

# BHA Spotlight

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Hydropower - the pioneer of renewable energy



## Season's Greetings from the BHA!



David Williams

May I wish you all a Very Happy Christmas and prosperous New Year from us all at the BHA.

**It has been a busy and exciting year. We have made progress through our events and lobbying to bring hydropower into the spotlight.**

The new Department of Energy and Climate Change has become more pro-active in the drive to encourage all renewable energy development to meet its challenging targets. Stemming from this is a whole host of issues which have to be addressed to make the targets achievable and the BHA is at the forefront of ensuring hydropower is well established in Government thinking. Overseas markets have never been as large or as challenging. We, as the UK hydropower sector, have some large and difficult battles to fight early in the New Year. I assure you that we will be zealous in our work but we also need the support of the industry to make sufficient noise and to present the arguments. We have to rally our Members of the various Parliaments and Assemblies. We need champions. Let's work together to make 2009 a momentous year for hydropower!

David Williams, Chief Executive, BHA

### Agreement on the RES Directive

Agreements have been made between the EU commission, council of ministers and the European Parliament on the content of the Renewable Energy Supplies Directive. In brief there will be a mandatory target for Europe for 20% of its electrical energy supply to come from renewables by 2020 and 10% of energy/fuel for transport, from biofuels and electricity by 2020.

Each member state will have a target set for it by the EU which will take into account its current level of renewable generation.

An ESHA board meeting is to take place on the 15th December where the implications for Hydropower will be discussed; further information will be available in the next edition of the newsletter.

Steve Cryer

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British Hydropower Association [www.british-hydro.org](http://www.british-hydro.org)



This newsletter aims at keeping members up to date with a range of news articles including updates on BHA activities

# Government Response on the Renewables Obligation Order 2009 Consultation

The Department of Energy and Climate Change (DECC) published the government response to the consultation on the Renewables Obligation (RO) Order 2009 on 2nd December. To view the full response, please visit <http://www.berr.gov.uk/files/file49198.pdf>.

There are a number of items within the Government's response to the consultation which relate to hydropower and deserve more comment:

- It was DECC's proposal in the consultation document that microhydro, being a special case, deserved more support than merely 2 ROCs/MWh on station capacity up to 50kW. They proposed 2 ROCs up to 50kW and 1 ROC thereafter up to a limit of 75kW. We argued that there are technological reasons for microhydro to be up to 100kW but welcomed the principle. In its response, the Government has chosen to rescind its original idea and hydro will enjoy only the same rate of 2 ROCs up to 50kW and any larger scheme would qualify for only 1 ROC. The reasons given are to maintain simplicity and fairness. Naturally the BHA has responded

strongly on this matter.

- BHA requested banding of 1.5 ROCs/MWh from 50kW to 500kW to make schemes in this bracket viable - this has been ignored.
- The altered definition of a hydropower generating station being one where "all electricity has to be generated by water and turbines (which include Archimedes screws)" seems designed to preclude waterwheels from being eligible for ROCs. We fail to see why. Whatever the technology used to convert the water energy to electricity, surely it is fulfilling exactly the same purpose. We have requested clarification on this point.
- We do not understand the logic for limiting ROC support for tidal impoundments to schemes of up to 1GW. If this is merely to preclude the Severn Barrage

from ROC support good reasons should be given. The argument that the RO should not be dominated by one technology is surely more likely if there is a limit imposed on tidal impoundments (i.e. the ultimate predominance of offshore wind).

- There is a call for wave and tidal power to be redefined so that they could be used for estuaries and inland waters. We have argued that all wave and tidal power should be renamed "hydropower" since hydropower technology is used to develop electricity in all these projects. The Government seems to have covered this in its amended definition of hydropower!

A letter has been sent to Mike O'Brien, Minister of State of Energy and Climate Change making these points and stating that, "The BHA is very concerned about the narrow views which are expressed in the Government's response to the Renewables Obligation order and its disregard for many of the views expressed

by stakeholders through the consultation process."

It is now very important that we mobilise as many MPs to ensure that the changes we want are voiced as the Order goes through parliament. We will be providing guidance on this in the New Year.

David Williams

## Renewables Obligation extended to 2037

*Chancellor of the Exchequer Alistair Darling has announced a ten year extension to the Renewables Obligation, as part of his annual pre-Budget report. The announcement came as Mr Darling said that renewable energy was set to play "an increasing role" in the UK energy future. The extension will allow the Renewables Obligation (RO) to run to at least 2037, instead of 2027 as originally planned, which could allay fears that the RO's timeframe is unattractive to investors who could not be sure of subsidies beyond 2027.*

*The Chancellor also announced measure to stimulate the economy by creating potentially one million "high-value green-collar jobs" over the next 20 years. The plans include a £535 million spending boost in the environmental and energy efficiency sector, as the government moves capital spending forward overall. The Chancellor added that Government policies would drive more than £50 billion of investment and activity in the low-carbon sector over the next three years.*

Source: New Energy Focus 1/12/08

## ENVIRONMENT AGENCY – Hydropower licensing

### We have hit a brick wall in the development of the Good Practice Guides.

Our latest input to the Guides was in August. Since then the Environment Agency (EA) has been deliberating the latest draft and considerably modifying their requirements. Unfortunately we have not been apprised of this process or the changes, we only know that a series of deadlines to table the EA's "final" version have been missed. One serious aspect has been that a number of licence applications by

hydropower developers have been subject to considerably different conditions than were being applied a few months ago. We can only assume that the basis for this change is the existence of a new version of the Guides which is now being operated by the EA. (The areas of particular alterations are in the calculation of flow available for the hydropower scheme and intake screening.) The EA states that no version of the Guides has been issued and is attempting to discover why these changes may have been

implemented without informing the Environment Agency Hydropower Working Group on which the BHA and some of its members sit. We have requested a high level meeting in January to clarify just where the Good Practice Guides are going and to discuss how a balance may be obtained between the need for renewable energy generation and protection of the environment. We await the EA's confirmation of a date for the meeting.

