorporation in 2001 with responsibilities which include finance, corporate structure and strategy. A graduate of London Business School, he has held senior financial positions and directorships in public and private companies internationally. He has extensive experience of both technology-based and publicly quoted companies.

### **Peter Bance**, *Chief Executive Officer, Aged 31*

Dr Bance studied as a Rhodes Scholar at Oxford where he received his PhD. Following research and advisory roles he joined PA Consulting's Product and Process Engineering Practice, after which he built a new corporate venturing business unit at Generics, Cambridge. Throughout his academic and commercial career, Peter has been actively involved in the development of alternative energy technologies and in building businesses.

### **Nigel Brandon**, *Chief Technology Officer, Aged 44*

Following over fourteen years in industry, with both BP and Rolls-Royce, Professor Brandon was appointed to the academic staff at Imperial College in 1998. One of Ceres' founding academics he has been a director since Ceres was formed. He has responsibility for Ceres' technical programme as well as liaison with academic institutions and funding bodies.

### **Harry Fitzgibbons**, *Non-executive Director, Aged 68*

Mr Fitzgibbons joined the board of Ceres in March 2004. A graduate of Harvard Law School he briefly practised law in New York before serving as an officer with the United States Special Forces and with the Department of State, Washington DC. A director of Hambros Bank from 1972 to 1983 he was instrumental in establishing Boston Hambro Capital Company and Hambros International Venture Funds and has since set up his own venture capital company, Top Technology Ventures. In addition he was a director of Johnson Matthey from 1992 to 2002.

### **John Gunn**, *Non-executive Director, Aged 62*

Mr Gunn joined the board of Ceres in November 2001. He has managed a range of public and private companies including Exco International plc, which under his management became the world's largest money broking company. Mr. Gunn currently runs his own family company, Scheidegg Limited, specialising in venture capital for technology and early stage companies.

## **Corporate governance**

The Company intends, where practicable for a company of its size and nature, to comply with the principles of the Combined Code. The Board has appointed a remuneration committee (the "Remuneration Committee") and an audit committee (the "Audit Committee") with delegated duties and responsibilities.

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The Audit Committee comprises Harry Fitzgibbons and John Gunn and is chaired by Harry Fitzgibbons. The Audit Committee will receive and review reports from management and from the Company's auditors relating to the interim and annual accounts and to the internal control procedures in use throughout the Group.

The Remuneration Committee comprises Harry Fitzgibbons and John Gunn. The Remuneration Committee is chaired by Harry Fitzgibbons and shall determine and review the terms and conditions of service, including the remuneration and grant of options to executive Directors and employees under any share option scheme of the Company.

### **Dividend policy**

The declaration and payment by the Company of any future dividends on the Ordinary Shares and the amount will depend on the results of the Group's operations, its financial condition, cash requirements, future prospects, profits available for distribution and other factors deemed to be relevant at the time. However, in view of the Company's early stage of development, the Directors do not envisage paying dividends in the foreseeable future.

### **Share Option Scheme**

The Share Option Scheme is a qualifying scheme under Schedule 5 Income Tax (Earnings and Pensions) Act 2003 ("Schedule 5"). Options are granted free of charge and are non-transferable. All employees and executive Directors in the Group who are permitted by Schedule 5 will be eligible to participate in the Scheme.

The Remuneration Committee may impose an objective condition (the "Performance Target") on the exercise of options. The Performance Target may be amended or waived if events occur which cause the Remuneration Committee to consider that the Performance Target provides a materially less effective incentive than it did at the date of grant, or if it is no longer appropriate following the occurrence of any event involving the Company, any associated company or an optionholder, provided that the amended Performance Target is no more difficult to satisfy than the original Performance Target.

An individual's overall participation is limited such that the aggregate market value at the date of grant of the shares over which options have been granted to them under schemes satisfying the requirements of Schedule 5 or approved by the Inland Revenue under Schedule 4 Income Tax (Earnings and Pensions) Act 2003 cannot exceed £100,000 from time to time.

The number of Ordinary Shares issuable pursuant to options granted under the Scheme, when aggregated with the number of Ordinary Shares issued or issuable pursuant to all rights granted under all employee share schemes within the previous period of ten years, may not exceed 15% of the Company's issued ordinary share capital at the date of grant.

On certain variations of the ordinary share capital of the Company the Remuneration Committee may adjust the exercise price and the number of Ordinary Shares comprised in existing options.

### **Taxation**

Your attention is drawn to paragraph 14 of Part 6 of this document. This information is intended only as a general guide to the current law and should not be relied upon. If you are in any doubt as to your position, you should consult an appropriate professional financial advisor without delay.

### **VCT and EIS status**

The Company has received provisional confirmation from the Inland Revenue that an investment in the Placing Shares will be regarded as a qualifying holding for the purposes of investment by a Venture Capital Trust.

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The Company has received provisional confirmation from the Inland Revenue that the present activities and organisation of the Company should enable it to be regarded as a qualifying company for the purposes of the EIS Rules, and the Placing Shares should be eligible shares, for the purposes of Enterprise Investment Scheme Relief.

### **Admission and dealings**

Application has been made to the London Stock Exchange for Admission of the Ordinary Shares and New Ordinary Shares and the Sale Shares. It is expected that Admission will become effective and dealings will commence on 25 November 2004.

### **Crest**

CREST is a paperless settlement procedure enabling securities to be evidenced otherwise than by certificate and transferred otherwise than by written instrument. The Company has applied for the Ordinary Shares to be admitted to CREST with effect from Admission and CREST has agreed to such arrangements. Accordingly, settlement of transactions in the Ordinary Shares following Admission may take place within the CREST system if the individual shareholders so wish. CREST is a voluntary system and holders of Ordinary Shares who wish to receive and retain share certificates will be able to do so.

### **Lock-in arrangements**

The Directors have each agreed not to dispose of and to use their respective reasonable endeavours to procure so far as each is able that no connected person of each of them will dispose of any interests in Ordinary Shares for a period of 12 months from Admission, save in the event of an intervening court order, a takeover offer relating to the Company's shares becoming or being declared unconditional or the death of the individual concerned. Further details of these lock-in arrangements are set out in paragraph 13 of Part 6 of this document.

### **Further information**

Prospective investors should carefully consider information in the other parts of this document and in particular to the risk factors set out in Part 3 of this document.

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## PART 2

### TECHNICAL REPORT ON THE CERES IT-SOFC PROGRAMME



The following is the text of the report on the Ceres IT-SOFC Programme by Future Energy Solutions

The Directors  
Ceres Power Holdings plc  
Unit 18  
Denvale Trade Park  
Haslett Avenue East  
Crawley  
RH10 1SS

Future Energy Solutions  
Didcot, Oxfordshire, OX11 0QJ  
United Kingdom

The Directors  
Numis Securities Limited  
Cheapside House  
138 Cheapside  
London  
EC2V 6LH

Dear Sirs

19 November 2004

#### **Executive Summary**

This report summarises an assessment of Ceres' intermediate temperature solid oxide fuel cell (IT-SOFC) technology, progress made over the last year and its future prospects. This assessment was carried out in August 2004 by an independent expert with over ten years' experience of SOFC technology and markets. The work has involved a review of relevant literature, interviews with key members of Ceres Power's management and technical teams, interviews with Ceres Power suppliers and partners, a tour of facilities at Ceres Power and a review of Ceres Power reports and other documents.

Ceres Power remains the only industrial organisation with a substantial programme on IT-SOFCs with a metal-supported ceria gadolinium oxide (CGO) electrolyte operating at temperatures below 600°C. The key advantage of this concept over conventional zirconia-based SOFCs is that operation below 600°C permits the use of cheaper ferritic stainless steel and gasket components for the fuel cell stack and other system components. Other benefits include faster start-up and greater robustness during manufacture and operation, as well as the usual SOFC advantages of high operating efficiency, low emissions and fuel flexibility. The metal-supported CGO approach is attracting increased interest from the fuel cell community but other developers are finding it difficult to emulate Ceres' achievements.

After overcoming materials and fabrication challenges, cell development work has progressed very well, with all cell performance targets met or exceeded. Highlights include the consistent achievement of cell power densities of over 300 mW/cm<sup>2</sup> and best performance of over 500 mW/cm<sup>2</sup>. Cells also show good performance on emulated reformat fuel, excellent resistance to thermal cycling and good long-term durability. The current cells should be adequate to meet stack

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cost and performance targets in volume manufacture, and there is scope to improve cell performance still further. Some of the current cell processing methods will not be suitable for low-cost volume manufacture but this has been recognised by Ceres' development plans and credible alternatives have been identified.

Over the last six months, Ceres has focussed on translating cell performance into stack performance. This has prompted an increase in effort on stack design and engineering and the recruitment of additional staff in this area. It is important that larger stacks are achieved in the near term so as not to jeopardise stack and system tests planned for late 2004/early 2005.

There remain other technical challenges to be overcome before the IT-SOFC is ready for commercial application. Larger stacks must be designed and operated on real fuels, and stacks must be integrated into viable systems.

If stack performance and cost targets are met, the IT-SOFC is well placed to find early markets in remote power applications. Market applications in micro-CHP may follow in the longer term once systems have demonstrated reliability over thousands of hours. The market for auxiliary power units for trucks is also promising but less well developed.

Ceres has a judicious strategy of focusing on cell and stack development and working with other organisations to develop system components, define application requirements and test products. This should allow the company to maintain focus on the area where it has its strengths and its best chance of commercial success.

## **1. Introduction**

This report summarises an independent assessment of the validity, maturity and attractiveness of Ceres' core intermediate temperature solid oxide fuel cell (IT-SOFC) technology and technical activities.

Heather Haydock of Future Energy Solutions has led this assessment. Heather is an experienced consultant and project manager with over 13 years' experience in transport and energy technology assessment and policy support. She has led projects in the areas of fuel cells, new generation vehicles, technology forecasting, and transport and environmental policy appraisal. Before moving into her current role as Principal Consultant for Technology Policy, Heather spent six years managing the solid oxide fuel cell programme for the UK Department of Trade and Industry. She maintains a keen interest in fuel cell technology and is Secretary to the International Energy Agency (IEA) Advanced Fuel Cells Executive Committee. Heather has provided fuel cell consultancy support to the UK Government, European Commission, US Department of Energy, IEA and other clients. She has a degree in Chemical Engineering and an MBA.

Future Energy Solutions (FES) is a trading name of AEA Technology plc, an international company operating in several countries in Europe, North America and Asia Pacific, with an annual turnover in excess of £250 million. FES provides independent assessments of new and renewable energy technologies to public and private sector customers, including financing organisations. It also has a long history of providing support to central Government, particularly through the DTI Renewable Energy R&D Programme. This programme has supported the research and development of solid oxide fuel cells since 1991, including basic research, component development and systems studies.

The technical due diligence assessment has drawn on the author's knowledge of SOFC technology and markets, a review of relevant literature, interviews with key members of Ceres' management and technical teams, interviews with its suppliers, a tour of facilities at Ceres and a review of Ceres reports and other documents. Documents consulted at Ceres included: monthly technical reports; patents and patent files; outputs from Ceres' stack cost model; process flowcharts; technology transfer procedures and the latest results from cell and stack tests.

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This report comprises five sections in addition to this introduction. Section 2 addresses the novelty, status and future prospects of Ceres Power's IT-SOFC technology. Section 3 considers prospective markets for the IT-SOFC. Section 4 reviews the resources and capabilities currently available to Ceres Power, its future requirements and the ways in which knowledge is managed in the company. Section 5 considers Ceres Power's product development programme, how its technology is likely to fit market requirements and its proposed market entry strategy. Finally, Section 6 summarises the main conclusions from the assessment.

## 2. Technology

This section addresses the novelty of Ceres' IT-SOFC technology, the key technical challenges, its current status and its future prospects. Reflecting the current priorities of the Ceres programme, it focuses particularly on the manufacturability and scale-up of cells and stacks. This section also briefly considers quality management and intellectual property management procedures at Ceres.

### 2.1 *Novelty of the technical concept*

Ceres still appears to be the only industrial organisation with a substantial programme on IT-SOFCs with a metal-supported ceria gadolinium oxide (CGO) electrolyte operating in sub 600°C temperature range, although there is increasing interest in the area. Imperial College is the leading academic institution on metal-supported CGO cells and there are various other small-scale activities in laboratories in Canada and Korea. Other research groups have been discouraged from looking at CGO technology by perceived problems controlling electronic conductivity in the electrolyte and firing dense electrolyte layers onto steel. These fundamental problems appear to have been largely resolved by Ceres, as discussed in Section 2.2.

Several other industrial and academic groups are seeking to reduce the operating temperature of the SOFC to 700-800°C by using a thin yttria-stabilised zirconia (YSZ) electrolyte supported on either a thicker porous anode or on a metallic substrate. The leading industrial programmes on anode-supported technology are those of Fuel Cell Energy Canada (previously Global Thermoelectric) and Sulzer Hexis (Switzerland), who have both demonstrated good cell and small stack performance at 750°C+. Pacific Northwest National Laboratory (PNNL) is also developing an anode-supported IT-SOFC for automotive applications for Delphi in the US. There remain significant challenges associated with the anode-supported IT-SOFC, notably achieving gas-tight seals, improving resilience to thermal cycling and reducing start-up times.

DLR (Germany) is the leading developer of metal supported YSZ IT-SOFCs, with other programmes at Risoe (Denmark) and Berkeley Laboratory (US). DLR has achieved good cell performance but they are reliant on expensive plasma-spraying fabrication methods. Two new approaches to the IT-SOFC have emerged during the last year: Kyocera's (Japan) tubular anode-supported YSZ concept and the use of gallate electrolyte materials by Mitsubishi (Japan) and others. Both of these approaches are in an early stage of development and there are durability and stability issues to be resolved.

Table 1 compares the key advantages and disadvantages of the main IT-SOFC approaches; all IT-SOFCs offer the prospect of much higher efficiencies and lower emissions than conventional technologies for power generation and transportation. The key advantage of Ceres' concept over the YSZ approaches is that operation below 600°C permits the use of cheaper ferritic stainless steel components for the fuel cell stack and other system components, as well as low cost gasket seals. This may make the difference between an interesting laboratory device and a realistic commercial product.

Table 1: Advantages and disadvantages of different IT-SOFC approaches

	<b>FCE Canada, PNNL, Sulzer Hexis</b>	<b>DLR, Risoe, Berkeley</b>	<b>Ceres</b>
<b>Electrolyte</b>	• YSZ supported on ceramic anode	• YSZ supported on metallic substrate	• CGO supported on metallic substrate.
<b>Operating temperature</b>	• 700-800°C	• 700-800°C	• 500-600°C
<b>Advantages</b>	• Higher maximum operating efficiency.	• Higher maximum operating efficiency.	• More robust. • More rapid start-up. • Uses non-exotic steel components.
<b>Disadvantages /challenges</b>	• Less robust ceramic structure. • Requires exotic high temperature materials.	• Difficulties preventing metal oxidation. • Requires exotic high temperature materials.	• Lower maximum operating efficiency. • CGO electronic conductivity under part load.

## 2.2 Key technical challenges

- Preventing/minimising Ce<sup>++</sup> reduction, which leads to electronic conductivity in the electrolyte and reduced cell performance.
- Reducing the electrolyte firing temperature to prevent steel oxidation.
- Improving cell performance.
- Limiting long-term degradation of cell components.

Stack development issues:

- Designing and building an efficient and durable stack.
- Preventing carbon formation with hydrocarbon fuels.
- Maintaining optimum stack temperature.

Manufacturability issues:

- Developing reliable, low cost processes for all components.
- Achieving durability during manufacture and operation.
- Ensuring materials availability.
- Facilitating recovery and recycling of stack materials.

System development issues:

- Identifying or developing reliable and low-cost system components.
- Integrating stacks into viable, application-specific systems.

With the exception of the first two materials development issues, these technical challenges are common to all intermediate and high temperature SOFC technologies.

## 2.3 Technical status and future prospects

This section comments upon the progress that Ceres Power has made to address each of the technical challenges listed in Section 2.2, particularly in the last year, and the future prospects for the technology.

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### 2.3.1 *Materials Development*

The mixed (ionic and electronic) conductivity property of CGO has not proven to be a major problem for the Ceres IT-SOFC for two reasons. Firstly, electronic conductivity is relatively low at 600°C and almost negligible at 500°C. Secondly, electronic conductivity falls to near zero as an external load is applied, so performance is only reduced when the IT-SOFC is at low load. This finding may be a surprise to some people in the SOFC community but it is confirmed by cell test and modelling results.

The Ceres Power IT-SOFC concept relies on the ability to fire a dense CGO electrolyte on a steel support without inhibiting the conductivity of the steel. This can only be achieved by reducing the firing temperature to 1,000°C or below. Ceres Power has now overcome this technical challenge through extensive work with its materials suppliers, combined with its own in-house processing innovations. Dense electrolytes are produced reliably at below 1,000°C and, although the steel oxidises to some extent, the oxidation product is semi-conducting rather than insulating.

After over a decade of fundamental materials science at Imperial College, it took about 12 months for Ceres Power to overcome materials processing challenges to produce a first working cell, during which time the company learned a lot about the fundamental science behind the IT-SOFC. Progress with cell development has been impressive since that time and all second and third year targets have been met or exceeded. The most recent cell tests gave 500 mW/cm<sup>2</sup> on moist hydrogen at 600°C, and over 380 mW/cm<sup>2</sup> on emulated reformat gas (a mixture of hydrogen and carbon monoxide similar to that produced by a natural gas reformer). Perhaps more significantly, Ceres has now demonstrated that it can consistently make cells that give over 300 mW/cm<sup>2</sup> on moist hydrogen at 600°C, which represents the level of performance required for early commercial applications. It has yet to be proven whether these results can be achieved when manufacturing cells using mass production techniques and operating on real hydrocarbon fuels, but the indications are very good.

Recent cell durability and lifetime tests have also given encouraging results. For example a short stack has been tested for about 3,000 hours with only modest degradation in performance, even when heated and cooled repeatedly (thermal cycled). The Ceres IT-SOFC appears to be much more resilient to thermal cycling than other IT-SOFC or high temperature SOFC designs. Some limited testing has also suggested less sensitivity to redox cycling, i.e. alternating between oxidising and reducing conditions. Further work will be needed over a longer timescale to determine whether cell performance can be maintained over the 5,000 to 40,000 hours which different applications require, and whether long term performance is as good for mass-produced cells and cells operating on real fuels.

### 2.3.2 *Stack Development*

Designing and building an efficient and durable stack is a major challenge for most SOFC developers because the stacks are mainly comprised of ceramic material. Ceramic stacks are difficult to seal, sensitive to thermal gradients, thermal and redox cycling, and prone to mechanical damage during manufacture and operation. In contrast, the Ceres IT-SOFC stack is predominantly a steel device with thin ceramic layers. This simplifies the sealing arrangement by allowing individual cells to be welded into a stack, and should make the stack much more robust during manufacture and operation.

Initial stack development work at Ceres demonstrated the welding technique, identified and demonstrated suitable gasket seals, and showed that cells can be arranged in arrays (several cells in a single layer) and short stacks without major loss

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of performance. An early 12-cell stack test gave over 80% of the performance of 12 individual cells, which was excellent for a first trial.

There have been development issues with the stack programme over the last year. It had been intended to develop and test progressively larger stacks with intermediate targets of a 5 array short stack by December 2003, a 100W stack by March 2004, a 250W stack by May 2004 and a 1kW stack by August 2004. In practice it has proved difficult to overcome ohmic losses that are probably due to insufficient contact between current collectors and cells. This has limited performance of small stacks to 180 mW/cm<sup>2</sup> on hydrogen at 570°C, about two-thirds the power density of individual cells. These problems must be overcome before making and testing larger stacks.

A lot of work has been done over recent months to try to understand the implications of different stack design and fabrication options, using experimental and modelling techniques. This work is starting to bear fruit.

The demonstration of larger stacks is a key component of the next stages of Ceres Power's development programme. It is still hoped to achieve a 1kW stack by the end of 2004 so that it can be tested in a customer specified 1kW brassboard system operating on LPG (see Section 2.3.4) in early 2005. This scale up rate seems ambitious but not unachievable if the existing problems are rapidly resolved. Scale-up from 10W to 100W is usually more difficult than subsequent scale-up from 100W to 1kW or more because the stack is modular and it is relatively easy to add extra arrays once the design concept is proven. Ceres also hopes to scale-up horizontally, i.e. to move from 2 x 2 cell arrays to 3 x 3 cell arrays. This would help significantly with cost reduction (see Section 4) but again relies on the successful resolution of current collection problems, since a larger array will be more difficult to seal and to collect current from.

Once stacks are operating well on hydrogen, they can be operated on emulated reformat to confirm that there is no significant carbon formation effect. Carbon formation on the anode is a problem for some higher temperature SOFC designs but is likely to be less of an issue for intermediate temperature operation.

Another important element of SOFC stack design is the ability to maintain the correct operating temperature throughout the stack. Again this is more of an issue for ceramic fuel cells where excessive temperature gradients can cause cracks to develop. The Ceres IT-SOFC is mainly steel and so thermal gradients are less likely to occur and less likely to cause damage if they do. Even so, it will be important to maintain the operating temperature at about 550-600°C so that the cathode performs well and the electronic conductivity of the electrolyte is minimised.

### 2.3.3 *Manufacturability*

Ceres IT-SOFC cells are currently made using laboratory scale equipment, which limits the production rate. All of the current cell fabrication processes can be scaled up directly to pilot scale and then full-scale manufacture, but it will be necessary to use different processes for some components to reduce costs. Other stack components such as current collectors and gaskets are currently expensive but lower cost alternatives are under development. The process maps developed by Ceres indicate that considerable thought has been put into the choice of stack materials and process routes, both for today's research stacks and tomorrow's commercial products. These plans are credible and there do not appear to be any showstoppers in terms of component manufacturability. The cost-effectiveness of the Ceres Power stack technology is analysed in Section 4 of this report.

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Over the last year, a lot of effort has gone into ensuring that high performing cells can be made reproducibly in larger quantities and with higher yields. This has resulted in a major expansion of cell fabrication capacity from 10 cells per week to 80 cells per week and an increase in yield from 40% to 82%. This has involved:

- development of a better understanding of failure mechanisms through in-house research and collaboration with university groups;
- adoption of manufacturing principles including a technology transfer protocol that requires periodic standardisation of cell recipes that can be made reproducibly by several members of the team;
- the appointment of skilled technicians dedicated to cell fabrication, where previously highly qualified scientists were used; and
- the use of larger scale equipment for some components.

Further improvements in yield are anticipated through the above actions, the use of statistical process control and the standardisation possible using factory scale equipment. 97-98% yields are anticipated in volume manufacture, which would be acceptable.

