



CERAMIC FUEL CELLS LIMITED

Clean power for your home

Company Update



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Overview

- **Snapshot**
- **Long Term Market Need**
- **Benefits of Micro-CHP**
- **Revenue Opportunity**
- **Customers and Products**
- **Technology**



Snapshot

- **A\$220m invested to date, within 12 months of commercial production**
- **Revolutionary distributed generation**
 - Material savings to utility customers: fuel efficiency savings and lower emissions
 - Protected by 31 patent families globally
 - Compelling business case independent of Government subsidies
- **Highest electrical efficiency**
 - Higher than the current grid, far higher than any other microgeneration technology
- **Clear path to commercial production**
 - Supported by contracts with leading European utilities and appliance partners
 - E.On (UK), GdF/Suez (France), Nuon (Holland), EWE (Germany), Paloma (Japan)
- **Forecast cash flow breakeven on run rate of 3,000 units (~ December 2010)**
- **€1bn+ p.a. revenue opportunity for CFU from initial markets**
 - c.6m home boilers sold in 5 key markets per year
 - Just 5% penetration in key markets = c.€1bn revenue p.a.



Ready for Commercialisation

Markets	✓	Strong demand and policy support for product
Technology	✓	<ul style="list-style-type: none">- 3 years of field trials- Achieved >50% electrical efficiency
Customers	✓	<ul style="list-style-type: none">- Leading utilities and appliance makers- Volume order based on agreed targets
Products	✓	<ul style="list-style-type: none">- European CE safety approval for NetGenPlus- First fully integrated unit end of CY08
Volume Manufacturing and Supply	2009	<ul style="list-style-type: none">- Powder plant in the UK- Volume manufacturing 2009 in Germany



Long Term Market Need

- **Energy demand is rising, clear policy mandate for cleaner, more secure power**
 - Global primary energy demand forecast to grow by 45% from 2006 to 2030
 - EU targeting 20-30% emissions reduction by 2020
 - USA – Obama targeting 80% emissions reduction by 2050
- **Move from traditional centralised generation towards distributed generation**
 - Almost 40% of global utilities expect distributed generation, especially CHP technologies, to have the greatest impact on generation and supply over the next 10 years
- **Tangible Government support**
 - UK Climate Change Act
 - German incentives, including unit subsidy and feed-in tariff
 - Japanese Government subsidy
 - USA – Obama ‘New Energy’ Plan includes support for distributed generation
 - However, direct Government support is not required for viability of CFU business model



Benefits of Micro-CHP

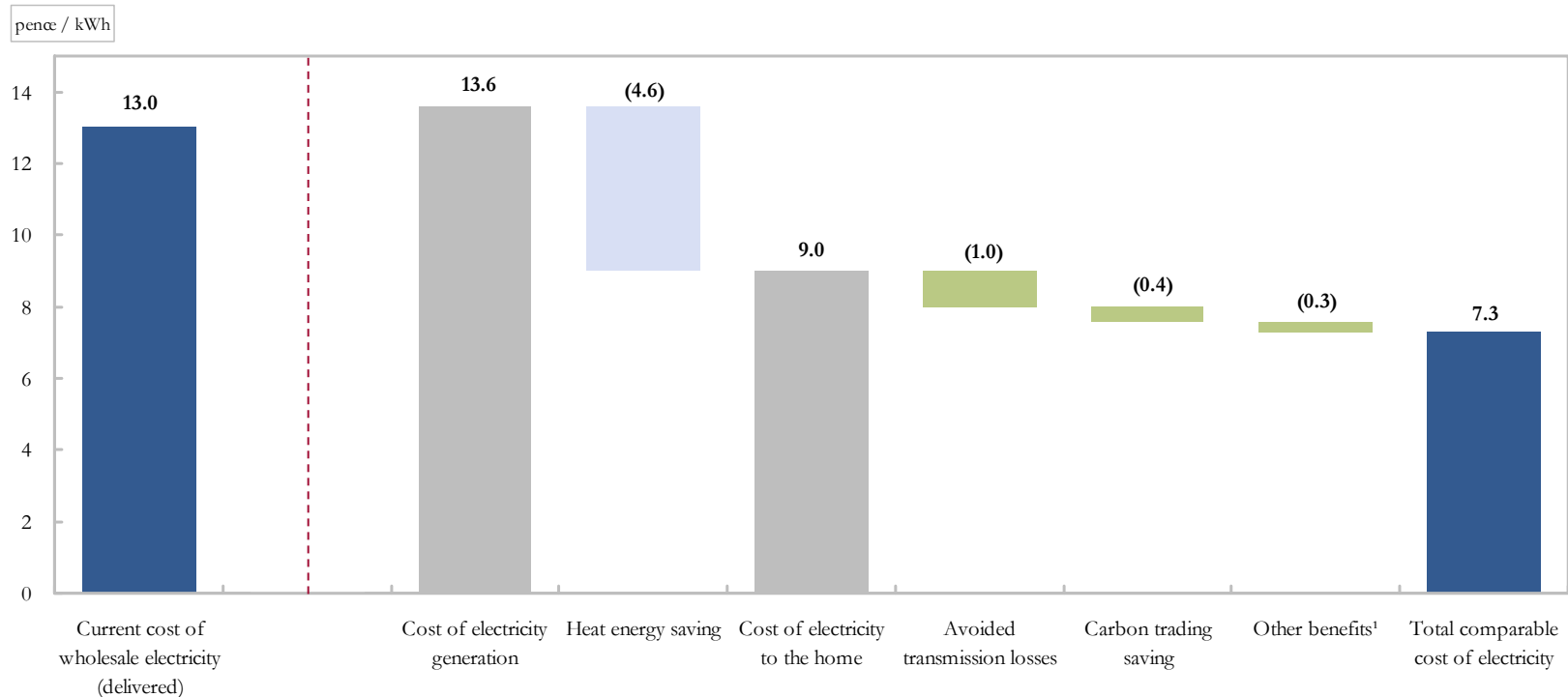
Significant benefits to all stakeholders over traditional electricity generation

