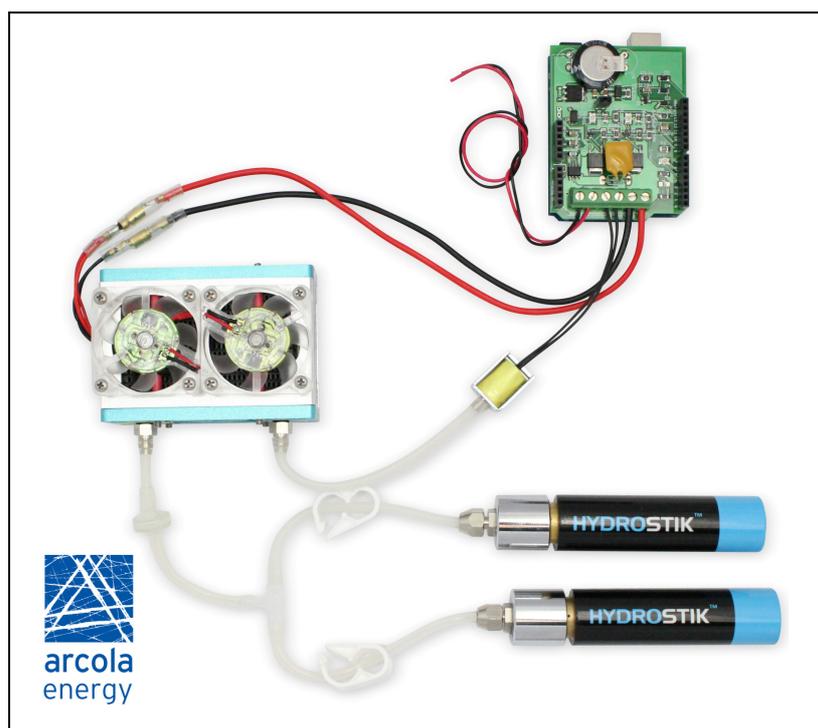


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**PRESS RELEASE**  
For Immediate Release  
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### Universities welcome Arcola Energy Fuel Cell Developer Kit



### 30W H2MDK FUEL CELL DEVELOPER KIT

Arcola Energy, in partnership with Horizon Fuel Cell and MIT Fab Labs, launched the H2MDK product family in summer 2012. The Hydrogen Maker Developer Kits (H2MDK), powered by 1.5W, 12W or 30W Horizon fuel cells allow researchers, commercial product developers, inventors and hobbyists to build customised fuel cell systems to fit their individual applications.

Recent UK customers include the universities of Oxford and Salford and Imperial College London where students at the Energy Futures Centre for Doctoral Training used a 30W H2MDK to develop a model which won the prize for best exhibit at the UK Energy CDT Conference. International sales include the Republic Polytechnic Singapore and a customised 5 x 200W system for Université de technologie Belfort-Montbéliard in France

“H2MDK is an entry point to our mass-customisation capability to deliver fuel cell systems for portable, stationary, and transport applications. Crucially, the kit allows users to rapidly and cost-effectively gain significant first-hand experience of how fuel

cells can be tailored to meet their specific system requirements” - Dr. Ben Todd, Managing Director, Arcola Energy

Each kit comprises a Horizon fuel cell stack, Horizon Hydrostik (12Wh metal hydride hydrogen storage), Arcola Energy control shield for Arduino Uno and all necessary peripherals. With the addition of Horizon’s Hydrofill desktop electrolyser, users can refuel their systems with no need for high pressure hydrogen supply with its attendant safety considerations.

Integration with the popular Arduino Uno development board allows easy connection to a computer to monitor performance and control operation. Support is provided through the Arcola Energy forum ([arcolaenergy.com/forum/](http://arcolaenergy.com/forum/)) with full details of the fuel cell control circuitry and knowledge sharing on a wide range of applications.

“With the H2MDK we quickly got a fuel cell running and linked to a computer. The open source control code allows us to easily vary control parameters to investigate performance.” - David Howey, University Lecturer in Engineering Science, University of Oxford ([epg.eng.ox.ac.uk/users/david-howey](http://epg.eng.ox.ac.uk/users/david-howey))

The prototype of the H2MDK system was used to power a model train 10 miles across Devon on James May’s Toy Stories in 2011

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## Notes to Editors

**H2MDK** is the first product family released by Arcola Energy as part of a **Technology Strategy Board** funded collaborative research project, aiming to develop the UK’s first renewable hydrogen energy ‘supply chain’. The project - known as rabh2 - is a collaboration between **Arcola Energy**, **RE Hydrogen** and industrial gases company **BOC**, a member of the **Linde Group**, who recently launched the UK’s first open-access hydrogen vehicle refuelling station at Swindon. The project aims to create a manufacturing and distribution network for low-carbon hydrogen and a suite of fuel cell systems that use the hydrogen to power a wide range of products. <http://www.arcolaenergy.com/Development1.htm>  
<http://rabh2.co.uk/>

**Arcola Energy** is a multi-disciplinary developer, manufacturer and retailer of fuel cell-based low carbon energy solutions. We operate across a wide range of markets with applications in home, industry, construction, entertainment, education and transport sectors. Our business is applying understanding of end-user needs to deliver cost-effective customised solutions to individual end-users and OEM clients. Our success is built on open and collaborative relationships with clients, suppliers and partners. Arcola Energy is the UK agent and distributor for Horizon Fuel Cell Technologies. Development of Arcola's mass customisation manufacturing approach is supported by the UK Technology Strategy Board.

