



*SgurrEnergy wishes everyone a very prosperous new year in 2007!*

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## 2007, the year of the wave...

As part of a consortium, SgurrEnergy, a leading independent multi-disciplinary consultancy specialising in renewable energy, has performed a technical due diligence study on the Pelamis wave energy device and associated wave energy farm project in Orkney on behalf of ScottishPower. Developed by Edinburgh based company Ocean Power Delivery, the Pelamis prototype has been tested at the European Marine Energy Centre in Orkney and has had periods at sea since early 2004; accumulating in excess of 1000 hours of real sea conditions during these tests. The due diligence final report assessed the following key areas: survivability and reliability of the device, operation and maintenance, with SgurrEnergy



The Pelamis at sea. Photo courtesy OPD

*“The UK has the potential to become the world leader in marine energy.”*

focussing on energy yield issues, review of the device power table, review of the wave resources, energy yield assessment, uncertainties, and review of performance assessment standards and protocols. In its initial phase, the

planned 3.75 MW wave array would consist of five Pelamis', each rated 750kW, with further plans for the wave array to provide important information towards the development of a wave farm of more than 20MW of rated capacity.

The Pelamis is currently under review by ScottishPower with hopes of realising the UK's first large wave farm in the near future.



Gregory Dudziak

Gregory Dudziak, Senior Renewable Energy Consultant, commented, "It has been very interesting and challenging to perform this due diligence exercise on OPD's Pelamis. The UK has the potential to become the world leader in marine energy, and the planned wave array development at EMEC would pave the way for the marine industry expansion worldwide." For further information contact Gregory on 0141 433 4666 or [gregory.dudziak@sgurrenergy.com](mailto:gregory.dudziak@sgurrenergy.com)

## International success



L-R Steve McDonald (director), Tom Aitken (whisky consultant), Maurice Pert (piper) and Ian Irvine (director) toast SgurrEnergy's success.

SgurrEnergy celebrated moving into new larger offices in Glasgow and the milestone of our first international office in Beijing in style on St Andrews night. Full story on back cover.

## Internationally attended Hydrogen conference

In September 2006 SgurrEnergy held the 6th meeting of the International Energy Agency's Implementing Agreement on Hydrogen.

The meeting saw 20 hydrogen experts from around the world descend on Glasgow for a week of discussion and presentations relating to the Implementation and Evaluation of Hydrogen projects. Previous working meetings in the series had taken place in Japan, USA, Canada, Iceland and Spain.

The UK meeting also provided the delegates with an opportunity to visit the HARI (Hydrogen and Renewables Integration) and PURE (Promoting Unst Renewable Energy) projects at Loughborough and Unst respectively. These projects are two of the

most innovative hydrogen demonstration projects in the UK and highlight the possibilities involved with using the gas as a stor-

age medium for renewable energy. The UK is represented under this IEA Agreement by a consortium headed by

SgurrEnergy, in conjunction with the University of Strathclyde's Energy Systems Research Unit (ESRU). The consortium is sponsored by the DTI. For further information on hydrogen please contact Adam Spearey on 0141 433 4667 or email [adam.spearey@sgurrenergy.com](mailto:adam.spearey@sgurrenergy.com)



The hydrogen experts from all over the world at HARI

## Setting the record straight on Microgeneration

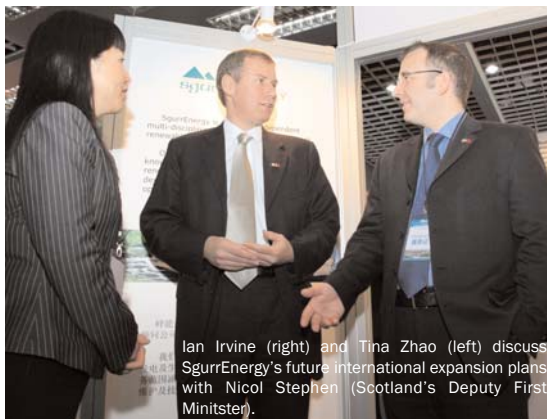
SgurrEnergy hosted their very own micro-generation seminar on 20 December 2006. As an independent consultancy, SgurrEnergy is in the ideal position to offer unbiased, trustworthy advice. Overwhelmed and delighted by the response SgurrEnergy plan to run a series of topical seminars in the future. Geoff Hoffheinz, Senior Renewable Energy Consultant at SgurrEnergy delivered an informative presentation to 70 delegates. Geoff covered the various technologies available including solar thermal, solar PV, micro combined heat and power, ground source heat pump, micro wind, bio-energy,

