



Happy New Year from the CEO!



This is my first opportunity to write to you this year. I hope that 2008 will bring you all success.



The UK Hydropower sector has an important aim this year - to make it known that hydropower is extremely significant in the world's drive to employ increasing renewable energy power supplies and to reduce carbon emissions. It has been very apparent that over the last year, especially in the UK, that hydro is never considered as being important in this massive drive to save the planet.

This must be reversed and the BHA will be making this the main focus for the year.

Once achieved, all that we wish for in improving the lot for hydro will fall into place:

- By completing the two major studies into remaining hydro potential in the UK, the Government will finally appreciate that we have something worth supporting both in the development of new projects and investing in an industry which can provide the bulk of the equipment and expertise.
- Overseas hydro business has also been neglected in the rush to develop new technologies in the UK and the drive for inward investment. We must be committed to bringing the massive potential to the notice of UK Overseas support mechanisms and ensure that we also the means for British companies to realistically be part of a growing competitive market.

The BHA will continue work already started and commence new initiative to make these aims a reality. Support from members is essential in ensuring things happen.

We look forward to an exciting year!

David Williams
February 2008

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British Hydropower Association www.british-hydro.org



The Renewables Obligation Reform - Does the Government oblige?

The Department of Business Enterprise and Regulatory Reform (BERR) has published the government's response to the consultation on reform of the Renewables Obligation (RO). For the hydropower sector the main aspects are:

- Hydropower in general will continue to receive support at the 1 ROC level

- Micro generation (>50kW) will be supported at the 2 ROC level
- Tidal barrage and tidal lagoon schemes (<1GW) will be supported at the 2 ROC level.

It is still the government's intention to go forward with plans to group technologies with similar costs but it now intends to make the following changes to the proposed banding regime by 1st April 2009:

BAND	TECHNOLOGIES	LEVEL OF SUPPORT
Established 1	Landfill gas	0.25
Established 2	Sewage gas, co-firing on non-energy crop (regular) biomass	0.50
Reference	Onshore wind, hydro-electric, co-firing of energy crops, EFW with CHP, geopressure, other non-specified	1.00
Post Demonstration	Onshore wind, dedicated regular biomass	1.5
Emerging	Wave, tidal stream, fuels created using advanced conversion technologies (anaerobic digestion, gasification and pyrolysis), dedicated biomass burning energy crops (with or without CHP), solar PV, geothermal, tidal impoundment (e.g. tidal lagoons and tidal barrages (<1GW)), micro generation.	2.0

Microgeneration - BERR has decided to reduce the complexity for microgenerators that would have been implied by a banded and grandfathered system. All microgeneration stations (50 kW or less) will receive two ROCs per MWh, regardless of technology. Microgenerators will be excluded from any grandfathering provisions placing all microgenerators in this band irrespective of when their plant was installed (including the circa 200 stations accredited in 2006). BERR also commit to retain this level of support following the first scheduled banding review, planned for 2013.

Grandfathering - As expected, the proposal for a 20 year limit on support under the RO has been dropped.

Funding for administration of the RO- In October 2006 the Government consulted on

meeting the costs of administering the RO from the buyout fund. This option was not pursued at the time. Following further consideration of the issues BERR believes that it is appropriate that the costs of administering the RO should be met by those who participate in it rather than by the licensed network operators. BERR intends to take a power in the Energy Bill to allow Ofgem to recover its administrative costs from the buyout fund prior to the buyout fund being recycled.

Private wire networks - BERR are taking steps in primary legislation to further clarify the treatment of private wire networks. They propose to include a power in the Bill to allow ROCs to be issued to small generators acting as unlicensed suppliers - subject to conditions to be consulted on in the Order.

Hydro power - the pioneer of renewable energy

The BHA welcomes the Government's intention to provide double ROC's for microgeneration from all technologies for new and existing schemes. Unfortunately, the widely accepted range of up to 100kW for micro hydropower has not been acknowledged and a cap of 50kW is proposed. Above this limit hydro projects will attract the standard one ROC per kWhour.

The Renewables Obligation team at the Department for Business Enterprise and Regulatory Reform (BERR) has been contacted and their reasons for imposing this cap does not take into account the obvious temptation for developers to limit their projects to 50kW capacity thus denying a substantial

amount of Renewable Energy generation.