Good progress has also been made in identifying and testing alternative component processing techniques more suitable for high volume, low cost manufacture. Clearly there are limitations to what can be done, as some manufacturing processes are only applicable at very high volumes because they are inherently large scale, they require very precise and unalterable settings or the investment cost is prohibitive at the development stage.

Mechanical failure of the stack during manufacture or operation is a common problem for high temperature SOFCs. The Ceres IT-SOFC is much more robust because the stack is essentially a steel block with thin layers of ceramic, rather than the other way around. Anecdotal evidence from the Ceres engineering team suggests cell arrays can be treated quite roughly - in one case a small stack was inadvertently hit with a hammer without any discernible damage.

None of the materials used in the Ceres IT-SOFC stack are scarce, unlike some other fuel cell types that contain precious metal catalysts. Furthermore, the stack is mainly comprised of commonly available ferritic stainless steel. Therefore materials availability should not be a barrier to the commercialisation of the IT-SOFC.

Ceres has a strategy of encouraging multiple suppliers for all of its key materials, and is already working with 2-3 suppliers for most materials and components. This is a sensible strategy as it reduces the risks associated with being reliant on any one supplier and encourages competition between suppliers on performance and cost.

The recyclability of stack materials is a long-term issue for any stack developer. Product policy legislation such as the End of Life Vehicles Directive is driving the use of materials and product designs that are amenable to materials recovery and recycling. The IT-SOFC stack should be fairly easy to recycle because it is about 95% steel, but this has yet to be demonstrated. There would also be cost advantages in introducing recycle loops in the manufacturing process, for example by recovering and reusing ceramic materials from ink suspensions. This is being examined by the materials team at Ceres.

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#### 2.3.4 *System Development*

The IT-SOFC stack is only one component of the fuel cell system. All of the applications targeted by Ceres use hydrocarbon fuels and so a reformer will be needed to convert this fuel (natural gas, LPG, diesel or gasoline) to reformat gas. Other significant system or balance-of-plant components include power electronics and, for many applications, batteries to assist start-up and response rate. Some of these components will need to be developed to meet the specific requirements of the IT-SOFC while others may be adapted from technology used in solid polymer fuel cell systems, higher temperature SOFC systems or other high temperature engineering environments.

Ceres is now working closely with suppliers of two key balance-of-plant components, the reformer and the control system, as part of its product development programme (see Section 5). This programme is at an early stage and has not yet led to the testing of components or systems. This means it is difficult to comment authoritatively on the likely performance or cost of these components. However, an initial review of proposed approaches and development plans, and discussions with the companies concerned, have confirmed that the proposed designs are scalable and have the potential to be cost-effective, that collaboration with Ceres is going well and that much has already been learned about the specific requirements of the IT-SOFC.

Work is also underway to identify and assess minor balance-of-plant components such as blowers and heat exchangers. Unlike high temperature SOFCs, such balance-of-plant components can be made from standard ferritic stainless steels, which should make components cheaper and easier to source. However, they are also required at a smaller scale (typically to fit a 1-5 kW stack) than in most other applications, which can lead to diseconomies in scale. More work is required to build confidence that system components will be available at an affordable price when required for demonstration, prototype and commercial systems.

#### 2.4 *Intellectual property and quality management*

##### 2.4.1 *Strategy for Intellectual Property*

Ceres is developing considerable intellectual property (IP) relating to materials choice, cell fabrication processes and stack assembly techniques for its IT-SOFC. Its strategy is to patent processes that could be reverse engineered. Patents are not used where some or all of the know-how is lost in the processing or where it is not deemed in the Ceres' interest to let the information out into the public domain. This seems a sensible strategy - selective patents provide protection against competitors and add value for shareholders without diverting excessive resources into filing and defending patents.

Ceres' IP is enhanced by Imperial College's. Any work done by the Imperial College academic founders on metal supported ceria SOFCs is owned by Ceres, including work funded by the Engineering and Physical Sciences Research Council (EPSRC).

Ceres is also careful to ensure that agreements with suppliers and partners do not give away valuable IP. Instead, it has adopted a strategy of paying specialist organisations to develop balance-of-plant components and negotiating non-exclusive arrangements with potential customer organisations. These customer organisations will contribute expertise, including market knowledge, and help to fund and staff testing programmes, but there is no transfer of core IP and Ceres is still free to work with competing customer organisations in the future. This is discussed further under the descriptions of market entry strategy and product development activities in Section 5.

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#### 2.4.2 *Patents*

The core IT-SOFC technology has been the subject of patent applications in a number of territories including the UK, the US, Japan, China, Australia, Hong Kong, India and Canada, and a patent has already been granted in the UK. Ceres has also filed six other patents, mostly in the UK, which together cover the IT-SOFC concept (CGO electrolyte sintered at below 1000°C; ferritic stainless steel substrate; operation at around 500°C), novel methods of fabricating electrolyte, anode and substrate components, operation on methanol fuel and a method for maximising the operating efficiency of the IT-SOFC stack. None of these patents has been challenged so far.

#### 2.4.3 *Quality Management*

Ceres has established procedures for sampling incoming materials, standard recipe sheets for cells and written procedures for cell testing, based on ISO practices. Risk assessments are in place for any significant hazards, e.g. gas bottles, and an accident log is kept.

An important practice is to freeze cell specifications periodically, such that the stack development team is not using the latest cell technology. This means that variations in stack performance are clearly attributable to differences in stack components or assembly techniques, rather than variations in the cells. It also means that cell technology is properly validated and proven to be reproducible before it is released. This technology transfer process has been made more rigorous this year as part of a major effort to scale up cell fabrication, improve cell yield and ensure repeatability of performance. The new procedures require the fabrication of 20 cells, the performance and durability testing of these cells, the documentation of recipes and the production of a technology transfer report that must be authorised by the Chief Technology Officer before transferring the cell to production. It must be demonstrated that different personnel can make these cells using different processing rigs without significant variation in the end product.

Another innovation over the last year has been the switch from manual to electronic recording of cell recipes and performance data. A searchable database has been developed to store and retrieve this information, which is helpful for quality control purposes as well as reducing duplication of effort and aiding trend analysis.

These quality management practices are considered appropriate for Ceres' current operations.

### 3. **Prospective Markets**

The four main target markets for the Ceres IT-SOFC stack technology are:

**Remote power systems** for remote areas and applications, such as cathodic protection for pipelines and small generators for boats and mobile homes. Systems are likely to be powered by LPG, natural gas or diesel fuel. These applications are currently met by engine-based systems and a solid-state fuel cell device offers attractive advantages in the key areas of high reliability and low maintenance.

**Micro Combined Heat and Power (CHP) systems.** Larger CHP systems are used extensively throughout Europe, North America and Japan but engine-based CHP systems are not usually cost-effective below about 40kW. If a suitable technology could be found, micro-CHP systems could replace domestic boilers, meeting all of the heat demand for a house or block of flats (apartments) and some or all of its electricity demand.

**Auxiliary Power Units (APU) for trucks** meeting some or all of the vehicle's electrical demand. Some trucks in the US already use small APUs fuelled by diesel, LPGs or propane. This market is increasing, driven by increasing electrical loads and legislation that prevents

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engine idling when parked in some cities. There may also be a longer-term market for APUs for cars, where the cost and weight targets are more challenging.

**Uninterruptible Power Supplies (UPS)** operating only when the primary supply fails (standby systems) or all the time in line with the primary power supply (on-line systems). Applications include hospitals, telecommunications and data processing houses, where even temporary loss of electrical power would be hazardous or expensive. Current UPS systems use diesel engines in combination with batteries, or batteries only.

Of these markets, remote power and micro-CHP offer the biggest potential, while truck APUs and UPS systems could provide attractive niches in the longer term. A recent report for the Carbon Trust has estimated that the following annual market potentials world-wide for sub 100kW fuel cell systems by 2011:

- Domestic/commercial \$3.0 billion per annum
- Remote power \$2.5 billion per annum
- Truck APU \$0.6 billion per annum

There has been a recent growth in interest in CHP for domestic applications, with several companies developing systems in the 1-5 kW range using novel technologies such as stirling engines, micro turbines, and solid polymer and solid oxide fuel cells. For example, Powergen has recently announced an order for 80,000 Whispergen stirling engine systems following a successful trial period in the UK. The European Commission and national government programmes are also focusing increasingly on sub 100kW applications for fuel cells.

Ceres Power is currently focusing on the remote power and micro-CHP applications, where there is already interest from customer organisations and the prospect of early market applications before 2008. Further information on the fit between the IT-SOFC and market requirements, and Ceres' product development plans, is provided in Section 5.

#### **4. Resources and Capabilities**

The three key success factors for any fuel cell start-up company are a credible technical concept, adequate facilities and a team of talented people with the necessary capabilities to deliver that concept. The concept appears credible, as discussed in Section 2. This Section addresses the facilities and the people.

Table 2 summarises the resources and capabilities that Ceres requires to develop and commercialise its IT-SOFC stack technology, assuming it continues to focus on the stack and work with other organisations to specify and develop systems.

**Table 2: Resources and capabilities required by Ceres Power**

	<b>TANGIBLE RESOURCES</b>	<b>INTANGIBLE RESOURCES</b>	<b>HUMAN RESOURCES AND CAPABILITIES</b>
<b>DEVELOPMENT</b>	<ul style="list-style-type: none"> <li>• Pilot scale cell production facilities.</li> <li>• Cell and stack test rigs.</li> <li>• Inventory (materials, stack components).</li> </ul>	<ul style="list-style-type: none"> <li>• Patents relating to cell and stack fabrication.</li> <li>• Cell and stack designs.</li> </ul>	<ul style="list-style-type: none"> <li>• Cell and stack fabrication know-how.</li> <li>• Stack operation know-how.</li> <li>• Motivated staff.</li> <li>• Talented scientists and engineers.</li> <li>• Management skills.</li> <li>• Understanding of basic science.</li> </ul>
<b>COMMERCIALISATION</b>	As above + <ul style="list-style-type: none"> <li>• Full scale cell production facilities.</li> </ul>	As above + <ul style="list-style-type: none"> <li>• Patents relating to stack operation and system integration.</li> <li>• System designs.</li> </ul>	As above + <ul style="list-style-type: none"> <li>• Production engineering know-how.</li> <li>• System integration know-how.</li> </ul>

Section 4.1 discusses Ceres' tangible resources such as production facilities, test facilities and inventories, Section 4.2 discusses the company's people and their capabilities, and Section 4.3 addresses knowledge management practices. Patent strategy was covered earlier in Section 2.4.

#### 4.1 *Facilities and inventories*

Ceres' facilities in Crawley now include 8 cell test stations, a cell rapid thermal cycle test rig and 2 stack test rigs. The brassboard system being developed to demonstrate stack/system integration will also be available later in the year as a further stack testing facility. These testing facilities should be sufficient for the cell and stack development programme planned for the next 12 months but more test rigs will be needed in the longer term. The facilities at Ceres are supplemented by more sophisticated analytical tools such as electron microscopy at Imperial College.

Ceres will shortly commission new pilot plant facilities that have been installed in the building next to its original building. This dedicated cell and stack manufacturing area will feature new equipment for the large-scale manufacture of some components (e.g. electrolytes and substrates) and a cleaner fabrication environment to prevent defects due to materials contamination. This new facility will allow Ceres to meet the higher demands of its 2005 stack development and system demonstration programmes. The pilot plant will also free up valuable staff time, allowing scientists and technicians to spend more time on developing improved cells and less on reproducing current specifications.

The current inventory is sufficient as it includes at least 6 months' supply of all materials.

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## 4.2 *People*

Ceres now employs 25 full time staff (up from 15 this time last year) and a part-time Chief Technology Officer, Nigel Brandon, who is also a Professor at Imperial College. It was formed as a spin-off company and maintains strong links with leading academics at Imperial College such as Ceres founders Alan Atkinson, John Kilner and Bob Rudkin.

Ceres has assembled an impressive team of young, talented and enthusiastic scientists, engineers and business managers. Most of the senior technical staff have previous industrial experience at larger companies such as Rolls-Royce, Alstom and Johnson Matthey and they are clearly relishing the challenges and opportunities offered by a smaller start-up company. Everybody we spoke to was knowledgeable and enthusiastic about the technology, the Company, their work and their colleagues' abilities.

Recent recruitment has focused on boosting engineering design and manufacturing skills, which should help to meet the challenges of stack development and manufacturability discussed in Section 2. In particular, an experienced product development director has been appointed to oversee and coordinate the work of the three technical teams (materials development, processing & production and engineering & testing), mechanical engineers have been brought in to improve understanding of stack design issues and technicians have been recruited to take over routine cell fabrication duties.

The company appears to have the necessary top class scientific and engineering skills to develop its IT-SOFC stack technology and is rapidly building know-how in materials selection, cell fabrication and the assembly and operation of small stacks. The development programme will require additional skills and knowledge as the emphasis evolves from materials and cell development to larger volume cell production, demonstration of larger stacks and system integration. Ceres will rely on its partners and suppliers to supply the necessary understanding of volume component manufacturing, system design and applications requirements, and will develop stack design and operation expertise in-house. This seems a sensible strategy as it allows the company to build on its current skill-base and develop the core capabilities and intellectual property that it needs to be a successful stack manufacturer.

## 4.3 *Knowledge management*

The ability to acquire, retain and share knowledge is vitally important to the future success of Ceres. Knowledge is acquired by recruiting experienced staff, encouraging them to explore innovative approaches, maintaining links with Imperial College, working with other organisations with complementary skills (e.g. ceramic powder suppliers), participating in selected conferences and undertaking an active patent search. Knowledge is retained by giving staff sufficient challenges and rewards, ensuring no one has unique knowledge of any aspect of the R&D programme and patenting key technology. Knowledge is shared through collaborative working, comprehensive monthly technical reporting (written and verbal) and daily team meetings.

These knowledge management processes are considered appropriate and effective for Ceres' current size and range of activities.

## 5. **Market Entry**

This section discusses the fit of Ceres' IT-SOFC stack technology to its target markets (see Section 3), its market entry strategy and its product development activities.

### 5.1 *Product-market fit*

Table 3 compares the current and projected costs and performance of the Ceres IT-SOFC with the requirements of each target market. Projected costs are taken from Ceres' latest

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spreadsheet cost model, which incorporates estimates of materials and fabrication costs from materials suppliers. Projected stack performance is based on current cell performance and stack modelling results. Application requirements are mostly based on European Commission and US Department of Energy targets, as no detailed application studies are available.

This analysis suggests that the IT-SOFC could meet cost and performance targets for all of the four target markets. The remote power applications appear most promising for the short to medium term as there are already established products being sold at high prices. Truck APU applications also look promising if the IT-SOFC can meet the demanding targets for cost, power density and start-up time as predicted. UPS markets will be longer-term as many thousands of hours of reliable system performance will need to be demonstrated first. Micro-CHP could be a very large market but there are no guarantees that the market will ever be established even if fuel cell systems prove cost-effective. High efficiency condensing boilers have been available for many years but their market penetration is slow because householders do not value energy savings and installers are conservative about new technologies. Recently announced trials of stirling engine based domestic CHP systems in the UK should help to confirm the market for such devices.

Figure 1 shows how stack costs are expected to fall according to Ceres' cost model. The current stack is assumed to generate 200 mW/cm<sup>2</sup> and be manufactured in small volumes using current materials and processing techniques. The volume manufacture stack is assumed to generate 300 mW/cm<sup>2</sup> and be manufactured using low-cost processing at a moderate volume of 2,000 x 5kW units per year. Two different versions of the current design are shown - the first with 4 cells in each array (2 x 2) and the second with 9 cells in each array (3 x 3).

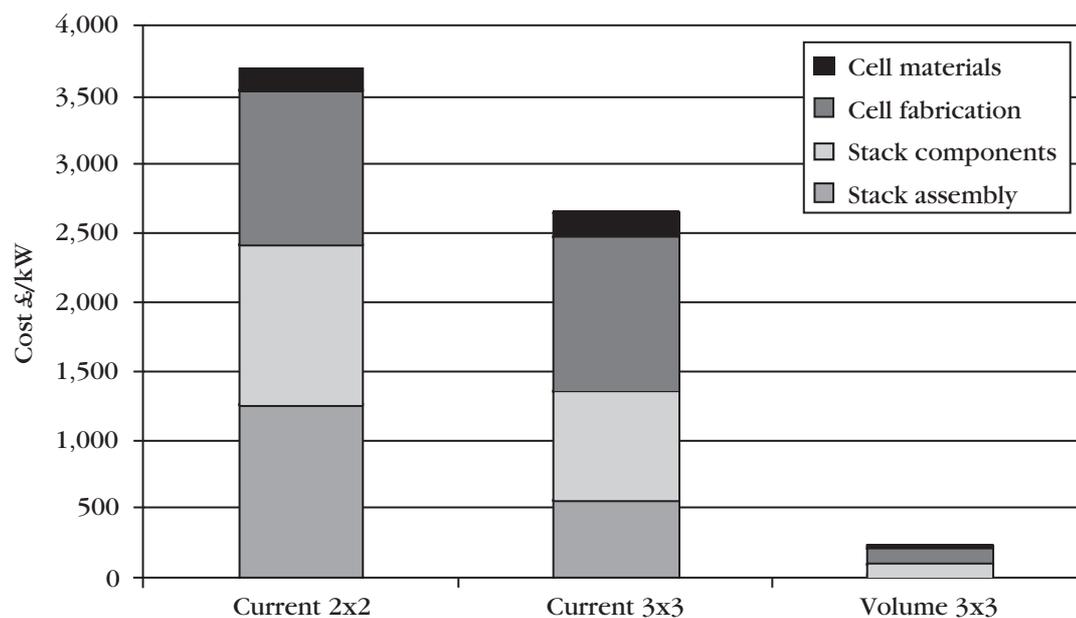


Figure 1: Projected cost reduction for IT-SOFC

		TARGETS FOR COMMERCIAL APPLICATIONS <sup>2</sup>					
CURRENT IT-SOFC		PROJECTED IT-SOFC PRODUCT					
	Stack	Stack	System	Remote Power	Truck APU	UPS	Micro-CHP
Electrical power demand	Short stacks of <100 We	1-25 kWe	1-25 kWe + battery in some applications	Several kW to 100 kWe +	3-6 KWe	Several kWe to 100 kWe +	0.5-3 kWe single houses; 3-10 kWe larger buildings
Cost <sup>2</sup>	>£3500/kWe	£230/kWe	£690/kWe	High prices possible (up to \$50,000/kWe)	\$500-1000/kWe	Targets yet to be determined.	£2,700/kWe
Power density	361 mW/cm <sup>2</sup> for development cell on emulated reformate at 570°C.	Cell: 300+ mW/cm <sup>2</sup> Stack: 2 kg/kW; 0.7 litres/kW	Not known.	Targets yet to be determined. Size and weight not likely to be constraints.	10-20 kg/kW; 20-40 litres/kW	Targets yet to be determined. Size and weight not likely to be constraints.	Targets yet to be determined. Weight is an issue for domestic CHP.
Start-up time	4.5 mins for single cell	<10 minutes for stack.	Will depend on configuration, e.g. reformer design and battery power.	Targets yet to be determined. Probably not important.	~ 2 minutes	Very quick start-up if used as back-up power.	Targets yet to be determined. Important if grid independent
Stack lifetime	~3,000 hours short stack life demonstrated	Potential for 40,000 hours	-	10,000+ hours	5,000+ hours	Targets yet to be determined.	10,000+ hours
System reliability	Not yet demonstrated.	Solid state device so potentially very reliable.	Will depend on reliability of auxiliary equipment.	Very important. Targets yet to be determined.	Targets yet to be determined.	Very important. Targets yet to be determined.	Targets yet to be determined. Important if grid independent

<sup>1</sup> Micro-CHP targets from draft EC Strategic Research Agenda for fuel cells and hydrogen dated 2nd August 2004. Other targets from USDOE/SECA publications; higher costs may be allowable for stationary systems in Europe and Japan.

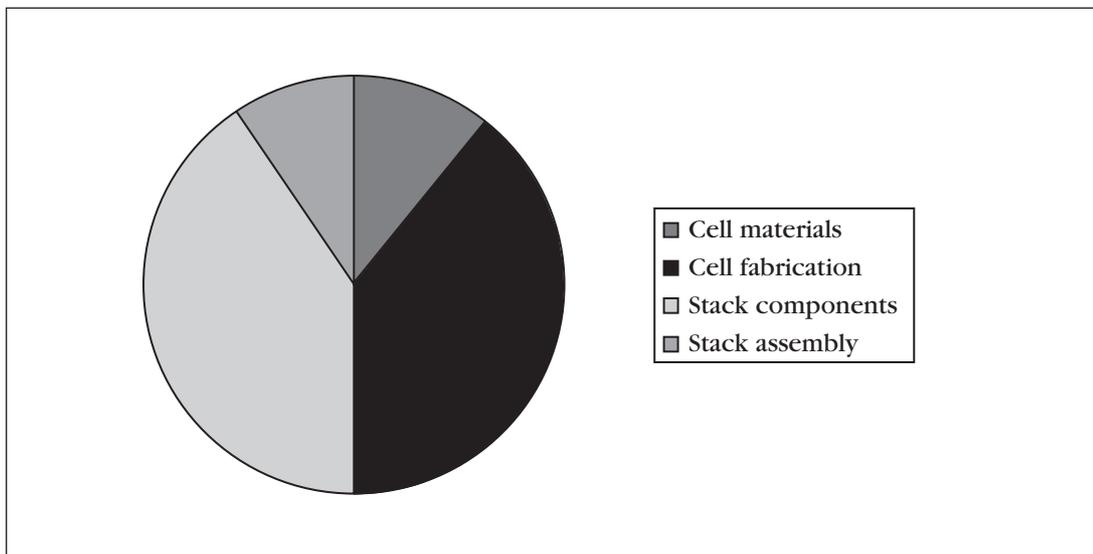
<sup>2</sup> Current and projected IT-SOFC stack costs from Ceres' spreadsheet cost model. Projected stack costs assume volume manufacture using low-cost processing methods. Following conventional practice within the fuel cell sector, system costs have been taken to be a multiple of three times stack costs, but further development work is needed to validate this assumption.

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As shown in Figure 1, moving to a 3 x 3 stack design cuts stack component costs by about 30% and stack assembly costs by over 50%. Clearly the 3 x 3 design is attractive from a cost perspective but its stack performance may be adversely affected as it will be harder to maintain electrical contact across larger plates, and such plates will be more difficult to seal. Investigation of different stack designs will be a priority for the next year of Ceres' programme.

Having examined the detailed assumptions behind this cost model, we conclude that the projections are fairly conservative based on current knowledge. Cells are assumed to have only a 50mm x 50mm active area even though larger cells have already been demonstrated, and recent cell performance results suggest stack power densities of greater than 300 mW/cm<sup>2</sup> should be achievable.

