

IN-SHP

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*International Network
on Small Hydro Power*



NEWSLETTER

Message from the Director General



Prof. Liu Heng
Director General, IN-SHP

Welcome to the 12th issue of our IN-SHP newsletter. We are an international organisation that strives to promote the use of small hydropower (SHP) as a clean energy solution to meet the growing demand for energy in the world, especially in developing countries.

A newly established Swiss-China Energy Cooperation Program will include cooperation on small hydropower between China and Switzerland, represented by the Swiss Federal Office of Energy. Standardization of SHP equipment is already a mature field in China, however further collaboration is needed to overcome future equipment functioning challenges at a global level.

Collaboration with UNIDO's regional program to promote investment and development of renewable energy in Latin America continues. In July a group of experts invited by the Ministry of Industry, Energy and Mines of Uruguay visited the country small hydropower site measurements.

At the beginning of August, IC-SHP's Changsha Base in Hunan Province is hosting more than 20 training participants from 12 countries in Africa, Asia and South America. They are attending a 20 day international training workshop on hydroelectric technology for small and medium hydropower, endorsed by the Chinese Ministry of Science and Technology.

We are tremendously grateful for your continued support and welcome any news, comments or suggestions that you would like to share with us and the international small hydropower community.

Events of IC-SHP

1. **ICSHP compliments Swiss-China Energy Cooperation on Small Hydraulic Equipment**
2. **An expert panel of ICSHP visited Uruguay for site measure**
3. **The panel of ICSHP carried out technical assessment for SHP projects of Nigeria**
4. **International training workshop at Sub-base in Changsha**

ICSHP compliments Swiss-China Energy Cooperation on Small Hydraulic Equipment



On July 5, 2012 Alex Arter, Chairman of Entec AG, Switzerland, visited the ICSHP as a part of Swiss-China Energy Cooperation Program to discuss China's small hydropower experience and share his own perspectives on small hydropower equipment development, particularly in Vietnam and Nepal.

The meeting was attended by Liu Heng, the Director General of ICSHP, who expressed the need for information exchange and that cooperative collaboration is the key to solving some of the challenges. He encouraged alternate

solutions to making small hydropower technologies more reliable and sustainable technologies.

Tan Xiangqing, the Deputy Chief Engineer explained the progression of small hydropower equipment manufacturing industry in China. The discussion pointed out that China's strategies and development methods have evolved during its own experience. Specialization in design improvement, automation and manufacturing has led to further improvements in equipments. Cooperation in the field of standardization is the need of this hour as pointed out by Alex Arter. Even though standardization has been a matured field of work in China, there are further challenges associated to equipment functioning around the world.

The Division of International Relations welcomed the interest shown by Alex Arter on behalf Bundesamt für Energie (BFE), the Swiss Federal Office of Energy for further cooperation.

An expert panel of ICSHP visited Uruguay for site measure

Latin America has abundant small hydropower resources but with limited development until now. In September 2006 at a Latin American ministerial meeting held in Montevideo, Uruguay, UNIDO and the Ministry of Industry, Energy and Mines of Uruguay suggested to establish a regional UNIDO program to promote investment and development of renewable energy in Latin America. After the meeting, the Observatory for Renewable



Energy in LAC was founded, and now 12 Latin American countries have joined this project.



In March 2011, ICSHP attended the second meeting of this program and introduced the SHP development experience of China. Invited by Ministry of Industry, Energy and Mines of Uruguay, our experts also visited three expected sites.

In order to promote the development of renewable energy and especially small hydropower, the Ministry of Industry, Energy and Mines of Uruguay invited the experts of ICSHP to visit Uruguay for site measurement in July 2012. In the next stage, ICSHP will positively attend to the SHP development of Latin America in order to promote the development of renewable energy in Latin America.

The panel of ICSHP carried out technical assessment for SHP projects of Nigeria

On 11th -19th August 2012, entrusted by UNIDO, a panel of ICSHP carried out technical assessment for SHP projects in Nigeria. The project is in the South of Nigeria and is to supply electricity to a library and surrounding areas. ICSHP is responsible for technical consultation and equipment supply.



The panel also visited a station in the South of Nigeria that is to be refurbished, and UNIDO hoped that ICSHP could carry out general assessment for this project as soon as possible.

In Nigeria, our experts also talked with the former presidents of Nigeria and the representatives of UNIDO, Ministry of Power, Energy Management Committee and Ministry of Finance respectively. This project is an extension of “Lighting up rural Africa” of ICSHP.

International training workshop at Sub-base in Changsha



From 3rd to 23rd of September, the Sub-Base in Changsha, Hunan Province, is holding an ‘International Training Workshop on Hydroelectric Technology for Small and Medium Hydropower’. The training is supported by the Ministry of Science and Technology of P.R. China as well as the Hunan Provincial

Department of Science and Technology. Twenty training participants from Burundi, D.R. Congo, Egypt, India, Iran, Laos, Nepal, Nigeria, Nepal, Pakistan, Peru, South Africa, Sudan, Uganda, Vietnam and Zimbabwe have arrived to share their experiences on small hydropower and sustainable development, as well as seek opportunities and find solutions to promote small hydropower development in their own countries.

Background: In June 2010, the ICSHP nominated the Changsha Base - HNAC Technology Co., Ltd. as UNIDO's small and medium hydropower control equipment R&D and manufacturing demonstration base.

