Scottish Parliament Invites Energy Academy to discuss Energy Storage in Scotland

Members of Heriot-Watt’s Energy Academy were the guests of Joan McAlpine MSP on Thursday 5th March in the Scottish Parliament where they discussed the future of energy storage in Scotland. We were joined by Brian Richardson, CEO at Dumfries and Galloway Chamber of Commerce and Director of Energy Storage Scotland CIC.

Brian, Professor Sue Roaf and Dr Eddie Owens told the Members present, that Scotland could not deliver its 2020 targets without using energy storage.

Professor Roaf highlighted that Scotland has “an opportunity to join world leaders in the field – but we need to embrace building and community level solar, wind and small scale hydro potentials too. In her vision, a 100% renewable Scotland by 2030 was “not a Problem!” with “a strong vision and sensible investment.”

Dr Owens described a scenario of resource depletion, rising prices and associated fuel poverty, intermittent renewable generation and ongoing concerns over climate change. Solutions such as electric cars may he said “significantly increase demand for electricity.” He argued for “efficient and effective storage solutions” to be applied “if the benefits of renewable generation are to be realised.” “Without storage - nuclear and fossil fuel generation will remain the dominant generation technology.”

Drawing attention to work at Heriot-Watt, and his work on smart metering http://www.origin-concept.eu, he made a case where scale up of this type of technology to regional or national level might increase the uptake of energy generated from renewable resources and reduce carbon emissions.

Why not he suggested “have a “renewables forecast” at the end of every weather forecast” and “provide a “free” App to millions. To see the Energy Academy presentation, paste the following url into your browser. https://www.dropbox.com/s/ixmmlv19u3ame07/Scottish%20Parliament%20March%202015.pptx?dl=0

More information: Professor Sue Roaf (S.Roaf@hw.ac.uk) and Dr. Eddie Owens (E.H.Owens@hw.ac.uk)
OGIC

Innovation Funding in the Oil and Gas Sector

Heriot-Watt is widely known for its research into conventional fossil fuels and unconventional oil and gas. To read more about the Energy Academy’s work in this area, paste the following URL into your browser: https://www.dropbox.com/s/solqp4hvuzg9yv4/EnergyAcademyPresentation-FossilFuels.pdf?dl=0. We work closely with industry and through established Joint Industry Partnerships.

On February 25th, the Oil and Gas Innovation Centre (OGIC) hosted a seminar to introduce the wide range of government funding available to support innovation in the Oil & Gas sector. To see the presentations from this seminar, paste the following url into your browser: http://ogic.co.uk/event/ogic-interface-funding-seminar/

FLEDGE Funding Attracts More Opportunity for Collaborative R&D

A further call for applications for funding under the Heriot-Watt Energy Academy Fledge Funding initiative identified an even greater depth of opportunity for SMEs and companies looking to innovate with Energy Academy engineers and scientists. If you are interested in working in the following areas of energy and energy-related research, please contact the researcher involved:

- Development of advanced functional photocatalytic materials J.Xuan@hw.ac.uk
- Development of ultra-thin solar cells and thin-film thermoelectrics J.Marques@hw.ac.uk
- Development of sustainable concrete slabs for construction applications A.Sanna@hw.ac.uk
- CO2 induced damage of wellbore Cement-Rock Systems ecc1@hw.ac.uk
- Development of sensor and control systems for energy management A.Peacock@hw.ac.uk
- High resolution subsurface imaging and its applications to application to hydrocarbon prospection O.Laghrouche@hw.ac.uk
- Intelligent Power Electronics D.Flynn@hw.ac.uk
- Modelling of foaming in anaerobic digesters in order to maximise energy (biogas) recovery irk1@hw.ac.uk

The pan-university Energy Academy, research excellence ranges from solar energy and energy-focused materials through to energy economics, use, policy and logistics.

Heriot-Watt Student Building on Tidal Success

Pictured left is the Scotrenewables SRT250 floating tidal energy converter (250 meaning 250kW). The successor device now being built by Scotrenewables will be around 2MW, but this earlier prototype has undergone extensive trials at the EMEC Fall of Warness tidal test site in Orkney. The success of these trials has encouraged the funding necessary to develop and build the full scale device.

The initial design for the Scotrenewables turbine arose from work by Barry Johnson, a Heriot-Watt PhD student, while he was studying on the University’s Orkney Campus. The University was able to secure a Royal Society of Edinburgh and Scottish Enterprise fellowship for Barry to set up Scotrenewables, enabling him to commercialise the concept and secure further funding for its development. The University wishes Barry and the team at Scotrenewables every success with the build and trials of the full scale device. More information J.C.Side@hw.ac.uk
Geothermal Energy Challenge Fund launched
Workshops Announced

The Geothermal Energy Challenge Fund has been set up to help support feasibility studies in respect of the capacity of the geothermal resource in abandoned mine workings, hot sedimentary aquifers, and hot dry or hot wet rocks to support a local market and the viability of the identified location(s) as a self-sustaining, economically attractive investment prospect.