To try and rectify the balance, BHA is:

- Writing to the Parliament's Public Bill Committee with whom the Energy Bill is now being debated to present the case for double ROC's for hydro projects up to 100kW. (There is also a case for a different ROC regime between 100kW and, say, 200kW which will also be included.)
- Preparing a letter for members to send to their Members of Parliament on the same issue. The Bill is before the Commons sometime after mid-March and this will be an opportunity for MP's to press for alterations to be made.
- Arranging a meeting with the

Renewables Obligation team at BERR and also the "2020 team" to press our case at policy level and to show that hydropower has a significant role to play in the country's renewable generation targets.

- Preparing to present a unique Scottish case to the Scottish Government as it reviews ROC banding for Scotland in the Spring

To make a strong case to policy makers and politicians we need well-based supportive evidence. A few members have provided some information to enable our initial actions to be completed but we still need facts and figures in order to have meaningful meetings with the policy makers. Please help us to help you!

Please contact David Williams if you want to discuss any aspect of this very important matter.

After "BHA Micro-Hydro Seminars kick off the new year!"

Severn tidal power study could unlock massive renewable potential

The massive potential for tidal power from the Severn Estuary to provide low carbon, renewable electricity has been highlighted by Energy Secretary, John Hutton, with the publication of the terms of reference for the Government's feasibility study.

Tidal barrages and lagoons will be looked at in the feasibility study which will analyse the potential environmental, social

Continued on page 3

24-hour renewable power for Scottish Isle

A renewable energy supply, most of which is generated by hydropower, is providing the Isle of Eigg 24-hour electricity for the first time ever. The new renewable power comes from a mix of three hydro schemes (one at 100kW and two at 6kW each), four wind turbines (totalling 24kW) and a solar energy installation (10kW) and it generates more than 95% of the island's annual energy demand, backed up by a battery storage system and two diesel generators.



It has taken 10 years for the dream of green power to be realised after a community buy-

out of the isle in 1997, which has no electricity connection to the mainland and had been relying on diesel generators and some small hydro schemes. 45 households, 20 businesses and six community buildings on the island are linked together by six miles of buried cable that forms a high voltage network. The Eigg Heritage trust raised £45,000 for the project and the islanders brought in another £30,000.

Source: BBC News 1/2/08



Gilbert Gilkes & Gordon Ltd (a BHA sponsoring member) supplied the 100kW 10.5" single jet Turgo turbine, fitted with a Woodward mechanical governor and flywheel. It has an Amco Marelli synchronous generator.

Continued from page 2

and economic impacts of the possible projects. It will enable the Government to decide whether and on what terms it could support a tidal power project.

One of the possible technologies, a Severn Barrage, would harness the power of the Estuary using the proven technology of a hydro-electric dam, but filled by the incoming tide rather than by water flowing downstream. Such a project, as the recent report from the Sustainable Development Commission confirmed, has the potential to generate some 5% of UK electricity from a renewable British source.

Opposition to the proposed barrage scheme comes from environmental groups such as the RSPB, which they say will damage the habitat for birds. But John Hutton, Secretary of State

for Business, Enterprise and Regulatory Reform, said 'every option' must be kept open in the fight against climate change.

The Severn Tidal Power Group, a consortium made up of Alstom, Sir Robert McAlpine, Taylor Woodrow and Balfour Beatty has already carried out studies into building a 10-mile barrage between Cardiff and Weston-super-Mare and are considering a number of other options.



The study, which will include a Strategic Environmental Assessment, is expected to last roughly 2 years, and should conclude with a full public consultation in early 2010. The work will be done by a cross-Government team, also involving the Welsh Assembly

Government and the South West Regional Development Agency, bringing together expertise from a number of organisations and engaging stakeholders and the public at large.

Source: The Observer, 20/1/08 and BERR, 22/01/08

Fisheries Electricity Committee to be integrated with SEPA

At the end of January the First Minister, Alex Salmond, made a statement in Parliament about plans to simplify public services. The intention is to reduce duplication and bureaucracy by cutting the 199 national public service organisations by at least 25%. Amongst the organisations to be simplified, the Scottish government proposes to integrate the Fisheries Electricity Committee with SEPA as a step towards the creation of a "single environmental and rural delivery service for shared customers". Further information can be found on the Scottish Government website:

<http://www.scotland.gov.uk/Topics/Government/PublicServiceReform/simplifyingpublicservices>



BHA Micro-hydro Seminars kick off the new year!

