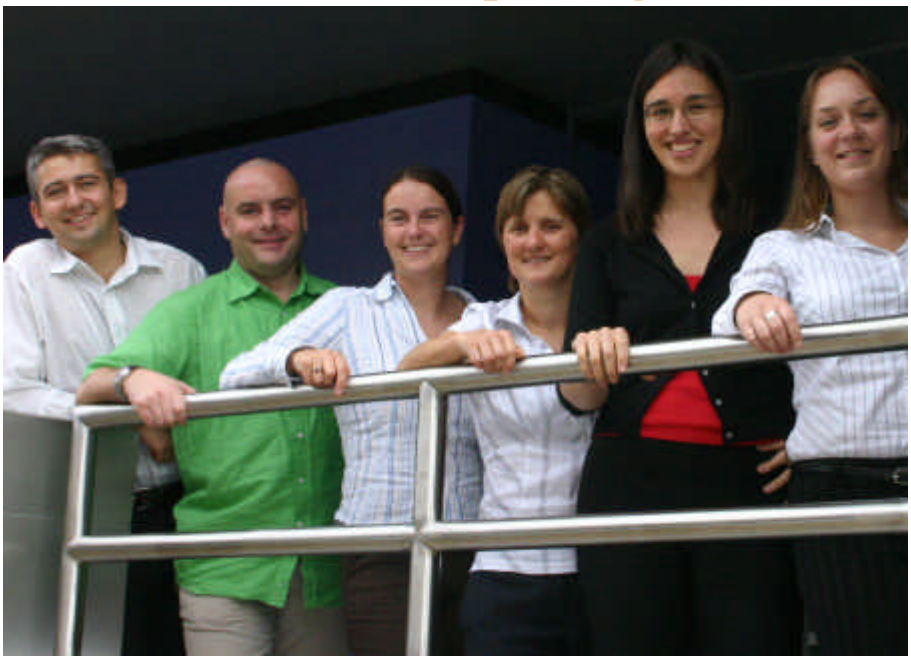
sgurrENERGY
sustainable energy solutions

News

Issue 3 Autumn 2006

The Latest Developments from your Sustainable Energy Solutions Provider

Milestone project for Scotland



SgurrEnergy's Wind Analysis team L-R Richard Boddington, Gordon Day, Shona Quinn, Maggie Bass, Carmen Solorzano and Jenny Longworth. Missing from the photo Neil Doherty.

"SgurrEnergy has provided ongoing technical support to this milestone project for ScottishPower and Scotland, addressing a wide range of technical issues."

SgurrEnergy continues to work with ScottishPower, the biggest developer and operator of onshore wind energy in the UK, on the development of Europe's largest wind farm, Whitelee. With a capacity of 322MW from 140 turbines the project will provide 'over 11% of the 2010 Scottish Executive's renewable energy target (18% of all electricity generation in Scotland), and 2.4% of the UK wide target for 10% of electricity generation from renewables by 2010.' (www.bwea.com). At the time of writing, the UK has 134 operational projects with a capacity of 1937 MW of clean energy to the national grid (www.bwea.com). Located on Eaglesham Moor, 10 miles south of Glasgow, the Whitelee site covers an area of 55km². This project is expected to become operational in 2008, with completion (including visitor centre) in 2009.

SgurrEnergy has provided ongoing technical support to this milestone project for ScottishPower and Scotland, addressing a wide range of technical issues.