David Williams



**SmartestEnergy Limited, the UK's leading consolidator of power for the independent generation sector, announces today its first customer following the successful launch of a new retail business.**

The retail business was developed to focus on supplying Renewable and Good Quality CHP power to business customers at non premium and competitive prices, and through their existing portfolio of generation customers SmartestEnergy has access to around 2 TWh of Renewable and Good Quality CHP, the source of which can be specified for individual customers. Following the successful launch of the retail

# announces **launch of new retail business** with first customer **Barnardo's**

business in September, the first two year contract was signed with Barnardo's to supply Climate Change Levy exempt power from Good Quality CHP to their head office site in Barkingside, Essex.

As a customer, Barnardo's will benefit from SmartestEnergy's new E-billing functionality, allowing them to manage their invoices easily and without the need for paper copies. As well as the environmental benefits of electronic billing, this offers Barnardo's a number of advantages such as management of their own invoicing requirements, secure user access, and the ability to view their bills online for up to three months.



Commenting on their new contract with SmartestEnergy David Woodward, Energy Buyer for Barnardo's said "We are very pleased to become SmartestEnergy's first customer

and welcome the opportunity of working with them not only in respect of our Half Hourly supply but also on a range of fundraising opportunities to benefit the 100,000 children and young people Barnardo's supports throughout the UK"

Newly appointed Vice President – Retail, Jo Butlin, said "We are delighted to supply Barnardo's and will ensure that we provide an excellent service to them throughout their contract. We look forward to working with Barnardo's and supporting their work and hope that we have a long and successful relationship with them."

*SmartestEnergy*

## The Energy Bill and feed-in tariffs

**The Energy Bill contains legislative provisions to implement UK energy policy (following the publication of the Energy Review 2006 and the Energy White Paper 2007), driven by the challenges identified by the government of tackling climate change by reducing carbon dioxide emissions, and ensuring secure, clean and affordable energy. The main changes that would effect hydropower are the measures to introduction of banding and the proposal**

**for a feed-in tariff for small and micropower.**

### **Feed-in Tariff for low carbon small scale generation**

The Bill will include powers for suppliers to make payments to generators or for Ofgem to act as an administrator making onward payments. The generating capacity will be capped at an appropriate level. Cap has not yet been decided but DECC has implied that the government was likely to propose a cap at possibly 5MW. DECC has indicated that household generators currently included in the RO would be required to

move to the feed-in tariff, while other eligible generation currently in the RO may be allowed to choose whether to switch mechanisms on a one-off basis. DECC's thinking about these arrangements was still at an early stage. It is intended that the feed-in tariff mechanism would be launched in 2010. The government is looking to consult formally in summer 2009. The introduction of a feed-in tariff will be made possible by an enabling amendment which the government has introduced into the House of Lords.

The suggested cap has caused controversy already. The main concerns are that a high cap could damage the integrity of the Renewables Obligation (RO) and could have the unintended consequence of encouraging developers to set their projects

below the cap threshold thereby reducing their potential renewable energy contribution. This was an argument raised in relation to the 20MW threshold for refurbished hydropower in the original introduction of the RO. However, in answer to questions on this matter in Scotland, the Scottish Government said that seven out of the eight hydro schemes that down-rated their capacity prior to the introduction of the RO in April 2002, were owned by Scottish and Southern Energy which had stated that the installation of smaller, more efficient turbines at these stations had resulted in increased renewable output.

Look out for the consultation exercise next year!

*Adrian Abbott*



joins new

# Tidal Energy Group and the Government's Severn Tidal Power SEA Steering Group



Representatives from industry and academia, along with key stakeholders from the northwest – including BHA CEO David Williams - will congregate at Lancaster University on the 17th December for the launch of the Northwest Tidal Energy Group, a new group dedicated to looking into tidal energy potential.

The BHA also sits on the Government's Severn Tidal Power Strategic Environmental Assessment (SEA) Steering Group and attended a meeting on 4th November in Bristol to discuss the forthcoming SEA Scoping Report, co-chaired by Sarah Rhodes, Director, and James Marsh, SEA Programme Manager, Severn Tidal Power Unit, Department of Energy & Climate Change. The next meeting is to be held in Cardiff in March 2009.

## Latest data encouraging for all renewable sectors



The Renewable Energy Foundation has published the latest instalment of its Renewable Energy Data files (RED), alongside sector performance overviews for the calendar year 2007. The RED files chart monthly load factors for all 900 renewable electricity generators registered under the Renewables Obligation, and covers the period April 2002 to March 2008. The sectors reviewed for the 2007 are Biomass, Hydro, Landfill Gas, Sewage Gas, and Wind. All sectors are showing signs of continued growth, though some are exceptional.