[www.arcolaenergy.com](http://www.arcolaenergy.com)

The (MIT) **Fab Labs** is an international network of laboratories located in a diverse array of communities around the world. The Fab Lab network is designed to promote innovation and entrepreneurship, and provide budding inventors with an open-access infrastructure that help turn ideas into tangible prototypes. Each lab is equipped with the same basic set of digital fabrication machinery and components. Importantly, each lab is a learning ecology that allows for community members of varied skill levels to access the tools for innovation, learn informally from one another, and access formal training. Whether in rural India or cosmopolitan Barcelona, each lab enables a grassroots collection of makers, tinkerers, creators and innovators. Fab Labs is set to expand from 80 to 180 locations in the next 12 to 24 months.

<http://fab.cba.mit.edu/>

**Horizon Fuel Cell Technologies** is now the largest producer of micro-fuel cells in the world, and one of the world's pioneers in turning fuel cell technology into products for various industries. Its overall vision is a zero carbon society with hydrogen as a clean energy carrier. Horizon began sales in 2005 of several self-designed fuel cell integrated consumer products, while developing larger scale solutions in applications ranging from portable power to electric flight, as well as stationary systems and hydrogen-electric mobility. Having developed a comprehensive enabling platform in fuel cells, hydrogen storage, and hydrogen supply technologies, the company is now a global source of fuel cell product innovation. Horizon expanded internationally with localized efforts in over 50 countries, providing technology education and support, as well as numerous commercial fuel cell products.

[www.horizonfuelcell.com](http://www.horizonfuelcell.com)

**James May (Plum Pictures / BBC)** - Following the success of the James May Toy Stories train programme further television projects have included James May's Man Lab where a hydrogen-filled weather balloon which reached the edge of space and a James May Toy Stories Christmas special where an arduino-controlled glider reached Lundy in the Bristol Channel, equivalent to crossing from Dover to France.

Train: [www.bbc.co.uk/programmes/b0120z75](http://www.bbc.co.uk/programmes/b0120z75)

Balloon: [www.youtube.com/watch?v=HB7KAoPI3Xg](http://www.youtube.com/watch?v=HB7KAoPI3Xg)

Glider: [www.bbc.co.uk/programmes/b01pmbmx](http://www.bbc.co.uk/programmes/b01pmbmx)

[www.arcolaenergy.com/jamesmay](http://www.arcolaenergy.com/jamesmay)

The **Technology Strategy Board** is a business-led government body which works to create economic growth by ensuring that the UK is a global leader in innovation. Sponsored by the Department for Business, Innovation and Skills (BIS), the Technology Strategy Board brings together business, research and the public sector, supporting and accelerating the development of innovative products and services to meet market needs, tackle major societal challenges and help build the future economy. For more information please visit: [www.innovateuk.org](http://www.innovateuk.org)

**RE Hydrogen**, having won 7 grants and awards, developed an extremely low cost electrolyser technology to produce green hydrogen and oxygen gas from water, by

using surplus electricity from renewable energy sources. RE Hydrogen has also developed a novel, highly efficient hydrogen compressor at one third of the market price to aid hydrogen storage and the marketability of their electrolyzers. RE Hydrogen has established collaboration with several industrial, commercial and end-use partners as route to market of their products. Thanks to the support from the Technology Strategy Board and Finance South East for the prototype development and field trial of the 5kW electrolyser.

[www.rehydrogen.com](http://www.rehydrogen.com)

**BOC** is a member of **The Linde Group**. An industrial, medical and special gases provider, the company supplies compressed and bulk gases, chemicals and equipment. For more than a century the company's gases and expertise have contributed to advances in many areas of everyday life, and industries including steelmaking, refining, chemical processing, environmental protection, wastewater treatment, welding and cutting, food processing and distribution, glass production, electronics and health care.

[www.BOOnline.co.uk](http://www.BOOnline.co.uk)

**The Linde Group** is a world-leading gases and engineering company with around 49,100 employees working in more than 100 countries worldwide. In the 2010 financial year it achieved sales of EUR 12.868 billion. The strategy of The Linde Group is geared towards long-term profitable growth and focuses on the expansion of its international business with forward-looking products and services. Linde acts responsibly towards its shareholders, business partners, employees, society and the environment – in every one of its business areas, regions and locations across the globe. Linde is committed to technologies and products that unite the goals of customer value and sustainable development.

[www.linde.com](http://www.linde.com).