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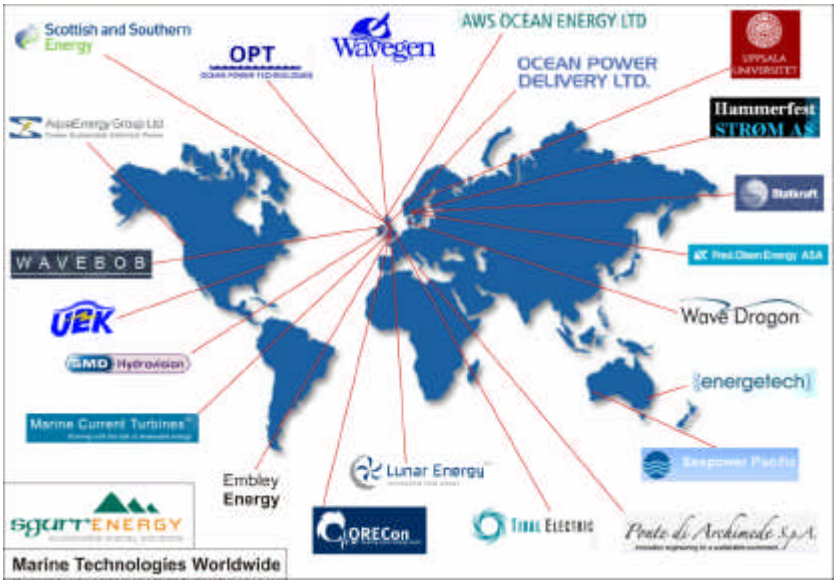
Powering Ahead….

SgurrEnergy's expanding Technical Services team is currently involved with Power Performance Assessment testing at the UK's two largest operational wind farms. Blacklaw, a 54 turbine wind farm owned by ScottishPower and Scottish and Southern's 52 turbine project at Hadyard Hill. Both have 2 test turbines and protocols for testing all turbines developed in conjunction with SgurrEnergy. This experienced team has been completing PPA's on wind farms for over 10 years. Paul McFarlane Technical Services Manager commented, "this service confirms compliance with contractual warranties and identifies any underperforming turbines. We provide the comfort and reassurance that the wind farm and investment is performing to the specification criteria within the contracts." To facilitate this SgurrEnergy draw on their in-house expertise in, mast installation and instrumentation, data analysis and management, *continued on page 3*

Inside this issue

Worldwide Wave and Tidal Powers



SgurrEnergy has recently completed a worldwide review of marine energy technologies on behalf of ScottishPower (an international energy company). The report included an assessment of over 70 wave and tidal devices (from concept to commercial devices). Twenty-two of these devices were selected for more detailed review that required specific information about the company and the technology to be gathered directly from the developers. This allowed the production of a comprehensive report on the viability of the company, the technology, financial status, economics of generation and the potential environmental impact of the device. The report concluded with a shortlist of 'front runners' leading the way towards the development of the devices suitable for large scale 'farm' development. Gregory Dudziak, Senior Renewable Energy Consultant, commented, "this is an exciting time for the marine industry as a number of wave and tidal projects are actively pursued worldwide and particularly in the UK. Providing that these initial projects deliver on their promises, marine energy is poised to develop exponentially over the next few years and take an increasing role, alongside other more mature renewable energy technologies, towards providing clean electricity and combating climate change. The UK has great potential to be the world leader in marine energy." For further information on marine energy please contact Gregory at gregory.dudziak@sgurrenergy.com or on 0141 433 4666.

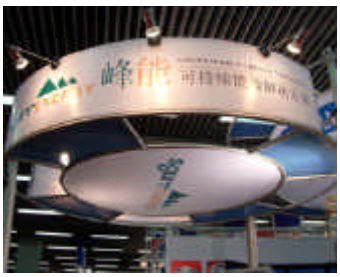
Latest from Beijing

SgurrEnergy's Beijing office opened in June 2006 in the heart of the Central Business District. Overlooking one of the most dynamic wind markets in the world, our China team is already supporting project development all over the country as well as in other countries of Asia Pacific such as the Philippines.

China's new renewable energy law is a major factor driving higher targets for wind capacity. This force was felt at our debut in the Wind Power Asia 2006 Exhibition in Beijing this year (pictured below). China is a vast country with enviable wind resources, however developers face technical, logistic, and business challenges as they implement their wind farm plans in this still maturing market. It was no surprise that the SgurrEnergy Beijing team was approached by a wide variety of companies for project support. For example there has been a strong interest in our SgurrTrend condition monitoring systems as both developers and turbine manufacturers look at the long term profitability of their wind farm operations.

