

## Building New Bridges for Low Carbon Energy

A Swansea University, Cardiff University, and Aberystwyth University collaborative one-day symposium on Low Carbon Energy options for a sustainable future.

### Summary

The one-day symposium titled “Building New Bridges for Low Carbon Energy” was held at the Energy Safety Research Institute of Swansea University on the 4<sup>th</sup> of February 2016. The symposium was designed to establish new collaborative links among chemists, biologists, materials scientists, engineers and key stakeholders in Wales and beyond to address the challenges associated with the development and implementation of materials, technologies and processes for CO<sub>2</sub> Capture and Utilisation, and Advanced Biofuels Production. 60 experts in the field took part to the event, as shown in the group picture below. The event has had online media coverage by the hosting University, in key low carbon energy networks, and in social media. A list of the outcomes of the symposium is given in the next session.



### Symposium output

The key outcomes of the symposium are listed as follows:

- 60 participants (84 registered): Full lists provided in separate attachments (A1, A2).
- 26 contributions (11 talks & 15 posters): The symposium programme with full list of contributions and abstracts is provided in a separate attachment (A3).
- 12 represented institutes, industry, and third sector: *Swansea University* (College of Engineering; College of Medicine; College of Art and Humanities; ESRI; BEACON), *Cardiff University* (Cardiff Catalysis Centre; School of Chemistry), *Aberystwyth University* (Institute of Biological, Environmental and Rural Sciences; Geography and Earth Sciences), *Bangor University*, *University of Wales Trinity Saint Davis*, *Natural Resources Wales*, *British Geological Survey*, *The University of Manchester*, *University College London*, *University of Bristol*, *BRE Group*, *Tata Steel*.
- Keynote speakers: Prof Nora de Leeuw (Pro Vice-Chancellor, International and Europe of Cardiff University), Prof Patricia Thornley (Professor in Sustainable Energy Systems of The University of Manchester).
- Notable contributions: Prof Steve Kelly (Swansea University – College of Medicine, “BEACON research into Sustainability awarded the EU Regiostars prize in 2014”), Prof Ray Marriott (Bangor University - BioComposites Centre, “Use of supercritical CO<sub>2</sub> as a process solvent”), Dr Dion Curry (Swansea University - Department of Political and Cultural Studies, “Negotiating the political quagmire of energy: Policy implications and engaging with policymakers at multiple levels of government”).

- Potential collaborative developments: During the final discussion session of the symposium some potential collaborative point were highlighted as follows: (i) interest has been expressed from a number of participants (e.g. Dr Andreoli, Dr Hollingsworth) to collaborate with Prof Marriott in the view of using supercritical CO<sub>2</sub> as a green solvent for materials synthesis; (ii) a collaborative idea to develop a H<sub>2</sub> storage system where CO<sub>2</sub> is used as vector molecule (e.g. Dr Hollingsworth, Dr Dimitratos, Prof de Leeuw, Ms Humphrey), this idea has been welcomed by Prof de Leeuw; (iii) collaborative engagement with Dr Curry to enhance the impact of research through the engagement with policy makers, in particular, Dr Curry has now direct contact with Mr Richard Taylor (Environmental Compliance Regulator for Industry (PPC) at Cyfoeth Naturiol Cymru / Natural Resources Wales) establishing a link between policy and compliance.
- Tata Steel: Mr Brain Edy from Tata Steel joined the symposium representing Tata Steel and its effort in improving energy efficiency and environmental impact of the steelworks in Port Talbot.
- Networks presence: The symposium has been promoted in two UK key networks for low carbon energy - CO2Chem and UKCCSRC – with international worldwide reach. Copies of the advertising pages are provided in separate attachments (A4, A5).
- Online & social media attention: A dedicated webpage has been created for the symposium ([www.swansea.ac.uk/lowcarbonenergysymposium](http://www.swansea.ac.uk/lowcarbonenergysymposium)) and programme with abstracts can be downloaded from the same page. A summary of the webpage activity is provided in a separate attachment (A6), the page has registered a total of 711 views. The event has been advertised in the Swansea University website both before and after the event, screen prints of the news articles are provided in separate attachments (A7, A8). Also, news coverage is available in the NRN-LCEE website ([nrn-lcee.ac.uk/news/nrn-lcee-rdf-supported-building-new-bridges-for-low-carbon-energy-energy-symposium-a-success-26325](http://nrn-lcee.ac.uk/news/nrn-lcee-rdf-supported-building-new-bridges-for-low-carbon-energy-energy-symposium-a-success-26325)). In social media the coverage was as follows: 130 impressions through Eventbrite web service including 28 tweets, 13 LinkedIn and 7 Facebook shares (see attachment A9). A sample of tweets is provided below.