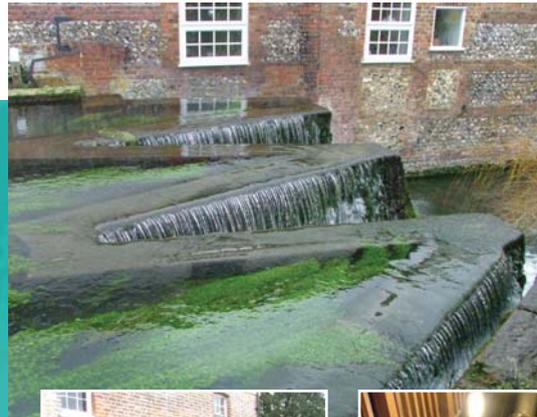
The first of our 2008 micro-hydro seminars was held in January and it set the pace for a busy year ahead, continuing in our successful 'roadshow' programme.



Crabble Corn Mill

The choice of Kent as a venue was initially received with scepticism from some corners, it not being famous for its hydro potential compared to other "wetter" areas in the UK. However, the newly installed micro-hydro scheme at Crabble Corn Mill just goes to show that there is no lack of potential, and

the healthy number of delegates attracted proves that the interest is there. Crabble Corn Mill's owner, Neil Anthony spear-headed the scheme's installation and claims that of the 300 or so mill sites in Kent, so far Crabble Corn Mill is the only one that remains working.



Listed zigzag weir, waterwheel and turbines



The day involved an introduction to hydro basics from BHA CEO, Prof. David Williams, followed by a series of case studies, a consultant's view, the Environment Agency's perspective, and a guide to selling the power and generating a return. This was followed by a tour of the scheme at Crabble Corn Mill, which incorporates a 200-year old plus listed zigzag shaped weir - as far as is known, the only one of its type in the UK. The zigzag shape

reduces the pull on the water by providing a larger surface area and more even flow.

The seminar proved to be a great success with positive feedback from the delegates and the speakers. Once again, the event attracted the media with reporters from local press the Dover Mercury and Your Dover, along with an interview given by David Williams to BBC Radio Kent, which was aired that afternoon.

The BHA will be holding more seminars throughout the UK this year. For more details please visit our website or contact us on 01202 880333 / info@british-hydro.org.

HYDRO TUNNEL makes breakthrough

A 220m-long boring machine has completed a five mile tunnel for the £140m hydro-electric scheme at Glendoe, which it started digging 15 months ago. Scottish and Southern Energy's plant above Loch Ness, which is expected to start operating later this year, will generate power for 250,000 homes. It is the first large-scale hydro-electric project since 1957. The project will turn rainfall into green energy through a nine-mile network of tunnels linking a dam above Loch Ness to a generating station 2,000 feet below. Scottish and Southern Energy said the project would pay for itself over the next 10 years. The scheme involves the construction of a 1,000m dam at the head of Glen Tarff and the building of an underground power station inside Borlum Hill.

Source: BBC News 7/1/08

EU Renewables Directive - promoting energy from renewable sources

The EU Commission published the Renewables Directive (Directive on the promotion of energy from renewable sources) on 24th January 2008. The Directive sets an EU-wide target of 20% of energy from renewable sources by 2020 (compared to 8.5% today) divided fairly between Member States into legally-binding national targets - the UK's share is 15%. The Directive also aims to remove unnecessary barriers to the growth of renewable energy and to encourage better types of renewable energy. Member state governments will need to draw up national energy plans which will include government guarantees of origin. To see the Renewables Directive, visit http://ec.europa.eu/energy/climate_actions/index_en.htm.

Small is beautiful (and worth it)!

ENERGY and environmental experts have called for further investment in small hydro-electric schemes as Scotland's first large project in 50 years neared completion. While Glendoe will, when completed, produce enough energy to power the equivalent number of homes as in Glasgow, campaigners who have lauded the scheme's environmental credentials believe the future lies in "micro" projects, which have less impact than most developments of Glendoe's scale.

Duncan McLaren, chief executive of Friends of the Earth Scotland, said the Glendoe project, near Fort William, had shown that it was possible to beat the government's renewable energy targets, but he said: "This is quite likely to be the last big project in Scotland. Those sites that remain are environmentally quite sensitive. There's lots of potential in projects of sub-20 megawatts, a fifth of Glendoe", adding: "It's a bit more intensive a management process to identify and make use of small sites, but the potential is that over the next ten to 15 years, you could see the

equivalent of two to three Glendoes [in small sites]."