- Hydro recorded a load factor of 46.7% in 2007, well up on 39.9% recorded in 2006, representing a return to the levels of 2005.
- Biomass, with a load factor of 58%, has almost doubled its installed capacity since 2005, now reaching just over 300 MW.
- Wind recorded a load factor of 27.4%, very slightly up on 2006's figure of 27.1% but with very significant regional variations, ranging from 18.2% in Durham and Northumberland to 32.5% in Northern Ireland. It continues to grow very rapidly, recording 2.4 GW of installed capacity by the year end 2007, up from 1.97 GW in 2006. Moreover, wind now accounts for 34% of all renewable MWhrs generated under the RO, ahead of all other technologies.
- Offshore wind recorded a load factor of slightly less than the national average, at 27.1%

(down from 29.3% in 2006), indicating continued teething troubles.

- Landfill gas recorded a load factor of 61% and Sewage gas of 51%, these being the only fully controllable technologies.

National load factors tend to confirm the emerging long term pattern, with N. Ireland and Scotland outperforming England and Wales by a large margin:

1. N. Ireland: 32.5%
2. Scotland: 28.4%
3. Wales: 25.3%
4. England: 23.3%

Dr John Constable, Director of Policy and Research for REF, said: "Overall this is an encouraging set of results, but the variations between technologies, and regional variation in the case of wind, tends to confirm the view that faults in the Obligation subsidy are continuing to deliver sub-optimal results."

Renewable Energy Foundation

## Apology

In Issue 3 2008 of our newsletter we reviewed our networking reception held at Hydroenergia 08 and listed the UK companies who participated in this reception. Unfortunately, we failed to include Douglas Henderson of Napier University and we apologise for this omission.

## Scotland's energy network may need to embrace nuclear

£12bn investment in the Scottish energy network is needed according to a study published earlier this month by the Scottish Council for Development & Industry (SCDI) - £10bn more than estimated by Ofgem. The research suggests that £1bn per a year is needed until 2020 to bring it electricity generation and distribution network up to date in order to make progress towards the government's aim of an 80% cut in CO2 emissions by 2050, and the findings are likely to increase calls to abandon opposition to new nuclear plants. The report also found that another challenge is to connect the growth in renewable energy installed in remote and rural Scotland to the rest of the country - both north and south of the border.

Source: *The Sunday Times* 7/12/08

## Salmon survival research - emotional or scientific?

Is salmon survival research emotionally or scientifically motivated? In recent years hydropower owners and operators have been required to help salmon to pass by their schemes in order to avoid the threat of death. But are these requirements motivated by emotional rather than scientifically grounded fact? Dr David Welch, the lead author on a study released by the Public Library of Science Biology Journal (USA), examined the Lower Snake and Columbia rivers in the United States to see how many young fish

survived while they were migrating. Compared against the US Fraser River System, he found that survival per mile travelled in the Fraser is lower than it is through the eight dam hydropower system, or through the four dams in the Snake and Columbia, indicating that more fish survive going through the bypasses built in the hydropower system, in contrast to the undammed section of the Columbia. John McKern, a Fish Passage Solutions consultant, cites the ice harbour dam as a prime example, in which there are screens



to guide the juvenile fish coming downstream out of the turbine intake and bypass them around the dam at a 100% survival rate. This has been researched for over 50 years and information has been gathered for over 25 years. But this does not seem to matter in controversial lawsuits in favour of breaching dams.

Source: [www.printhis.clickability.com](http://www.printhis.clickability.com)

## BHA Member Runner-Up in South West Green Energy Awards.....

BHA Member Keith Wheaton-Green of South Somerset District Council is the runner-up South West Sustainable Energy Champion in this year's South West Green Energy Awards. Our congratulations go to Keith - keep up the good work!



## ....and hydro is recognised at the Scottish Green Energy Awards

- o Scottish & Southern Energy received the Best Renewable Project award at the recent Scottish Green Energy Awards held in Glasgow for Glendoe - the first large scale Scottish hydro project in nearly half a century, which is due to come on stream next year. The new scheme has just completed a milestone test of its equipment and successfully generated to its maximum level for a full 24 hours, producing 100MW (enough for around 250,000 homes).
- o Eigg Electric Ltd received the Best Community Initiative award for the Isle of Eigg Electrification project, which provides round-the-clock renewable electricity - largely from hydropower - for the first time on the island through a project conceived, designed and funded by the community.

## UK Lords question dash for intermittent RE

*The UK Government's efforts to meet its EU 2020 renewable energy targets, even if successful, may encourage the UK to adopt an unnecessarily costly and risky approach to reducing carbon emissions, according to the House of Lords Economic Affairs Committee. In its report, The Economics of Renewable Energy, the Committee expresses its doubts as to whether the proposed EU target for the UK of 15% renewables by 2020, can be met. It also cautions that an over-reliance on intermittent power generation (currently the government favours wind power as its main means of renewable generation, which the Committee argues should be viewed as "additional" capacity) in pursuit of the target, could prove both "costly and risky". For the UK to meet its EU target, the share of electricity generated from renewable sources would need to rise from 5-6% to 30-40%. The Committee calculates that the higher costs associated with renewable generation compared to conventional or nuclear, would increase electricity generation and transmission costs by £6.8bn per year (38%). The report points out that the most reliable sources of renewable electricity supply, which includes hydropower, is limited and that we don't yet have enough experience in tidal barrage and wave power. The Committee suggests that nuclear energy as a viable, low-carbon alternative that is not intermittent and can be produced at a significantly lower cost than renewable energy; and that fossil fuel generation with carbon capture and storage (if and when it becomes available) could be an option.*

Source: Reuters

# HYDRO DEVELOPMENTS....

## Roshven Takes Shape

The New Hydro project at Roshven is moving closer to completion with the expectation of first electricity before Christmas. The 500kw project is situated in Lochaber, a few miles from LochAillort on the Mallaig road from Fort William. The project is owned 75% by BHA member TLS Hydropower and the remainder by the Landowner Alistair Forbes friends and family. The turbines recently arrived and were installed using a crane utilising a hole left in the roof of the turbine house for the purpose. Connection to the grid is expected in the second week of December followed by first electricity soon afterwards.

