

Aberdeen Goes Green

City famous for being the centre of North Sea oil production hosts UK's largest renewable energy event

By Kathy Strachan

Sustainable, renewable, green economy, carbon foot print, low carbon technologies, carbon capture, smart meters and even smart grids, investment and innovation were words that could be heard routinely at the All-Energy 2011 Exhibition and Conference. This is the UK's largest renewable energy event which took place in Aberdeen in May 2011 and enjoyed record attendance with over 8,000 attendees from more than 50 countries, approximately 580 exhibitors from 20 countries and presentations from over 280 speakers.

This was my first visit to an event which has been taking place in Aberdeen since 2001. It was well organised, well attended and enjoyed a healthy buzz of optimism after the disappointments of the last few years. This optimism was in part due to recent announcements from both the Coalition Government and the Scottish Government. Alex Salmond, Scotland's First Minister, explained that the new Scottish Government's 2020 renewable electricity target has been raised to 100 per cent, and pledged to move "still faster and further" to secure Scotland's place as the green energy powerhouse of Europe.

The conference sessions covered everything from wind farms and wave power to smart grids, also Carbon Capture and Storage (CCS), solar energy, and Biomass energy, for example wood chips and Geothermal Energy. Some of these are becoming well established in the UK, others are new and all are currently being researched. Innovation and investment were two words used a lot at this conference. Attendants were hopeful that investment is set to increase so that some if not many of the projects under discussion can get off the ground. For many, investment is from the Government and strongly influenced by prevailing economic factors. However, according to one source, new government spending, regulation and policies helped the industry weather the global financial crisis better than many other sectors.

Climate change concerns, coupled with high oil prices, peak oil, and increasing government support, are driving increasing renewable energy legislation, incentives and commercialisation. In the UK the Office for Renewable Energy Deployment (ORED) has the job of ensuring that government targets for renewable energy are met. According to ORED delivering an increase in renewable energy is a complex challenge. It requires work across three sectors and at least 22 technologies and has key dependencies with many other policy areas (for example, Energy Market Reform, energy efficiency, grid, planning, transport, and environment).

Not everyone agrees with the benefits of renewable energy forms. Tim Ross of the Telegraph has reported government figures which say that 13 of the past 16 months have been calmer than normal - while 2010 was the "stillest" year of the past decade. Meteorologists believe that changes to the Atlantic jet stream could alter the pattern of winds over the next 40 years and leave much of the nation's growing army of power-generating turbines becalmed. He says that the Coalition has drawn up plans to open more wind farms in an effort to meet Britain's European Union target of providing 15 % of its energy from renewable sources by 2020. More than 3,600 turbines are expected to be installed in offshore wind farms over the next nine years. First global warming now global calming - at least the weather keeps predictions alive.

But at this event, wind farms, especially offshore wind farms are seen as having a great future. In Scotland, the existing Oil and Gas Supply Chain is being consulted and involved to ensure use is made of existing technologies and knowhow to avoid wasted expenditure on reinventing the wheel. The same chain can be utilised in the delivery of CCS projects where Carbon Dioxide from Power stations is injected into suitable and safe deep aquifer layers.

The same supply chain is already working with the offshore operators to use Enhanced Oil Recovery (EOR) techniques. One of these is Carbon Dioxide injection into the depleted reservoir so the technology already exists to get this undesirable gas pushed deep underground. But this technology does not come

cheap so to appease the opponents of CCS, the Green companies will need to show that it is a safe, reliable and cost-effective way of diminishing the effect of greenhouse gasses.

Of course, being Cambashi, we are particularly interested in the role of technical applications. Sustainability and green energy needs innovation and investment and these in turn need design and design needs software! Software vendors were in evidence at the event, including Ansys, MSC Software, Dassault Systèmes, and Siemens.

Ansys, a leader in engineering simulation technology, was promoting its solution for the renewables energy sector (as well as giving away lovely little stress buster wind turbines).

Other mainstream CAD companies who were not present at the show did advertise in some of the journals. Autodesk advertised its Clean Tech Partner Program in the Energy Engineering issue handed out at the event to promote the use of its software in clean technology start-ups.

SpaceClaim was in a buoyant mood after recent successes and says it represents the most significant technology advancement in 3D engineering in more than a decade, delivering a tool that any engineer can use with little to no training. The company was there because it recognises that all new developments need design technology and need it to be as easy to use as possible.

CD-Adapco, who describes itself as the world's largest independent CFD-focused provider of engineering simulation software, support and services, was also in attendance and doing a lot of talking to a lot of prospective customers and seemed very pleased with the opportunities discussed at this event.

Another developer was Digirati who was there to promote its Social Business and Collaboration solutions, probably very useful in an industry that has so many and varied stakeholders, from numerous Government Departments in various countries, to special interest groups, consortiums, universities, investors, Green companies, and supply chain companies all serving a plethora of different branches of the Renewables Industry.

Whatever the detractors say they cannot take away the enthusiasm and optimism that was so prevalent at this event. We need new energy sources, they need to be sustainable, and the people I met are the ones who are leading the way to getting these in place both in the UK and overseas.