The projected cost of a 5kW stack in volume manufacture of about £1150 would be cost-effective in many applications providing the costs of other components of the system (the balance-of-plant) are not prohibitive (see below). Figure 2 shows how these stack costs are expected to break down. The larger cost components are cell fabrication (largely due to metal substrate fabrication costs) and stack components (predominantly the gaskets). There may be scope to reduce these costs further by using thinner substrates or alternative gasket materials.



**Figure 2: Breakdown of costs for 3 x 3 stack design in volume manufacture**

The conventional wisdom for higher temperature SOFC systems is that the stack cost represents 30-40% of the total system cost. It is hard to judge whether this will hold true for the IT-SOFC - the balance-of-plant will be made from cheaper ferritic stainless steels but components for <10kWe systems are typically more expensive than larger system components on a cost per kilowatt basis.

A recent project co-funded by the DTI has sought to provide a better estimate of the likely cost of balance-of-plant (BOP) components. Assuming a 5kW stack in volume manufacture will cost about £1,200, the cost of BOP would need to be less than £1,800 assuming an overall system cost target of £3,000. The BOP would include an air delivery sub-system, a fuel delivery sub-system, a heat recovery sub-system, a start up sub-system, instrumentation and control, a frame, piping and insulation. Initial results from this project suggest that the £1,800 target may be achievable with improved designs in volume manufacture but that the

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BOP for early prototype systems based on current technology will cost an order of magnitude more. Further work is required to refine these estimates, which will be used to direct future BOP development programmes within both Ceres and its supply base.

## 5.2 *Product development and market entry strategy*

Ceres has taken the decision to focus on stack development and work with others who will supply balance-of-plant components. This seems a very sensible strategy since it allows Ceres to focus on its strengths and tap into the extensive fuel cell system development activity already underway on fuel processing, power conditioning etc. Collaborative agreements with a system integrator and two component manufacturers have been established to develop application-specific systems. These agreements allow for sufficient interaction between the technical teams without compromising Ceres' proprietary knowledge.

Product development activities are being undertaken jointly between Ceres, Catal (reformer development), HILLTech (control systems development) and Prototech (system integrator). These activities will come together in a so-called brassboard system test early in 2005. The idea of the brassboard is to demonstrate the integration of the IT-SOFC stack within a fully functioning system and to test various balance-of-plant components. The area where the stack goes has been left flexible so that Ceres can insert either a single 1 kW stack or four 250 W stacks, depending on the progress of stack development activities over the next few months.

Ceres also works with customer organisations to jointly specify and build systems for specific applications. This is a good approach because the specification of these systems will require a detailed understanding of the specific application demands and any relevant standards, e.g. for grid connection. These same organisations could also provide a route to market for the technology.

Heads of Agreement with selected customer organisations were signed in 2003. These are well respected and well positioned companies active in relevant markets world-wide (their identities cannot be given in this report for confidentiality reasons). Under these initial agreements, Ceres worked with these organisations to examine customer requirements and the fit with IT-SOFC cost and performance characteristics. This year they are building on these relationships through joint activities on system development, component testing and design studies. The customer organisations are paying towards the costs of such activities and contributing staff time and equipment. These activities are helping to build interest and commitment within these organisations, and establishing the necessary confidence to move on to further joint development activities and field trials from 2005 onwards.

## 6. **Conclusions**

The main conclusions from this technical due diligence assessment can be summarised as follows.

- Ceres' IT-SOFC concept is novel and offers significant advantages over other intermediate and higher temperature SOFC concepts. In particular, it has better potential for low-cost manufacture because cheaper ferritic steel can be used to produce cell, stack and system components.
- The underlying basic science is sound and two of the major technical challenges for ceria SOFCs - minimising electronic conductivity in the electrolyte and reducing the electrolyte firing temperature to below 1,000°C to prevent steel oxidation - have already been overcome.
- To date, all the cell performance targets set by Ceres have been met. Cell tests have demonstrated good power densities on moist hydrogen and synthetic reformat,

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and long-term tests have indicated that cell performance can be maintained for over 3,000 hours with negligible degradation, even if the cells are subject to thermal or redox cycling.

- Over the last year, major advancements have been made in improving the manufacturability of cells and the repeatability of cell performance, which bode well for later scale-up to pilot-plant and then volume manufacture.
- There remain technical challenges to be overcome before the IT-SOFC is ready for commercial application. Larger stacks must be designed and operated on real fuels, and stacks must be integrated into viable systems. Ceres has experienced some difficulties in translating cell performance into stack performance. Initial indications are that the problems can be overcome through improved stack designs and that there are no fundamental flaws in the technology. It is important that larger stacks are achieved within the next few months so as not to jeopardise stack and system tests planned for late 2004/early 2005.
- If stack performance and cost reduction targets are met, the IT-SOFC is well placed to find an early market in remote power applications, where reliability and low maintenance requirements are important attributes. Market applications in micro-CHP may follow in the longer term once systems have demonstrated reliability over thousands of hours. The market for auxiliary power units for trucks is also promising but less well developed.
- Ceres has a talented and enthusiastic staff of scientists, engineers and managers. It is well placed to benefit from continuing links to Imperial College and from strengthening relationships with supplier and partner organisations.
- Ceres has a credible strategy of focusing on stack development and working with other organisations to develop system components, define application requirements and test products. This should allow the company to maintain focus on the area where it has its strengths and its best chance of commercial success.
- We consent to the inclusion in the admission document of this report and accept responsibility for this report in accordance with paragraph 13(1)(g) of the Public Offers of Securities Regulations 1995.

Yours faithfully,

**Future Energy Solutions, an operating division of AEA Technology plc.**

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## **PART 3**

### **RISK FACTORS**

The Ordinary Shares should be regarded as a highly speculative investment and an investment in the Ordinary Shares should be made only by those with the necessary expertise to fully evaluate the investment. In addition to the usual risks associated with an investment in a business with an unproven revenue stream, the following risks should be considered carefully by investors before acquiring Ordinary Shares. If any of the following risks actually occur, the Company's business, financial condition, results or operations could be materially adversely affected. In such case the value of the Ordinary Shares could decline and investors could lose all or part of their investment. Prospective investors are advised to consult an independent adviser authorised under the Financial Services and Markets Act 2000 who specialises in investments of this kind before making any investment decisions.

#### **Lack of operating history**

To date, the Group has been pursuing a development programme focused on producing a commercially viable Ceres Fuel Cell. Although some initial revenue has been generated through demonstration trials since 30 June 2004, the costs of the development programme mean that, excluding the amounts raised from the fundraising, the Group is likely to remain cash flow negative for at least the next two years. There can be no certainty that the Group will achieve or sustain revenues, profitability or positive cash flow from its operating activities.

#### **Commercial viability**

The Directors cannot guarantee that the Ceres Fuel Cell will be commercially viable in the near future, if at all. The commercialisation of the Ceres Fuel Cell requires further development and field trials.

#### **Market acceptance**

Whilst the Directors believe there exists a viable market for the Ceres Fuel Cell, there can be no assurance that such technology will prove to be an attractive alternative to conventional products. The development of a mass market for the Ceres Fuel Cell is affected by many factors, some of which are beyond its control, including the emergence of newer, more competitive technologies and products, the future cost of fuels used in the DG market, the cost of the Ceres Fuel Cell itself, regulatory requirements, consumer perceptions of the safety of its products and consumer reluctance to buy a new product.

If a mass market fails to develop or develops more slowly than anticipated, the Group may be unable to recover the losses it will have incurred in the development of its products and may never achieve profitability. In addition, the Directors cannot guarantee that the Group will continue to develop, manufacture or market its products or components if market conditions do not support the continuation of the product or component.

#### **Dependency upon external OEMs**

To be commercially useful, the Ceres Fuel Cell will need to be integrated into products manufactured by OEMs. There is no guarantee that OEMs will manufacture appropriate products or, if they do, that they will choose to use the Ceres Fuel Cell. Any integration, design, manufacturing or marketing problems encountered by OEMs could adversely affect the market for the Ceres Fuel Cell and the Group's financial results.

#### **Stack design and fabrication options**

Research is currently being undertaken to understand the implications of different stack design and fabrication options using experimental and modelling techniques. The time taken to understand such implications may adversely affect and/or delay product engineering and process scale-up activities.

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## **Intellectual property**

Your attention is drawn to paragraph 10 of part 6 of this document which describes the IP. Despite precautions taken by the Group to protect the technology of the Ceres Fuel Cell, unauthorised parties may attempt to copy or obtain and use its technology for incorporation in their own products.

There is also a risk that the Ceres Fuel Cell could be superseded by alternative technological solutions, cells or technological advances by competitors.

To the extent that the Group's products are protected by intellectual property rights, litigation may be necessary to enforce such rights and could result in losses to, and diversion of effort by, the Group with no guarantee of success.

The Group owns several patents and patent applications. In the case of patent applications, it is possible that the scope of the claims may be narrowed during the process of examination. Patent applications may be refused completely and even if granted, it is possible for their scope to be further narrowed or for a patent to be fully or partially invalidated, usually as a result of a challenge by a third party.

A granted patent gives its owner a right to prevent other persons from carrying out certain acts or making certain products which come within the scope of the patent in the territory for which it is granted. It does not give its owner the right to carry out such acts or make such products if to do so would infringe a third party's patent. Although the Directors are not aware of any third party patent to which the Group would require a licence to exploit its methodology for IT-SOFC production, such third party patents or patent applications may exist.

The Group protects aspects of its technology by way of trade secrets. Technology protected in this way only retains its commercial value for as long as it remains confidential and the disclosure of its trade secrets could have an adverse effect on the Group.

## **Technology**

The core technology of the Group is the Ceres Fuel Cell. This technology has undergone testing in laboratory situations. As with any new technology, there are risks associated with the development, performance and the long-term operational life of the product.

## **Manufacturing**

Assuming the Group develops a commercially viable Ceres Fuel Cell, the product will need to be manufactured in commercial quantities, in compliance with regulatory requirements and at acceptable cost. There is no guarantee the Group will be able to scale up production of the Ceres Fuel Cell effectively and that the Ceres Fuel Cell will be more cost competitive than the products of its rivals.

## **Competition**

The Group's competitors and potential competitors include major energy, utility, electronic and other companies who have substantially greater resources than those of the Group. Competitors and potential competitors may develop technologies and products that are less costly and/or more effective than the technology or products of the Group or which may make those of the Group obsolete or uncompetitive.

## **The Group may be exposed to litigation in the future**

Customers and partners may rely upon the Group's products for their energy needs. A malfunction or the inadequate design of the Group's products could result in claims. Any liability for environmental harm or for damages resulting from technical faults or failures could be substantial and could materially adversely affect the Group's business and results of operations. In addition, a well-publicised actual or perceived problem could adversely affect the market's perception of the Group's products, which would materially impact upon the Group's financial condition and operating results.

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### **Planning uncertainty**

This document contains certain forward-looking statements that are subject to certain risks and uncertainties, in particular statements regarding the Group's plans, goals and prospects. The Company's actual results and operations could differ materially from those anticipated in such forward looking statements as a result of many factors including the risks faced by the Company which are described below and elsewhere in this document. These statements and the assumptions that underlie them are based on the current expectations of the Directors and are subject to a number of factors, many of which are beyond their control. As a result, there can be no assurance that actual results will not differ materially from those described in this document.

### **Dependence on key executives and personnel**

The Directors believe that the future success of the Group will depend greatly upon the expertise and continued service of certain key executives and technical personnel, including the executive Directors. Furthermore, the Group's ability to successfully develop commercial products will also depend on the Group's ability to attract and retain suitable management, marketing and sales personnel. Competition for these types of employees is often intense due to the limited number of qualified professionals. The Group has attempted to reduce this risk by (i) offering incentive schemes to such employees, such as the Share Option Scheme, and (ii) entering into contracts which contain limited non-competition provisions with certain of its key employees. However, these measures do not guarantee that such employees will stay employed with the Group. The Group has purchased key man insurance cover for Dr Peter Bance and Professor Nigel Brandon. However, this insurance may not be sufficient to adequately compensate the Group in the event of the loss of these key individuals.

If the Group fails to attract and retain key personnel, it may be difficult for the Group to manage its business and meet its objectives and as a consequence its business, results of operations or financial condition may be adversely affected.

### **No prior market in the Company's shares**

Prior to Admission, there has been no public market for the Ordinary Shares. There can be no assurance that the Issue Price will correspond to the price at which the Ordinary Shares will be traded following Admission or that active trading will develop and continue after Admission.

### **Share price volatility and liquidity**

The share price of publicly traded emerging companies can be highly volatile. The price at which the Ordinary Shares will be quoted and the price which investors may realise for their Ordinary Shares will be influenced by a large number of factors, some specific to the Group and its operations and some which may affect share prices generally. These factors could include the financial performance of the Group, large purchases or sales of the Ordinary Shares, currency fluctuations, legislative changes and general economic conditions.

### **Insurance**

Although the Group has insurance cover, there can be no certainty that it will continue to be available to the Group at an acceptable cost, if at all, or that the level of insurance cover is or will be adequate. Any uninsured liabilities could materially and adversely affect the Group.

### **Governmental regulation**

There may be a change in government regulations or policies, which could have a material adverse effect on the Group's activities.

The risks listed above do not necessarily comprise all those associated with an investment in the Company.

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## **PART 4**

### **FINANCIAL INFORMATION ON CERES POWER HOLDINGS PLC**

The following is the text of the report on Ceres Power Holdings plc by PricewaterhouseCoopers LLP, Reporting Accountants:

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**PRICEWATERHOUSECOOPERS** 

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PricewaterhouseCoopers LLP  
Abacus House  
Castle Park  
Cambridge  
CB3 0AN

The Directors  
Ceres Power Holdings plc  
Unit 18  
Denvale Trade Park  
Haslett Avenue East  
Crawley  
RH10 1SS

The Directors  
Numis Securities Limited  
Cheapside House  
138 Cheapside  
London  
EC2V 6LH

Date: 19 November 2004

Dear Sirs

## **Ceres Power Holdings plc**

### **Introduction**

We report on the financial information (“the Financial Information”) set out below. This Financial Information has been prepared for inclusion in the Admission Document dated 19 November 2004 (“the Admission Document”) of Ceres Power Holdings plc (“the Company”).

The Company was incorporated as Law 2421 Limited on 8 July 2004, and changed its name to Ceres Power Holdings Limited with effect from 13 July 2004. On 16 November 2004 the Company was re-registered as a public company and the name of the Company was changed to Ceres Power Holdings plc. Save for entering into the agreements referred to in Part 6 of the Admission Document, the Company has not yet commenced to trade, has prepared no financial statements for presentation to its members and has not declared or paid a dividend. The Company acquired the entire issued share capital of Ceres Power Limited, its only subsidiary, on 3 September 2004. Financial Information on Ceres Power Limited is set out in Part 5 of the Admission Document.

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**Basis of preparation**

The Financial Information set out below is based on the financial records of the Company, to which no adjustment was considered necessary.

**Responsibility**

The financial records are the responsibility of the directors of the Company.

The directors of the Company are responsible for the contents of the Admission Document in which this report is included.

It is our responsibility to compile the Financial Information set out in our report from the financial records, to form an opinion on the Financial Information and to report our opinion to you.

**Basis of opinion**

We conducted our work in accordance with the Statements of Investment Circular Reporting Standards issued by the Auditing Practices Board. Our work included an assessment of evidence relevant to the amounts and disclosures in the Financial Information. Our work also included an assessment of significant estimates and judgements made by those responsible for the preparation of the financial records underlying the Financial Information and whether the accounting policies are appropriate to the circumstances of the Company and adequately disclosed.

We planned and performed our work so as to obtain all the information and explanations which we considered necessary in order to provide us with sufficient evidence to give reasonable assurance that the Financial Information is free from material misstatement, whether caused by fraud or other irregularity or error.

**Opinion**

In our opinion, the Financial Information gives, for the purposes of the Admission Document, a true and fair view of the state of affairs of the Company as at the date stated.

**Consent**

We consent to the inclusion in the Admission Document of this report and accept responsibility for this report for the purposes of paragraph 45(8)(b) of Schedule 1 of the Public Offers of Securities Regulations 1995.

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## Financial Information

The balance sheet of the Company at 31 October 2004 was as follows:

	Note	£
<b>Fixed assets</b>		
Investments	2	<u>2,088,152</u>
<b>Current assets</b>		
Debtors - Called up share capital not paid		<u>1</u>
<b>Net current assets</b>		<u>1</u>
<b>Net assets</b>		<u>2,088,153</u>
<b>Capital and reserves</b>		
Called up share capital	3	<u>2,088,153</u>
<b>Equity shareholders' funds</b>		<u>2,088,153</u>

## Notes to the Financial Information

### 1. Accounting policies

#### *Accounting convention*

The balance sheet has been prepared in accordance with the historical cost convention. On 16 November 2004, Ceres Power Holdings Limited was re-registered as a public limited company and its name was changed to Ceres Power Holdings plc.

#### *Fixed asset investments*

Fixed asset investments in subsidiaries are carried at cost.

### 2. Investments

	£
At 8 July 2004	-
Additions	<u>2,088,152</u>
<b>At 31 October 2004</b>	<u>2,088,152</u>

The Company's investments comprise interests in a group undertaking, details of which are shown below:

Name of undertaking	Country of incorporation	Description of shares held	Proportion of nominal value of shares held by the Company
Ceres Power Limited	England and Wales	£0.001 ordinary shares	<u>100%</u>

The principal activity of Ceres Power Limited is the development of solid oxide fuel cell technology.

### 3. Called up share capital

	£
<b>Authorised</b>	
100,000,000 ordinary shares of £0.05 each	<u>5,000,000</u>
<b>Allotted, called up and not paid</b>	
20 ordinary shares of £0.05 each	<u>1</u>
<b>Allotted, called up and fully paid</b>	
41,763,040 ordinary shares of £0.05 each	<u>2,088,152</u>
	<u>2,088,153</u>

The Company was incorporated on 8 July 2004 with an authorised share capital of £1,000 comprising 1,000 ordinary shares of £1 each. One ordinary share was allotted nil paid on incorporation.

On 13 July 2004, the Company subdivided its existing issued and authorised share capital into ordinary shares of £0.05 each and increased its authorised share capital by 99,980,000 ordinary shares of £0.05 each.

On 3 September 2004, the Company issued 41,763,040 ordinary shares of £0.05 each to the shareholders of Ceres Power Limited in consideration for the transfer to the Company of the entire issued share capital in Ceres Power Limited.

Certain parties have received warrants at no cost as follows:

Date granted	Number of warrants	Exercise price (pence)	Expiry date
3 September 2004	1,470,580	40.8	31 January 2007
3 September 2004	844,380	70.0	18 December 2008

The warrants are excisable from the date of grant to 31 January 2007 or 18 December 2008. On exercise, each warrant will be converted into one £0.05 ordinary share.

#### 4. Share options

The Company operates a share option scheme for directors and employees under which approved and unapproved share options are granted.

Under this scheme, directors and employees hold options to subscribe for £0.05 ordinary shares in the Company at prices ranging from £0.23 to £0.60. For the period ended 31 October 2004 no options were exercised and no options lapsed.

The number of shares subject to options and the periods in which they may be exercised are given below:

Date of grant	Note	Exercise price (£)	Exercise period	Period ended 31 October 2004 Numbers
3 September 2004	1	£0.23	11 March 2012	734,100
3 September 2004	2	£0.23	11 March 2012	299,980
3 September 2004	2	£0.23	16 July 2012	499,990
3 September 2004	2	£0.23	8 October 2012	100,000
3 September 2004	2	£0.23	4 March 2013	150,000
3 September 2004	3	£0.23	17 March 2013	20,000
3 September 2004	4	£0.30	17 April 2013	1,617,400
3 September 2004	2	£0.23	11 June 2013	129,990
3 September 2004	2	£0.23	28 August 2013	360,000
3 September 2004	4	£0.23	28 August 2013	272,580
3 September 2004	4	£0.30	28 August 2013	1,130,000
3 September 2004	2	£0.60	10 February 2014	140,000
3 September 2004	2	£0.60	28 April 2014	80,000
3 September 2004	4	£0.60	29 April 2014	900,000
3 September 2004	2	£0.60	14 June 2014	100,000
3 September 2004	2	£0.60	2 August 2014	400,000
5 October 2004	5	£0.60	5 October 2014	20,000
				6,954,040

Note 1: These options are exercisable in equal proportions and at four intervals over a two year period from the date of grant of the original option by Ceres Power Limited.

Note 2: These options become exercisable at six monthly intervals over a period of three years from the date of grant of the original option by Ceres Power Limited. This is conditional on meeting both team and personal performance targets. Team performance is measured by Ceres Power Limited achieving its designated development milestones. Personal performance is measured against agreed personal performance targets.

Note 3: These options become exercisable at six monthly intervals over a year from the date of grant of the original option by Ceres Power Limited. This is conditional on meeting both team and personal performance targets. Team performance is measured by Ceres Power Limited achieving its designated development milestones. Personal performance is measured against agreed personal performance targets.

Note 4: These options become exercisable upon Admission or at six monthly intervals over a period of three years from the date of grant of the original option by Ceres Power Limited, the latter being conditional on meeting designated personal and corporate milestones.

Note 5: These options become exercisable at six monthly intervals over a period of three years from the date of grant. This is conditional on meeting both team and personal performance targets. Team performance is measured by Ceres Power Limited achieving its designated development milestones. Personal performance is measured against agreed personal performance targets.

### Directors' interests in share options and warrants

Details of options and warrants held by Directors are set out below:

	Date of grant	Earliest exercise date	Expiry date	Exercise price (pence)	Number at 8 July 2004	Number Granted in Period	Number at 31 October 2004
<b>Mr. P Holbeche</b>							
Warrants	3 Sept 2004	3 Sept 2004	31 Jan 2007	40.8	-	367,640	367,640
Options (unapproved)	3 Sept 2004	Note 1	28 Aug 2013	30.0	-	480,000	480,000
Options (unapproved)	3 Sept 2004	Note 1	29 Apr 2014	60.0	-	33,340	33,340
Options (approved)	3 Sept 2004	Note 1	29 Apr 2014	60.0	-	166,660	166,660
						<u>1,047,640</u>	<u>1,047,640</u>
<b>Mr. J Gunn *</b>							
Warrants	3 Sept 2004	3 Sept 2004	31 Jan 2007	40.8	-	122,500	122,500
<b>Dr. P Bance</b>							
Options (approved)	3 Sept 2004	Note 1	17 Apr 2013	30.0	-	434,780	434,780
Options (unapproved)	3 Sept 2004	Note 1	17 Apr 2013	30.0	-	1,182,620	1,182,620
Options (unapproved)	3 Sept 2004	Note 1	28 Aug 2013	30.0	-	500,000	500,000
Options (unapproved)	3 Sept 2004	Note 1	29 Apr 2014	60.0	-	200,000	200,000
						<u>2,317,400</u>	<u>2,317,400</u>
<b>Prof. N Brandon</b>							
Options (unapproved)	3 Sept 2004	Note 1	28 Aug 2013	30.0	-	150,000	150,000
Options (unapproved)	3 Sept 2004	Note 1	29 Apr 2014	60.0	-	200,000	200,000
						<u>350,000</u>	<u>350,000</u>

\* Mr. John Gunn also had beneficial interests in 122,640 warrants held by Scheidegg Limited and 367,800 warrants held by Ludgate Investments Limited as at 31 October 2004.