<p>Utilities</p> <ul style="list-style-type: none">• Cheaper baseload power & heat• 'Controllable' distributed generation• Lower emissions• Bundled contracts reduce churn• Widespread micro CHP deployment produces strong financial returns	<p>Appliance Partners</p> <ul style="list-style-type: none">• Access to new technology• Leverage existing assets and networks into an emerging market
<p>Homeowners</p> <ul style="list-style-type: none">• New 'boilers' with no up-front capital cost• Discounted power & heat• Other incentives from utilities	<p>CFCL</p> <ul style="list-style-type: none">• Global markets• Revenue from selling high margin fuel cell modules• Annuity stream from replacement fuel cell stacks



Electricity Generation – Cost Comparison

- **Compelling economics vs traditional electricity generation**
 - Comparable cost per kWh 44% lower in the UK



1. Other benefits include T&D reinforcement saving, network balancing saving, reduction in customer churn and EEC uplift



Compelling Financial Returns and Other Benefits

- **Value Model shows strong internal rate of return (IRR) for utility customers**
 - Base case 14% IRR for existing customers and 30% IRR for new customers in UK
 - Before the benefit of any Government subsidies
- **Upside from Government subsidies**
 - Germany: subsidy for 2kW mCHP unit of up to €3,300, infeed tariff of €5c per kWh
 - UK: infeed tariff legislation, discounted VAT, tax write-off
 - Japan: unit subsidy
- **Plus carbon savings (not included in base case IRRs)**
 - 60% lower CO₂ than coal
 - >2.5 tonnes CO₂ saved per year per unit in UK
- **And other benefits**
 - Reduced customer churn
 - Network balancing
 - UK Energy Efficiency Commitment penalties
 - Reduced network costs
 - Transmission and Distribution reinforcement

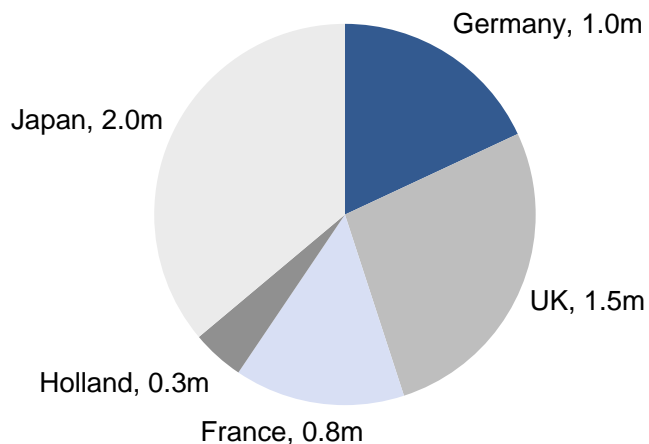


€1bn+ Revenue Opportunity

- CFCL initially focused on five key markets where partners operate
- 5% penetration would produce revenues of c. €1bn p.a. for CFCL
- Potential for other markets and new products

Annual Home Boiler Sales in Current Markets

- Total annual sales of c. 5.55m boilers



Large CFU Revenues from Commercial Products

- 5% market penetration achievable

• Total boiler sales	5,550,000
• CFU market penetration	5%
• CFU sales	277,500
• Commercial Unit sell price (2kW)	€2,900
• CFU Annual Revenue	€805m

- Replacement fuel cell stacks every four years

• Replacement stacks p.a.	69,375
• Stack sell price (2kW)	€2,100
• CFU Annual Revenue	€146m

Total CFU Annual Revenue c.€1bn



With Significant Upside Potential

- **Current focus on one initial product, microCHP units, in key markets**

- **Highest electrical efficiency and low emissions makes CFCL's technology suitable for many applications and global markets**

- **Future applications include**
 - Standalone power generator
 - Tri-generation (Power + Heat + Cooling)
 - Different fuels: LPG, liquid fuels
 - Off-grid (Remote Area Power, Telco back up stations)
 - Auxiliary power units for trucks, buses



Customers and Partners

- Leading appliance partners and utility customers
 - Five large initial target markets
 - Clear path to markets through partners
 - Volume Order with agreed targets
 - Leverage from existing partners into new markets
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- Successfully operated semi-integrated units at partners' sites
 - Now developing fully integrated mCHP units





Technology - Meeting commercial targets

Fuel cell stack lifetime

- Degradation of less than 0.2% per 1000 hours, down from 1% in July 2008
- Stack in a test station producing 1kW of power for >8,000 hours, still running
- Repeat these results in a complete system during 2009 to demonstrate commercial lifetime target of 4 to 5 years (40,000 hours)

Highest electrical efficiency

- 50% announced in September 2008
- Now achieved 55% electrical efficiency whilst exporting 1.5 kW to the power grid
- Exceeds commercial targets, far more efficient than the current grid and all other microgeneration technologies
- Highest electrical efficiency = lowest emissions