



SgurrNews

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SGURREENERGY CELEBRATES 10 YEAR ANNIVERSARY



2012 is a year of celebration, marking our tenth year of operation. From humble beginnings in 2002, founding Directors Ian Irvine and Steve McDonald have successfully positioned SgurrEnergy as a leading renewable energy engineering consultancy. Ten years on from formation in a Glasgow attic room, the company is now headquartered in the city centre boasting six international offices and a significant track record of experience in over forty countries.

In 2010, SgurrEnergy became part of Wood Group, an international energy services company, further accelerating our international growth and development.

The company is very proud of its Scottish roots and of how the business has matured in the last ten years. We will be celebrating this important milestone throughout 2012 and we hope to continue our successful relationships now and in the future.



Ten Years of Technical Excellence

Lighting up with solar power

SOLAR TEAM'S DEVELOPMENT ON THE UK'S LARGEST SOLAR POWER PROJECT

Working on behalf of UK developer, Low Carbon Solar and investors, our solar team recently delivered key technical advice on the UK's biggest solar power project to date.

Located in sunny Cornwall and Gloucester, the 22MW portfolio of solar photovoltaic (PV) power plants will provide enough electricity to power around 7,000 homes per year. SgurrEnergy's Senior Renewable Energy Consultant, Adam Spearey, said the construction period of less than 10 weeks per plant was especially impressive given the scale. In total over 80,000 solar panels were installed on an area equivalent to 50 football pitches.

"The very challenging time constraints placed on the projects by the Government's decision to introduce a deadline in which to obtain a feed-in-tariff, placed a considerable amount of pressure on all parties involved."

"Both developer and contractors deserve immense credit for delivering quality projects to much shortened timelines," he added.

"It has been great to make use of the experience we have gained through involvement in many megawatts of solar PV development across the globe on projects getting built right here on our doorstep."

John Cole, Director at Low Carbon Solar said "SgurrEnergy has supported us at each stage during development, construction, commissioning and operation. Adam and the team have brought a depth of PV knowledge and expertise to our projects. We look forward to working with them on other projects."

SgurrEnergy's Solar team is currently acting as Owner's Engineer and Lender's Engineer on projects based in Belgium, France, India and South Africa. For more information on our solar services, please visit our website sgurrenergy.com/Services/solar




Ten Years of Technical Excellence



Sustainable Engineering Worldwide

Hurricane Chasers

 SgurrEnergy has recently been working to assess the impact of tropical storms on wind farms. Referred to as hurricanes when initiated in the Atlantic Ocean, typhoons in the Pacific Ocean, and cyclones in the Indian Ocean, tropical storms are a necessary consideration in the development of wind farm projects in specific locations worldwide.

The primary design standard for wind turbine generators (WTGs), such as the IEC 61400 series, has its origins in the design of European industry leaders. Based on the fact that tropical storm conditions are extremely rare in Europe, due consideration to the selection of WTGs in relation to the ability to withstand extreme weather in non-European locations must be given. In accordance with this, the IEC standard states that the conventional WTG classes I, II and III are not intended to cover tropical storm or offshore wind conditions, advising that such conditions may require wind turbine class S design.

With the proposed development of US offshore wind projects, there is increasing focus on how tropical storms should be considered in WTG structural integrity. Using typical Weibull probability theory to define the 50-year extreme wind condition based on met tower data, statistically, hurricane force winds would fail to be considered. There is consensus that the 100-year storm event based on the hurricane potential needs to be considered in US offshore wind farm design.

Our team recently performed a very detailed assessment of extreme weather conditions for a US offshore wind farm to define the 100-year met ocean conditions for the project's design baseline. In addition to considering historical hurricane events, synthetic modeling was used to identify the severity and probability of hurricanes passing through the project area over a several hundred year period.

Equally important, in some regions, the wind industry also needs to consider the 100-year hurricane event for onshore projects. SgurrEnergy recently performed a Probable Maximum Loss (PML) analysis for onshore wind projects located on islands in the Pacific Ocean.

We considered the historical record of tropical storms in the region, threat from tsunamis, logistical constraints for repair/reconstruction, and the robustness of the substation and island power systems. The results of our study were used for insurance strategy and pursuing several mitigations we recommended to reduce the PML.

With our work and research on tropical storms and wind turbine classification, we are in an excellent position to assess the probability and impact of tropical storms to wind projects, identify proper design basis, and recommend mitigations to help avoid or reduce potential losses and downtime.