Meanwhile, a spokesman for the Scottish Wildlife Trust said that although the scope for new large-scale hydro projects was likely to be "limited", there was potential in upland areas for smaller schemes which "together could make a real contribution to moving Scotland towards a clean energy future".

Micro projects include those on Eigg, which recently became wholly powered by renewables, mostly from hydropower (over 75%), following a community buyout.

The call for more micro projects come as the Forum for Renewable Energy Development in Scotland (FREDS), on which BHA CEO, David Williams, sits, prepares to report to the Scottish Government on the place hydro-power has in the country's future energy provision. FREDS, which includes government ministers and industry representatives, will look at economics, potential, environmental issues and grid connections. Although it is likely the forum will produce recommendations centred around micro schemes in its conclusions, expected this summer, there is still a chance it may give some credence to larger projects. Such initiatives can be welcomed because of their stability.

Source: *The Scotsman* 8/1/08

Conservative Party Seminar on Export Policy

Policy and Consultations Manager for the BHA, Adrian Abbott, attended a meeting of Trade Association representatives called by the Conservative Party to discuss the role for government in Export Promotion. There was wide ranging and open discussion on the problems with current government structures (UKTI and ECGD) and policies on export promotion - many of the issues raised reflect on universal views on the problems with both UKTI and ECGD. Members interested in seeing a fuller report should contact the BHA Secretariat.

Scotland Approves 3MW Scottish Power Wave Farm

Scottish Power plans to have its 3MW wave power farm running by 2008. Earlier last year, The Scottish Government granted planning consent, permitting Scottish power to develop the test project at the European Marine Energy Centre (EMEC) in Orkney. Scottish Power subsidiary CRE Energy Ltd received £4,141 million from the Scottish Executive to deploy the four Ocean Power Deliver 750kW Pelamis wave power generators. The four 160m long Pelamis 'Sea Snake' wave power generators developed by Ocean Power Delivery should produce enough power for 3,000 homes.

Source: *HRW Vol 15 No 6 Dec 2007*

Tidal Lagoon alternative to offshore wind farms

Westminster and the Welsh Assembly Government are being urged to consider a tidal lagoon as an alternative to plans for 260 wind turbines off the coasts of Llandudno and Colwyn Bay. Conwy councillor Phil Edwards has written to both governments following a presentation to members by Rhos on Sea company Clwyd Offshore Tidal Energy. He is calling on both to investigate the feasibility of harnessing tidal energy before making a decision on whether to grant a licence for the wind turbines project.

Councillor Edwards told a meeting of Plaid Councillors at Llandudno: "It does not rely on whether there is any wind blowing, but gets its power from the tides coming in and out twice a day." He said it would have environmental benefits, adding: "The tidal lagoon project would have the added benefit of not having the visual impact on our seascape, it would not require the import and transportation of large amounts of rock and concrete and it could possibly help towards protecting our coast from erosion."

Councillor Edwards urged ministers to look at the alternative scheme before making a decision on Gwynt Y Mor. "It has potential to be a world leader in renewable energy, could provide many benefits including much needed well paid jobs for local people," he said, adding "It could be the most exciting project we have ever seen."

Source - *All-Energy News (Daily Post .co.uk)*

The Pedley Waterwheel Electricity Generator Revisited



Villagers blessing their new waterwheel at Polyaswatte, Sri Lanka

Some years ago we invited BHA member, The Pedley Waterwheel Trust, to report on the installations they were carrying out in Sri Lanka to bring stand alone electricity to isolated communities. Now, after the usual roller coaster of events, they have completed six Waterwheel driven generating systems, which currently provide power for over 1,000 people. Others are in the pipeline but subject to local constraints.

Paul Bromley if the Trust reports:

"Feedback has been limited but this is perhaps a positive sign and largely due to the fact that whilst everything is working, silence prevails. However, our return visits have confirmed the reliability of the equipment and the extraordinary uses to which the small amount of power made available can be applied by inventive villagers. Women now book time slots to do the domestic ironing and spice grinding (which require an unusually high power allocation), and in one village, and Yours Truly had his hair cut by the local barber who had set up shop adjacent to the Waterwheel, which could be observed through the cracked and flyblown mirror, turning gently to the sound of electric hair clippers.