Note 1: These options are exercisable at six monthly intervals over a period of three years from the date of grant of the original option by Ceres Power Limited. This is conditional on meeting designated personal and corporate milestones. The remuneration committee will be responsible for the setting of these milestones.

No options lapsed during the period. No other directors have been granted share options in the shares in the Company.

Yours faithfully

PricewaterhouseCoopers LLP  
Chartered Accountants

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## PART 5

### FINANCIAL INFORMATION ON CERES POWER LIMITED

The following is the text of the report on Ceres Power Limited by PricewaterhouseCoopers LLP, Reporting Accountants:

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**PRICEWATERHOUSECOOPERS** 

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PricewaterhouseCoopers LLP  
Abacus House  
Castle Park  
Cambridge  
CB3 0AN

The Directors  
Ceres Power Holdings plc  
Unit 18  
Denvale Trade Park  
Haslett Avenue East  
Crawley  
RH10 1SS

The Directors  
Numis Securities Limited  
Cheapside House  
138 Cheapside  
London  
EC2V 6LH

Date: 19 November 2004

Dear Sirs

### **Ceres Power Limited**

#### **Introduction**

We report on the financial information (“the Financial Information”) set out below. This Financial Information has been prepared for inclusion in the Admission Document dated 19 November 2004 (“the Admission Document”) of Ceres Power Holdings plc (“the Company”).

Ceres Power Limited was incorporated on 23 May 2001 with an accounting reference date of 31 July. On 7 May 2004, Ceres Power Limited changed its accounting reference date to 30 June.

#### **Basis of preparation**

The Financial Information set out below is based on the audited financial statements of Ceres Power Limited for the fourteen months ended 31 July 2002, the year ended 31 July 2003 and the eleven months ended 30 June 2004 to which no adjustments were considered necessary.

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**Responsibility**

Such financial statements are the responsibility of the directors of Ceres Power Limited, who approved their issue.

The directors of the Company are responsible for the contents of the Admission Document in which this report is included.

It is our responsibility to compile the Financial Information set out in our report from the financial statements, to form an opinion on the Financial Information and to report our opinion to you.

**Basis of opinion**

We conducted our work in accordance with the Statements of Investment Circular Reporting Standards issued by the Auditing Practices Board. Our work included an assessment of evidence relevant to the amounts and disclosures in the Financial Information. The evidence included that previously obtained by us relating to the audits of the financial statements underlying the Financial Information. Our work also included an assessment of significant estimates and judgements made by those responsible for the preparation of the Financial Information and whether the accounting policies are appropriate to the circumstances of Ceres Power Limited, consistently applied and adequately disclosed.

We planned and performed our work so as to obtain all the information and explanations which we considered necessary in order to provide us with sufficient evidence to give reasonable assurance that the Financial Information is free from material misstatement, whether caused by fraud or other irregularity or error.

**Opinion**

In our opinion, the Financial Information gives, for the purposes of the Admission Document, a true and fair view of the state of affairs of Ceres Power Limited as at the dates stated and of its losses and cash flows for the periods then ended.

**Consent**

We consent to the inclusion in the Admission Document of this report and accept responsibility for this report for the purposes of paragraph 45(1)(b)(iii) of Schedule 1 of the Public Offers of Securities Regulations 1995.

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## Profit and loss accounts

		14 months ended 31 July 2002 £	Year ended 31 July 2003 £	11 months ended 30 June 2004 £
Research and development costs		(660,981)	(1,134,708)	(1,454,596)
Administrative expenses		(226,526)	(391,225)	(699,456)
Other operating income	3	-	-	382,091
<b>Operating loss</b>		<b>(887,507)</b>	<b>(1,525,933)</b>	<b>(1,771,961)</b>
Interest receivable and similar income	2	44,483	65,060	110,098
<b>Loss on ordinary activities before taxation</b>	3	<b>(843,024)</b>	<b>(1,460,873)</b>	<b>(1,661,863)</b>
Tax credit on loss on ordinary activities	4	-	226,662	-
<b>Loss for the financial period</b>	16	<b>(843,024)</b>	<b>(1,234,211)</b>	<b>(1,661,863)</b>
<b>Loss per share</b>				
- basic and diluted	5	(38.6p)	(38.2p)	(44.2p)
- adjusted	5	(3.9p)	(3.8p)	(4.4p)

All amounts included in the profit and loss accounts relate to continuing operations.

Ceres Power Limited has no recognised gains and losses other than those included in the losses set out above and therefore no separate statement of total recognised gains and losses has been presented.

There is no difference between the loss on ordinary activities before taxation and the loss for the financial periods as stated above, and their historical cost equivalents.

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**Balance sheets**

		At 31 July 2002	At 31 July 2003	At 30 June 2004
	Note	£	£	£
<b>Fixed assets</b>				
Tangible assets	6	<u>291,985</u>	<u>672,942</u>	<u>1,181,244</u>
<b>Current assets</b>				
Debtors	7	158,466	266,613	246,996
Short term investments	8	2,600,000	1,000,000	4,400,000
Cash at bank and in hand		<u>364,912</u>	<u>159,777</u>	<u>191,634</u>
		3,123,378	1,426,390	4,838,630
<b>Creditors</b> - Amounts falling due within one year	9	<u>(150,538)</u>	<u>(41,330)</u>	<u>(107,947)</u>
<b>Net current assets</b>		<u>2,972,840</u>	<u>1,385,060</u>	<u>4,730,683</u>
<b>Total assets less current liabilities</b>		<u>3,264,825</u>	<u>2,058,002</u>	<u>5,911,927</u>
<b>Creditors</b> - Amounts falling due after more than one year	10	<u>-</u>	<u>(10,028)</u>	<u>(14,424)</u>
<b>Net assets</b>		<u><u>3,264,825</u></u>	<u><u>2,047,974</u></u>	<u><u>5,897,503</u></u>
<b>Capital and reserves</b>				
Called up share capital	13	3,235	3,235	4,176
Share premium account	15	4,062,582	4,062,582	9,547,273
Profit and loss account	16	<u>(800,992)</u>	<u>(2,017,843)</u>	<u>(3,653,946)</u>
<b>Equity shareholders' funds</b>		<u><u>3,264,825</u></u>	<u><u>2,047,974</u></u>	<u><u>5,897,503</u></u>

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## Cash flow statements

		14 months ended 31 July 2002 £	Year ended 31 July 2003 £	11 months ended 30 June 2004 £
<b>Net cash outflow from operating activities</b>	17	(914,164)	(1,372,535)	(1,672,643)
<b>Returns on investments and servicing of finance</b>				
Interest received		<u>28,907</u>	<u>80,636</u>	<u>110,098</u>
Net cash inflow from returns on investments and servicing of finance		<u>28,907</u>	<u>80,636</u>	<u>110,098</u>
<b>Taxation</b>		<u>-</u>	<u>54,323</u>	<u>172,339</u>
<b>Capital expenditure</b>				
Purchase of tangible fixed assets		(215,047)	(568,684)	(663,569)
Sale of tangible fixed assets		<u>-</u>	<u>1,125</u>	<u>-</u>
Net cash outflow for capital expenditure		<u>(215,047)</u>	<u>(567,559)</u>	<u>(663,569)</u>
<b>Net cash outflow before use of liquid resources and financing</b>		(1,100,304)	(1,805,135)	(2,053,775)
<b>Management of liquid resources</b>				
(Increase)/reduction in short term deposits with banks	18	(2,600,000)	1,600,000	(3,400,000)
<b>Financing</b>				
Issue of ordinary share capital		4,266,691	-	5,632,828
Expenses of share issue		<u>(201,475)</u>	<u>-</u>	<u>(147,196)</u>
Net cash inflow from financing		<u>4,065,216</u>	<u>-</u>	<u>5,485,632</u>
<b>Increase/(decrease) in net cash</b>	18	<u>364,912</u>	<u>(205,135)</u>	<u>31,857</u>
<b>Reconciliation to net funds</b>				
Opening net funds		-	2,964,912	1,159,777
Increase/(decrease) in net cash		364,912	(205,135)	31,857
Movement in deposits		<u>2,600,000</u>	<u>(1,600,000)</u>	<u>3,400,000</u>
<b>Closing net funds</b>		<u>2,964,912</u>	<u>1,159,777</u>	<u>4,591,634</u>

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**Reconciliation of movements in shareholders' funds**

	14 months ended 31 July 2002 £	Year ended 31 July 2003 £	11 months ended 30 June 2004 £
Loss for the financial period	(843,024)	(1,234,211)	(1,661,863)
Proceeds of issue of ordinary share capital	4,267,292	-	5,632,828
Share issue costs	(201,475)	-	(147,196)
Share option compensation charge	42,032	17,360	25,760
<b>Net change in shareholders' funds</b>	<u>3,264,825</u>	<u>(1,216,851)</u>	<u>3,849,529</u>
Opening shareholders' funds	-	3,264,825	2,047,974
<b>Closing shareholders' funds</b>	<u><u>3,264,825</u></u>	<u><u>2,047,974</u></u>	<u><u>5,897,503</u></u>

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## 1. Accounting policies

The Financial Information contained in this report has been prepared on the going concern basis, under the historical cost convention and in accordance with applicable accounting standards in the United Kingdom. A summary of the more important accounting policies, which have been reviewed by the Board of Directors in accordance with Financial Reporting Standard (“FRS”) 18, “Accounting policies”, and which have been applied consistently for all periods covered by this report, is set out below.

### *Tangible fixed assets*

The cost of tangible fixed assets is their purchase cost, together with any incidental costs of acquisition. Depreciation is calculated so as to write off the cost of tangible fixed assets, less their estimated residual values, on a straight line basis over the expected useful economic lives of the assets concerned. The principal annual rates used for this purpose are:

	%
Leasehold improvements	10
Plant and machinery	33
Computer equipment	33
Fixtures and fittings	33

Assets under construction represent the cost of purchasing, constructing and installing tangible fixed assets ahead of their productive use. The category is temporary, pending completion of the assets and their transfer to the appropriate and permanent category of the tangible fixed assets. As such, no depreciation is charged on assets under construction.

### *Deferred taxation*

Ceres Power Limited applies FRS 19, “Deferred tax”, which requires provision to be made in respect of all material timing differences. Deferred tax assets are recognised only to the extent that they are regarded as recoverable. Deferred tax assets and liabilities are not discounted.

### *Foreign currencies*

Transactions in foreign currencies are translated at the exchange rate ruling at the date of the transaction or, where forward foreign currency contracts have been taken out, at contractual rates. Monetary assets and liabilities are retranslated at the rates of exchange ruling at the balance sheet date or at a forward contractual rate if applicable. Exchange gains and losses are taken to the profit and loss account.

### *Pension scheme arrangements*

A stakeholder pension scheme is available to all employees. Ceres Power Limited provides no other post-retirement benefits. As at 30 June 2004 no employee had joined the scheme.

### *Government grants*

Revenue grants are credited to the profit and loss account (as other operating income) on a case-by-case basis. Grant income is only recognised when the cash has been received, the associated expenditure has been incurred and the Directors of Ceres Power Limited believe that it is remote that these amounts will need to be repaid (see note 21).

### *Research and development expenditure*

Expenditure on research and development is written off as incurred.

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### *Operating leases*

Costs in respect of operating leases are charged to the profit and loss account on a straight line basis over the lease term.

### *Lease incentives*

Benefits received and receivable as an incentive to sign an operating lease are spread on a straight-line basis over the lease term or if shorter than the full lease term, over the period to the review date on which the rent is first expected to be adjusted to the prevailing market rate. Accordingly, any incentive received to sign a lease is included in other creditors and will be credited to the profit and loss account over the appropriate period.

### *Share options*

In accordance with the provisions of Urgent Issues Task Force Abstract 17, "Employee Share Schemes", Ceres Power Limited makes charges to the profit and loss account when options are granted, the charge being the estimated market value of the shares at the date of grant less the exercise price of the options. When options are granted with no performance conditions the charge is recognised immediately. When options are granted with performance conditions the charge is recognised over the performance period. The charge is then reversed through reserves.

## 2. Interest receivable and similar income

	14 months ended 31 July 2002 £	Year ended 31 July 2003 £	11 months ended 30 June 2004 £
Interest receivable on short term investments	<u>44,483</u>	<u>65,060</u>	<u>110,098</u>

## 3. Loss on ordinary activities before taxation

	14 months ended 31 July 2002 £	Year ended 31 July 2003 £	11 months ended 30 June 2004 £
<b>Loss on ordinary activities before taxation is stated after charging/(crediting):</b>			
Depreciation on tangible owned fixed assets	5,774	103,619	155,267
Operating lease rentals:			
- plant and machinery	-	2,287	2,383
- buildings	23,392	47,758	49,479
Auditors' remuneration:			
- audit services	3,000	6,000	8,000
- non-audit services*	15,755	9,700	18,370
Other operating income - grant income	-	-	(382,091)
Share option compensation charge	<u>42,032</u>	<u>17,360</u>	<u>25,760</u>

\* The fees paid to auditors for non-audit services are made up of £14,000 (year ended 31 July 2003: £8,000; period ended 31 July 2002: £15,000) for advice on share options, £2,000 (year ended 31 July 2003: £Nil; period ended 31 July 2002: £Nil) for work performed in connection with grant claims and £2,370 (year ended 31 July 2003: £1,700; period ended 31 July 2002: £755) for general taxation advice.

#### 4. Tax credit on loss on ordinary activities

	14 months ended 31 July 2002 £	Year ended 31 July 2003 £	11 months ended 30 June 2004 £
<b>Current tax:</b>			
United Kingdom research and development tax credit at 16%	-	172,339	-
Under provision for tax credit in respect of prior periods	-	54,323	-
<b>Total current tax credit</b>	<u>-</u>	<u>226,662</u>	<u>-</u>

No corporation tax liability has arisen during any period due to the losses incurred. A tax credit arose in the year ended 31 July 2003 as a result of tax losses being surrendered in respect of research and development expenditure for that year and the prior year. During the period ended 30 June 2004, no tax credit arose in respect of research and development expenditure due to Ceres Power Limited receiving government grants.

The tax result for each period is different from the standard rate of corporation tax for small companies in the United Kingdom of 19% (2003: the standard rate for research and development tax credits in the United Kingdom of 16%; 2002: 19.67%). The differences are explained below:

	14 months ended 31 July 2002 £	Year ended 31 July 2003 £	11 months ended 30 June 2004 £
Loss on ordinary activities before taxation	843,024	1,460,873	1,661,863
Loss on ordinary activities multiplied by the UK tax rate of 19% (2003: 16%; 2002: 19.67%)	165,823	233,740	315,754
<b>Effects of:</b>			
Losses carried forward	(134,778)	(118,760)	(394,968)
Expenses not deductible for tax purposes	(29,909)	(3,613)	(15,455)
Accelerated capital allowances and other timing differences	(1,136)	60,972	94,669
Under provision for tax credit in respect of prior periods	-	54,323	-
<b>Total current tax credit</b>	<u>-</u>	<u>226,662</u>	<u>-</u>

#### 5. Loss per share

Basic and diluted loss per ordinary share are calculated by dividing the loss for the financial period attributable to ordinary shareholders of £1,661,863 (year ended 31 July 2003: £1,234,211; period ended 31 July 2002: £843,024) by the weighted average of 3,760,713 (year ended 31 July 2003: 3,234,808; period ended 31 July 2002: 2,184,306) ordinary shares in issue during the year.

The adjusted loss per ordinary share has been calculated, for the purposes of comparability, by dividing the basic loss per share calculated above by a factor of 10 being the ratio of Ceres Power Holdings plc ordinary shares issued in exchange for each ordinary share in Ceres Power Limited.

## 6. Tangible fixed assets

	Leasehold improvements £	Plant and machinery £	Computer equipment £	Fixtures and fittings £	Assets under construction £	Total £
<b>Cost</b>						
At 23 May 2001	-	-	-	-	-	-
Additions	-	27,733	12,224	2,694	255,108	297,759
<b>At 31 July 2002</b>	-	27,733	12,224	2,694	255,108	297,759
Additions	201,085	259,843	20,416	4,628	-	485,972
Disposals	-	-	(1,923)	-	-	(1,923)
Transfers	255,108	-	-	-	(255,108)	-
<b>At 31 July 2003</b>	456,193	287,576	30,717	7,322	-	781,808
Additions	251,897	368,509	29,271	13,892	-	663,569
<b>At 30 June 2004</b>	708,090	656,085	59,988	21,214	-	1,445,377
<b>Aggregate depreciation</b>						
At 23 May 2001	-	-	-	-	-	-
Charge for the period	-	3,601	1,674	499	-	5,774
<b>At 31 July 2002</b>	-	3,601	1,674	499	-	5,774
Charge for the period	36,739	56,189	8,748	1,943	-	103,619
Disposals	-	-	(527)	-	-	(527)
<b>At 31 July 2003</b>	36,739	59,790	9,895	2,442	-	108,866
Charge for the period	41,883	98,914	11,543	2,927	-	155,267
<b>At 30 June 2004</b>	78,622	158,704	21,438	5,369	-	264,133
<b>Net book value</b>						
<b>At 31 July 2002</b>	-	24,132	10,550	2,195	255,108	291,985
<b>At 31 July 2003</b>	419,454	227,786	20,822	4,880	-	672,942
<b>At 30 June 2004</b>	629,468	497,381	38,550	15,845	-	1,181,244

## 7. Debtors

	At 31 July 2002 £	At 31 July 2003 £	At 30 June 2004 £
<b>Amounts falling due within one year:</b>			
Prepayments	50,126	57,697	91,734
Corporation tax recoverable	-	172,339	-
Other debtors	81,908	10,145	102,392
	132,034	240,181	194,126
<b>Amounts falling due after more than one year:</b>			
Prepayments	26,432	26,432	52,870
	158,466	266,613	246,996

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**8. Short term investments**

Short term investments comprise cash deposits at banks, with different maturity dates, which are not repayable on demand.

**9. Creditors – Amounts falling due within one year**

	At 31 July 2002 £	At 31 July 2003 £	At 30 June 2004 £
Trade creditors	56,718	-	65,345
Other tax and social security payable	14,541	-	-
Other creditors	-	3,438	7,267
Accruals	79,279	37,892	35,335
	<u>150,538</u>	<u>41,330</u>	<u>107,947</u>

**10. Creditors – Amounts falling due after more than one year**

	At 31 July 2002 £	At 31 July 2003 £	At 30 June 2004 £
<b>Other creditors:</b>			
Due in more than one year, but not more than two years	-	3,439	7,267
Due in more than two years, but not more than five years	-	6,589	7,157
	<u>-</u>	<u>10,028</u>	<u>14,424</u>

**11. Financial instruments**

The financial risks faced by Ceres Power Limited include interest rate risk, foreign currency risk and liquidity risk. The board reviews and agrees policies for managing each of these risks.

Ceres Power Limited's main objectives in using financial instruments are the maximisation of returns from funds held on deposit and, when appropriate, the generation of additional cash resources for Ceres Power Limited's operations through the issue of shares. Ceres Power Limited also enters into forward currency contracts to manage the currency risk arising from foreign currency denominated purchase commitments, entered into by Ceres Power Limited.

Ceres Power Limited's policy is to raise cash in advance of when it is required and when market conditions are appropriate, using the financial instruments that can be negotiated with the providers of finance at that time. During the period covered by this report these instruments have only comprised equity shares. Ceres Power Limited had no debt instruments during the period.

Ceres Power Limited seeks to minimise its exposure to fluctuations in exchange rates by taking out forward currency contracts to hedge against foreign currency denominated purchase commitments. Ceres Power Limited's policy is, where practicable, to enter into forward currency contracts for substantially all such commitments immediately those purchase commitments are made. At the period ended 30 June 2004, 91% (2003: Nil%; 2002: Nil%) of purchase commitments were hedged by foreign currency contracts.

Due to the nature of Ceres Power Limited's activities, the directors do not consider it necessary to use derivative financial instruments to hedge Ceres Power Limited's exposure

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to fluctuations in interest rates, as these exposures have not been significant during the period covered by this report.

The balance sheet positions at 31 July 2002, 31 July 2003 and 30 June 2004 are not representative of the positions throughout the periods as cash and short term investments fluctuate considerably depending on when fund raising activities have occurred.

Short term debtors and creditors have been excluded from all the following disclosures, other than the currency risk disclosures, as permitted by FRS 13, "Derivatives and other financial instruments".

*Interest rate risk profile of Ceres Power Limited's financial liabilities*

Ceres Power Limited's liabilities consist of short term creditors, therefore disclosures have been excluded as noted above, and other creditors falling due after more than one year. The other creditors falling due after more than one year relate to a lease incentive and therefore do not comprise a financial instrument.

*Interest rate risk profile of Ceres Power Limited's financial assets*

Currency	At 31 July 2002			At 31 July 2003			At 30 June 2004		
	Cash at bank and in hand	Short-term deposits	Total	Cash at bank and in hand	Short-term deposits	Total	Cash at bank and in hand	Short-term deposits	Total
	£	£	£	£	£	£	£	£	£
Sterling	364,912	2,600,000	2,964,912	159,777	1,000,000	1,159,777	191,634	4,400,000	4,591,634
Floating rate	364,912	-	364,912	159,777	-	159,777	191,634	-	191,634
Fixed rate	-	2,600,000	2,600,000	-	1,000,000	1,000,000	-	4,400,000	4,400,000
	364,912	2,600,000	2,964,912	159,777	1,000,000	1,159,777	191,634	4,400,000	4,591,634

The fixed rate cash and short-term deposits in sterling were placed with banks for between three days and six months and earned interest of between 2.76% and 4.08% (2003: 2.72% and 3.64%) (2002: 2.00% and 3.78%). Floating rate cash earns interest based on relevant UK LIBOR equivalents.

*Borrowing facilities*

Ceres Power Limited had no undrawn committed borrowing facilities available during the periods covered by the Financial Information.