The project was initially designed by BHA member Northern Energy Developments, owned by Rodney Potts, and the final designs were close to Rods initial plans. These original plans were taken up by the Landowner and Nick Bard of Renewable Energy Devices, also a BHA member, before TLS came on the scene in 2007. Once a new CAR license was received plans for development have been put speedily

into action and the build time has been approximately seven months.

The project has a gross head of 82m (76m net), with a flow of 800 litres per second. The Hydrorhom pelton turbine and TES generator set up should generate a maximum of 506kW. The electricity is sold into the Scottish and Southern Energy grid and will be purchased initially by Good Energy (another BHA member!). A budget of 1500 Mwh per annum has been set with aspirations to achieve nearer 2000Mwh depending upon rainfall. The intake has a Coanda screen to remove all trash and fish entering the pipeline system set on top of a 3 meter weir. The water is conveyed to the turbine through a 600 meter 800mm pipeline made of GRP.

Bob Middleton, TLS MD, is pleased with the results so far. 'Roshven is our sixth Hydro scheme and the development has been one of the smoothest. We are very optimistic about this project and all the team have been part of a great success. Lets hope it continues to rain in the West coast of Scotland!



## Okehampton Mill

Plans for a new £2.5m sustainable Learning Resources Centre for Okehampton at the site of the redundant mill have met with an enthusiastic reception from West Devon Borough Council. The new centre will incorporate vocational training, community facilities and a library, and will produce its own renewable energy. The centre is to be heated by a wood-pellet boiler and solar thermal panels, with electricity being generated by PV cells and small hydropower.

## Green flats have free hydro power

**Eco development Chudleigh Mill, near the river Yeo in Somerset, is promising homeowners free electricity for 10 years from a hydropower scheme which will generate 20kW of power per hour and cover at least 95% of electricity costs.** The original mill buildings are being restored and converted adding to some new-built flats using eco-materials and including a rainwater recycling tank, which are due for completion next year. After 10 years, homeowners will pay a nominal fee to the developers to help cover the running costs of the generator. All the properties will still be connected to the National Grid.

Source: *New Builder* 21/11/08

## Scottish Government approves two new schemes

The Scottish Government has approved two small hydro schemes with a combined generating capacity of 6MW. The 3.5MW Black Rock scheme in Ross-shire, is a run-of-river scheme owned by npower that will supply electricity to over 2,000 homes. The 2.5MW scheme near Crianlarich is owned by Scottish & Southern Energy and will power 1,500 homes. Announcing the approval, Scotland's Energy Minister, Jim Mather, said the Government is determined to exploit all of Scotland's diverse renewables potential and will continue to support sustainable hydro development – both large and small – to tackle climate change and contribute to economic growth.

## New Abstraction License Applications for hydropower

- **20 November: Northumberland Estates of Alwick Castle;** full license to abstract water from the River Ain

Details of new license applications are available on the EA website for a period for 28 days ([www.environment-agency.gov.uk](http://www.environment-agency.gov.uk))

# ENERGY MARKET REPORT

The Energy market has continued to fall in recent weeks. OPEC has not met since its meeting in November and the small cuts in production made at the meeting were not sufficient to put a floor under the market. The next meeting is scheduled for January when difficult decisions will need to be taken if the oil producers wish to stave off a complete collapse in market prices. Today crude oil is achieving a little over \$40 bbl compared with £147 bbl at its peak. Despite the colder than usual weather in November and early December gas prices have continued to fall in line with the oil price and electricity has followed. As Sterling has fallen dramatically over the same period the UK has not seen the same falls as other countries but the fall has still been dramatic.

Recent pronouncements from OPEC suggest their preferred target price is \$75 bbl. If this is to be achieved some of the cartel members will need to make significant cuts in production of millions of barrels per day. Current Gas prices for the year ahead are sitting at around 53pence per therm and electricity at £50Mwh. The longer term price curve over the next few years is relatively flat but the market remains nervous and the trading volumes are very low. Looking forward one might expect some reaction from OPEC to restore prices but they may have left it too late. With economic performance deteriorating and bad news on the economy seemingly every day there is little grounds for optimism on prices in the short term.