The barber nonchalantly plied his trade with the familiarity of one operating in any high street location.

We had a slight setback when three largish waterwheels driving 5 kW generators were to be opened by the British High Commissioner and assorted local dignitaries on consecutive days in three unrelated and remote valleys. Local testing the day before the first opening revealed an "unusual" noise from the gearbox. Anxious screwdriver/stethoscope attention indicated a serious gear condition after only hours of use, perhaps aggravated by partial absence of oil? The short term remedy was to send a boarding party of twelve burley villagers to the nearest second installation where that gearbox was

temporarily "borrowed" on what pretext we know not. It was carried back over the substantial intervening river suspended beneath a long bamboo pole and hastily replaced the damaged component. The Opening Ceremony proceeded according to plan, and the same manoeuvre occurred with the next installation. After the events, on examination, we noted that all three gearboxes had left the UK factory marked incorrectly with the wrong oil level labels, and had thus been run half empty. They were replaced with apologies but our nerves have never been quite the same since.

Sadly, the tsunami of 2001 had a dreadful impact on Sri Lanka. Our village installations were, thankfully, well out of harm's way, but the extraordinary inflow of humanitarian funding which followed, caused the government to require licences to be obtained for all aid work. For us, this meant that our prospective schemes simply ground to a halt. Further, the country is now once more in the throes of an upsurge in an unending, and brutal civil war.

There is more work to be done and wonderful, worthwhile communities to help if only 'the politicians' would allow.

Meanwhile, back in "the developed world", \$90 per barrel oil has worked wonders. While people may still drive around one to a motor car, the prospect of massively increasing energy costs is beginning to focus minds. After decades of voices in the wilderness, renewable energy is almost a buzz word. Small domestic wind generators are for sale in supermarkets and being erected in bizarre locations (even encouraged by planning officers), photoelectric panels are producing minuscule quantities of DC electricity, from our temperate northern climes, and finally, the old tried and tested

water power is being re-examined.

Whilst we are a long way from replacing the 5000 odd waterwheels which were recorded in the Domesday book (south of the Trent only), inquiries from Mill owners and similar enthusiasts are now standard practice. Why not? What better source than a site which has already been discovered and generated power. With luck, perhaps the old civil works may still be present.

So now the Pedley Wheel is, we think, the only DTI accredited UK water wheel generating system.... and much good that may do us! Anyway, even without government grants and encouragement, inquiries arrive and, currently, bespoke designs are in hand for wheels ranging from chubby two metre models to elegant six metre replicas of grand early Victoriana. Improved gearing, electricity generation and now grid connections mean that waterwheels can, in appropriate circumstances, offer a meaningful alternative to turbines. There are even enquiries who, heaven forbid, will only consider a Waterwheel installation and thinking of those 5000 mediaeval mill sites, which incidentally, had become 30,000 by the turn of the 20th century, perhaps they are entitled at least visually to their point of view.

So, albeit at the bottom end of the hydro hydrindustry, the future fills us with confidence and enthusiasm. The energy 'crisis' for all the doom and gloom predictions may yet bring a sense of proportion back into our lives."

Paul Bromley can be contacted at the Pedley Waterwheel Trust by emailing ingridandpaul@talktalk.net. For more details on the Trust, please visit www.pedleywheel.com.



PowerGen India & Central Asia 2008



BHA UK Stand at overseas events provides excellent business opportunities for participating companies.

India is witnessing a power revolution. Liberalisation and foreign investment are sweeping waves of change across the power generation industry - in hydropower and other renewables, thermal and nuclear energy, and in transmission & distribution. Increased demand is creating new challenges across India and Central Asia, along with the need to considerably reduce carbon emissions - so there has never been a better time to gain face-to-face

contact with thousands of industry professionals and potential new business associates. India has a massive demand for new technologies, systems and development plans, and a large percentage of installed capacity is in need of refurbishment. With its richness and diversity in geography, climate and natural resources, the Indian market presents enormous opportunities for UK companies interested in exporting power generation goods and services

- opportunities which, as India's economy strengthens, are increasing rapidly. It is the world's largest democracy with an increasingly unrestricted market and is now emerging as a country with immense economic potential vast opportunities for growth.