*Fair values of financial assets and financial liabilities*

The following table provides a comparison by category of the carrying amounts and the fair values of Ceres Power Limited's financial assets and financial liabilities at 30 June 2004, 31 July 2003 and 31 July 2002. Fair value is the amount at which a financial instrument could be exchanged in an arm's length transaction between informed and willing parties, other than a forced or liquidation sale, and excludes accrued interest. Where available, market values have been used to determine fair values. Set out below the table is a summary of the methods and assumptions used for each category of financial instruments.

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	At 31 July 2002		At 31 July 2003		At 30 June 2004	
	Book value	Fair value	Book value	Fair value	Book value	Fair value
	£	£	£	£	£	£
<b>Primary financial instruments</b>						
<b>held or issued to finance</b>						
<b>Ceres Power Limited's</b>						
<b>operations:</b>						
Short term deposits	2,600,000	2,600,000	1,000,000	1,000,000	4,400,000	4,400,000
Cash at bank and in hand	<u>364,912</u>	<u>364,912</u>	<u>159,777</u>	<u>159,777</u>	<u>191,634</u>	<u>191,634</u>
<b>Derivative financial instruments</b>						
<b>held to hedge the currency</b>						
<b>exposure on expected</b>						
<b>future purchases:</b>						
Forward foreign currency						
contracts	<u>-</u>	<u>-</u>	<u>-</u>	<u>-</u>	<u>-</u>	<u>(287)</u>

*Summary of methods and assumptions*

**Short term deposits**

The fair value of short term deposits approximates to the carrying amount because of the short maturity of these instruments.

**Forward foreign currency contracts**

Fair value is based on the market price of comparable instruments at the balance sheet date.

**Currency exposures**

As explained in the objectives, policies and strategies note Ceres Power Limited's policy is, where practicable, to hedge its currency exposure to monetary liabilities. There were no monetary assets or liabilities denominated in currencies other than sterling at 30 June 2004, 31 July 2003 or 31 July 2002.

**Hedges**

The table below shows the extent to which Ceres Power Limited has off-balance sheet (unrecognised) and on-balance sheet (deferred) gains and losses in respect of financial instruments used as hedges at the beginning and end of the period to 30 June 2004. There were no such financial instruments for the period ended 31 July 2002 and the year ended 31 July 2003. It also shows the amount of such gains and losses which were included in the profit and loss account for the period and those gains and losses which are expected to be included in the profit and loss account for the year ended 30 June 2005.

	Unrecognised			Deferred		Total net gains/ (losses) £
	Gains £	Losses £	Total net gains/ (losses) £	Gains £	Losses £	
<b>Gains and losses on hedges at 1 August 2003</b>						
Arising in previous years included in 2004 expenses	-	-	-	-	-	-
<b>Gains and losses not included in 2004 expenses</b>						
Arising before 1 August 2003	-	-	-	-	-	-
Arising in 2004	-	-	-	-	(287)	(287)
<b>Gains and losses on hedges at 30 June 2004</b>	-	-	-	-	(287)	(287)
Of which:						
Gains and losses expected to be included in 2005 expenses	-	-	-	-	(287)	(287)

Losses deferred at 30 June 2004 will be matched by gains of the same amount on the underlying items being hedged.

*Financial instruments held for trading purposes*

Ceres Power Limited does not trade in financial instruments.

**12. Provisions for liabilities and charges**

*Deferred taxation*

At the balance sheet dates Ceres Power Limited had deferred tax (assets)/liabilities as follows:

	At 31 July 2002 £	At 31 July 2003 £	At 30 June 2004 £
<b>Amount not recognised</b>			
Tax effect of timing differences because of:			
Difference between capital allowances and depreciation	(1,732)	127,791	220,537
Losses carried forward	(205,559)	(365,037)	(801,112)
	<u>(207,291)</u>	<u>(237,246)</u>	<u>(580,575)</u>

The deferred tax assets have not been recognised as the directors consider that it is unlikely that a corporation tax liability will arise in the foreseeable future.

### 13. Called up share capital

	At 31 July 2002 £	At 31 July 2003 £	At 30 June 2004 £
<b>Authorised</b>			
6,000,000 (2003: 5,000,000; 2002: 5,000,000) ordinary shares of £0.001 each	<u>5,000</u>	<u>5,000</u>	<u>6,000</u>
<b>Allotted, called up and fully paid</b>			
4,176,306 (2003: 3,234,808; 2002: 3,234,808) ordinary shares of £0.001 each	<u>3,235</u>	<u>3,235</u>	<u>4,176</u>

On 23 May 2001, Ceres Power Limited was incorporated with authorised share capital of £100 divided into 100 ordinary shares of £1.00 each. On this date, 1 ordinary share was issued at par.

On 14 June 2001, Ceres Power Limited subdivided its existing issued and authorised share capital into ordinary shares of £0.10 each and increased its authorised share capital by 19,000 ordinary shares of £0.10 each. Also on this date, 10,684 ordinary shares of £0.10 each were issued for cash consideration of £10,684 and 6,007 shares were issued at nominal value for consideration of the assignment of intellectual property rights from Imperial College Innovations Limited with a deemed fair value of £601.

On 4 October 2001, each of Ceres Power Limited's authorised and issued shares of £0.10 each were divided into 100 ordinary shares of £0.001 each and the authorised share capital of Ceres Power Limited was increased by 3,000,000 ordinary shares of £0.001 each. Also on this date, 189,336 ordinary shares of £0.001 each were issued for cash consideration of £514,994.

On various dates between 8 January 2002 and 8 April 2002, 1,375,372 ordinary shares of £0.001 each were issued for cash consideration of £3,741,012.

On 5 December 2003, 4 ordinary shares of £0.001 each were issued on the exercise of employee share options for cash consideration of £9.

On 18 December 2003, the authorised share capital was increased by £1,000 divided into 1,000,000 ordinary shares of £0.001 each. Also on this date, 844,250 ordinary shares of £0.001 each were issued for cash consideration of £5,065,500.

On 28 February 2004, 92,502 ordinary shares of £0.001 each were issued for cash consideration of £555,013.

On 4 May 2004, 2,000 ordinary shares of £0.001 each were issued on the exercise of employee share options for cash consideration of £6,000. Also on this date, 1,371 ordinary shares of £0.001 each were issued on the exercise of employee share options for cash consideration of £3,153.

On 9 May 2004, 1,371 ordinary shares of £0.001 each were issued on the exercise of employee share options for cash consideration of £3,153.

Certain investors have received warrants, at no additional cost, as part of their investment as follows:

Date granted	Number of warrants	Exercise price	Exercise period
31 January 2002	147,058	£4.08	5 years
18 December 2003	<u>84,438</u>	<u>£7.00</u>	<u>5 years</u>

The warrants are exercisable during a five year period from the date of grant. On exercise, each warrant will be converted into one £0.001 ordinary share.

#### 14. Share options

Ceres Power Limited operates a share option scheme for directors and employees under which approved and unapproved share options are granted.

Under this scheme, directors and employees hold options to subscribe for £0.001 ordinary shares in Ceres Power Limited at prices ranging from £2.30 to £6.00. For the period ended 31 July 2002 and the year ended 31 July 2003 no options were exercised. During the period ended 30 June 2004, options over 4,746 shares were exercised. No options lapsed during the periods.

The number of shares subject to options, the periods in which they were granted and the periods in which they may be exercised are given below:

Year of grant	Note	Exercise price	Exercise period	14 months ended	Year ended	11 months ended
				31 July 2002	31 July 2003	30 June 2004
				Number	Number	Number
11 March 2002	1	£2.30	11 March 2012	73,410	-	-
11 March 2002	2	£2.30	11 March 2012	30,000	-	-
16 July 2002	2	£2.30	16 July 2012	50,000	-	-
8 October 2002	2	£2.30	8 October 2012	-	10,000	-
4 March 2003	2	£2.30	4 March 2013	-	15,000	-
17 March 2003	3	£2.30	17 March 2013	-	2,000	-
17 April 2003	4	£3.00	17 April 2013	-	161,740	-
11 June 2003	2	£2.30	11 June 2013	-	13,000	-
28 August 2003	2	£2.30	28 August 2013	-	-	36,000
28 August 2003	4	£2.30	28 August 2013	-	-	30,000
28 August 2003	4	£3.00	28 August 2013	-	-	115,000
10 February 2004	2	£6.00	10 February 2014	-	-	14,000
28 April 2004	2	£6.00	28 April 2014	-	-	8,000
29 April 2004	4	£6.00	29 April 2014	-	-	90,000
16 June 2004	2	£6.00	16 June 2014	-	-	10,000
				153,410	201,740	303,000

Note 1: These options become exercisable in equal proportions and at four intervals over a two year period from the date of issue.

Note 2: These options become exercisable at six monthly intervals over a period of three years. This is conditional on meeting both team and personal performance targets. Team performance is measured by Ceres Power Limited achieving its designated development milestones. Personal performance is measured against agreed personal performance targets.

Note 3: These options become exercisable at six monthly intervals over a year. This is conditional on meeting both team and personal performance targets. Team performance is measured by Ceres Power Limited achieving its designated development milestones. Personal performance is measured against agreed personal performance targets.

Note 4: These options become exercisable upon Admission or at six monthly intervals over a period of three years, the latter being conditional on meeting designated personal and corporate milestones.

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**15. Share premium account**

	At 31 July 2002 £	At 31 July 2003 £	At 30 June 2004 £
At period start	-	4,062,582	4,062,582
Premium on shares issued	4,264,057	-	5,631,887
Share issue costs	(201,475)	-	(147,196)
<b>At period end</b>	<u>4,062,582</u>	<u>4,062,582</u>	<u>9,547,273</u>

**16. Profit and loss account**

	At 31 July 2002 £	At 31 July 2003 £	At 30 June 2004 £
At period start	-	(800,992)	(2,017,843)
Loss for the financial period	(843,024)	(1,234,211)	(1,661,863)
Share option compensation charge	42,032	17,360	25,760
<b>At period end</b>	<u>(800,992)</u>	<u>(2,017,843)</u>	<u>(3,653,946)</u>

**17. Cash flow from operating activities**

Reconciliation of operating loss to net cash outflow from operating activities:

	14 months ended 31 July 2002 £	Year ended 31 July 2003 £	11 months ended 30 June 2004 £
Operating loss	(887,507)	(1,525,933)	(1,771,961)
Depreciation charge (net of loss on disposals)	5,774	103,890	155,267
Share option compensation charge	42,032	17,360	25,760
(Increase)/decrease in debtors	(132,966)	39,293	(152,722)
Increase/(decrease) in creditors	58,503	(7,145)	71,013
<b>Net cash (outflow) from operating activities</b>	<u>(914,164)</u>	<u>(1,372,535)</u>	<u>(1,672,643)</u>

**18. Reconciliation of movements in net funds**

	Cash at bank and in hand £	Short term investments £	Total £
At 23 May 2001	-	-	-
Cash flow	364,912	2,600,000	2,964,912
<b>At 31 July 2002</b>	364,912	2,600,000	2,964,912
Cash flow	(205,135)	(1,600,000)	(1,805,135)
<b>At 31 July 2003</b>	159,777	1,000,000	1,159,777
Cash flow	31,857	3,400,000	3,431,857
<b>At 30 June 2004</b>	<u>191,634</u>	<u>4,400,000</u>	<u>4,591,634</u>

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**19. Employees and directors**

	14 months ended 31 July 2002 £	Year ended 31 July 2003 £	11 months ended 30 June 2004 £
<b>Staff costs for Ceres Power Limited during the period:</b>			
Wages and salaries	345,459	707,503	859,986
Social security costs	25,710	55,667	84,309
	<u>371,169</u>	<u>763,170</u>	<u>944,295</u>
<b>Average monthly number of people (including executive directors) employed</b>			
<b>By activity:</b>			
Research and development	5	13	17
Administration	2	2	4
	<u>7</u>	<u>15</u>	<u>21</u>

Directors' emoluments receivable by directors of Ceres Power Limited are as follows:

	14 months ended 31 July 2002 £	Year ended 31 July 2003 £	11 months ended 30 June 2004 £
Aggregate emoluments	176,300	225,592	316,893
Aggregate gains made on the exercise of share options	-	-	6,000
	<u>176,300</u>	<u>225,592</u>	<u>322,893</u>
<b>Highest paid director</b>			
Aggregate emoluments	<u>90,400</u>	<u>85,800</u>	<u>127,456</u>

### Interest in share options and warrants

Details of options and warrants held by directors are set out below:

#### Period ended 31 July 2002

	Date of grant	Earliest exercise date	Expiry date	Exercise price	Number at 23 May 2001	Number granted in period	Number exercised in period	Number at 31 July 2002
<b>Mr. Philip Holbeche</b>								
Warrants	31 Jan 2002	31 Jan 2002	31 Jan 2007	£4.08	-	36,764	-	36,764
<b>Mr. John Gunn*</b>								
Warrants	31 Jan 2002	31 Jan 2002	31 Jan 2007	£4.08	-	12,250	-	12,250

#### Year ended 31 July 2003

	Date of grant	Earliest exercise date	Expiry date	Exercise price	Number at 1 August 2002	Number granted in year	Number exercised in year	Number at 31 July 2003
<b>Mr. Philip Holbeche</b>								
Warrants	31 Jan 2002	31 Jan 2002	31 Jan 2007	£4.08	36,764	-	-	36,764
<b>Mr. John Gunn*</b>								
Warrants	31 Jan 2002	31 Jan 2002	31 Jan 2007	£4.08	12,250	-	-	12,250
<b>Dr. Peter Bance</b>								
Options (approved)	17 Apr 2003	Note 1	17 Apr 2013	£3.00	-	43,478	-	43,478
Options (unapproved)	17 Apr 2003	Note 1	17 Apr 2013	£3.00	-	118,262	-	118,262
					-	161,740	-	161,740

#### Period to 30 June 2004

	Date of grant	Earliest exercise date	Expiry date	Exercise price	Number at 1 August 2003	Number granted in period	Number exercised in period	Number at 30 June 2004
<b>Mr. Philip Holbeche</b>								
Warrants	31 Jan 2002	31 Jan 2002	31 Jan 2007	£4.08	36,764	-	-	36,764
Options (unapproved)	28 Aug 2003	Note 1	28 Aug 2013	£3.00	-	50,000	(2,000)	48,000
Options (unapproved)	29 Apr 2004	Note 1	29 Apr 2014	£6.00	-	3,334	-	3,334
Options (approved)	29 Apr 2004	Note 1	29 Apr 2014	£6.00	-	16,666	-	16,666
					36,764	70,000	(2,000)	104,764
<b>Mr. John Gunn*</b>								
Warrants	31 Jan 2002	31 Jan 2002	31 Jan 2007	£4.08	12,250	-	-	12,250
<b>Dr. Peter Bance</b>								
Options (approved)	17 Apr 2003	Note 1	17 Apr 2013	£3.00	43,478	-	-	43,478
Options (unapproved)	17 Apr 2003	Note 1	17 Apr 2013	£3.00	118,262	-	-	118,262
Options (unapproved)	28 Aug 2003	Note 1	28 Aug 2013	£3.00	-	50,000	-	50,000
Options (unapproved)	29 Apr 2004	Note 1	29 Apr 2014	£6.00	-	20,000	-	20,000
					161,740	70,000	-	231,740
<b>Prof. Nigel Brandon</b>								
Options (unapproved)	28 Aug 2003	Note 1	28 Aug 2013	£3.00	-	15,000	-	15,000
Options (unapproved)	29 Apr 2004	Note 1	29 Apr 2014	£6.00	-	20,000	-	20,000
					-	35,000	-	35,000

\* Mr. John Gunn also has beneficial interests of 12,264 (2003: 24,514; 2002: 24,514) warrants held by Scheidegg Limited and 36,780 (2003: 36,780; 2002: 36,780) warrants held by Ludgate Investments Limited as at 30 June 2004.

Note 1: These options become exercisable on Admission or at six monthly intervals over a period of three years, the latter being conditional on meeting designated personal and corporate milestones.

No options lapsed during the periods. No other directors have been granted share options in the shares of Ceres Power Limited.

*Gains made by directors on share options*

The table below shows gains made by individual directors from the exercise of share options during the period covered by the Financial Information. The gains are calculated as at the exercise date, although the shares may have been retained. The valuation of Ceres Power Limited's shares at the date of exercise was £6.00.

	14 months ended 31 July 2002 £	Year ended 31 July 2003 £	11 months ended 30 June 2004 £
Mr. Philip Holbeche - exercised on 4 May 2004	-	-	6,000

**20. Operating lease commitments**

For the period covered by the Financial Information, Ceres Power Limited has lease agreements in respect of properties, plant and equipment, for which the payments extend over a number of years.

	At 31 July 2002		At 31 July 2003		At 30 June 2004	
	Land and buildings £	Other £	Land and buildings £	Other £	Land and buildings £	Other £
<b>Annual commitments under non-cancellable operating leases expiring:</b>						
Within one year	-	-	-	-	-	2,608
Between two and five years inclusive	-	-	-	2,608	-	-
After five years	44,386	-	44,990	-	89,990	-
	<u>44,386</u>	<u>-</u>	<u>44,990</u>	<u>2,608</u>	<u>89,990</u>	<u>2,608</u>

**21. Contingent liabilities**

During the period, Ceres Power Limited recognised grant income in respect of research and development activities of £382,091 (2003: £Nil; 2002: £Nil) (see note 3) in accordance with Ceres Power Limited's accounting policy. The grants may be required to be repaid if Ceres Power Limited does not meet subsequent reporting requirements and technical milestones specified in the grant offer letters. In addition, £206,900 (2003: £Nil; 2002: £Nil) of grant income, or an element thereof, may require repayment if Ceres Power Limited generates revenue (net of expenses and reasonable overheads) from the patent created from the grant. In such a case, Ceres Power Limited may be liable to pay back the grant at a rate of 5% of the net revenue generated in any one year. The Directors of Ceres Power Limited believe it is unlikely that any of the grants received will need to be repaid in the foreseeable future.

**22. Capital and other financial commitments**

Capital expenditure that has been contracted for but has not been provided for in the financial statements amounts to £156,166 as at 30 June 2004 (2003: £7,557; 2002: £213,367).

Ceres Power Limited has entered into a contract to design and develop an integration system for fuel cells with practical applications, for an 11 month period which commenced in February 2004. The present value of the remaining commitment is estimated at £83,264 (2003: £Nil; 2002: £Nil). Ceres Power Limited has hedged a proportion of the payments

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relating to this future commitment and at 30 June 2004 held forward contracts to hedge the equivalent of £75,667 of foreign currency transaction exposure (2003: £Nil; 2002: £Nil).

**23. Related party transactions**

Imperial College and its technology transfer company, Imperial College Innovations Limited, are related parties by virtue of their significant shareholding in Ceres Power Limited. During the period ended 30 June 2004, a total of £5,425 (2003: £Nil; 2002: £Nil) was payable to Imperial College in respect of tuition fees and £3,467 (2003: £12,038; 2002: £Nil) was payable to IC Consultants Limited (a wholly owned subsidiary of Imperial College) in respect of equipment usage. In addition £Nil (2003: £5,255; 2002: £23,314) was payable to Imperial College Innovations Limited in respect of room and equipment usage and £Nil (2003: £Nil; 2002: £80,860) in respect of costs for a research programme. Of these amounts £97 (2003: £Nil; 2002: £Nil) remains outstanding to IC Consultants Limited at 30 June 2004.

The Carbon Trust is a related party by virtue of its shareholding in Ceres Power Limited. During the period, Ceres Power Limited received £206,900 (2003: £Nil; 2002: £Nil) of grant income from The Carbon Trust. No amounts have been accrued at the period ended 30 June 2004 (year ended 31 July 2003: £Nil; period ended 31 July 2003: £Nil) in accordance with Ceres Power Limited's accounting policy.

Ceres Power Limited incurred professional fees totalling £116,639 (2003: £Nil; 2002: £154,500) from Ludgate Investments Limited, a financial adviser, of which Mr. John Gunn is a director. No amounts remain outstanding at 30 June 2004 (2003: £Nil; 2002: £Nil).

**24. Post balance sheet events**

On 3 September 2004, Ceres Power Limited was acquired by Ceres Power Holdings Limited.

Yours faithfully

PricewaterhouseCoopers LLP  
*Chartered Accountants*

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## PART 6

### ADDITIONAL INFORMATION

#### 1. Responsibility statements

The Directors whose names appear on page 4 of this document accept responsibility for the information contained in this document. To the best of the knowledge and belief of the Directors (who have taken all reasonable care to ensure that such is the case) the information in this document is in accordance with the facts and does not omit anything likely to affect the import of such information.

#### 2. The Company and its Subsidiary

- 2.1 The Company was incorporated in England and Wales on 8 July 2004 under the name Law 2421 Limited with registered number 5174075 as a private company limited by shares under the Act. The Company changed its name to Ceres Power Holdings Limited on 13 July 2004 and was re-registered as a public company on 16 November 2004. The liability of the members of the Company is limited.
- 2.2 The Company's registered office and principal place of business is at Unit 18, Denvale Trade Park, Haslett Avenue East, Crawley RH10 1SS.
- 2.3 The Company is the holding company of the following subsidiary company incorporated in England and Wales.

Name	Company number	Date of incorporation	Principal Activity
Ceres Power Limited	4222409	23 May 2001	Development of solid oxide fuel cell technology

The Company has no other subsidiaries.

#### 3. Share capital

- 3.1 On its incorporation, the authorised share capital of the Company was £1,000 comprising 1,000 ordinary shares of £1 each, of which one ordinary share of £1 each was issued.
- 3.2 On 13 July 2004 the following resolutions were passed:
- (a) the share capital of the Company was altered by the subdivision of all the issued and unissued ordinary shares of £1 each in the capital of the Company into 20,000 Ordinary Shares;
  - (b) the authorised share capital of the Company was increased from £1,000 to £5,000,000 by the creation of an additional 99,980,000 Ordinary Shares ranking pari passu in all respects of the existing Ordinary Shares.
- 3.3 As at 13 July 2004 the authorised share capital of the Company was £5,000,000 comprising 100,000,000 Ordinary Shares and the issued share capital of the Company was £1 comprising 20 Ordinary Shares.
- 3.4 On 3 September 2004 the Company issued 41,763,040 Ordinary Shares to the existing shareholders of Ceres in exchange for the entire issued share capital of Ceres. As at 3 September 2004 the issued share capital in the Company was £2,088,153 comprising 41,763,060 Ordinary Shares.

