



## Hannover-Bristol Green Energy Summit – Friday 10<sup>th</sup> June

### Workshop 4: Wind Energy – Emerging Technologies

Facilitated by Johnny Gowdy, Regen SW.

Reported by Lindsay Sutherland, Low Carbon South West.

Attendees:

- Colin Morgan, GL Garrad Hassan
- Christian Keindorf, SKI Ingenieurgesellschaft GmbH
- Dr Paul Harper, University of Bristol
- Chris Williams, Goodridge Environmental
- David McSherry, Cormarent
- Andrew Fraser, UKTI
- Julian Garnsey, RWE Energy
- Gernot Hagemann, hannoverimpuls GmbH

**Johnny Gowdy** introduced the workshop by giving an overview of wind energy in the South West and **Regen SW**'s work in this field. A key area of opportunity for Bristol and the South West is the manufacturing and supply chain, with two offshore sites around the South West coast - the Atlantic Array, in the Bristol Channel and another one off the Dorset coast. There is also the possibility of a 'South West Marine Energy Park' which would attract further investment and support commercialisation.

As Holger Giebel from **TimberTowers** could not attend, **Gernot Hagemann** gave his presentation on his behalf. TimberTowers was founded in 2008 to produce specially made timber-panelled towers for multi-megawatt wind energy plants, using cross-laminated timber and surface material components. The main advantages are that these towers are: a carbon-neutral, easily recyclable natural product; very cost effective, producing savings of up to 20% per project; and more easily transported to almost any location worldwide.

**Colin Morgan** gave an overview of **GL Garrad Hassan**'s work in the wind energy sector. As Colin explained, it is a critical time for offshore wind, with the need for huge investment and the current hesitation amongst investors.

**Christian Keindorf** from SKI Ingenieurgesellschaft GmbH gave a detailed presentation on their technical research into grouted connections on offshore wind turbines. This is an important topic for offshore wind as grouted connections often become damaged. Christian explained how the introduction of 'shear keys' into the structure can minimise such damage, thus avoiding the need to spend time and money on repair work.

**Chris Williams** from **Goodridge Environmental** gave a brief presentation on their work providing small scale vertical axis wind turbines.

### **Summary of discussion points and conclusions:**

- **Better academic collaboration**

The universities in the Bristol and Hannover regions have similar aims and would benefit from closer collaboration and knowledge sharing. For example, Hannover University have recently introduced a new MSc course in Wind Energy and there is huge potential to set up better links or an exchange scheme with universities in the Bristol region. Low Carbon South West could coordinate this with its contacts at the various universities and link to the wider skills agenda. There are some good existing internship/apprenticeship schemes but these need to be marketed more widely to increase awareness and participation from industry.

- **Opportunities for Bristol**

Bristol is in a good position to get involved in the R&D, manufacturing and supply chain for offshore development projects, with its excellent technological knowledge base and existing infrastructure. Vestas already have a base in the region and many large companies in the aerospace industry have transferable skills and technologies.

- **SME collaboration**

The South West is home to many SMEs in the renewable energy industry and many of these will find it difficult to take advantage of these opportunities alone. There are many organisations trying to help SMEs but many SMEs are confused about which organisation to turn to. The Global Wind Alliance was set up to bring together manufacturers, engineers and other skills needed for wind development projects into a single, reliable point of access. A similar alliance could be useful to bring together relevant organisations in the South West and incorporating relevant expertise from Hannover at the same time. SMEs could work together on bids or joint ventures. Such collaboration could also make it easier for academia to reach more SMEs and cultivate better links.

- **Regional champions**

In addition to the work of SMEs, there is a real need for some of the big companies in the region, such as Rolls Royce or Vestas, to win some big manufacturing contracts and act as champions for offshore wind and wave energy in the South West.