

## £Multi-million turbine contract signed for Chinese wind farm

**SgurrEnergy, a leading independent renewable energy consultancy, has been appointed by Honiton Energy, China's fastest growing foreign alternative energy provider to provide consultancy services on thousands of MWs of wind farms located in Inner Mongolia, China.**

conditions in Inner Mongolia called for special consideration when modelling energy yield from, and choosing, suitably robust turbines. This project itself presents considerable challenges not only of technical issues but the added obvious cultural and language differences.



L-R Paulo Fernando Soares, Suzlon Energy and Paul Eveleigh, Honiton Energy sign the main turbine contract at SgurrEnergy's Headquarters in Glasgow

SgurrEnergy is ideally suited to share their experience and knowledge of the Chinese energy marketplace, grid infrastructure, local laws and construction regulations, to aid and smooth negotiations with Chinese contractors. SgurrEnergy has an office in Beijing, China and is an active member of the China Britain Business Council CBBC.

Steve McDonald, Implementation Director, SgurrEnergy commented, "The rising demand for energy

across China coupled with the implementation of a number of laws by the

On 28 April 2007 one of the key milestones of Honiton's first project (Bailingmiao Phase 1 - 50MW) was achieved when the multi million pound wind turbine contract was signed at SgurrEnergy's offices in Glasgow between Honiton Energy and Suzlon, Indian manufacturer of high performance wind turbines. Stewart Alexander, Chief Technical Officer, Honiton Energy, explained "SgurrEnergy's consultants have been instrumental in pushing this project forward whilst ensuring the technical elements are sound."

This is the first of a number of phases of the project where SgurrEnergy consultants are providing technical support to assist in the feasibility, design and development of this significant portfolio of wind farms in China. The extreme temperature



Steve McDonald

Chinese government that clearly set China on an energy efficiency, renewable energy and sustainable development path are supporting the rapid expansion of the renewable energy market. Knowledge and experience is being transferred from the mature UK market to China to aid this rapid development. We look forward to seeing this project successfully into the construction phase in the coming months."

### Inside this issue

- > Banking on offshore wind
- > Driving down uncertainty with Lidar
- > UK 8th country in world to install 2GW of wind energy
- > Marine energy site search
- > Sabien Technology achieve successful AIM floatation
- > Noise assessment on small scale wind turbines

## Ian Irvine achieves Carbon Trust accreditation



Ian Irvine

**SgurrEnergy is delighted to announce that Ian Irvine (co-founder and technical director) has been awarded accreditation to the Carbon Trust.**

About the Carbon Trust, "the Carbon Trust is an independent company funded by Government. Our role is to help the UK move to a low carbon economy by helping business and the public sector reduce carbon emissions now and capture the commercial opportunities of low carbon technologies." [www.carbontrust.co.uk](http://www.carbontrust.co.uk)

Ian commented, "I am delighted to receive this accreditation which illustrates our commitment to carbon reduction, energy management and efficiency which affects every organisation's bottom line." For further information on energy management or efficiency contact Ian Irvine on 0141 433 4646 or email [ian.irvine@sgurrenergy.com](mailto:ian.irvine@sgurrenergy.com)

## UK installs over 2GW of wind energy

SgurrEnergy supplied technical advice and ongoing technical support to wind farm developer Airtricity on the Braes of Doune wind farm in Stirlingshire. This 36 turbine 72MW wind farm is a milestone project for the UK as it becomes the 8th country in the world to install over 2GW of wind energy.

Eddie O'Connor, Chief Executive, Airtricity commented, "We are delighted that our new 72MW Braes of Doune wind farm is playing a pivotal role in achieving a UK generation record of two gigawatts of wind power."

The UK took 14 years to reach the 1GW barrier but has reached the 2GW barrier in less than two additional years. At the time of writing there are "1261MW of projects currently under construction, 3831MW of consented projects awaiting construction and a further 10,739MW awaiting planning permission." [www.bwea.com](http://www.bwea.com).



Paul McFarlane, Technical Services Manager, SgurrEnergy explained, "We have provided ongoing technical support to this project from the outset. We are delighted to see it through the construction and commissioning phase and into full operation providing clean green energy to the grid and supplying around 45,000 homes with sustainable renewable energy."