Our China office is staffed with a technical and management team including capacities in wind analysis, manufacturing and logistics, maritime industry, legal due diligence, and marketing. It is anticipated that the office will grow steadily with the Asian wind market. Article by Cathryn Chu. If you like to find out more about our services in China please call Claire Forbes on 0141 433 4678 or our Beijing office direct on (+8610) 8591 1886.

峰能 (Pictured above) SgurrEnergy team based in Beijing L-R Cathryn Chu, Eric Walker, Jeffrey Li, Tina Zhao and David Zhang



Recent SgurrEnergy exhibition at Wind Power Asia 2006 in Beijing.

SgurrEnergy team meeting with clients at Wind Power Asia 2006 in Beijing.

Clean, green, quiet fuel of the future...

As interest and investment in hydrogen related technologies increase, SgurrEnergy shows its position at the cutting edge by providing due diligence services on a proposed high volume fuel cell manufacturing plant. The Department of Energy predicts fuel cell costs to be comparable to conventional engine costs by 2015. Governments around the globe are announcing hydrogen transport trial programs and German fuel cell manufacturer Proton Motor, following the market demand, is increasing capacity of their proposed high volume production line.

Proton Motor specialise in delivering a hybrid electric fuel cell system, principally for buses and forklift trucks which utilise energy storage devices to provide power during peak demand situations. The energy stored from both regenerative breaking and directly from the fuel cell, allows the rated power of the fuel cell to be reduced, which Proton claim results in an overall capital cost and fuel saving when compared with a fuel cell only system.

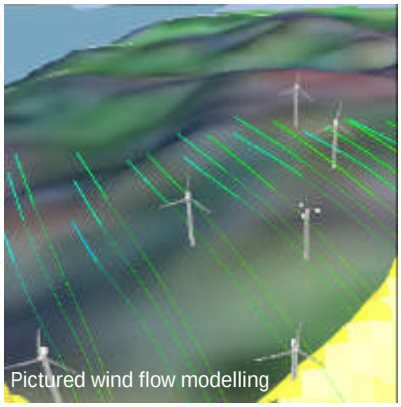
Pictured Hydrogen Fuel Cell forklift courtesy Proton Motor

Proton Motor's current projects include a fuel cell forklift truck which is being tested at Munich airport, and a fuel cell hybrid bus for the City of Barth on the German coast.

SgurrEnergy's due diligence report detailed a technical analysis of Protons fuel cell products and proposed manufacturing process plan which supports the claim that their fuel cells are technically ready for commercialisation.

SgurrEnergy has carried out due diligence on a range of processes and products. For further details please call us on 0141 433 4646.

Milestone project for Scotland


Pictured wind flow modelling

continued from front cover

We have installed and managed four 50m anemometer masts on the site, using the data from these masts to guide the layout optimisation process. The site has a complex distribution of commercial forestry, and so we have developed new wind flow modelling techniques to assess the energy yield across the site, looking not just at the present day but right through the life of the wind farm and the forestry surrounding it.

SgurrEnergy also provided technical support in discussions with the turbine suppliers, carrying out wind regime modelling to identify areas of the site that may have more aggressive wind regimes in terms of turbulence intensity and wind shear. We are currently developing a power performance assessment methodology with the turbine supplier, taking into account the size of the wind farm and the complex forestry surrounding it. This work is ongoing.

Richard Boddington, Wind Analysis Manager commented, "SgurrEnergy has been involved with the Whitelee project for several years and the scale of the development has thrown up various technical and planning issues which have been unique to this project. After all the work that's been put in by all parties it's great to see that the project is now preparing to move into the construction phase and we look forward to providing continuing support during this phase and beyond to ScottishPower".

