ENERGY HOUSE LABS

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University of Salford MANCHESTER

ENERGY HOUSE LABS NEWSLETTER

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/ WHO WE ARE

The University of Salford's Energy House Laboratories helps businesses understand how effective their products and services are in lowering consumers' carbon footprint and reducing energy bills.Our research facilities include:

- Salford Energy House
- Energy House 2.0
- Smart Meters>Smart Homes Laboratory
- Thermal Measurement Laboratory

/ CONTACT US

If you have any questions email us at energyhouse2@salford.ac.uk or call 0161 295 0073

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The Energy House 2.0 project is part-funded by the European Regional Development Fund

Image: Dr Richard Fitton and Dave Farmer, Rip Off Britain

/ Sharing Our Expertise

Energy House Labs has been in the news over the last few months, with multiple appearances from the team on BBC, ITV, and Channel 5.

Dr Richard Fitton, Dave Farmer, and Grant Henshaw have all made an appearance on our TV screens, discussing all things energy and buildings.

Dr Richard Fitton has appeared on BBC News, BBC Breakfast, ITV News (alongside Grant Henshaw), and Rip Off Britain (alongside Dave Farmer; from 29 minutes), providing much needed advice on issues on energy consumption in their homes. He has been asked to respond to the huge increase in the costs of energy, which is having an enormous impact on people's health and wellbeing. Using the lessons learned from the Salford Energy House, Richard has been able to quickly communicate some of the key findings of the research that we have been doing over the last 10 years.

Richard said, "One of the things we have tried to do at Energy House Labs is to make sure we communicate what we are doing as clearly as possible to the public. Right now, people need good, clear advice that can be practically applied. I think this is a really important part of what Universities can do, particularly when so many people are struggling with their energy costs."

Additionally, on the 22 June, Dave Farmer will be making his second appearance on Channel 5's The Gadget Show, putting home appliances through their paces, showing how science can be practically used to see what works for consumers.

Image: © McCoy Wynne

/ PhD Opportunity

The University of Salford is excited to announce an opportunity to study a PhD with the Energy House Laboratories team and our colleagues in the Sustainable Housing and Urban Studies Unit (SHUSU). The scholarship is a partnership between the University and leading energy efficiency and fuel poverty organisations, Affordable Warmth Solutions and National Energy Action, through the Malcolm Wicks Memorial Fund.

Alongside the opportunity to work directly with experts at Energy House Laboratories and to make use our world-leading facilities, the PhD candidate will also benefit from professional support focused on policy and industry. The student will have the opportunity to develop the research to respond to contemporary challenges and to work at the intersection of social and technological research. Possible foci include: how people live in net zero homes; how digitisation can aid fuel poverty and those experiencing it; the implications on practices of transitions from gas to electricity; how the most vulnerable in society can best benefit from online and app-based systems.

For more information on the opportunity and how to apply, please contact Graeme at **g.sherriff@salford.ac.uk**.

/ Future Homes Hub

Dr Richard Fitton has been invited to sit on the oversight panel of the Future Homes Hub, which aims to provide high quality advice and guidance to home builders around the upcoming building regulations changes and the Future Homes Standard due to come into effect in 2025.

The Hub will shortly be publishing detailed guidance on both the update Building Regulations Approved Documents and the Future Homes Standards at **futurehomes.org.uk**

/ Energy House 2.0 Case Study: Harris Parts

For over 30 years, Harris Parts has been designing and manufacturing window blinds and associated components, supplying many of the major home furnishing retailers across the UK. Although this is a relatively mature market, Harris Parts continue to innovate to maintain their market position.

Given environmental concerns and rising domestic energy prices, Harris Parts were keen to understand how they could improve the thermal properties of their roller blinds in order reduce heat loss and help to control household heating costs. However, lacking the specialist knowledge and equipment, they had no means of measuring the thermal properties of their blinds. Under a research collaboration with the Energy House 2.0 team, a number of roller blinds were tested in the Energy House Thermal Comfort Suite where, under controlled conditions, the effectiveness of various types of blinds was evaluated.

Image: blinds-2go

Compared to a standard double- glazed window, all the tested blinds reduced the heat loss through the window. However, the best performance was from a blind which incorporates a flexible metallised layer which gave a 15% reduction in the U-value of the window. Harris Parts now produce a version of this blind which is marketed under the 'Chromium Blackout' brand. This blind also has the added advantage of reducing unwanted solar thermal gain in the summer.

Steve Day, Operations Director at Harris Parts, commented, "working with the team at Salford has allowed us to develop an important new product line. Our expertise is designing and making blinds and it is thanks to the work at Salford we have gained an understanding of how blinds can reduce heat loss and save money. Using this knowledge, we have successfully developed and launched our Chromium thermal blinds."

/ BEIS Demonstration of Energy Efficiency Potential

May 2022 saw the completion of a 16-month test programme at the Salford Energy House that was performed as part of the BEIS Demonstration of Energy Efficiency Potential (DEEP) Project. DEEP is investigating the benefits and risks associated with differing approaches to whole house retrofit. It has been undertaken in collaboration with Leeds Beckett University, Loughborough University, and Lucideon.

The test programme involved a whole house fabric retrofit of the Salford Energy House, which included systems such as external wall insulation and high-performance glazing. Fabric thermal performance testing at each stage of the retrofit process enabled the improvement in energy efficiency from each measure to be quantified. A variety of heating systems (including air source heat pump) were also tested throughout the retrofit process to investigate their suitability across a range of fabric energy efficiency standards.

Dave Farmer, who has been leading the Salford Energy House research in DEEP, said, "The findings from DEEP project will guide future UK Government retrofit policy, help inform the decision-making process for retrofit specifiers and installers, and promote innovation within the retrofit sector. The work at the Salford Energy House has broken new ground in understanding the interaction between building fabric performance and heating system efficiency."

It is expected that the full findings from DEEP will be published within the next 12 months.

/ Mountains New

We'd like to wish our Energy House 2.0 Research Assistant, Nigel Blandford, a bon voyage! Nigel joined the Energy House 2.0 project in January 2020 and, despite being locked down a couple of months later, quickly became an invaluable member of the Energy House 2.0 project team.

Nigel is heading off on a seven-month trip on a mountain bike, starting in Canada then going down the Rocky Mountains in the USA before crossing into Mexico and finishing his travels in Mexico City. For most of the time, he'll be camping in the wilderness trying to avoid bears, wolves, and mountain lions.

You can follow his progress at **facebook.com/BritOnABike**

We would also like to thank Carla Ramage for the exceptional support she has provided to the Energy House 2.0 project team over the last 15 months, and a fond farewell to our EHL Technician, Paul Done, who recently retired from the University after being a stalwart of the Energy House Labs team for nine years.

Thermal Measurement Laboratory UKAS Accreditation

For over 20 years the Thermal Measurement Laboratory has been providing testing services for the thermal performance of insulation and construction materials to many of the leading manufacturers in the UK and Europe.

We are pleased to announce that we recently received our annual re-accreditation (UKAS accredited lab No. 1660 and UK Approved Body No.1145) and are recognised by the UK Government as competent to carry out Technical Assessment of the performance of thermal insulation products governed by standards EN 13162 to EN 13171, for the UK and Northern Ireland market.

The accreditation not only covers laboratory practices and equipment but also the quality management systems which are accredited to the requirements of BS EN ISO/IEC 17025:2017, covering test standards EN 12664, EN 12667, and ISO 8301.

We are one of a very small number of thermal test laboratories in the UK with these accreditations and look forward to working with new and existing clients in coming months.

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