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3.5 On 15 November 2004 the following resolutions were passed:

- (a) in substitution of all existing authorities, the Directors were generally and unconditionally authorised pursuant to section 80 of the Act to exercise all the powers of the Company to allot relevant securities (as defined in section 80 of the Act) provided that the authority hereby granted shall be limited to:
- (i) the allotment and issue of up to a maximum of 20,000,000 Ordinary Shares pursuant to the Placing;
  - (ii) the allotment and issue of up to a maximum of 2,314,960 Ordinary Shares pursuant to the Warrants; and
  - (iii) the allotment otherwise than pursuant to sub-paragraphs (a) (i) and (ii) above of relevant securities up to an aggregate nominal amount representing 10 per cent. of all the allotted and fully paid share capital of the Company immediately following Admission;

for a period expiring (unless previously renewed or revoked by the Company in general meeting) on the date which is 15 months following Admission, or at the conclusion of the next Annual General Meeting of the Company following the date of the passing of this resolution if that shall occur sooner, but so that the Company may before such expiry make an offer or agreement which would or might require relevant securities to be allotted after such expiry and the Directors may allot relevant securities in pursuance of that offer or agreement notwithstanding that the authority conferred hereby has expired.

- (b) That, subject to the passing of the resolution described at (a) above:
- (i) section 89(1) of the Act shall not apply to the allotment of equity securities (as defined in section 94(2) of the Act) pursuant to the authority conferred by sub-paragraph (a)(i) to (a)(iii) above;
  - (ii) the directors be empowered to allot equity securities (as so defined) pursuant to the authority conferred by sub-paragraph (a)(i) to (a)(iii) above as if section 89(1) of the Act did not apply to such allotment; and

so that each element of such disapplication and power shall cease to have effect when the authority to which it relates is revoked or would (if renewed) expire but so that prior thereto the Company may make an offer or agreement which would or might require equity securities to be allotted thereafter and in such case the directors may allot equity securities in pursuance of that offer or agreement notwithstanding that such disapplication and/or power shall have ceased to have effect.

3.6 On Admission the authorised and issued share capital of the Company is expected to be as follows:

	Number	£
Authorised Ordinary Share capital	100,000,000	5,000,000
Issued and fully paid Ordinary Shares	55,096,393	2,754,820

3.7 Save as disclosed in the foregoing sub-paragraphs of this paragraph and save in respect of the Placing, the Warrants and the options granted under the Share Option Scheme:

- (a) no share or loan capital of the Company has since the date of incorporation been issued or agreed to be issued, or is now proposed to be issued fully or partly paid, for cash or any other consideration or has been purchased by the Company;

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- (b) no commissions, discounts, brokerages or other special terms have been granted by any Group Company in connection with the issue or sale of any share capital; and
- (c) no share or loan capital of any Group Company, is under option or has been agreed, conditionally or unconditionally, to be put under option.
- 3.8 The provisions of section 89(1) of the Act (which, to the extent not disappplied pursuant to section 95 of the Act) confer on shareholders rights of pre-emption in respect of the allotment of equity securities which are, or are to be, paid up in cash other than by way of allotment to employees under employee's share scheme (as defined in section 743 of the Act) and will apply to the authorised but unissued share capital of the Company except to the extent disappplied by the resolutions referred to in paragraph 3.5.
- 3.9 The Company has applied to CRESTCo Limited, the operator of CREST, for the Ordinary Shares to be admitted to CREST with effect from Admission. Accordingly, settlement of transactions in the Ordinary Shares following Admission may take place within the CREST system, if the relevant shareholders so wish.

CREST is a paperless settlement procedure enabling securities to be evidenced otherwise than by certificate and transferred otherwise than by written instruments. The Articles of Association of the Company permit the holding and transfer of Ordinary Shares in CREST.

CREST is a voluntary system and holders of Ordinary Shares who wish to receive and retain share certificates will be able to do so. Persons acquiring Ordinary Shares under the Placing may, however, elect to receive Ordinary Shares in uncertificated form if, but only if, that person is a "system member" (as defined in the Uncertificated Securities Regulations 2001) in relation to CREST.

Holders of existing Ordinary Shares will receive new share certificates in respect of the number of Ordinary Shares held by them on Admission. If existing shareholders wish to hold their Ordinary Shares in CREST they will need to follow the requisite CREST procedure for the dematerialisation of their shareholding.

It is anticipated that, where appropriate, share certificates will be despatched by 2 December 2004. Temporary documents of title will not be issued. Prior to despatch of definitive share certificates transfers will be certified against the register.

#### **4. Memorandum of Association**

The Memorandum of Association of the Company provides that the Company may act as the holding and co-ordinating company of the Group of which the Company is for the time being the holding company. The objects of the Company are set out in full in clause 4 of the Memorandum of Association of the Company.

#### **5. Articles of Association**

This paragraph 5 describes the material provisions of the Articles of Association. It is a description of significant rights and does not purport to be complete or exhaustive.

(a) *Votes of members*

- (i) Subject to the provisions of the Act and to any special rights or restrictions as to voting attached to any shares or class of shares or otherwise provided by these articles, on a show of hands every member who is present in person shall have one vote and on a poll every member who is present in person or by proxy shall have one vote for every share of which he is the holder.

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*Restriction on rights of members where calls outstanding*

- (ii) Unless the Board otherwise determines, no member shall be entitled to receive any dividend or to be present and vote at a general meeting or at any separate general meeting of the holders of any class of shares either personally or by proxy, or to be reckoned in a quorum, or to exercise any other right or privilege conferred by membership in respect of a share held by him in relation to meetings of the Company unless and until he shall have paid all calls or other sums presently due and payable by him, whether alone or jointly with any other person, to the Company.

(b) *Transfer of shares*

(i) *Form of transfer*

Subject to the preceding article and provisions in the articles regarding uncertificated shares, all transfers of certificated shares may be effected by transfer in writing in any usual or common form or in any other form acceptable to the Board and may be under hand only. The instrument of transfer shall be signed by or on behalf of the transferor and (except in the case of fully paid shares) by or on behalf of the transferee. In relation to both certificated and uncertificated shares, the transferor shall remain the holder of the shares concerned until the name of the transferee is entered in the Register in respect of such shares. All instruments of transfer which are registered may be retained by the Company.

(ii) *Right to refuse registration*

The Board may in its absolute discretion and without assigning any reason for its actions refuse to register any transfer of any certificated share which is not a fully paid share provided that the Board shall not refuse to register any transfer or renunciation of partly paid shares which are admitted to the Alternative Investment Market of the London Stock Exchange on the grounds that they are partly paid shares in circumstances where such refusal would prevent dealings in such shares from taking place on an open and proper basis.

*Other rights to decline registration*

The Board may decline to recognise any instrument of transfer relating to certificated shares unless the instrument of transfer:

- (A) is in respect of only one class of share;
- (B) is lodged at the Registered Office or such other place as the Board may appoint;
- (C) is accompanied by the relevant share certificate(s) and such other evidence as the Board may reasonably require to show the right of the transferor to make the transfer (and, if the instrument of transfer is executed by some other person on his behalf, the authority of that person so to do);
- (D) is duly stamped (if so required); and

In the case of a transfer to joint holders, the number of joint holders does not exceed four.

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(c) *Dividends*

(i) *Final dividends*

Subject to the provisions of the Act and of these articles, the Company may by ordinary resolution declare dividends to be paid to members according to their respective rights and interests but no such dividends shall exceed the sum recommended by the Board.

(ii) *Interim dividends*

In so far as in the opinion of the Board the profits of the Company justify such payments, the Board may declare and pay the fixed dividends on any class of shares carrying a fixed dividend expressed to be payable on fixed dates on the half-yearly or other dates prescribed for the payment of such dividends and may also from time to time declare and pay interim dividends on shares of any class of such sums and on such dates and in respect of such periods as it thinks fit. Provided the directors act in good faith they shall not incur any liability to the holders of shares conferring preferred rights for any loss they may suffer by the lawful payment of an interim dividend on any shares having deferred or non-preferred rights.

(iii) *Ranking of shares for dividend*

Unless and to the extent that the rights attached to any shares or the terms of issue of such shares otherwise provide, all dividends shall (as regards any shares not fully paid throughout the period in respect of which the dividend is paid) be apportioned and paid pro rata according to the sums paid on the shares during any portion or portions of the period in respect of which the dividend is paid. For the purposes of this article no sum paid on a share in advance of calls shall be treated as paid on the share.

(iv) *No dividend except out of profits*

No dividend shall be paid otherwise than out of profits available for distribution under the provisions of the Statutes.

(v) *No interest on dividends*

No dividend or other moneys payable on or in respect of a share shall bear interest as against the Company.

(vi) *Retention of dividends*

(A) The Board may retain any dividend or other moneys payable on or in respect of a share on which the Company has a lien, and may apply the same in or towards satisfaction of the debts, liabilities or obligations in respect of which the lien exists.

(B) The Board may retain the dividends payable upon shares in respect of which any person is under the provisions as to the transmission of shares hereinbefore contained entitled to become a member, or which any person is under those provisions entitled to transfer, until such person shall become a member in respect of such shares or shall transfer the same.

(vii) *Waiver of dividend*

The waiver in whole or in part of any dividend on any share by any document (whether or not executed as a deed) shall be effective only if such document is signed by the holder of such share (or the person becoming entitled to the

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share in consequence of the death, bankruptcy or mental disorder of the holder or by operation of law or any other event) and delivered to the Company and if or to the extent that the same is accepted as such or acted upon by the Company.

(viii) *Unclaimed dividend*

All dividends, interest or other sum payable and unclaimed for 12 months after having become payable may be invested or otherwise made use of by the Board for the benefit of the Company until claimed and the Company shall not be constituted a trustee in respect thereof. Any dividend unclaimed after a period of twelve years from the date the dividend became due for payment shall be forfeited and shall revert to the Company.

(ix) *Distribution in specie*

The Company may upon the recommendation of the Board by ordinary resolution direct payment of a dividend in whole or in part by the distribution of specific assets (and in particular of paid-up shares or debentures of any other company) and the Board shall give effect to such resolution. Where any difficulty arises in regard to such distribution, the Board may settle the same as it thinks expedient and in particular:

- (A) may issue fractional certificates;
- (B) may fix the value for distribution of such specific assets or any part of such specific assets;
- (C) may determine that cash payments shall be made to any member upon the footing of the value so fixed in order to adjust the rights of all members; and
- (D) may vest any such specific assets in trustees as may seem expedient to the Board.

(d) *Capitalisation of profits and reserves*

- (i) The Board may, with the sanction of an ordinary resolution of the Company, capitalise any sum standing to the credit of any of the Company's reserve accounts (including any share premium account, capital redemption reserve, or other undistributable reserve) or any sum standing to the credit of profit and loss account.
- (ii) Such capitalisation shall be effected by appropriating such sum to the holders of ordinary shares on the Register at the close of business on the date of the resolution (or such other date as may be specified in such resolution or determined as provided in such resolution) in proportion to their holdings of ordinary shares and applying such sum on their behalf in paying up in full unissued ordinary shares (or, subject to any special rights previously conferred on any shares or class of shares for the time being issued, unissued shares of any other class not being redeemable shares) for allotment and distribution credited as fully paid up to and amongst them in proportion to their holdings.
- (iii) The Board may do all acts and things considered necessary or expedient to give effect to any such capitalisation, with full power to the Board to make such provision as it thinks fit for any fractional entitlements which would arise on the basis aforesaid (including provisions whereby fractional entitlements are disregarded or the benefit of such fractional entitlements accrues to the Company rather than to the members concerned). The Board may authorise any

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person to enter on behalf of all the members interested into an agreement with the Company providing for any such capitalisation and matters incidental to such capitalisation and any agreement made under such authority shall be effective and binding on all concerned.

(e) *Share capital*

(i) *Variation of Rights*

Whenever the share capital of the Company is divided into different classes of shares, the special rights for the time being attached to any share or class of share in the Company may, subject to the provisions of the Statutes, be varied or abrogated either with the consent in writing of the holders of not less than three-quarters in nominal value of the issued shares of the class or with the sanction of an extraordinary resolution passed at a separate general meeting of the holders of the shares of the class (but not otherwise) and may be so varied or abrogated whilst the Company is a going concern or during or in contemplation of a winding-up. To every such separate general meeting all the provisions of these articles relating to general meetings of the Company and to the proceedings at such general meetings shall with necessary modifications apply, except that:

- (A) the necessary quorum shall be two persons holding or representing by proxy at least one-third in nominal value paid up of the issued shares of the class (but so that if at any adjourned meeting a quorum as defined above is not present, any one holder of any shares of the class present in person or by proxy shall be a quorum); and
- (B) any holder of shares of the class present in person or by proxy may demand a poll and every such holder shall on a poll have one vote for every share of the class held by him.

(ii) The preceding article shall apply to the variation or abrogation of the special rights attached to some only of the shares of any class as if each group of shares of the class differently treated formed a separate class the special rights of which are to be varied.

(iii) The special rights attached to any class of shares having preferential rights shall not, unless otherwise expressly provided by the terms of issue of that class of shares, be deemed to be varied:

- (A) by the creation or issue of further shares ranking as regards participation in the profits or assets of the Company in some or all respects equally with such shares but in no respect in priority to such shares;
- (B) by the purchase by the Company of any of its own shares (and the holding of any such shares as Treasury Shares); or
- (C) the Board resolving that a class of shares shall become, or the Operator of the relevant system permitting such class of shares to be, a participating security.

(iv) *Increase in share capital*

The Company may from time to time by ordinary resolution increase its capital by such sum to be divided into shares of such amounts as the resolution shall prescribe. All new shares shall be subject to the provisions of the Statutes and of these articles with reference to allotment, payment of calls, lien, transfer, transmission, forfeiture and otherwise.

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(v) *Consolidation, subdivision and cancellation*

The Company may from time to time by ordinary resolution:

- (A) consolidate and divide all or any of its share capital into shares of larger nominal value than its existing shares;
- (B) cancel any shares which, at the date of the passing of the resolution, have not been taken, or agreed to be taken, by any person and diminish the amount of its capital by the amount of the shares so cancelled;
- (C) subject to the provisions of the Statutes, sub-divide its shares, or any of them, into shares of smaller nominal value than is fixed by the memorandum of association and so that the resolution whereby any share is sub-divided may determine that, as between the shares resulting from the sub-division, any of them may have any preference or advantage or be subject to any restriction as compared to the others.

(vi) *Reduction or cancellation*

The Company may by special resolution reduce or cancel its share capital or any revaluation reserve or share premium account or any other reserve fund in any manner and with and subject to any confirmation or consent required by law and any rights for the time being attached to any shares.

(vii) *Purchase of own shares*

Subject to the provisions of the Statutes and any special rights for the time being attached to any shares, the Company may purchase or may enter into any contract under which it will or may purchase at any price, any of its own shares of any class (including any redeemable shares) and may hold (and sell) any of such shares as Treasury Shares. Any shares to be so purchased may (subject to any resolution of the Company in general meeting) be selected in any manner determined by the Board.

Where there are in issue convertible securities convertible into or carrying a right to subscribe for equity shares of a class proposed to be purchased, a separate meeting of the holders of the convertible securities must be held and their approval by extraordinary resolution obtained before the Company enters into any contract to purchase equity shares of the relevant class. Subject to this and notwithstanding anything to the contrary contained in these articles, the rights and privileges attached to any class of shares shall be deemed not to be altered or abrogated by anything done by the Company in pursuance of any resolution passed under the powers conferred by the preceding article.

(f) *Forfeiture and lien*

(i) *Notice on failure to pay a call*

If a member fails to pay in full any call or instalment of a call on the due date for payment of such call or instalment, the Board may at any time after the failure serve a notice on him or any person entitled to the shares by transmission requiring payment of so much of the call or instalment as is unpaid together with any interest which may have accrued on such call or instalment and any expenses incurred by the Company by reason of such non-payment.

The notice shall name a further day (being not fewer than seven days from the date of service of the notice) on or before which, and the place where, the payment required by the notice is to be made, and shall state that in the event

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of non-payment in accordance with such notice the shares on which the call was made will be liable to be forfeited.

(ii) *Forfeiture for non-compliance*

If the requirements of any such notice as is referred to in the preceding article are not complied with, any share in respect of which such notice has been given may at any time after the non compliance, before payment of all calls and interest and expenses due in respect of such share has been made, be forfeited by a resolution of the Board to that effect. Such forfeiture shall include all dividends declared in respect of the forfeited share and not actually paid before forfeiture. The Board may accept a surrender of any share liable to be forfeited under these articles.

(iii) *Notice on previous holder*

Where any share has been forfeited, notice of the forfeiture shall be served upon the person who was the holder of the share before forfeiture or, in the case of a person entitled to such share by transmission, upon such person (as the case may be). An entry recording the fact that notice of forfeiture has been given and that the share has been forfeited shall immediately be made in the Register in respect of such share. However, no forfeiture shall be invalidated in any manner by any omission or neglect to give such notice or make such entry.

(iv) *Disposal of forfeited shares*

A share forfeited or surrendered shall become the property of the Company and, subject to the Statutes may be sold, re-allotted or disposed of in any other way either to the person who was the holder of such share or entitled to such share before such forfeiture or surrender, or to any other person upon such terms and in such manner as the Board shall think fit and at any time before a sale, re-allotment or other disposition the forfeiture may be annulled by the Board on such terms as it thinks fit. The Board may, if necessary, authorise some person to transfer a forfeited or surrendered share to any such other person.

(v) *Holder to remain liable despite forfeiture*

A member whose shares have been forfeited or surrendered shall cease to be a member in respect of the shares (and shall surrender to the Company for cancellation the certificate for such shares) but shall notwithstanding the forfeiture or surrender remain liable to pay to the Company all moneys which at the date of forfeiture or surrender were presently payable by him to the Company in respect of the shares with interest on such shares at such rate (not exceeding 15 per cent. per annum) as the Board may determine from the date of forfeiture or surrender until payment. The Board may at its absolute discretion enforce payment without any allowance for the value of the shares at the time of forfeiture or surrender or waive payment in whole or in part.

(vi) *Lien on partly-paid shares*

The Company shall have a first and paramount lien on every share (not being a fully paid share) for all moneys (whether presently payable or not) called or payable at a fixed time in respect of such share. The Board may waive any lien which has arisen and may resolve that any share shall for some limited period be exempt wholly or partially from the provisions of this article.

(vii) *Sale of shares subject to lien*

The Company may sell in such manner as the Board thinks fit any share on which the Company has a lien, but no sale shall be made unless some sum in

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respect of which the lien exists is presently payable nor until the expiration of fourteen days after a notice in writing stating and demanding payment of the sum presently payable and giving notice of intention to sell in default shall have been given to the holder for the time being of the share or the person entitled to such share by reason of his death, bankruptcy, liquidation or otherwise.

(viii) *Proceeds of sale of shares subject to lien*

The net proceeds of sale of shares subject to a lien (after payment of the costs of such sale) shall be applied in or towards payment or satisfaction of the debts or liabilities in respect of which the lien exists so far as the same are presently payable and any residue shall (subject to a like lien for liabilities not presently payable as existed upon the shares prior to the sale) be paid to the person entitled to the shares at the time of the sale. For giving effect to any such sale the Board may authorise some person to transfer the shares sold to, or in accordance with the directions of, the purchaser.

(ix) *Evidence of forfeiture*

A statutory declaration in writing that the declarant is a director or the Secretary and that a share has been duly forfeited or surrendered or sold to satisfy obligations covered by a lien of the Company on a date stated in the declaration shall be conclusive evidence of the facts stated in the declaration as against all persons claiming to be entitled to the share. Such declaration shall (subject to the execution of a transfer if the same be required) constitute a good title to the share and the person to whom the share is sold, re-allotted or disposed of shall be registered as the holder of the share and shall be discharged from all calls made prior to such sale or disposition and shall not be bound to see to the application of the purchase moneys (if any) nor shall his title to the share be affected by any irregularity or invalidity in the proceedings relating to the forfeiture, surrender, sale, re-allotment or other disposal of the share.

The forfeiture of a share shall extinguish at the time of forfeiture all interest in and claims and demands against the Company in respect of the share and all other rights and liabilities incidental to the share as between the holder whose share is forfeited and the Company, except only such of those rights and liabilities as are by these articles expressly saved, or as are by the Act given or imposed in the case of past members.

(g) *Directors*

Subject as provided in these articles the directors shall not be fewer than two nor more than ten in number. The Company may by ordinary resolution from time to time vary the minimum number and/or maximum number of directors.

(i) *Share qualification*

A director shall not be required to hold any shares of the Company by way of qualification. A director who is not a member of the Company shall nevertheless be entitled to attend and speak at shareholders' meetings.

(ii) *Directors' fees*

The ordinary remuneration of the directors shall from time to time be determined by the Board except that such remuneration shall not exceed £750,000 per annum in aggregate or such higher sum as may from time to time be determined by ordinary resolution of the Company and shall (unless such

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resolution otherwise provides) be divisible among the directors as the Board may agree, or, failing agreement, equally, except that any director who shall hold office for part only of the period in respect of which such remuneration is payable shall be entitled only to rank in such division for a proportion of remuneration related to the period during which he has held office.

(iii) *Other remuneration of directors*

Any director who holds any executive office (including for this purpose the office of chairman or deputy chairman whether or not such office is held in an executive capacity), or who serves on any committee of the Board, or who otherwise performs services which in the opinion of the Board are outside the scope of the ordinary duties of a director, may be paid such extra remuneration by way of salary, commission or otherwise or may receive such other benefits as the Board may determine.

(iv) *Directors' expenses*

The Board may repay to any director all such reasonable expenses as he may properly incur in attending and returning from meetings of the Board or of any committee of the Board or shareholders' meetings or otherwise in connection with the performance of his duties as a director of the Company.

(v) *Directors' pensions and other benefits*

The Board shall have power to pay and agree to pay gratuities, pensions or other retirement, superannuation, death or disability benefits to (or to any person in respect of) any director or ex-director and for the purpose of providing any such gratuities, pensions or other benefits to contribute to any scheme or fund or to pay premiums.

(vi) *Directors' interest in contracts*

A director may be party to or in any way interested in any contract or arrangement or transaction to which the Company is a party or in which the Company is in any way interested and he may hold and be remunerated in respect of any office or place of profit (other than the office of auditor) under the Company or any other company in which the Company is in any way interested and he (or any firm of which he is a member) may act in a professional capacity for the Company or any such other company and be remunerated for his acts and in any such case (save as otherwise agreed by him) he may retain for his own absolute use and benefit all profits and advantages accruing to him under or in consequence of his acts and no such contract, arrangement or transaction shall be avoided on the grounds of any such interest or benefit.

(vii) *Disclosure of interests to the Board*

A director who, to his knowledge, is in any way (directly or indirectly) interested in any contract, arrangement or transaction with the Company shall declare the nature of his interest at the meeting of the Board at which the question of entering into the contract, arrangement or transaction is first considered, if he knows his interest then exists or, in any other case, at the first meeting of the Board after he knows that he is or has become so interested. For the purposes of this article:

- (A) a general notice given to the Board by a director that he is to be regarded as having an interest (of the nature and extent specified in the notice) in any contract, transaction or arrangement in which a specified

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person or class of persons is interested shall be deemed to be a sufficient disclosure under this article in relation to such contract, transaction or arrangement; and

- (B) an interest of which a director has no knowledge and of which it is unreasonable to expect him to have knowledge shall not be treated as an interest of his.