and micro hydro. Geoff advised developers to "build it in, don't bolt it on. No two sites are the same and so modelling is crucial to ensure your microgeneration investment has a positive return." The current economic and regulatory environment surrounding the technologies, the suitability, project considerations and some case studies were also included. The afternoon was rounded off with a lively questions and answers slot.

If you have any questions about microgeneration modelling please email Geoff at [geoff.hoffheinz@sgurrenergy.com](mailto:geoff.hoffheinz@sgurrenergy.com) or call 0141 433 4665.



## The Great Wall World Renewable Energy Forum



Ian Irvine (right) and Tina Zhao (left) discuss SgurrEnergy's future international expansion plans with Nicol Stephen (Scotland's Deputy First Minister).

Beijing, China was home to the Great Wall World Renewable Energy Forum in October 2006. China has seen and continues to witness rapid development in renewable energy. The Chinese government has been instrumental in this development implementing a number of laws that clearly set China on an energy efficiency, renewable energy and sustainable development path. Shi Dinghuan, Chairman stated this conference was designed to, "provide a platform to promote the exchange of ideas between the most influential leaders in the field of international renewable energy development and will promote gen-

eral global co-operation for sustainable development."

Ian Irvine, technical director and co-founder of SgurrEnergy attended the event along with Tina Zhao representative of the SgurrEnergy Beijing office. Ian commented, "it is great to see so much happening in China, these people are not just talking about renewable energy they're getting on and making projects happen." SgurrEnergy would like to take this opportunity to congratulate Nicol Stephen on winning the Best Politician of the year award at the Scottish Green Energy Awards 2006.

## Turkish hydro power



Geoff Hoffheinz

Hydro electric power plants are well established in Turkey and range in size from a few megawatts to the massive 2,400 MW Ataturk plant in the southeast of the country. Hydro electricity is one of the country's most important domestic energy sources as it provides reliable, inexpensive, sustainable energy.

SgurrEnergy recently reinforced its position as a leading international renewable energy consultancy when it provided a cutting edge due diligence assessment on one of Turkey's established 100 MW hydro electric power plants. The Turkish owners were looking to refinance the power plant and SgurrEnergy personnel with many years operational and maintenance experience on various sized hydro plants, in conjunc-

tion with PowerConsult International were ideally suited to conduct this study.

A site visit was carried out including a broad spectrum of compliance and operational checks, as well as inspections and reviews of the equipment, maintenance regime, operational history and performance of the plant.

Overall the due diligence exercise more than satisfied the clients requirements on assessment of the plant & equipment, construction details, maintenance regime and reporting, operation, and knowledge of the local staff.

For further information about our hydro capabilities please contact Geoff Hoffheinz on 0141 433 4665 or email [geoff.hoffheinz@sgurrenergy.com](mailto:geoff.hoffheinz@sgurrenergy.com)



## SgurrEnergy supports Yorkshire Forward

We are pleased to announce that SgurrEnergy is represented on the Yorkshire Forward Resource Efficiency and Waste and Energy Panel by Dr Adrian Bowles. Adrian has over 15 years experience in renewable energy, particularly bioenergy but is able to draw upon our extensive experience in wind monitoring, development, analysis and implementation in assisting YF in achieving their emission reduction and renewable energy ambitions.