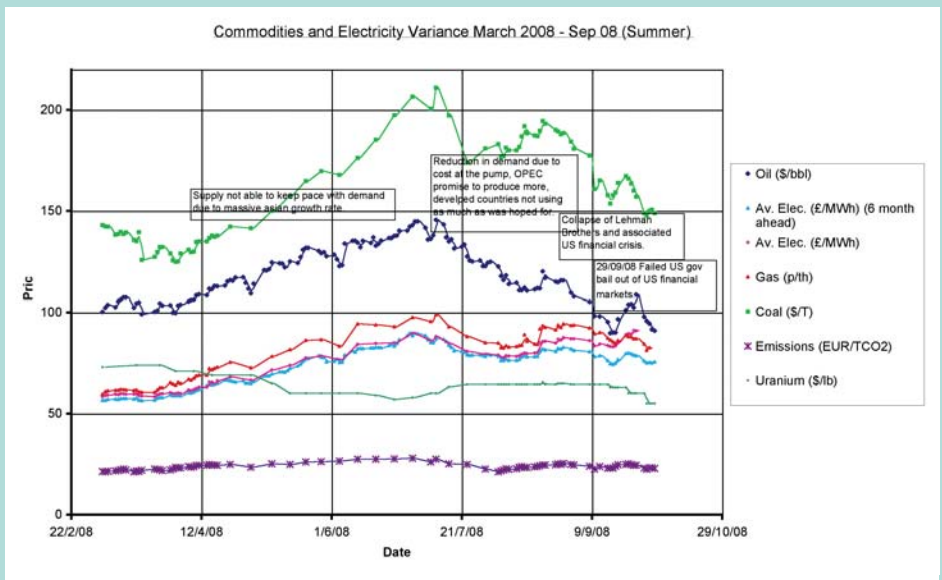
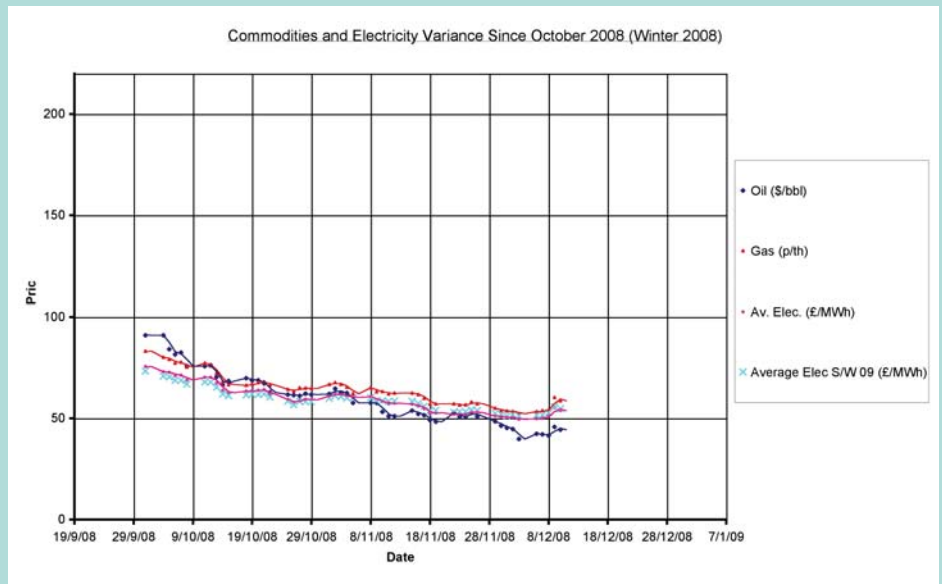
The other elements of pricing in the Hydro market remain firm. ROC prices remain a little above £50Mwh and

LECs remain just above £4.00Mwh without much change.

There are of course changes afoot. A feed in tariff has been blustered through parliament by the solar photovoltaic industry aided and abetted by the REA and Greenpeace. The problem is they have persuaded the government to include all technologies and a limit set at 5MW. It is not clear if this replaces the other mechanisms, is in addition to the other mechanisms or if a generator gets a choice? This will more or less include all the BHA members so this is an important change. Does anyone know what the price will be from April next year.....? I don't. It seems the price will be set by the photovoltaic industry with differentials (or should I say discounts or cross subsidies) for/from the different technologies. Here we go again. Call on your MP and the BHA to get rid of this nonsense.

**Invest if you dare!!!!!!**

*Bob Middleton, Tradelink Solutions*



# INTERNATIONAL NEWS

## Developing the potential of Nepal

**Nepal's current energy demand is low and largely met by biomass (87.4%) but it is already out-stripping supply and increasing in all sectors, with this imbalance predicted to get worse.**

The National Water Plan (2005) put forward targets for generating capacity of 2,230MW and 4,000MW of hydropower development by 2017 and 2027 respectively. Water resources are one of Nepal's most important natural assets and the estimated hydropower potential is about 83,000MW. The current hydropower capacity accounts for only 1.2% of hydropower potential but two hydropower schemes under construction, the 1,059MW Karnali river basin scheme and the 30MW Chameliya scheme in the Mahakali basin, will almost this. Currently there are about 47 hydropower plants in various stages of feasibility with a combined capacity of 23,160MW, large and small. The

Government has ambitious plans for the development of 10,000MW of hydropower capacity over the next ten years to meet domestic demand and to supply the neighbouring countries. The BHA attended a forum on hydropower at the Embassy of Nepal in London on 3rd December, hosted by the British Nepal Chamber of Commerce, where Dr Drona Upadhyay, senior engineer at IT Power and hydro consultant Gavin Warnock, both BHA members, made short presentations on the prospects for hydropower. Dr Upadhyay outlined the prospects for small hydropower (up to 10MW) which is ideally suited to meet, local and rural domestic demand, and Mr Warnock concentrated on large hydropower where the construction of one project alone, the 10,0800MW Karnali Chrisapani project, would meet the government target. There are wide ranging opportunities in



Nepal. Installed capacity is small when compared with electricity needs, but there are considerable obstacles - the difficult terrain, technical issues such as silting and scouring, electricity

transmission weaknesses, and financing obstacles. However, hydropower has the flexibility to meet the range of issues presented in meeting the socio-economic demands.