If you have any questions about wind energy please contact Richard Boddington, Wind Analysis Manager on 0141 433 4650 or email Richard.boddington@sgurrenergy.com

Powering Ahead....

"SgurrEnergy provide the comfort and reassurance that the wind farm and investment is performing to the specification criteria within the contracts."


Pictured Paul McFarlane

continued from front cover

layout assessment, control and instrumentation and project management. SgurrEnergy's extensive experience and well developed analytical tools provide the ideal platform to offer developers a full turnkey solution managing the entire testing process, negotiating performance warranties, testing methodologies with turbine suppliers and due diligence services.

The Technical Services team is currently completing performance testing on 7 major wind farms for a variety of developers and offering related services to many developers and investors across the UK and Europe.

If you would like further information on power performance assessment please contact Paul McFarlane on 0141 433 4660

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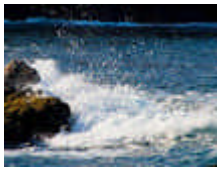
SgurrEnergy is a leading independent multi-disciplinary consultancy specialising in renewable energy projects. The company has undergone rapid expansion since it was founded in 2002. The team includes more than 40 dedicated, highly motivated professionals with hands on experience of project development and management, both in the UK and internationally. We have the rare capability to take a project from inception right through to implementation in a wide range of disciplines including wind, bio-energy, marine, hydro, solar, geothermal and micro-generation. We have specialist teams working in noise and vibration and control and instrumentation. We optimise renewable energy resources cost effectively by providing robust technical reports, impartial advice and project management. Clients in the utilities, investment, manufacturing, construction, renewable energy development and government authority sectors have all benefited significantly from our technical and analytical expertise.

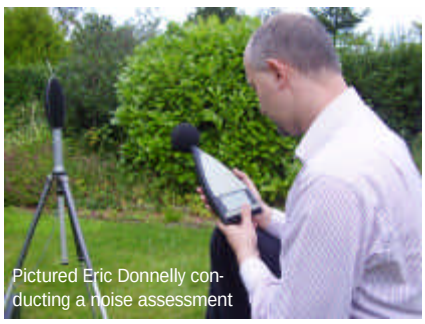
If you would like further information or have any feedback on this newsletter please contact Claire Forbes on 0141 433 4678 or email claire.forbes@sgurrenergy.com






Noise alert

Yell, one of the largest Shetland islands just off the North East coast of Scotland presents a wonderful challenge for renewable energy. The existing wind farm on Shetland has the highest utilised production of any wind farm in the world. The North Yell Development Council has engaged the services of the SgurrEnergy noise team to assist with the complex situation of smaller turbines close to existing housing which requires a considered design to meet recognised noise planning criteria. SgurrEnergy's noise team analysed the proposed project looking at issues such as topography, wind turbine noise outputs and proximity of sensitive receptors. After a successful meeting with the Council representatives a methodology was developed to monitor noise at sensitive receptors agreed with the local environmental health officer. At present this monitoring exercise is being carried out with the data from noise instrumentation correlated with wind speed and direction data from a nearby meteorological mast and analysed at the SgurrEnergy office. This project demonstrates SgurrEnergy's noise team's ability to work on projects as diverse in size and scale as this small project in North Yell to some of the largest wind farms in the UK. For further details please contact Eric Donnelly at eric.donnelly@sgurrenergy.com or on 0141 433 4670.


Pictured Eric Donnelly conducting a noise assessment

We're recruiting!

Due to rapid expansion both in the UK and overseas great career opportunities exist in renewable energy. If you believe you have the skills to succeed send your CV to info@sgurrenergy.com

BWEA 28

embrace the revolution

We're exhibiting at BWEA 28 in Glasgow 10-12 October. Come and see us on stand 513E

Sgurr (pronounced Skoor) Scottish Gaelic meaning peak, pinnacle or summit. We are very proud of our Scottish roots and our name is symbolic of the peaks we strive to achieve every day.