### Global wind energy statistics

World Position	Country	MW installed
1	Germany	20,622
2	Spain	11,615
3	USA	11,603
4	India	6270
5	Denmark	3136
6	China	2604
7	Italy	2123
8	UK	2034

Source: Global Wind Energy Council, Feb 2007, [www.gwec.net](http://www.gwec.net)

## Driving down uncertainty with Lidar



Peter Clive

**SgurrEnergy is delighted to announce enhanced capabilities in wind resource assessment and the investigation of operational turbine performance.** Lidar is a mature laser sensing technology now successfully being applied to wind power applications. This technology augments our already proven wind resource and quality monitoring and modelling skills. This compact device can be quickly and easily deployed where masts are unsuitable. Lidar complements our existing market leading tools and advanced analysis

methods to provide our clients with detailed accurate performance figures. Lidar technology enables us to drive up the P90 energy yield and consequently reduce the cost of risk mitigation a wind farm development might entail, or indeed demonstrate the viability of developments previously considered marginal. Lidar has the added benefit of enabling detailed investigation of turbine power performance when diagnosing issues or when implementing a reliability centred maintenance programme. Comparison studies indicate measurements are at least as accurate as cup anemometry. SgurrEnergy is now taking bookings for Lidar, contact Peter Clive for further information on 0141 433 4675 or [peter.clive@sgurrenergy.com](mailto:peter.clive@sgurrenergy.com)

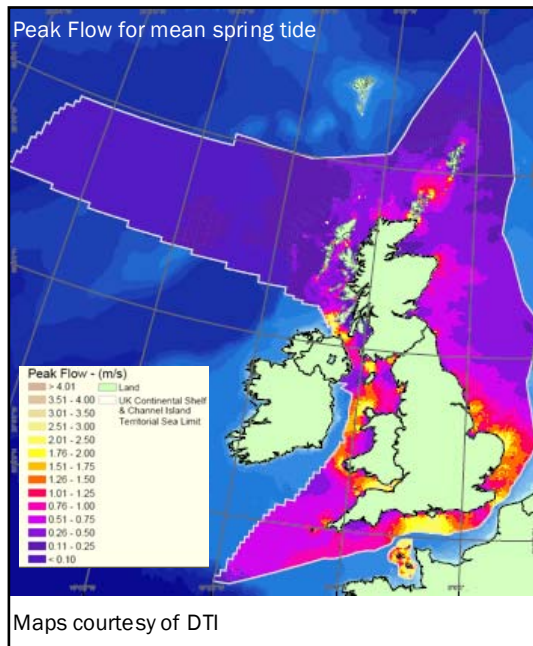
### Lidar at a glance

1. Drive up the P90 energy yield
2. Measure wind shear profile across the whole rotor diameter.
3. No planning permission required
4. Verify wind flow models at multiple locations
5. Suitable for otherwise inaccessible locations
6. Can be deployed in forestry
7. Compact and portable enables quick and easy deployment
8. The perfect partner to cup anemometry

*"Lidar represents a new era in wind resource and power performance assessment"*

## ScottishPower launch UK marine energy development site search

ScottishPower Renewables has recently appointed SgurrEnergy as part of a consortium to carry out a UK marine energy site search. The combined expertise of ScottishPower, Metoc and SgurrEnergy will identify sites around UK waters suitable for future wave, tidal and offshore wind energy development. ScottishPower will focus on grid, technology and project management. Metoc, provider of environmental design and risk management expertise for resource development in particular marine, coastal and river environments will investigate the planning and environmental constraints. Finally SgurrEnergy, independent renewable energy consultants will focus on the marine energy resource part of the project.



Results are expected in the last quarter of 2007. A review of national level data and previous studies has been performed by SgurrEnergy as part of this ongoing work. Alan Mortimer, Head of Renewables Policy at ScottishPower commented, "The UK marine renewables industry is at a critical stage. It is essential that the first projects are able to properly prove technical, commercial and environmental criteria before the industry can move on to large scale deployment. To do that we need to have the right sites, and this study will ensure that we locate these."

## Banking on Offshore Wind



Paul McFarlane

Europe is home to another "world first" as the award winning 120MW

**Q7 offshore wind farm moves into the construction phase ahead of schedule. This project secured financing in the last quarter of 2006 and is the world's first offshore wind project to achieve this.**

SgurrEnergy teamed up with Mott MacDonald to act as lender's technical advisor for this challenging project. Paul McFarlane, Technical Services Manager, SgurrEnergy, commented, "this project will set the standard for those that follow because of its unique financial structure, which has had an impact on the rapidly expanding offshore wind industry as a whole." The project, currently under construction, is located 23 km off the coast of the

Netherlands and is financed by Rabobank, Dexia and EFK. SgurrEnergy performed the energy yield due diligence and carried out a technology assessment on behalf of this consortium of lenders. In addition SgurrEnergy completed an analysis of long term wind speed trends to get the long term picture for the life of the wind farm and concluded the work with a quantification of the risks. The wind farm is expected to become operational in the first quarter of 2008.