### Work stopped after breaking environmental laws

**A hydropower firm has been asked to stop construction work on their power project in Himachal Pradesh for violating environmental laws, it has been reported.** Om Power Corporation is constructing a 15MW scheme near Palampur and will only be allowed to resume work after corrective measures have been taken, a planned program to protect the ecology and a hefty fine paid. It is alleged that the company has violated several laws including haphazard cutting of hills, damaging trees and unscientific dumping of debris on areas close to water channels. In 2006 the state government approved a hydropower policy that aims to make Himachal Pradesh the 'hydropower state' of India, approving hundreds of micro and major run-of-river projects. The Asian Development Bank (ADB) has also announced it would provide the state with loan of \$800million to add a total of 808MW capacity. A department official has disclosed that the government currently has a laissez-faire attitude to the violation of environmental laws, only taking action against hydropower companies if there is a protest by local communities.

Source: [www.sindhtoday.net](http://www.sindhtoday.net) 041108

# INTERNATIONAL NEWS

## Portuguese Pumped Storage Deal for Alstom

Alstom Hydro, in consortium with its Portuguese partners EFACEC Engenharia S.A. and SMM, has won a £94m contract with Portuguese utility EDP – Gestão da Produção de Energia SA – to extend the Alqueva pumped storage station at Villa de Beja, Alentejo, Portugal. Due for completion in 2012, the Alqueva II development will see Alstom supply and install two 130MW reversible turbine-generator units and other mechanical equipment to the plant, doubling total power output to 520MW. The Alqueva plant, which has been in operation since 2004, currently employs two Alstom-supplied 130MW turbine-generator units.

Source: Renewable Energy World Vol 11 No.6

## ADB studies Sri Lanka's proposed Mawanana mini-hydro scheme

The Asian Development Bank (ADB) has recently completed a 14-month due diligence mission on the proposed 5.4MW Mawanana mini-hydro project on the Gin Ganga river, near Neluwa in the Galle district of Sri Lanka. Funding totalling US\$4.2M is being sought from ADB by the developer, Hayleys Industrial Solutions, which is undertaking the scheme on a build-own-operate basis. A decision from ADB is expected by mid-2009.

Source: IWPDC

## From Russia with love .....

**Even Russia, the world's largest gas producer, with rich oil and gas reserves, is concerned about running out of fuel, and renewable energy is increasingly being seen as the answer. Initial steps have been taken for developing their renewable energy sector but reaching its full potential will require huge investment as well as government support.** Different regions

with Russia offer unique resources, with hydro potential mostly found in Central and Eastern Siberia and the Far East. Based on the economic potential, hydro at 24% is ranked only second to geothermal energy (40%) and ahead of the third, biomass (13%), all three together accounting for almost 80% of the total potential, and small hydro is receiving the most investment so far. Early estimates of the renewable energy potential in Russia were in the range of 260-300 million tons of coal equivalent each year – some claim enough to supply as much as a third of Russia's energy needs – with current green electricity generation at less than 1%. But the sector hasn't had much support from the government so far and favourable legislation is essential if the sector is to pick up. In 2003 Russia's Energy Policy set a target of only 1% of electricity to be generated from renewable sources by 2020! Furthermore, since the draft of the Renewable Energy Law has not yet been ratified into law the renewable energy sector is left unregulated.

However, RusHydro, a newly-formed hydro generation company, recently inherited 49 hydro stations with a total installed capacity of 25GW and is turning into the largest power generation company in Russia. It has created a New Energy Fund, whose major objective is to develop a National

Programme for small hydro sector development and implement projects. The potential for Russian development of renewable energy is great, with more robust government support in terms of targets and Russian and foreign investors expected to actively explore the hidden potential, the industry will be able to develop and grow, generating interesting opportunities.



Source: PR Newswire Europe Ltd 181108

## TRADE LEADS

**SRI LANKA:** Ceylon Electricity Board (CEB) has invited design build contractors/firms and voluntarily formed joint ventures to submit competitive bids for the engineering and design, procurement and manufacturing, construction, erection, installation and commissioning of the 35MW Broadlands hydro power project in Sri Lanka. The project is a run-of-river type development on the Kelani River in the Central and Sabaragamuwa provinces. The main work sites are situated 65km north east of Sri Lanka's capital, Colombo. The prospective contractor's scope of work for the scheme will include, but not be limited to, all civil, mechanical and electrical works associated with the dams, hydraulic structures, tunnels, power house, switchyard and transmission line, as well as access road improvements and new constructions. The prospective bidders are expected to arrange credit facilities with reputed financiers/lending institutions/prime banks to cover the full cost (excluding taxes, duties payable in Sri Lanka) of the project. On successful selection of a bidder, the Government of Sri Lanka will enter in to a loan agreement with the proposed financier/lending institution/prime bank. The bidding document - which should be purchased by 22 December - includes a format for the mandatory financial proposal. The financial proposals to be submitted by the bidders should contain a letter of commitment from the financier. Deadline for bids is 25 March 2009. For further details, please visit [www.ceb.lk](http://www.ceb.lk) or email: [pdbhp@ceb.lk](mailto:pdbhp@ceb.lk)

# Letter to the Editor

*“We must, indeed, all hang together, or assuredly we shall all hang separately.”*

Benjamin Franklin on the signing of the American Declaration of Independence.

One thing that annoys me about the various sectors in the renewable energy sector is the sniping at each other in a playground trial of strength to prove who is the biggest and best big green giant. A recent manifestation was in the June issue of the IET Journal where there was an article promoting the Landfill gas sector. The author appeared to misinterpret a set of government statistics and proceed to use them to prove that landfill gas was the biggest sector in the UK for renewable energy. This was accompanied with a facetious swipe at the wind sector.