Swansea Engineering @SUEngineering Feb 8

Successful Low C Energy Symposium @ESRI\_Swansea, collaborative @SwanseaUni @cardiffuni @AberUni funded by @NRNLCEE.



Building New Bridges for Low Carbon Energy Symposium  
Energy Safety Research Institute - Swansea University - February 4<sup>th</sup>, 2016

Swansea Engineering @SUEngineering Feb 8

Poster lunch @ESRI\_Swansea's Low Carbon Energy Symposium last week funded by @NRNLCEE swansea.ac.uk/lowcarbonenerg...



Swansea Engineering @SUEngineering Feb 8

Prof Nora de Leeuw, PVC Cardiff Uni talks #CO2 utilisation @ESRI\_Swansea's Low C Energy Symposium funded by @NRNLCEE



Swansea Engineering @SUEngineering Feb 8

Prof Patricia Thornley, Manchester Uni talks #biomass utilisation @ESRI\_Swansea's Symposium ow.ly/Y4Mp6



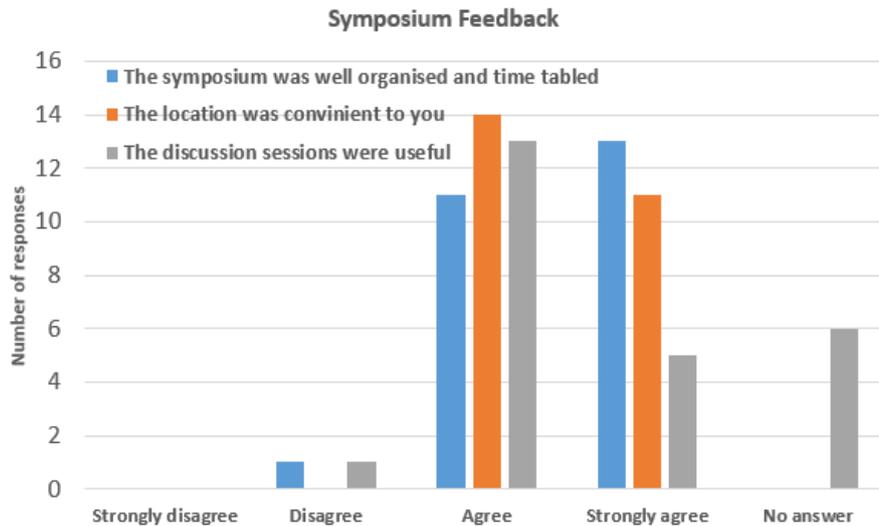
Dion Curry @DionCurry

Presenting on policy engagement in low carbon energy last week at #ESRI symposium @SwanseaUni @PCS\_Swansea



## Feedback results

Feedback was collected at the end of the symposium, this is provided in full in a separate attachment (A10). A summary of the feedback is given in the following chart:



As shown, 96% of the feedback agrees/strongly agrees with the symposium having been well organised and time tabled, 100% that it was in a convenient location, and 72% that the discussion sessions were useful (Total number of response = 25). With regard to the last score, we understand that more time should have been given for Q&A at the end of the talks. However, we wanted to test a new approach and leave the discussions at the end of each session. This turned out to be challenging to handle in a successful way, improvement to this approach can be possible through the collection of questions/suggestions during the sessions either with the use of dedicated paper forms or electronically. We look forward to evaluating this further and improving our feedback in future events.

## Future activity and prospects

As from our proposed plan, we are now working at producing at least one collaborative bid submission within one year from the event date (expected deadline 3<sup>rd</sup> February 2017). Dr Andreoli, Dr Meenakshisundaram, and Dr Alison will look into opportunities and possible funding sources.

## Organising committee

The organising committee includes Dr Enrico Andreoli and Dr Covadonga Correias (Swansea University), Dr Sankar Meenakshisundaram, Dr Ewa Nowicka, and Dr Alberto Roldan Martinez (Cardiff University), and Dr Gordon Alisson (Aberystwyth University).

The organising committee would like to acknowledge and thank Ms Suzanne Neeves (Swansea University) for all the impeccable work and support in organising the event (accommodation, catering, travel, etc.).