Government action is the primary factor in the UK's response to climate change. This is delivered through a number of targets, not least the aspiration to reduce CO2 emissions by 60% relative to 1990 levels by 2050 and to have 15% of electricity in England and Wales supplied by renewable energy by 2015. Many of these targets are devolved from central government to Local Authorities with Regional Development Agencies taking the lead in delivering these targets while generating new industries and jobs on a local basis. SgurrEnergy is delighted to be supporting Yorkshire Forward with meeting regional targets, helping mitigate climate change and improving resource efficiency for the benefit of all.



Photo courtesy Yorkshire Forward

## Macphie weigh up green energy

SgurrEnergy, a leading independent multi-disciplinary renewable energy consultancy, was recently commissioned by Macphie of Glenbervie, the UK's leading independent food ingredients manufacturer and one of the largest employers in Kincardineshire with 300 employees, to carry out a renewable energy feasibility study.



Freshly baked bread at Macphie. Photo courtesy Macphie.

With growth and technical evolution comes a higher demand for energy. Increasing energy costs particularly oil have had a negative impact on the business. In response Macphie made a strategic decision to investigate alternative sources of energy to reduce their running costs, reduce their carbon footprint and support their expansion plans whilst protecting and creating employment with their company. SgurrEnergy is the ideal company to provide expert advice and support on this project as a fully independent consultancy providing unbiased advice, many years experience and the rare capability to take a project from inception right through to implementation.

The feasibility study assessed the energy generation potential from biomass, wind and hydro. Both wind and bioenergy were considered potential options for Macphie. It has been suggested that a 4MW thermal biomass boiler fueled by wood chips be installed to produce process steam which is then to be used directly in the production process. The production process also uses a large amount of electricity and three wind turbines would generate 3.9MW electricity to offset that electricity demand.

For further information about bioenergy please contact Jenny Longworth on 0141 433 4655 or email [jenny.longworth@sgurrenergy.com](mailto:jenny.longworth@sgurrenergy.com)

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)



## Green Energy Awards 2006



Nick Kelly, Steve McDonald, A Piper & Shona Quinn at the National Museum of Scotland.

Thursday 7 December 2006, SgurrEnergy attended the most prestigious event in the Scottish Renewables calendar.

The Scottish Green Energy Awards held in Edinburgh at the grand National Museum of Scotland, an occasion to celebrate all the great achievements of the industry.

We are delighted to see Whitelee wind farm winning 'Best Renewable Innovation.' SgurrEnergy has supported this project from the outset and continue to do so as it moves into the construction phase in the coming months. SgurrEnergy wish many congratulations to ScottishPower Renewables and to Alan Mortimer for picking up the 'Outstanding Contribution To The Industry' award. SgurrEnergy has fond memories of this event picking up the 'Best New Business' award in 2004. A great night was had by all and the partying continued into the wee hours of Friday morning.

## International success

SgurrEnergy celebrated moving into new larger offices in Glasgow and the milestone of our first international office in Beijing in style on St Andrews night. Despite the driving rain many clients braved the weather to join our celebrations. Ian Irvine, technical director, gave a brief overview of SgurrEnergy's history and exciting plans for the future. "We've come along way in just 4 years where the company started as 2 people in an attic to over 40 dedicated



Kevin Quinn enjoying a wee dram

professionals and growing fast." Guests were treated to a fine Scottish buffet and reception drinks, followed by a whisky tasting world tour. In keeping with the Scottish theme a piper played as guests took their seats for the international whisky tasting event and as Tom Aitken took the stage as the whisky tasting consultant for the evening. Tom recently retired as master blender from John Dewar and Sons where he was responsible for blending Dewar's White Label. Some of the world's finest whiskies from Scotland, Ireland, Japan, USA and New Zealand were enjoyed by all.



## BWEA 28 Defending Darts Title Champions



L-R Neil Doherty, Gordon Day, Adam Spearey & Robbie Gibson

## SgurrEnergy in the Pink!

SgurrEnergy staff dressed in pink on 27 October 2006 to support the Wear it Pink Breast Cancer Awareness Campaign. All proceeds were donated to the charity.



**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.