Sean Kelly

Those of us involved in the hydro sector are not immune from this sort of petty bickering. At the recent BHA conference in Bristol I recall conversations over drinks (it's a tough job...) where a level of schadenfreude was displayed over operational problems with wind turbines. There was also smugness when comparing the mature technology of hydro generation with prototype wave and tidal machines; but a certain jealousy over the levels of funding and publicity that these technologies are currently attracting. More 'us and them' and 'we hydro people are the unsung Cinderella's of the renewable industry'. All very student union politics with its petty point scoring and to hell with the bigger picture.

## And what of the bigger picture?

Currently the government has set the target for the UK to have 20% of electricity to be generated from renewable sources by 2020. We, in the renewables industry, know that all the renewable sectors combined will struggle to get anywhere close to this target with the obstacles that are commonly facing us all. Planning logjams, SEPA and the EA, obtaining a grid connection to mention but a few.

Take the grid access for example: two items immediately arise with regard to all renewables.

1. Most of the UK resource is in the north and west and most of the UK population is in the south and east;
2. The existing grid distribution has been built in hierarchal form. Large power stations down to individual users.

## The solutions?

1. Major infrastructure investment in the UK national grid, whether with east and west coast HVDC connectors or otherwise. The energy must be transmitted to the area of most consumption.
2. Re-structure the local distribution and protection systems to allow embedded generation.

Now, I am an electrical engineer and I know electrical engineers. I have worked with them, eaten with them, some of them are even

friends, and I would have to say that electrical engineers have two main characteristics, inertia and conservatism. For electrical power engineers we in the renewable business are a right pain in the neck wanting to change their nice grid system. And for what? If 20% of electricity is to come from renewable that means 80% still comes from old-fashioned mega power stations. Why should they have to change the whole countrywide distribution system just to fit in the embedded generation for these green types? Can't we just add more new nuclear and coal stations like we have always done? They don't rely on imported gas so our energy independence problem isn't an issue? And sure, isn't all this green stuff too expensive and relies on taxpayer subsidies anyway?

This mind set pervades the whole electrical generation industry. You may have odd utility CEO's attending renewable conferences and making promises to allow access and change the system but this does not cut much ice with local area managers, who loathe hydro and other renewable generation. They hate these far-flung generators coming along wanting to be connected to "their" system just after they managed to get it working right after the last one was connected. Why can't renewables just go away and stop messing with their precious network?

How do we change this mind set? How can we overcome the inertia and resistance to change in these large utilities? With difficulty. But it must change.

We won't tackle this and the other systemic obstacles to hydro and renewables by bitching and moaning about our fellow renewable travellers. We must take all opportunities as businesses and trade associations and as individuals to sell the message that the status quo is not sustainable, that renewable of all forms is essential part of the generation mix to avoid a serious energy crunch in the coming years. Effective action must be taken now by government and the major utility companies. No more ineffectual targets from politicians, please. Every few months there is another announcement from some body increasing targets but no action to help push the obstacles to hydro and renewables aside.

If nothing else, recent turmoil in the financial markets has dealt a body blow to the hegemony of the last 30 years - "market forces will provide" and that "if only the right triggers are applied, the market will work its magic". In practice, these market forces have imploded to all but destroy the financial system. In our field, the Market has left the UK with an ageing energy infrastructure, dependant on price volatile imported natural gas. Government efforts to influence the market in favour of renewables first with NFFO/SRO and currently with ROC's have had limited impact and it will not deliver the amount of renewable energy that the Government have targeted. This single price tool is crude and blunt instrument and addresses only one aspect of how projects are planned and implemented. Now is the time to seize the opportunity to impress on Government and the public that market forces alone will not provide for UK energy security. If massive direct government intervention and nationalisation is ok to save the banks, must we wait until the lights start to go out before we build and put in place the infrastructure and grid system needed for the rest of this century? There must be planning and direction from Government in the national interest to ensure we have an energy infrastructure fit for purpose. Leaving our energy future in the hands of short-term-profit based companies to invest for the long-term benefit of the UK is a gamble. If it fails, it will be catastrophic for the UK economy - and for the well being of families in the UK. (This means you and me)

In 2009 Glendoe will come on line - the largest hydro project for 40 years. In 1909 Kinlochleven - the first major UK hydroelectric scheme started generating. In its day Kinlochleven was the largest dam in Western Europe. 100 years later that same infrastructure is still producing renewable energy and may continue for over a hundred more. Together with the prescient work of the North of Scotland Hydro board in building the Scottish Hydro resource following the

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# Water in the blood

**My first conscious interest in hydro was as a student at the University of Edinburgh (where BHA CEO David Williams is a visiting Professor). However, long before that, I had toured Scotland on holiday, often camping on the shores of Loch Tummel (part of the Tummel Valley scheme) and so I guess the seeds were sown then.**



Douglas Henderson

As a graduate trainee I spent two spells with what was then the NSHEB, visiting many hydroelectric stations in the course of my training. In my first job, with NEI Peebles Ltd, about half of my time was spent on hydroelectric projects, which included selling the turbines, generators and control equipment for the Kielder power station to the NWA when the power station was first built. A hole in the ground had been left when the dam was built, the hydro equipment being shoe-horned into the mostly underground building some time later, in the early 1980's. In 1986 I joined Napier University as a lecturer and my hydro interests continued there. I studied part time for a PhD, in the process developing a 3-phase microprocessor based electronic load governor for micro-hydro generators. The unit which resulted from that work to this day controls a 15 kW crossflow turbine at Ashfield Mill near Dunblane, owned by Ian Robb, a BHA member and former Napier student!