Powergen Indian & Central Asia 2008 is an industry platform for the power generation market, attracting more than 9,000 visitors and

will provide solutions to all these issues for UK companies operating in the power sector and wishing to tap into the markets of India and Central Asia. The British Hydropower Association (BHA), in association with UK Trade & Investment (UKTI), is organising a UK pavilion stand at this high-profile international power industry event being held in New Delhi on 3-6 April 2008. UK companies are invited to participate and will benefit from a higher profile at the event - and BHA will take care of all the usual organisational headaches associated with attending an international event. The BHA is also arranging prior to this event several one-to-one meetings, by appointment, with selected key industry players and decision-makers, where UK companies can develop new contacts and open up business opportunities. Places are limited and are allocated on a first-come-first-served basis. For more details please contact the BHA.



BHA PEOPLE

BHA Council Member, **Chris Brett**, has been awarded membership of the Institution of Civil Engineers and is now officially a MICE. In order to become a member of the Institute, Chris demonstrated that his work in small hydro installations had 'influenced the built environment'.



Joining Chris in his achievement is BHA Operations & Marketing Manager, **Ellan Parry**, who has been awarded associate membership to the Chartered Institute of Public Relations and now adds ACIPR to her BA (dist.).



Congratulations to both Chris and Ellan.

NEW MEMBERS

Alex Hewitt has joined us as a private individual member. Alex is new to hydro. He owns a mill in France and has recently received the necessary permission to install hydropower there.

Timothy B J Coombe has joined as a private individual member and is looking to install his own domestic scheme.

Amco Morelli Ltd has joined as a correspondent member. Amco Morelli supplies synchronous induction generators.

Indian Transmission Network Order

Power Grid Corp. of India Ltd (PGCIL) is preparing to place its first order for the transmission network project which will move power from hydroelectric plants in the northeast of the country and Bhutan to other, more industrialised parts of the country where the demand for electricity is greater. Power Grid is a state owned transmission utility that transmits 45% of the power generated in India around the country through its 61,875km network of power lines. The company is preparing to float the first phase of the new project.

The whole project will have the capacity to transmit 46,000MW of power over high-voltage direct current power lines; the highest power transmission project in India. The project will move power from the national Hydroelectric Power Corp's project at Subansiri on the Assam-Arunachal Pradesh border to those areas of the country that have a power deficit.

There is a great potential to further develop hydroelectric power in the northeast of the country and Bhutan, but demand for power in these areas is relatively low due to the slower development of

industrial activity. It is hoped that the transmission project will encourage developers to go ahead with hydro projects that been agreed, but not yet begun. Developers in the area have been wary of beginning to build new hydro plants due to their concerns that the facilities do not exist that would have the capacity to transmit the power from the new plants to the areas of the country where there is a demand for electricity. Power Grid's plans for the new network will give developers the security of a market for the power they produce.

Source: IWPDC Dec 2007

Vietnamese to build largest Lao hydro plant

Vietnam National Oil and Gas Group, PetroVietnam, announced late last year that it will develop the largest hydro project to be built to date in Laos. The State-owned energy company signed an agreement in October 2007 to develop the project on the Mekong river in Luang Phrabang province. The 1410 MW independent power producer project will cost an estimated US\$1.7 billion and will be undertaken on a build, operate, transfer basis. The Vietnam Bank for Investment and Development may be involved in financing the project, which is planned to supply most of its output to Vietnam.

Export-dedicated Laotian hydro-electric projects such as the 1070MW Nam Theun 2 scheme have traditionally been undertaken on the business of selling the power to Thailand and have generally involved Thai investors. More recently, however, Vietnamese investors, including the State power holding company Electricity of Vietnam, the Song Da Construction Corporation, and the Vietnam Construction and Machinery Installation Corporation,

have been involved in projects in Laos.

PetroVietnam is already part of a consortium planning to build several hydro plants in Laos. The Viet-Lao Power Company, which also groups Song Da and the Vietnam Bank for Investment and Development, is developing the 250MW Xekaman-3 project in the Xekaman river system an Attapu province and other schemes in the region.

Source: Hydropower & Dams Vol 14 Issue 6 2007

China to spend on hydro in renewables push

China plans to spend more than US\$132.5 billion by 2020 on large hydroelectric projects to help meet new national goals to increase use of renewable energy.



Vice Chairman Chen Deming of the National Development & Reform Commission said the hydro investment figure is more than half of the total that China

plans to spend on renewable energy by 2020, most of it corporate funds. The plan, which is to reduce use of coal for power generation, also calls for investment in tidal, wind, biomass, solar and geothermal energy. The investment is to help China obtain 15 percent of its installed capacity from renewable sources by 2020, up 7.5 percent in 2005.