Tropical storms are referred to as hurricanes when initiated in the Atlantic Ocean

 The growth and development of international offices, both existing and planned, remains a key focus for SgurrEnergy. To help achieve this, Molly Illife has been appointed International Office Manager and commenced this role at the beginning of January 2012. Molly previously undertook secondments to the Beijing, China and Pune, India offices, where she project managed joint office assignments while undertaking training and operational and process improvement work.

Molly's appointment is in response to the continued success and growth of our international offices as they take on new staff and diversify into new areas of work. The global teams have successfully delivered a wide variety of complex projects last year, producing industry reports for Chinese wind turbine manufacturers, wind and solar due diligence assignments for Indian developers and offshore wind assignments across the US and Europe. Additionally, SgurrEnergy continues to win work in new geographical areas, for example, completing three wind due diligence assignments in South Africa last year.

International development

INTERNATIONAL OFFICE MANAGER APPOINTED TO SUPPORT DEVELOPMENT AND GROWTH



L-R: Nick Capaldo, Alan Smith, Molly Illife, Arnaud Bertrand, Jim Tolan, Cathryn Chu, Brian Fenlon

Solar Guidebook

SGURRENERGY COMPLETES IFC GUIDEBOOK FOR SOLAR POWER IN SOUTH ASIA



We continue to increase our work in solar energy with the recent completion of an ambitious project for the International Finance Corporation, aiming to catalyse the solar market in South Asia. The project, which began in 2010 included our solar experts conducting extensive market analysis of the Indian solar sector and carrying out detailed construction monitoring of a 5MW thin film plant in Tamil Nadu.

Culminating in the delivery of a strategic guidebook for the development, construction and financing of solar power projects, this project marks a significant step in the advance of the Indian solar sector.

Alasdair Miller, who managed the project, commented, "This was a particularly varied and interesting assignment and I believe through our involvement we have made a significant contribution to accelerating the growth of the solar sector in India".

Following delivery of the guidebook, our project team gave a series of 'lessons learned' webinars to a global audience of IFC and World Bank staff and discussed the project at key Indian event Intersolar in Mumbai.

The guidebook is now available through the IFC's website (ifc.org/publications) and is being distributed at international solar exhibitions.

Engineers without Borders (EWB) is a charity researching engineering solutions for the developing world. There is an active branch within the University of Strathclyde's Engineering faculty and they recently asked SgurrEnergy Technical Director Ian Irvine to judge their annual wind turbine build competition.

Sixteen students took part in the event, divided into two teams to include a variety of engineering skills. One team was tasked with building and designing a vertical axis wind turbine and the other was to design and build a horizontal axis wind turbine. Both teams had a budget of £50 and three weeks in which to design the turbines. With plans in place the teams had seven hours to complete the construction of their final product.

Overseeing judge Ian Irvine commented, "I must congratulate the students on their commitment to EWB and finding the time for this worthwhile cause amongst their studies. The teams demonstrated innovation, improvisation, sound engineering knowledge, good leadership and project management skills". Both teams did a fantastic job producing two well-designed turbines but the ultimate winner was judged to be Team Horizontal. Opting for a straightforward, simple design, the group planned the build day thoroughly by allocating tasks and pre-assembling complex components, working as a well organised team.

SgurrEnergy is pleased to support the Engineering faculty at Strathclyde University and the worldwide efforts of the Engineers Without Borders charity.

Engineering students win the day



The winners: Team Horizontal

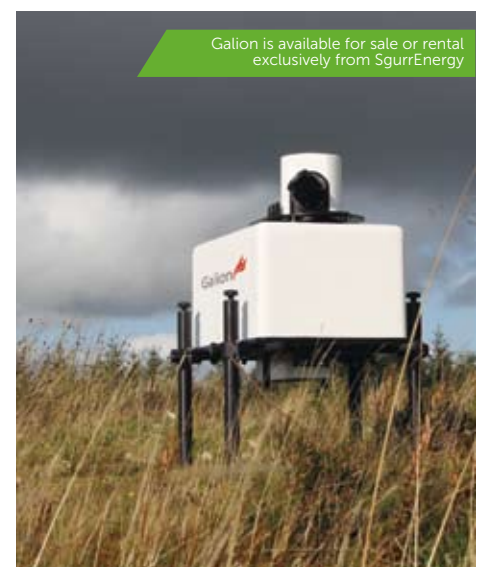
SgurrEnergy advises on remote sensing best practice

