PCBFC: The Low Cost, Adaptable PEMFC from Bramble Energy
Summary

• Introduction to our Company
• Introduction to our Technology
Beginnings

Professor Anthony Kucernak, Chief Scientific Officer

Professor Dan Brett, Director of Innovation
Project Funding

- **Polymer Fuel Cell Challenge (PFCC)** - £1m
- **InnovateUK: Manufacturing Project** - £1.4m
PFCC Output

Cost parity

20% reduction

Carbon Trust and E4Tech analysis
Spin-Out

Bramble Energy Formed November 2016

Executive Team Formed
Meet the Team

Dr Tom Mason, CTO

Prof. Dan Brett, Innovation Director

Prof. Anthony Kucernak, CSO

Graham Hodgson, CEO

Noel Leeson, VP Sales and Marketing

Brian Graves, Non-Exec Director

Chris Gibbs, Non-Exec Director

Erik Engebretsen, Head of Engineering
PCBFC

Traditional = High Material Cost, Factory Set-Up

PCBFC™ = Established Printed Circuit Board Company
PCBFC - Advantages

Robustness

Fast-Turnaround

High-Volume

Global Supply Chain
PCBFC - Adaptability

- Design: 1-2 Days
- Prototype Manufacture: 2-3 Days
- Testing: 1-2 Days
- Full Scale Manufacture: 1-2 Days
PCBFC - Modularity

10 W Nominal Power
18 W Peak Power
Thickness: 2.4 mm
Weight: 45 g
PCBFC - Comparisons

Gravimetric Power Density

Competitor 1: 1.0x
Competitor 2: 1.3x
Competitor 3: 1.8x
Bramble Energy: 11.4x

Volumetric Power Density

Competitor 2: 6.3x
Competitor 3: 7.6x
Bramble Energy: 22.6x
PCBFC - Comparisons

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<th>Low Cost</th>
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Business Plan

• Lab to Market - Portable Power
• Add Watts, Add Markets
• Build Revenue
• Partner OEM’s
• Relevant Grant Funding
Progress

• MOU with Multi-National OEM
• Technology Demonstration @ OEM
• First Sales Generated
• 3 Grant Funded Applications Successful
Plans

• First Product Launch Q1 2018
• Scale-up and Scale-out Approach
• Develop Partnerships with OEM’s
Thank you for your attention

More Information:

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