The Geothermal Energy Challenge Fund can support up to 100% of selected feasibility projects eligible costs, up to a maximum award of £50,000.

Workshops

2 workshops have been arranged to assist potential Challenge Fund applicants and their consortium partners to better understand the objectives of the Challenge Fund, the application and assessment processes. The workshops will also provide an opportunity to network with other potential interested parties.

Glasgow March 13th

Edinburgh March 16th
http://www.scottish-enterprise.com/services/attract-investment/geothermal-energy-

Heriot-Watt Energy Academy agrees MoU with Universidad Cooperativa de Colombia

The MoU establishes a formal arrangement between Heriot-Watt and Universidad Cooperativa de Colombia regarding a mutual desire to promote teaching, research and other collaborative activity for the mutual benefit of both parties. By the year 2022, the Colombian University hopes to be “a research-teaching oriented university, recognised as one of the most important educational institutions nationwide.”

Commenting on the new arrangement, Professor James Mair said that the MoU created opportunities for “student exchange in areas such as energy engineering, ICIT, marine science and oil & gas.” “Recent funding for developing countries announced by the British Council, Innovate UK and the Newton Fund programme suggest an opportunity for welcome, potential future international collaboration funding for the Energy Academy.”

More information: J.M.Mair@hw.ac.uk

Are you working on Solar Energy? Do you need a Test Site?

The Heriot-Watt test site includes three south-facing “bays” where solar photovoltaic, solar thermal devices can be tested in the environment (Latitude 56° N, Longitude 3°W) to make either direct comparison with other technologies and/or by reference to a fully instrumented weather station. Each bay is serviced by both an electrical and a water supply and data acquisition is housed in small enclosures. Available data acquisition includes multiple temperature, voltage and current measurements. For solar thermal applications, water pumping and draw off to match typical household or industrial demand curves can be automated. The weather station monitors wind speed and direction, air temperature and humidity, solar irradiation and report at 10 minute intervals. The test site is modelled using Polysun Software which can be used to predict the performance of either standard or bespoke solar technology. This takes local meteorological data as an input and the results of the model, once verified with the experimental testing are a useful tool to predict performance over a wider range of operating parameters.

If you are interested in working with the Energy Academy on developing solar photovoltaic, solar thermal devices, you can find more about the site at: http://www.eps.hw.ac.uk/institutes/mechanical-process-energy-engineering/renewable-energy-test-site.htm

For more information, contact:T.S.O'Donovan@hw.ac.uk

To learn more about solar energy research in Scotland from Anne-Marie Fuller Scottish Institute for Solar Energy Research (SISER) and Chairperson of the Scottish Solar Energy Group, visit:
http://www.eventbrite.co.uk/e/solar-energy-research-in-scotland-tickets-

More information: J.M.Mair@hw.ac.uk
Innovation and Support for Smart Grid

As part of its series of workshops on Innovation and Support for R&D for Smart Grid Applications, Scottish Enterprise held a workshop at Innovi in Glasgow on 5th March to showcase the range of public-sector funding available for r&d in this sector. This includes SMART-Scotland; R&D Grant funding and Seek and Solve.

To view all of the presentations, paste the following Dropbox link to your browser.
https://www.dropbox.com/sh/gjo6i7aswy7lo6a/AADunREwVDm3yt9mVOU3XRka?dl=0

One initiative that may be of particular interest to companies wishing to work with the Energy Academy is the Collaborative Project Scheme that supports B2B linkages between Scottish companies but for which HEIs (the Heriot-Watt Energy Academy are also eligible for support).

Grants are made at an intervention rate of 50% for small and medium enterprises and 40% for larger companies on total eligible costs. More information on this can be obtained by calling on Andrew Ingram at andrew.ingram@scotent.co.uk

Another initiative that may be of interest is the Energy Innovation Centre established to provide links to new markets, customers and funding for SMEs, Universities and start-ups with innovations, ideas and capabilities and solutions and opportunities to its stakeholders including National Grid, Northern Gas Networks, SGN, Wales and West Utilities, Electricity Northwest, Northern PowerGrid, SP Energy Networks, Scottish and Southern Energy, UK Power Networks, AMEY and the Catapults. For more information, copy the following url into your browser
http://www.energyinnovationcentre.com/
or e-mail enquiries@energyinnovationcentre.com

For information on further workshops in this Sector, e-mail Lynne Cooper Lynne.Cooper@scotent.co.uk

Heriot-Watt Energy Academy is sponsoring Cleantech Innovate Scotland in Glasgow 2015. It follows a successful showcase in London at the institute of Mechanical Engineers on February 12th when 36 clean-tech and renewable energy companies pitched for investment. More information and to register http://www.ecoconnect.org.uk/