Dr Peter Clive of SgurrEnergy has published a paper in the proceedings of EWEA Offshore 2011 advising on remote sensing best practice. This continues SgurrEnergy's involvement in the development of open, transparent and comprehensive guidance on the most effective use of Sodar and Lidar within the wind power industry. This was evident in the recent issue of the committee draft of the 2nd edition of the key wind power standard IEC 61400-12-1. The edition includes a new annex detailing normative guidance for using remote sensing which was authored by a group led by Dr Clive. While restricted in scope to power performance assessment, the guidance is more widely relevant and is likely to have a determining influence

on how remote sensing wind measurement campaigns are conducted in general.

Earlier this year SgurrEnergy issued "Guidance for the use of Lidar devices in Offshore Measurement Campaigns". Remote sensing is increasingly significant offshore, and SgurrEnergy is pioneering cutting edge methods which, for example, deliver offshore power curve tests for the cost of onshore tests, using Galion Lidar.

Papers describing guidance and recommendations for conducting remote sensing measurement campaigns are available from SgurrEnergy upon request, by emailing galion@sgurrenergy.com



Latest events and exhibitions



SgurrEnergy stand at EWEA Offshore 2011.

SgurrEnergy continues to stay in touch with the industry's key players with participation in many high profile industry events around the world.

September was a busy month with attendance at Brazil WindPower, London's 13th Renewable Energy Finance Forum and Clean Energy BC in Vancouver. Continuing the trend, October and November also saw attendance at a number of shows, with positive feedback from AWEA Offshore, the annual CanWEA show and China WindPower in Beijing. We had a great joint show

at EWEA Offshore in Amsterdam which we shared with Wood Group, took part in Base Glasgow and ended a busy year of events represented by solar experts Ben Lumby and Arif Aga presenting on resource assessment and energy yield prediction for an Indian solar PV power plant at Intersolar in Mumbai.

2012 looks set to be an even busier year with planned shows from Paris to Shanghai and we look forward to meeting you at our stand. See our list of exhibitions below or visit sgurrenergy.com to view further information.

Established the UK's first and only meteorological mast H&S forum

SgurrEnergy has formed a health and safety forum to tackle important issues within the met mast community. The first session hosted by SgurrEnergy took place on 25th October 2011, attended by SgurrEnergy, Chillwind and Solarwheel.

The forum will meet quarterly to discuss H&S issues directly related to the installation, maintenance and decommissioning of met masts. Invitations to future sessions will be extended to other companies in the met mast supply chain and also to developers.

We will be attending the following events in the first quarter of 2012. We look forward to seeing you there!

Event	Location	Date	Website
€ REFF Berlin	Berlin, Germany	28 - 29 February	euromoneyenergy.com
RenewableUK Wave & Tidal	Edinburgh, UK	15 March	renewableuk.com
IWEA Annual Conference	Dublin, Ireland	22 - 23 March	iwea.com
EWEA Annual Conference	Copenhagen, Denmark	16 - 19 April	events.ewea.org
Salon des Energies Renouvelables	Paris, France	3 - 5 April	energie-ren.com
\$ REFF Canada	Toronto, Canada	30 April - 1 May	euromoneyenergy.com

Some brave members of SgurrEnergy staff took part in 2011's Movember by growing some fine moustaches. Ten gentlemen, based in three different offices (Glasgow, UK; Portland, USA and Vancouver, Canada) helped to raise money for cancer charities by sporting interesting facial hair for the month of November.

For those of you unfamiliar with the concept of Movember, it involves raising sponsorship money by pledging not to shave and grooming a moustache during November. Our guys decided to take part as a bit of fun but also to raise awareness of prostate cancer, men's health and importantly, funds for the various cancer charities that Movember supports.

Colleagues, friends and family were happy to support our moustachioed engineers and consultants and we are delighted to announce a grand total of £600 sponsorship raised. The event was so popular that we held an inter-office vote for "The Best Tache of 2011". The winner of that proud title and the coveted prize, the Moustache Mug, was Mike Capaldo in our Vancouver office. Congratulations to all involved!

Movember at SgurrEnergy

FUNDRAISER FOR MALE CANCER CHARITIES



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