I teach hydro, to undergraduate and postgraduate students, as part of modules on renewable energy and distributed generation systems. I also undertake part-time consultancy work on small and micro hydro and am accredited by The Carbon Trust for such work. Recent projects have included three HI-Links Feasibility Studies, one for a Highland Estate and two for the proposed distillery on Barra - you can order your cask now!

Other hydro related activities have included assisting the European Commission when ESHA was established, and I was a member of the International Hydropower Association (IHA) serving on its Permanent Committee for Education and Research as its Vice-Chairman for a while. Napier University is an Academic member of the BHA.

Like many BHA members, for me hydro is just "in the blood". I can't explain why it gets me the way it does, it just does. It is a great business to work in, the people are very easy to work with and the locations are fantastic - hills and water, what more can you ask for.

Douglas Henderson

For a full list of Douglas's various interests and activities, visit [www.d-henderson.co.uk](http://www.d-henderson.co.uk)



## NEW MEMBERS

The BHA would like to welcome the following new member:

- **Stephen Cirell:** We welcome Stephen Cirell, a new private individual member, who aims to buy an old watermill or set up a micro-hydro scheme in order to be energy self-sufficient.

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Second World War, this input from this historic resource cannot be dismissed (as it is often done in government and renewable circles). Long after nuclear, gas and coal stations have been decommissioned, this infrastructure is and will be producing renewable energy. Together with existing small hydro, and the huge potential for more - as identified recently by the Nick Forrest Associates report, we must paint the true picture of hydropower from large to small through to micro. Let it be seen for what it really is: an investment for us and for future generations. We must ensure that everybody sees that these investments in hydro offer not only an immediate input to UK energy needs but a long term sustainable reserve that keeps on giving. We must blow our own trumpet in the right places, together with other renewables sectors, and fight to remove the obstacles to future development.

I suggest that in 2009 we as the BHA celebrate a "UK Year of Hydro" and advertise this historic link between Glendoe and Kinlochleven to get the Utilities, Government and the public involved and aware of the true value of hydropower.

And I have not mentioned climate change once. Now I have. Doh!

Sean Kelly

Sean Kelly has for many years worked for Alconza the hydroelectric generator manufacturer and has recently taken up a post with Mouchel, the engineering consulting/contractor in a Hydro development role.



## Creative design & advertising agency working with BHA


- websites designed and managed
- promotional material including brochures, leaflets, banners & display material
- logos, corporate re-branding and development
- advertising campaigns conceptualised and produced ■ media buying

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## Forthcoming **BHA** **EVENTS** 2009



**ALL-ENERGY'09**  
EXHIBITION & CONFERENCE


**THE RENEWABLES SHOW IN THE ENERGY CITY**



**ABERDEEN 20/21 MAY 2009**

**All-Energy '09**  
the UK's largest renewable energy exhibition & conference  
**Be there!**

Regularly updated information on all aspects of the show at:  
**www.all-energy.co.uk**  
or from **info@all-energy.co.uk**



### **BHA INAUGURAL ANNUAL DINNER**



Watch this space for more details of our inaugural Annual Dinner – providing a superb opportunity to network with your clients and colleagues and reward your staff. Our inaugural dinner will be held in Scotland in March 2009.

### **UK PAVILION AT HYDRO 2009**



26-28 October 2009 – Lyon, France  
**“Progress – Potential – Plans”**

With the greater impetus for hydro development worldwide, the solid commitment of international financing agencies, and the large number of hydro schemes now moving ahead in developing countries, this major annual international hydropower conference and exhibition, which represents all sectors of the industry, will address refinements in technology to reduce costs, increase efficiency, meet social needs and protect the environment; new ways to maximise the benefits of new hydro facilities; new approaches to finance; and experience with new strategies. The conference is supported by the French government, with major partners being EDG, Compagnie Nationale du Rhône and GDF Suez. A number of workshops, debates and side events will run alongside, including the **BHA's popular Networking Reception**, which provides a superb opportunity for UK companies to be introduced to the international delegation from over 75 countries in a relaxed and friendly atmosphere. The optional technical study tours will visit some of the important French dams and hydro plants. For more details of the conference, including the current Call for Papers, visit [www.hydropower-dams.com](http://www.hydropower-dams.com). If you are a UK-based company active in the field of hydropower (owners & operators, consultants, international financiers, contractors, manufacturers, researchers etc.), and would like to keep up to date and be involved in this global industry, then contact Ellan Parry at the BHA for more details.

### **BHA Secretariat:**

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Ellan Parry (Editor), Operations & Marketing Manager  
Adrian Abbott, Policy & Consultations Manager  
Nicki Salmond, Operations Assistant  
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Vice-Chair: Chris Brett



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### Other **EVENTS** for your **DIARIES**

#### **PLUGGING IT IN – SCOTTISH RENEWABLES GRID CONFERENCE**

27th January 2009 - Glasgow  
[www.scottishrenewables.com](http://www.scottishrenewables.com)

#### **HYDROPOWER AFRICA CONFERENCE**

3-5 March 2009 - Johannesburg, South Africa  
[www.spintelligent.com](http://www.spintelligent.com)

#### **2nd HYDRO GENERATION SUMMIT**

23-25 March 2009 - Sao Paulo, Brazil  
[www.iqpc.com.br](http://www.iqpc.com.br)