SgurrEnergy is also currently working with Mott MacDonald to provide lender's technical support to a further 600MW of offshore wind projects both in the UK and overseas. SgurrEnergy has amassed a wealth of offshore wind knowledge over the past 5 years including key issues such as turbine design, marination and access for maintenance. For further information contact Paul McFarlane on 0141 433 4660 or paul.mcfarlane@sgurrenergy.com

## Sabien Technology achieve successful AIM floatation

Over the past five years rising energy prices and environmental concerns have led a number of companies to use their expertise to develop products that can help reduce both energy prices and carbon footprints in the UK.



Market demand has led Sabien Technology Ltd to develop the M2G energy-saving boiler control unit. Founded in 2004, the company promotes the M2G to commercial and industrial sectors to help reduce energy consumption and carbon emissions. SgurrEnergy's due diligence report detailed a technical analysis of Sabien's M2G energy saving boiler control

unit to assess the accuracy of claimed energy and financial savings and the proposed production costs and costs associated with a typical installation. SgurrEnergy concluded that the Sabien M2G product is ready for commercialisation from a technical perspective and that the claimed fuel savings are accurate within reasonable tolerances based on the supplied information. SgurrEnergy is delighted to announce that Sabien Technology achieved successful floatation on the Alternative Investment Market (AIM) on 20 December 2006. SgurrEnergy has carried out due diligence on a range of processes and products. For further information contact Ian Irvine on 0141 433 4646 or email ian.irvine@sgurrenergy.com.

Photo courtesy Sabien Technology

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 email [claire.forbes@sgurrenergy.com](mailto:claire.forbes@sgurrenergy.com)

## Contact Us

### UK

79 Coplaw Street  
Glasgow  
G42 7JG  
Tel +44 (0) 141 433 4646  
Fax +44 (0) 141 433 4647  
Email [info@sgurrenergy.com](mailto:info@sgurrenergy.com)

### 峰能 China

3105 Full Tower  
No.9 East Third Ring Road  
Chaoyang District  
Beijing 100020  
Tel (+8610) 8591 1886  
Fax (+8610) 8591 1887  
[www.sgurrenergy.com](http://www.sgurrenergy.com)



## Lighting up optimisation

**Health and Safety ergonomics in the workplace includes lighting provided at various types of work areas. The lighting must be appropriate having regard to the nature of the location, the type of work being performed and the movement of persons in the area during normal and emergency situations.** Work areas can have insufficient lighting or indeed in some instances too much. Both of these undesirable situations can have Health and Safety implications and reduce productivity of your workforce. In addition, over illumination consumes more energy than is necessary and ultimately is more costly. There are legal requirements for the Health and Safety aspects of illumination ergonomics that must be complied with and these place duties upon employers.

SgurrEnergy was recently commissioned to carry out an assessment of

illumination ergonomics in an office with particular focus on the provision of emergency lighting. The results of this assessment indicated areas where lighting could be improved. Jim Clive, Principal Noise Consultant, SgurrEnergy commented, "A detailed technical report was issued guiding the client towards compliance with legislation at economic cost."

For further information on lighting, noise and vibration contact James Clive on 0141 433 4671 or email [james.clive@sgurrenergy.com](mailto:james.clive@sgurrenergy.com)



## Noise assessment on small scale wind turbines



Eric Donnelly

**As Microgeneration technologies are being installed in and around the built environment the interest in utilising renewable energy at small scale has grown, SgurrEnergy is increasingly being called upon to**

**transfer knowledge and experience to the Microgeneration sector.**

Our Noise and Vibration team recently conducted a survey for a leading manufacturer of small scale wind turbines. The work was carried out with the guidance of BS EN 61400 -11 which aims to characterise the noise emissions from turbines. Planning officers will often ask small turbine manufacturers to adhere to standard noise criteria.

SgurrEnergy can independently quantify the noise emissions and assess the impact at a proposed location, for further details please contact Eric Donnelly on 0141 433 4670 or [eric.donnelly@sgurrenergy.com](mailto:eric.donnelly@sgurrenergy.com)

## 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 in this dynamic industry send your CV to [info@sgurrenergy.com](mailto:info@sgurrenergy.com)**