Source: HRW Vol 15 No.6 (Dec 07)

Design of tidal plant being studied for Brazil

The 40 year old Bacanga Dam and Reservoir in Sao Luis in northern Brazil is being studied as a site for a pilot tidal power plant. Researchers in the Department of Ocean Engineering at the Federal University of Rio de Janeiro are studying the feasibility of developing the plant.

The plant would take advantage of the existing dam, gates, and other equipment. Construction would involve installing an intake system and turbine-generator units. The equipment being considered includes a vertical axis, helical type turbine with an external generator. Two turbine-generator sets would be installed; one to generate when the tide is flowing from the ocean to the reservoir and one when flow is from the reservoir to the ocean.

CNPQ, an agency of the Brazilian Science and Technology Ministry, is financing the studies, which are to be completed in 2008.

Source: HRW Vol 15 No.6



ASIA 2008 - 2nd International Symposium on Water Resources & Renewable Energy Development in Asia

**10th & 11th March 2008 - Furama Convention Centre,
Danang, Vietnam**

BHA organised UK pavilion and seminar/networking reception, supported by UKTI, at the follow-up to the hugely successful 2006 event in Bangkok.

If you are interested in participating with the BHA, please contact Ellan Parry at the BHA.

Tel: 01202 880333 Email: ellan.parry@british-hydro.org
Web: www.british-hydro.org

BHA Hydro Workshop at the SRF Annual Conference

10th March 2008 - Sheraton Hotel, Edinburgh



The BHA is running a workshop at the SRF annual conference.

For more details, please contact the BHA on 01202 or info@british-hydro.org



PowerGen India & Central Asia 2008

3rd to 5th April 2008 - Pragati Maidan, New Delhi, India

BHA organised UK pavilion and seminar at this high profile international power industry event, supported by UKTI.

If you are interested in participating with the BHA, please contact Ellan Parry at the BHA.

Tel: 01202 880333 Email: ellan.parry@british-hydro.org
Web: www.british-hydro.org

BHA Hydro Workshop At All-Energy 2008

**22nd May 2008 - Aberdeen Exhibition & Conference Centre,
Aberdeen**



The BHA is running a workshop at the All-Energy Conference & Exhibition.

For more details, please contact the BHA on 01202 or info@british-hydro.org

Hydroenergija 2008



11th to 13th June 2008 - Bled, Slovenia

BHA organised UK pavilion at the biennial European small hydropower event, jointly organised by the European Small Hydropower Association (ESHA) and the Slovenian Small Hydropower Association (SSHA).

If you are interested in participating on the BHA UK stand, please contact Ellan Parry at the BHA.

Tel: 01202 880333 Email: ellan.parry@british-hydro.org
Web: www.british-hydro.org

BHA AGM 2008

17th September 2008 (morning) - Bristol (venue to be confirmed)

Annual General Meeting for BHA members.



Tel: 01202 880333

Email: info@british-hydro.org Web: www.british-hydro.org

BHA Annual Conference 2008

17th & 18th September 2008 - Bristol (venue to be confirmed)

Annual Conference and exhibition.



Tel: 01202 880333

Email: info@british-hydro.org Web: www.british-hydro.org

HYDRO 2008



6th to 8th October 2008 - Ljubljana, Slovenia

BHA organised UK pavilion and networking reception at the leading international annual hydropower event. For more details on the BHA activities at this event, including participating on the BHA UK stand, please contact Ellan Parry at the BHA.

Tel: 01202 880333

Email: ellan.parry@british-hydro.org Web: www.british-hydro.org

Hydropower - the pioneer of renewable energy

ENERGY NOW

Renewable Energy Magazine specifically for Farmers & Landowners

Energy Now, published by DJ Media, is the only printed renewable energy magazine read exclusively by farmers and rural landowners throughout the UK. Distributed every 2 months, Energy Now highlights the latest news and developments from across the renewable energy sector, including hydro, providing a communications link between the renewable energy and agricultural/rural communities. Subscriptions are available from £18 a year. For more information please log on to www.energy-now.co.uk or call David Jacobmeyer on 01905 429 018.

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For more details email Elaine@ipa-scotland.org.uk with full name and company name.

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Email: info@british-hydro.org

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