(viii) *Appointment of executive directors*

The Board may from time to time appoint one or more of their body to be the holder of any executive office (including, where considered appropriate, the office of chairman or deputy chairman) on such terms and for such period as they may (subject to the provisions of the Statutes) determine and, without prejudice to the terms of any contract entered into in any particular case, may at any time revoke or vary the terms of any such appointment.

(ix) *Ceasing to be a director*

The appointment of any director to the office of chairman or deputy chairman or chief executive or managing or joint managing or deputy or assistant managing director shall automatically determine if he ceases to be a director but without prejudice to any claim for damages for breach of any contract of service between him and the Company. The appointment of any director to any other executive office shall not automatically determine if he ceases from any cause to be a director, unless the contract or resolution under which he holds office shall expressly state otherwise, in which event such determination shall be without prejudice to any claim for damages for breach of any contract of service between him and the Company.

(x) *Powers of executive directors*

The Board may entrust to and confer upon any director holding any executive office any of the powers exercisable by them as directors upon such terms and conditions and with such restrictions as they think fit, and either collaterally with or to the exclusion of their own powers, and may from time to time revoke, withdraw, alter or vary all or any of such powers.

(h) *Appointment and retirement of directors*

(i) *Power of Company to appoint directors*

Subject to the provisions of these articles, the Company may by ordinary resolution appoint any person who is willing to act to be a director, either to fill a vacancy or as an addition to the existing Board, but so that the total number of directors shall not at any time exceed any maximum number fixed by or in accordance with these articles.

(ii) *Power of Board to appoint directors*

Without prejudice to the power of the Company in general meeting pursuant to any of the provisions of these articles to appoint any person to be a director, the Board may appoint any person who is willing to act to be a director, either to fill a vacancy or as an addition to the existing Board, but so that the total number of directors shall not at any time exceed any maximum number fixed by or in accordance with these articles. Any director so appointed must retire from office at, or at the end of, the next following annual general meeting and will then be eligible to stand for election but shall not be taken into account in determining the directors or the number of directors who are to retire by rotation at that meeting.

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(iii) *Age limit*

Any provision of the Statutes which, subject to the provisions of these articles, would have the effect of rendering any person ineligible for appointment or election as a director or liable to vacate office as a director on account of his having reached any specified age or of requiring special notice or any other special formality in connection with the appointment or election of any director over a specified age, shall not apply to the Company.

(iv) *Retirement by rotation*

At each annual general meeting one-third of the directors for the time being shall retire from office by rotation (or, if their number is not a multiple of three, the number nearest to but not exceeding one-third) shall so retire provided always that all directors must be subject to re-election at intervals of no more than three years.

(v) *Selection of directors to retire by rotation*

The directors to retire by rotation shall include (so far as necessary to obtain the number required) any director who is due to retire at the meeting by reason of age or who wishes to retire and not to offer himself for re-election. Any further directors so to retire shall be those of the other directors subject to retirement by rotation who have been longest in office since their last re-election and so that as between persons who became or were last re-elected directors on the same day those to retire shall, unless they otherwise agree among themselves, be determined by lot together with those who in the absence of any such retirement would continue in office for a period in excess of three years. A retiring director shall be eligible for re-election.

(vi) *Re-election of retiring directors*

The Company at the meeting at which a director retires under any provision of these articles may by ordinary resolution fill the office being vacated by electing to that office the retiring director or some other person eligible for election. In default the retiring director shall be deemed to have been re-elected except in any of the following cases:

- (A) where at such meeting it is expressly resolved not to fill such office or a resolution for the re-election of such director is put to the meeting and lost;
- (B) where such director has given notice in writing to the Company that he is unwilling to be re-elected;
- (C) where such director has attained any retiring age applicable to him as director; or
- (D) where the default is due to the moving of a resolution in contravention of the next following article.

(vii) *Election of two or more directors*

A resolution for the election of two or more persons as directors by a single resolution shall not be moved at any general meeting unless a resolution that it shall be so moved has first been agreed to by the meeting without any vote being given against it; and any resolution moved in contravention of this provision shall be void.

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(viii) *Timing of retirement*

The retirement of a director at any general meeting shall not have effect until the conclusion of the meeting except where a resolution is passed to elect some other person in place of the retiring director or a resolution for his re-election is put to the meeting and lost and accordingly a retiring director who is re-elected or deemed to have been re-elected will continue in office without a break.

(ix) *Nomination of Director for election*

No person other than a director retiring at the meeting shall, unless recommended by the Board for election, be eligible for election as a director at any general meeting unless not fewer than seven nor more than 42 days (inclusive of the date on which the notice is given) before the date appointed for the meeting there shall have been lodged at the Registered Office notice in writing signed by some member (other than the person to be proposed) duly qualified to attend and vote at the meeting for which such notice is given of his intention to propose such person for election and also notice in writing signed by the person to be proposed of his willingness to be elected.

(x) *Vacation of office*

The office of a director shall be vacated if:

- (A) he ceases to be a director by virtue of any provision of the Statutes or he becomes prohibited by law from being a director;
- (B) he becomes bankrupt, has an interim receiving order made against him, makes any arrangement or compounds with his creditors generally or applies to the court for an interim order under section 253 of the Insolvency Act 1986 in connection with a voluntary arrangement under that act;
- (C) he is, or may be suffering from mental disorder and either:
  - he is admitted to hospital in pursuance of an application for admission for treatment under the Mental Health Act 1983 or, in Scotland, an application for admission under the Mental Health (Scotland) Act 1960; or
  - an order is made by a court having jurisdiction (whether in the United Kingdom or elsewhere) in matters concerning mental disorder for his detention or for the appointment of a receiver, curator bonis or other person to exercise powers with respect to his property or affairs;
  - he resigns by writing under his hand left at the Registered Office or he offers in writing to resign and the Board resolves to accept such offer;
  - he shall for more than six consecutive months have been absent without permission of the Board from meetings of the Board held during that period and the Board resolves that his office be vacated; or
  - notice stating he is removed from office as a director is served upon him signed by all his co-directors who must account to the members at the next general meeting of the Company. If a

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director holds an appointment to an executive office which automatically determines on his removal from office under this or the preceding sub-paragraph such removal shall be deemed an act of the Company and shall have effect without prejudice to any claim for damages for breach of any contract of service between him and the Company.

(xi) *Removal of director*

The Company may in accordance with and subject to the provisions of the Statutes by ordinary resolution of which special notice has been given remove any director from office (notwithstanding any provision of these articles or of any agreement between the Company and such director, but without prejudice to any claim he may have for damages for breach of any such agreement) and elect another person in place of a director so removed from office. Any person so elected shall be treated for the purpose of determining the time at which he or any other director is to retire by rotation as if he had become a director on the day on which the director in whose place he is elected was last elected a director. In default of such election the vacancy arising upon the removal of a director from office may be filled as a casual vacancy.

(xii) *Resolution as to vacancy conclusive*

A resolution of the Board declaring a director to have vacated office under the terms of article 19.11 shall be conclusive as to the fact and grounds of vacation stated in the resolution.

(i) *Meetings and proceedings of directors*

(i) *Convening of meetings of directors*

Subject to the provisions of these articles the Board may meet together for the despatch of business, adjourn and otherwise regulate their proceedings as they think fit. At any time any director may, and the Secretary at the request of a director shall, summon a meeting of the Board. Notice of a Board meeting shall be deemed to be properly given to a director if it is given to him personally or by word of mouth or sent in writing to him at his last known address or any other address given by him to the Company for that purpose. It shall not be necessary to give notice of a meeting of the Board to any director for the time being absent from the United Kingdom. Any director may waive notice of any meeting and any such waiver may be retrospective.

(j) *Borrowing powers*

The Board may exercise all the powers of the Company to borrow money, to give guarantees and to mortgage or charge its undertaking, property and assets (present and future) and uncalled capital, and to issue debentures and other securities, whether outright or as collateral security for any debt, liability or obligation of the Company or of any third party.

## **6. Directors' and Other Interests**

### **6.1 *Directors' and other significant interests in the Company's share capital***

- (a) At the date of this document and immediately following Admission the interests of the Directors (including persons connected with them within the meaning of section 346 of the Act) in the issued share capital of the Company, which have been notified or will be notifiable to the Company pursuant to sections 324 and 328 of the Act and which are or will be shown in the register of Directors' interests maintained under section 325 of the Act, are and will be as follows:

Director	At the date of this document		Immediately following Admission	
	No. of Ordinary Shares	% of issued share capital	No. of Ordinary Shares	% of issued share capital
<b>Directors</b>				
Philip Holbeche <sup>(1)</sup>	716,400	1.7	716,400	1.3
Dr. Peter Bance	-	-	-	-
Harry Fitzgibbons	50,000	0.1	150,000	0.3
Prof Nigel Brandon <sup>(2)</sup>	1,500,000	3.6	1,250,000	2.3
John Gunn <sup>(3)</sup>	735,280	1.8	485,280	0.9

*Notes:*

- (1) 20,000 of the Ordinary Shares in which Philip Holbeche is interested are held by his wife.  
(2) Of these Ordinary shares 250,000 are to be sold in the Placing.  
(3) 367,640 of the Ordinary Shares in which John Gunn is interested are held by his wife. In addition, John Gunn is a director and shareholder of Ludgate 181 (Jersey) Limited, which holds 1,151,550 Ordinary Shares. Of the Ordinary Shares in which John Gunn is interested a total of 250,000 Ordinary Shares are being sold in the Placing.

- (b) The Directors hold the following warrants to subscribe for Ordinary Shares:

Directors	Warrant Instrument	Number of Ordinary Shares	Exercise Price (£)	Exercise Period
Philip Holbeche	2007 Warrant Instrument	367,640	0.408	03/09/04 - 31/01/07
Dr. Peter Bance	-	-	-	-
Prof Nigel Brandon	-	-	-	-
Harry Fitzgibbons	-	-	-	-
John Gunn <sup>(1)</sup>	2007 Warrant Instrument	122,500	0.408	03/09/04 - 31/01/07

*Note:*

- (1) John Gunn is a director and shareholder of Scheidegg Limited, which holds 122,640 warrants, and also a director and shareholder of Crossbow Capital LLP, which holds 207,513 warrants. These warrant holdings are both under the 2007 Warrant Instrument.

- (c) The Directors hold the following options over Ordinary Shares under the Share Option Scheme:

Director	Number of Ordinary Shares	Approved/Unapproved EMI scheme <sup>(1)</sup>	Exercise Price	Exercise Period <sup>(2)</sup>
Philip Holbeche	480,000	Unapproved	£0.30	Note 2 - 28/8/2013
	166,660	Approved	£0.60	Note 2 - 29/4/2014
	33,340	Unapproved	£0.60	Note 2 - 29/4/2014
Dr. Peter Bance	434,780	Approved	£0.30	Note 2 - 17/4/2013
	1,182,620	Unapproved	£0.30	Note 2 - 17/4/2013
	500,000	Unapproved	£0.30	Note 2 - 28/8/2013
	200,000	Unapproved	£0.60	Note 2 - 29/4/2014
Prof Nigel Brandon	150,000	Unapproved	£0.30	Note 2 - 28/8/2013
	200,000	Unapproved	£0.60	Note 2 - 29/4/2014
Harry Fitzgibbons	-	-	-	-
John Gunn	-	-	-	-

*Notes:*

- (1) Certain options are unapproved because they were granted in excess of the relevant directors' personal EMI limit.  
(2) The options become exercisable on Admission or at six monthly intervals over a period of three years, the latter being conditional on meeting designated personal and corporate milestones.

- (d) As at the date of this document and before Admission so far as the Directors are aware, the only persons who are interested in more than 3 per cent. of the shares (other than the Directors) in the Company are as follows:

Shareholder	Number of Ordinary Shares	% of issued share capital
Imperial FF&P Gordon House LLP	6,000,000	14.4
Continental Visions International Limited <sup>(1)</sup>	3,218,630	7.7
RAB Europe Fund Limited	3,000,000	7.2
BCHS Variation Trust	2,750,000	6.6
SP Angel (Nominees) Ltd <sup>(2)</sup>	2,279,510	5.5
JPMIB Nominees Limited <sup>(3)</sup>	1,697,898	4.1
Carbon Trust Investments Ltd <sup>(4)</sup>	1,666,670	4.0
Professor John Kilner	1,510,000	3.6
Professor Alan Atkinson	1,500,000	3.6
Rose Nominees Limited A/C 29891 <sup>(5)</sup>	1,470,580	3.5
NPI Ventures Limited <sup>(6)</sup>	1,376,300	3.3

*Notes:*

- (1) Also holds warrants under the 2007 Warrant Instrument to subscribe for 350,000 Ordinary Shares at a price of £0.408 per Ordinary Share exercisable on or before 31 January 2007.
- (2) Also holds warrants under the 2008 Warrant Instrument to subscribe for 69,280 Ordinary Shares at a price of £0.70 per Ordinary Share exercisable on or before 18 December 2008.
- (3) Also holds warrants under the 2008 Warrant Instrument to subscribe for 169,790 Ordinary Shares at a price of £0.70 per Ordinary Share exercisable on or before 18 December 2008.
- (4) Also holds warrants under the 2008 Warrant Instrument to subscribe for 166,670 Ordinary Shares at a price of £0.70 per ordinary Share exercisable on or before 18 December 2008.
- (5) Also holds warrants under the 2008 Warrant Instrument to subscribe for 83,340 Ordinary Shares at a price of £0.70 per Ordinary Share exercisable on or before 18 December 2008.
- (6) Also holds warrants under the 2008 Warrant Instrument to subscribe for 41,670 Ordinary Shares at a price of £0.70 per ordinary Share exercisable on or before 18 December 2008.
- (e) As at the date of this document and upon Admission, neither the Directors nor any member of a Director's family (which, in relation to this paragraph (e) means a spouse, any child where such is under the age of 18 years, any trust in which such individuals are trustees or beneficiaries and any company over which they have control or more than 20 per cent. of its voting or equity rights in general meeting, but excluding any employee share or pension scheme where such individuals are beneficiaries rather than trustees) held any financial product whose value in whole or in part is determined directly or indirectly by reference to the price of Ordinary Shares.
- (f) Save as described above the Directors are not aware of any person who, directly or indirectly, jointly or severally, exercises or could exercise control over the Company.

## 6.2 *Directors' remuneration and service agreements*

- (a) The aggregate remuneration, benefits in kind and gains made on the exercise of share options of the Directors of Ceres in respect of the financial period ended 30 June 2004 was £322,893.
- (b) The aggregate remuneration and benefits in kind of the Directors of the Company in respect of the financial year ending 30 June 2005 under the arrangements contemplated in this document is expected to be approximately £603,000.
- (c) Philip Holbeche entered into a new service agreement with the Company dated 17 November 2004. This agreement confirms his appointment as Chairman. The agreement can be terminated upon 12 months' notice in writing by either party.

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Philip Holbeche's basic remuneration is £125,000 per annum. The agreement includes usual covenants prohibiting Philip Holbeche from carrying on a competitive business for a period of six months following termination and from soliciting employees or customers for a period of six months following termination.

- (d) Peter Bance entered into a new service agreement with the Company dated 17 November 2004. This agreement confirms his appointment as Chief Executive Officer. The agreement can be terminated upon 12 months notice in writing by either party. Peter Bance's basic remuneration is £140,000 per annum. The agreement includes usual covenants prohibiting Peter Bance from carrying on a competitive business for a period of six months following termination or from soliciting customers or employees for a period of six months following termination.
- (e) Professor Nigel Brandon entered into a new service agreement with the Company dated 17 November 2004. The agreement confirms his appointment as Chief Technical Officer. The agreement can be terminated upon 12 months notice in writing by either party. Professor Nigel Brandon's basic remuneration is £50,000 per annum. The agreement includes usual covenants prohibiting Professor Nigel Brandon from carrying on a competitive business for a period of six months following termination and soliciting employees or customers for a period of six months following termination.
- (f) Harry Fitzgibbons entered into a letter of appointment with the Company dated 17 November 2004. This letter confirms his appointment as a non-executive director of the Company. The appointment can be terminated upon 1 months' notice in writing by either party. Harry Fitzgibbons is entitled to a basic fee of £24,000 per annum.
- (g) John Gunn entered into a letter of appointment with the Company dated 17 November 2004. This letter confirms his appointment as a non executive director of the Company. The agreement can be terminated upon 1 months' notice in writing by either party. John Gunn is entitled to a basic fee of £24,000 per annum.
- (h) Subject to and conditional upon Admission, Philip Holbeche, Peter Bance and Professor Nigel Brandon will be entitled to bonuses of £84,000, £96,000, and £60,000 respectively.
- (i) Following Admission, there will be no other existing or proposed service contracts or contracts for services between any of the Directors and any member of the Group.
- (j) Save as disclosed above, there are no service agreements or agreements for services existing or proposed between the Directors and any member of the Group which are not terminable within one year by the relevant company without payment of compensation (other than statutory compensation).
- (k) There is no arrangement under which any Director has agreed to waive future emoluments nor has there been any waiver of emoluments during the financial year immediately preceding the date of this document.

Save as set out in this paragraph 6.2, the Directors do not have other benefits.

### 6.3 *Loans and guarantees*

There are no loans or guarantees provided by any member of the Group for the benefit of any Director.

### 6.4 *Directors' interests in transactions*

No director has or has had any interest in any transaction which is of an unusual nature, contains unusual terms or is significant in relation to the business of the Group and which was effected during the current or immediately preceding financial year or in any earlier financial year and remains in any respect outstanding or unperformed.

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6.5 *Directorships*

- (a) The Directors hold, and have previously held during the five years preceding the date of this document, the following directorships or partnership

<b>Name</b>	<b>Company/Partnerships</b>	<b>Position still held</b>
Philip Holbeche	The Company	Yes
	Ceres Power Limited	Yes
	On Board Info Limited	No
	Action Computer Supplies Holdings plc	No
Dr Peter Bance	The Company	Yes
	Ceres Power Limited	Yes
Prof Nigel Brandon	The Company	Yes
	Ceres Power Limited	Yes
Harry Fitzgibbons	The Company	Yes
	Ceres Power Limited	Yes
	Amber Logic Limited	No
	Kryukov Productions Limited	No
	Conduit Ventures (Founder Partner) Limited	Yes
	Restec Laboratories Limited	No
	HATT II General Partner Limited	Yes
	AFA Systems Plc	No
	Top Technology Ventures Limited	Yes
	Anglo Russian Opera & Ballet Trust	No
	HATT III General Partner Limited	Yes
	Capteur Sensors and Analysers Limited	No
	The Prince of Wales International Business Leaders Forum	Yes
	Virtual Access Plc	No
	TTV IV G.P Limited	Yes
	Virtual Access (UK) Limited	No
	Conduit Ventures Limited	Yes
	Trafficmaster Plc	No
	Conduit Ventures (General Partner) Limited	Yes
	Johnson Matthey Plc	No
Dione Plc	No	
IP2IPO Group Plc	No	
John Gunn	The Company	Yes
	Ceres Power Limited	Yes
	Wengen Limited	Yes
	Barnham Broom Limited	Yes
	Scheidegg Limited	Yes
	Daveney Limited	No
	XPO Network Interactive Limited	No
	DAT Enterprises Limited	Yes
	LBM Direct Marketing Limited	No
	Corac Group Plc	Yes
	Trilateral Group Limited	Yes
	Hiflux Limited	Yes
	Solphen Group Plc	Yes
	Solphen Limited	Yes
Ludgate Investments Limited	Yes	

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<b>Name</b>	<b>Company/Partnership</b>	<b>Position still held</b>
John Gunn	Blakedew 380 Limited	Yes
<i>(continued)</i>	West 175 Media Group Inc	Yes
	West 175 Media Limited	Yes
	Ashley House Plc	Yes
	Trafford Carpets (Manchester) Limited	No
	Witlecraft Limited	No
	Trafford Carpets (Bradford) Limited	No
	Pavilion Holdings Plc	No
	Cabledown Limited	No
	The California Wine Company (UK) Limited	No
	The California Wine Company Inc	Yes
	Miller Brazil (Marketing Consultants) Limited	No
	Ludgate 181 PLC	No
	Ludgate 181 (Jersey) Ltd	Yes
	XPO Network Limited	No
	I-Spire Plc	No
	Christows Group Limited	No
	The Evolution Group Plc	No
	MEC International Limited	No
	JD Participations Limited	No
	The Turbo Genset Company Limited	No
	Turbo Genset Inc	Yes
	Vert-ECO Group plc	Yes
	Crossbow Capital LLP	Yes

- (b) Save as disclosed above, none of the Directors has been a director or partner at any time in the previous five years. None of the Directors has any unspent convictions in respect of indictable offences. None of the Directors has been a bankrupt or entered into an individual voluntary arrangement. None of the Directors was a partner of any partnership at the time of or within 12 months of any compulsory liquidation, administration or partnership voluntary arrangement. None of the Directors has owned an asset over which a receiver has been appointed nor has any of the Directors been a partner of any partnership at the time of or within 12 months of receivership of any assets of the partnership.
- (c) Mr Gunn was an executive director at the time of winding up proceedings occurring of British & Commonwealth Holdings plc (“B&C”). Mr Gunn was appointed Chief Executive of B&C in October 1986 and Executive Chairman in March 1987. Following the collapse of B&C as a result of a takeover of Atlantic Computers plc (“Atlantic”), inspectors were appointed by the Secretary of State for Trade and Industry pursuant to Section 432(2) of the Act to investigate the affairs of Atlantic, Atlantic Computer Systems plc (“Atlantic Systems”) and B&C. The inspectors reported to the Secretary of State in April 1994 and their report was published in July 1994. This report included certain criticisms of Mr Gunn’s actions as a director of B&C and other companies within the group. These criticisms included criticism of Mr Gunn for approving the annual accounts of each of Atlantic and B&C for 1988 at a time when the possible existence of significant contingent liabilities within Atlantic and B&C respectively, had already emerged and for not drawing this to the attention of each company’s auditors; for failing to inform the whole of the B&C board of the possible contingent liabilities within Atlantic as soon as he became aware of them; and for allowing the interim statement of B&C for the six months ended June 1989 to be issued with misleading content. These criticisms were refuted by Mr Gunn.

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Following publication of the report, the Secretary of State commenced proceedings against Mr Gunn under Section 8 of the Company Directors Disqualification Act 1986, on the basis that the Inspector's report demonstrated an unfitness to act as a director of a company.

These proceedings culminated in a trial in the High Court of Justice conducted throughout January to March 1998. The judgement found no culpability in Mr Gunn's relevant conduct as a director of B&C, Atlantic and Atlantic Systems.

- (d) Save as mentioned, there have been no public criticisms of any of the Directors by any statutory or regulatory authority (including recognised professional bodies) and none of the directors has ever been disqualified by a court from acting as a director of a company or from acting in the management or conduct of the affairs of any company.
- (e) Save as set out below, none of the Directors was a director of any company at the time of or within 12 months preceding any receivership, compulsory liquidation, creditors voluntary liquidation, administration, company voluntary arrangement or any composition or arrangements with its creditors generally or any class of its creditors.

Director	Name of Company	Event	Date
Philip Holbeche	On Board Info Limited	Creditors Voluntary Liquidation	02/07/2002
Harry Fitzgibbons	Virtual Access Plc	Creditors Voluntary Liquidation	21/11/2003
	Virtual Access (UK) Limited	Creditors Voluntary Liquidation	21/11/2003
John Gunn	XPO Network Interactive Limited	Creditors Voluntary Liquidation	06/09/2002
	XPO Network Limited	Creditors Voluntary Liquidation	06/09/2002
	Ludgate 181 plc	Members Voluntary Liquidation	27/03/2002
	B&C Group Management Limited	Company Voluntary Arrangement	11/01/2003
	ABACO Investments Limited	Company Voluntary Arrangement	26/04/1991

## 7. Share Option Schemes

### *General*

The Company has established the Scheme in order to enable employees and executive directors of the Group to acquire Ordinary Shares.

The Scheme was adopted by the Company on 14 July 2004 and there are outstanding options over 6,954,040 Ordinary Shares under the Scheme.

The Company does not operate any share option schemes other than the Scheme.

### *Administration*

The Company's Remuneration Committee or another duly authorised committee of the board (the "Committee"), or the trustee of an employee benefit trust which grants options under the terms of the Scheme, is responsible for administering the Scheme.

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The Scheme is a qualifying scheme under Schedule 5 Income Tax (Earnings and Pensions) Act 2003 (formerly Schedule 14 Finance Act 2000) (“Schedule 5”).

*Grant of options and eligibility*

The Committee may grant qualifying options to acquire Ordinary Shares in the Company to any employees and directors of the Company and those of its subsidiaries permitted by Schedule 5 who devote at least 25 hours per week or 75 per cent. of their working time to the Company. Options are granted free of charge and are non-transferable.

*Period for the grant of options*

Options may be granted at such times as the Board decides.

*Exercise price*

The exercise price per Ordinary Share is determined by the Committee. Where options are to be satisfied by the issue of New Ordinary Shares the exercise price may not be less than the nominal value of such New Ordinary Shares.

*Performance Test*

The Committee may impose an objective condition (the “Performance Test”) on the exercise of options. The Performance Test may be amended or waived if events occur which cause the Committee to consider that the Performance Test provides a materially less effective incentive than it did at the date of grant, or if it is no longer appropriate following the occurrence of any event involving the Company, any associated company or an optionholder, provided that the amended Performance Test is no more difficult to satisfy than the original Performance Test.

*Individual limits*

An individual’s overall participation is limited so that the aggregate market value at the date of grant of the shares over which options have been granted to him under schemes satisfying the requirements of Schedule 5 or approved by the Inland Revenue under Schedule 4 Income Tax (Earnings and Pensions) Act 2003 cannot exceed £100,000 from time to time.

*Scheme limits*

The number of Ordinary Shares issuable pursuant to options granted under the Scheme, when aggregated with the number of Ordinary Shares issued or issuable pursuant to all rights granted under any other employees’ share scheme within the previous period of ten years, may not exceed 15 per cent. of the Company’s issued and to be issued ordinary share capital (including Shares to be issued pursuant to such options) at the date of grant.

*Exercise and lapse of options*

*General position*

An option is normally exercisable between the date so specified by the Committee in the option certificate and the tenth anniversary of the date of grant, provided any Performance Test has been satisfied.

*Special circumstances*

Options will normally lapse on cessation of employment except in particular situations such as redundancy, injury, ill health or disability, or where the Committee exercises its discretion in the optionholder’s favour.

*Exchange of options on a takeover*

In the event of a takeover, a participant may be permitted to exchange his options for options over shares in the acquiring company. If no such offer is made, options may be exercised. The satisfaction of any Performance Test may not be required if the Committee so decides.

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### *Variations of Share Capital*

On certain variations of the ordinary share capital of the Company the Committee may adjust the exercise price and the number of Ordinary Shares comprised in existing options.

### *Amendment*

The board of Directors may amend the Scheme from time to time.

### *Final grant of options*

No option may be granted after the tenth anniversary of the adoption of the Scheme.

## **8. Premises**

8.1 The following properties are occupied by the Group:

<b>Location</b>	<b>Tenure</b>	<b>Current Annual Rent</b>	<b>Lease Date</b>	<b>Expiry Date</b>
Unit 17, Denvale Trade Park, Haslett Avenue East, Crawley	Leasehold from 10 March 2004 to 23 June 2017	£45,000	10 March 2004	23 June 2017
Unit 18, Denvale Trade Park, Haslett Avenue East, Crawley	Leasehold from 24 June 2002 to 23 June 2017	£44,990	31 March 2003	23 June 2017

## **9. Material Contracts**

9.1 The following contracts, not being contracts entered into in the ordinary course of business, have been entered into by members of the Group and are, or may be, material or have been entered into by any member of the Group at any time and contain a provision under which any member of the Group has any obligation which is material to the Group as at the date of this document:

- (a) Under the Placing Agreement, Numis has agreed to use reasonable endeavours to procure subscribers for the Placing Shares. The Placing Agreement is conditional *inter alia* on Admission occurring no later than 8.00 a.m. on 25 November 2004 or such later date as the Company and Numis may agree (being in any event not later than 8.00 a.m. on 2 December 2004). The Placing Agreement provides for the payment to Numis of a corporate finance retainer in the sum of £75,000 together with a fee in the sum of either (a) £200,000 in the event that the aggregate value of the Placing Shares at the Issue Price is less than £10 million or (b) £300,000 in the event that the aggregate value of the Placing Shares at the Issue Price is equal to or greater than £10 million. In addition, the Company and the Selling Shareholders shall pay to Numis (a) where the aggregate value of the Placing Shares at the Issue Price is equal to or less than £15 million, a commission of 4 per cent. of such aggregate value, or (b) where the aggregate value of the Placing Shares at the Issue Price is greater than £15 million but the equal to or less than £22.5 million, a commission of 4 per cent. on the first £15 million of such aggregate value and a commission of 3.5 per cent. to the extent that such aggregate value exceeds £15 million, or (c) where the aggregate value of the Placing Shares at the Issue Price is greater than £22.5 million, a commission of 4 per cent. on the first £15 million of such aggregate value and a commission of 3.5 per cent. to the extent that such aggregate value exceeds £15 million but is equal to or less than £22.5 million and a commission of 3 per cent. to the extent that such aggregate value exceeds £22.5 million. The aggregate commissions payable by the Company and the Selling Shareholders shall be

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apportioned between the Company and the Selling Shareholders in the same proportion as the number of New Ordinary Shares and the number of Sale Shares bear to the total number of Placing Shares. The Company will also pay all other reasonable costs, charges and expenses of, or incidental to, the Placing and the issue of the Placing Shares including, without limitation, registrars' fees, printing, advertising and distribution fees and expenses, accounting fees and expenses, legal fees and disbursements (including Numis's legal fees and expenses). The Placing Agreement contains warranties and indemnities given by the Company in favour of Numis in relation to the Placing. The Placing Agreement is terminable in certain circumstances by Numis prior to Admission. The Placing has been underwritten by Numis.

- (b) An offer letter dated 14 July 2004 pursuant to which the Company purchased the entire issued share capital of Ceres in exchange for the issue of 41,763,040 Ordinary Shares. Completion took place on 3 September 2004. Under the terms of the offer letter the Company, Ceres and the shareholders agreed to be bound by the terms of the Subscription and Shareholders Agreement referred to in paragraph 9.1(e) below subject to certain amendments;
- (c) A warrant instrument dated 14 July 2004 executed by the Company pursuant to which the Company created warrants to subscribe for an aggregate of 1,470,580 Ordinary Shares at a price of 40.8 pence per share exercisable on or before 31 January 2007. These warrants will continue on Admission.
- (d) A warrant instrument dated 14 July 2004 executed by the Company pursuant to which the Company created warrants to subscribe for an aggregate of 1,166,700 Ordinary Shares at a price of 70 pence per share exercisable on or before 18 December 2008. These warrants will continue on Admission.
- (e) A Subscription and Shareholders Agreement dated 18 December 2003 between Ceres, its then current shareholders and new investors. The agreement contains certain warranties from Ceres and the Directors. The agreement will terminate on Admission.
- (f) Agreement between (1) Brian Charles Hilton Steele (2) Alan Atkinson (3) John Anthony Kilner (4) Nigel Peter Brandon (5) Robert Arthur Rudkin (6) Naoki Oishi (7) Imperial College of Science, Technology and Medicine (8) Imperial College Innovations Limited and (9) Ceres dated 14 June 2001 pursuant to which Ceres acquired the intellectual property rights that form the basis of its core fuel cell technology.

## **10. Intellectual Property**

Pursuant to the agreement referred to in paragraph 9(f) Ceres acquired all the intellectual property rights in relation to the metal-supported intermediate temperature solid oxide fuel cell technology developed at Imperial College. The technology acquired consisted of a methodology for the production of solid oxide fuel cells, having a unique combination of characteristics to allow operation at much lower temperatures than competing systems. These characteristics allow the fabrication of a mechanically robust stack able to tolerate rapid start up times, which is not currently possible in state of the art stacks.

The Group has sought to protect some aspects of its technology through a number of further patent applications and other aspects by maintaining trade secrets. As a result the Directors believe that, in addition to benefiting from broad patent protection, the methodology for its production of solid oxide fuel cells would be very difficult to reverse engineer.

The Directors are not aware of any third party intellectual property rights to which the Group would require a licence to exploit its methodology for fuel cell production.

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Ceres is the registered proprietor of the UK trade mark application “CERES POWER” and uses the trade names “Ceres” and “Ceres Power” and the domain names www.cerespower.com and www.cerespower.co.uk.

The Group does not own any other material IP.

#### **11. Litigation**

There are no legal or arbitration proceedings (including any such proceedings which are pending or threatened of which the Directors are aware) against, or being brought by, the Company or any member of the Group which are having or may have a significant effect on the Group’s financial position.

#### **12. Working Capital**

The Directors are of the opinion, having made due and careful enquiry, that taking into account the net proceeds of the Placing receivable by the Company and the bank and other facilities available to it, the Group will have sufficient working capital for its present requirements, that is for at least 12 months from the date of Admission.

#### **13. Lock-in arrangements**

Each of the Directors have entered into lock-in arrangements with the Company and Numis and have agreed not to dispose of (and to use their respective reasonable endeavours to procure that no connected person of each of them will dispose of) any interest in Ordinary Shares for a period of 12 months following Admission (the “Restricted Period”) save for the sale of 250,000 Ordinary Shares held by Nigel Brandon, 125,000 Ordinary Shares held by John Gunn and 125,000 Ordinary Shares held by Renate Gunn (John Gunn’s wife), pursuant to the Placing Agreement. For a period of six months following the expiry of the Restricted Period, not to dispose of any Ordinary Shares other than through Numis. The Directors (or persons connected to them) may, however, dispose of Ordinary Shares (i) to a connected person or family trust or beneficiary in the event of death and (ii) in the event of a recommended takeover offer relating to the Company’s Ordinary Shares becoming or being declared unconditional (or pursuant to an irrevocable undertaking to accept such an offer) or an intervening court order.

#### **14. Taxation**

**The following paragraphs are intended only as a general guide to the current tax position under United Kingdom taxation law and Inland Revenue practice.**

**The statements made relate to shareholders and/or subscribers who are resident and ordinarily resident in the United Kingdom for tax purposes, holding Ordinary Shares as investments and not as an asset of a financial trade.**

**Prospective subscribers for Ordinary Shares who are in any doubt about their tax position and, in particular, those who are subject to taxation in a jurisdiction other than the United Kingdom, are strongly advised to consult their own professional adviser.**

##### *Venture Capital Trust (VCT) investors*

The Directors believe that on Admission the Company’s current structure and activities should enable the New Ordinary Shares issued by the Company to be a qualifying holding for the purposes of the VCT legislation.

The Company has received provisional approval from the UK Inland Revenue that, on the basis of information supplied, a holding of Ordinary Shares issued in the Company should be a qualifying holding for the purposes of the VCT legislation.

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### *Enterprise Investment Scheme (EIS)*

The Directors believe that on Admission the Company's current structure and activities should enable it to meet the requirements of a qualifying company under the EIS legislation, potentially enabling eligible investors to benefit from certain tax reliefs on their investment.

The Company has received provisional approval from the UK Inland Revenue that, on the basis of information supplied, the Company should be a qualifying company for EIS purposes. For the avoidance of doubt, this clearance does not guarantee the availability of any form of EIS relief to any particular subscriber, as the availability of EIS relief also depends on an individual's personal circumstances.

### *Corporate Venturing Scheme (CVS)*

The Directors believe that on Admission the Company's current structure and activities should enable it to meet the requirements of a qualifying company under the CVS legislation.

The Company has received provisional approval from the UK Inland Revenue that it fulfils the requirements for investment under the CVS by companies.

Although the Company currently expects to satisfy the relevant conditions for VCT, EIS and CVS investment, neither the directors nor the Company gives any undertaking to conduct its activities in a way that will ensure that the Company so qualifies or that it preserves this qualifying status.

### *EIS Reliefs*

- *Income tax relief*

Individual investors eligible for EIS relief may be entitled to claim 20 per cent. income tax relief on the New Ordinary Shares subscribed for, up to a maximum for all such subscriptions of £200,000 in any tax year. The limit was increased from £150,000 to £200,000 for shares issued on or after 6 April 2004. The minimum subscription to qualify for relief is £500 per individual.

- *Capital Gains Tax exemption*

This exemption applies to shares which are held by individuals upon which EIS income tax relief is received where that relief is not restricted or later withdrawn.

Provided qualification for EIS income tax relief is maintained by the Company and by the individual investor for a period of broadly three years after the share issue, a profit made by the investor on disposal of the shares after three years may be free of capital gains tax.

- *Capital Gains Tax Deferral*

Individuals and certain trustees subscribing for Ordinary Shares may be entitled to claim capital gains tax deferral in respect of chargeable gains realised on asset disposals where the Ordinary Shares are issued within the one year immediately, and up to three years immediately following the time the chargeable gain in question accrues.

Subject to satisfying various conditions, the relief allows a shareholder to defer part or all of a gain made on a disposal that would normally crystallise a charge to tax. The amount of gain that can be deferred is restricted to the amount of the re-investment and the deferred gain falls into charge upon the occurrence of a chargeable event, for example, the Ordinary Shares are disposed of. Unlike the income tax relief, there is no maximum investment limit for capital gains tax deferral.

If the gain to be deferred qualifies for taper relief, it is the untapered gain that is deferred; the entitlement to taper relief is then considered when the gain comes back into charge.

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### *EIS Tax Relief Certificates*

Following conclusion of the Placing the Company may complete a form EIS 1 seeking confirmation from the Inland Revenue that the Company may issue the relevant tax certificates (forms EIS3) to those eligible investors who have requested them.

Assuming receipt of formal approval and subject to Inland Revenue working practices, it is anticipated that the certificates EIS3, (from the Inland Revenue) which investors need in order to claim their tax relief, will be available by 31 July 2005.

### *CVS*

CVS provides tax incentives to certain corporate investors in qualifying trading companies. Some of the qualifying conditions and reliefs under the CVS are similar, but not identical, to those under the EIS.

If the investor and investee company meet the qualifying conditions, and the general requirements relating to the shares are satisfied, a subscription for shares under the CVS gives the following reliefs to a corporate investor:

- initial tax relief which is the lower of 20 per cent. of a qualifying subscription for shares and an amount which would reduce the corporate investor's corporate tax liability to nil,
- chargeable gains made on disposal of CVS shares can be deferred by re-investment into further CVS shares,
- losses incurred on CVS shares can be relieved against income of the Company's accounting period in which the loss is incurred, or ending in the preceding 12 months.

### *Other reliefs*

- *Section 574 relief*

Section 574 of the Taxes Act permits a capital loss arising on the disposal of Ordinary Shares which were acquired by subscription in a qualifying trading company to be relieved against an individual investor's taxable income, as an alternative to setting the loss against capital gains. Upon making the appropriate claims, relief is given against income of the tax year in which the loss arises, and/or the preceding year of assessment.

Relief is restricted to shares in unquoted companies carrying on a qualifying trade, as defined for EIS purposes.

- *Inheritance Tax (IHT) relief*

Unquoted ordinary shares in companies such as the Company should qualify for 100 per cent. IHT business property relief, provided they have been held for two years prior to an event giving rise to a potential charge to IHT.

In the event of a lifetime gift, the transferee may need to retain the shares for up to seven years to ensure business property relief remains available to the transferor.

### *Taxation of chargeable gains*

- *Individuals and Trustees*

Disposals of shares are generally identified on a LIFO (last in, first out) basis for the purpose of calculating gains chargeable to tax. There are different rules for shares on which EIS relief is claimed.

In addition, gains made by individuals, trustees and personal representatives may qualify for taper relief. This relief reduces the amount of a chargeable gain on disposal, depending on the length of time the shares have been held since the date of acquisition of the shares.

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With effect from 6 April 2000, any shareholdings in unquoted trading companies may qualify as business assets, eligible for enhanced rates of taper relief and if so treated as business assets will qualify for the maximum taper relief after two years, effectively reducing the capital gains tax rate on disposal to 10 per cent. for a higher rate taxpayer.

If chargeable gains on EIS shares are deferred by reinvestment into further EIS shares, taper relief may be extended to treat periods of ownership of successive EIS investments as effectively one period.

- *Corporate shareholders*

The above changes to the taxation of chargeable gains do not apply to corporate shareholders, to which share “pooling” and indexation rules apply.

*Taxation of dividends*

- *Individuals and Trustees*

Under UK tax legislation, no tax is withheld at source from UK Company dividend payments, although such payments carry a notional tax credit of one-ninth of the cash dividend paid.

Individual shareholders whose income is within the lower or basic rate bands are liable to tax at ten per cent. on their gross dividend income. Individual shareholders resident for tax purposes in the UK are entitled to a tax credit of an amount equal to ten per cent. of the aggregate of the dividend and the tax credit. The effect of this is that the tax credit attaching to the dividend will satisfy the income tax liability on UK dividends of an individual shareholder whose income is within the lower or basic rate bands. Shareholders liable to higher rate tax (currently at a rate of 40 per cent. for income other than dividends) have a liability to income tax of 32.5 per cent. of the aggregate of the dividend and the ten per cent. tax credit received, of which ten per cent. will have been satisfied by the tax credit.

A corporate shareholder resident for tax purposes in the UK will not be chargeable to UK corporation tax on any dividend received from the Company and will normally be able to treat any such dividend as franked investment income.

UK resident trustees of discretionary trusts are liable to income tax on UK company dividends at 32.5 per cent. of the gross dividend. After taking into account the ten per cent. tax credit, the trustees will be liable to additional income tax of 22.5 per cent. of the gross dividend, equal to 25 per cent. of the net dividend.

*Stamp Duty and Stamp Duty Reserve Tax (“SDRT”)*

No liability to stamp duty or SDRT should arise on the allotment of New Ordinary Shares by the Company under the Placing.

Subsequent sales of Ordinary Shares inside CREST will generally be liable to SDRT at the rate of 0.5 per cent. of the amount of value of the consideration. Subsequent sales of ordinary shares outside CREST will generally be liable to ad valorem stamp duty at the rate of 0.5 per cent., rounded up to the nearest £5 of the amount or value of the consideration and also SDRT also at the rate of 0.5 per cent. However, where an instrument of transfer which completes an agreement to transfer shares is duly stamped within six years of the agreement having been entered into (or it becoming unconditional) the stamp duty paid will cancel the SDRT liability and any SDRT paid can be recovered.

Higher rates to stamp duty or SDRT (approximately 1.5 per cent.) can apply to issues or transfers of shares to certain persons connected with depositary arrangements and clearance services.

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The above statements are intended as a general guide to the current stamp duty and SDRT position. Certain categories of person are not liable to stamp duty or SDRT and others may be liable at a higher rate, as mentioned above or may, although not primarily liable for the tax, be required to notify and account for it under the Stamp Duty Reserve Tax Regulations 1986.

The above is a general summary of certain tax reliefs which may be available and should not be construed as constituting advice. Potential investors should obtain advice from their own investment or taxation adviser before applying for any Ordinary Shares in the Placing.

## **15. General**

- 15.1 The total proceeds of the Placing are expected to be approximately £21.6 million. The estimated amount of the expenses of the Placing, which are all payable by the Company, is approximately £1.3 million (excluding VAT). This amount includes an estimated commission of approximately £0.6 million payable by the Company. The net proceeds of the Placing will be approximately £14.6 million.
- 15.2 Numis has given and not withdrawn its written consent to the inclusion in this document of references to its name in the form and context in which they appear.
- 15.3 Future Energy Solutions has given and not withdrawn its written consent to the inclusion of the expert report produced by it in this document.
- 15.4 Save as disclosed in the paragraph headed "Financial Information" in Part 1 of this document, there has been no significant change in the financial or trading position of the Group since 30 June 2004 being the date to which the last audited report and accounts of Ceres were prepared.
- 15.5 The minimum amount which, in the opinion of the Directors must be raised is approximately £15 million which will be applied towards funding the development and commercialisation of the Company's core fuel cell products and paying the expenses of the Placing.
- 15.6 Save as disclosed in this document, no person (other than a professional adviser referred to in this document or trade suppliers dealing with members of the Group) has:
- (a) received, directly or indirectly, from any member of the Group, within the twelve months preceding the Company's application for Admission; or
  - (b) entered into any contractual arrangement (not otherwise disclosed in this document) to receive, directly or indirectly, from any member of the Group on or after Admission, any of the following:
    - (i) fees totalling £10,000 or more;
    - (ii) securities in the Company with a value of £10,000 or more calculated by reference to the Placing Price; or
    - (iii) any other benefit with a value of £10,000 or more at the date of Admission.
- 15.7 At the date of this document, employees of Numis hold Ordinary Shares in the Company as set out below:

Name	Number of Ordinary Shares
David Poutney	143,820
Charles Crick	35,050
Mark Murphy	18,380

## **16. Publication of this document**

Copies of this document will be available free of charge to the public at the offices of Taylor Wessing, Carmelite, 50 Victoria Embankment, London EC4Y 0DX and at the offices of Numis from the date of this document for at least one month after Admission.

Date: 19 November 2004

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