At the opening ceremony, Mr. Funso Jacob Makanjuola, project manager from the Regional Centre for Small Hydropower in Abuja, Nigeria, represented the training attendants and welcomed the opportunity given for information exchange. He said that "there are serious concerns of energy challenges already encumbering the African, Latin American and Asian rural population development process, including the attainment of the Millennium Development Goals (MDGs). This is in spite of the rural endowment of both Renewable and Non-Renewable Energy Sources that are largely underutilized and at times inefficiently in its use". Ms. Lara Esser, Senior Programme Officer at IC-SHP presented some of her preliminary World Small Hydropower Report findings to the training participants, where she also met Mr. Makanjuola.



World SHP News

1. [Africa](#)
2. [America](#)
3. [Asia](#)
4. [Europe](#)

[Africa](#)

[More investment for African hydro needed according to UNESCO](#)

The World Water Week (August 26th - 31st of August, 2012) is currently taking place in Stockholm, Sweden. This year's theme is 'Water and Food Security'. On the 2nd day of the conference, speakers at the session *Water Security: Opportunities for the 21st Century* emphasised the need for increased capacity building if Africa is going to meet its water and sanitation goals. András Szöllösi Nagy of UNESCO-IHE Institute for Water Education said "Africa has the technology and the money to implement commitments on water and sanitation but clearly doesn't have the capacity. If Africa is to meet the Millennium Development Goals by 2015 we need to increase the number of water professionals by 300 percent. This is a huge challenge and in two years we are not going to meet it. The most important issue to deal with is education. This goes from elementary schools all the way up to politicians. If we really want to highlight the importance of water issues at government level then we have to raise awareness.

UNESCO has urged investors to channel their funds toward harnessing Africa's hydro power potential to boost the continent's economy. Prof. Szollosi-Nagy, made the call in an interview to the News Agency of Nigeria (NAN) on Tuesday, in Stockholm, on the sideline of the 2012 World Water Week. He said that if Africa's hydro power potential was adequately harnessed, it would generate adequate hydro power and create business opportunities for Africans.

Background: The World Water Week is hosted and organised by the Stockholm International Water Institute (SIWI). It is an annual event and takes place each year in Stockholm, since 1991.

Each year the World Water Week addresses a particular theme to enable a deeper examination of a specific water-related topic. The current niche for 2009-2012 is "Responding to Global Changes", which looks at the potential and necessary responses in water policy, management and development to address pervasive and increasingly impacting global changes.

Sources: Stockholm Water Front: Capacity Building is vital for Africa. In: A Forum for Global Water Issues. World Water Week Daily. Wednesday, August 29th 2012. Online:

http://www.worldwaterweek.org/documents/WWW_PDF/Media/2012/2012-WWD-wednesday.pdf

News Agency Nigeria (NAN). UNESCO seeks more investment in Africa's hydropower potential. August 28th, 2012. Online:

<http://50.57.96.152/section/foreign/unesco-seeks-more-investment-in-africa%E2%80%99s-hydro-power-potential>

[Microhydropower Project on Ruzizi River in the Democratic Republic of Congo](#)

By Oscar BISIMWA MONDO, BUKAVU-DRC (IN-SHP Member)

A new micro hydropower plant is being constructed on Ruzizi river, which connects Lake Kivu to Lake Tanganyika. The project consists in building a 3rd station on the River 7 km upstream of the Congolese city Kamanyola and Burgarama in Rwanda. Three countries border the Ruzizi, notably DRC, Rwanda and Burundi.

The technical and organizational studies have been conducted by the German company Fitchner, while the socio-environmental studies were conducted by the French company SOFRECO. The studies were funded by the European Investment Bank, the KfW, and the Development Bank of Southern Africa (DBSA). The first 2 units are:

- 3 km from the outlet of Lake Kivu and belonging to Société Nationale d'Electricité (SNEL) of DRC, it has an installed capacity of 28 MW.
- Ruzizi-2 is 30 km upstream and has an installed capacity of 44 MW. It is managed by the community and SINELAC.

Ruzizi-3 is 7 km away from Kamanyola and will be managed by the community system of a public private partnership (PPP). It will have a capacity of 147 MW, 2 MW will be produced in MV (30 kV) by a micro incorporated to feed devices of the larger station and the city of Kamanyola. In order to distribute the energy produced by the large station among the three member countries of the Economic Community of the Great Lakes (CEPGL), 220 KV HT lines will need to be constructed.

The city of Kamanyola will receive energy from the power station Bendera, which is located about 180 km south of the town of Uvira, at the Congolese border provinces of South Kivu and Katanga. DAOs

(Détachement ALAT des Opérations Spéciales) have been launched for the digging of roads for access to the site of Central and construction of the dam. In parallel, studies of building central RUZIZI 4 of 287 MW have been initiated but currently stopped.

America

Escondido looking to improve safety at 1.7-MW Lake Wohlford hydropower project

Hydro World (August 10, 2012)

A recent decision by the Escondido city council should help improve the safety of California's Lake Wohlford Dam and its accompanying 1.7-MW hydropower plant, HydroWorld.com has learned. The council agreed earlier this month to pay Black & Veatch US\$3.5 million to design a \$26 million replacement for the 116-year-old structure.

Since being deemed seismically unsafe during a 2007 federal review, the impounded reservoir's capacity has been reduced by more than half due to concern that the structure's earthen portions might liquefy during an earthquake. HydroWorld.com reported in 2008 that the city of Escondido had awarded a \$195,800 contract to GEI Consultants to study ways to mitigate the dam's potential for liquefaction, although the city felt a more recent study was necessary, prompting the Black & Veatch study.

Local sources say the city had been delaying a full replacement of the dam due to its price tag, but officials say state and federal grants should help cover much of the project's costs. The project is expected to be complete by mid-2017, as per stipulations of state grants.

Asia

Four small hydropower plants slated for India's Uttar Pradesh

Hydro World (August 27, 2012)

The Indian state Uttar Pradesh has approved bidders for four new hydropower projects that will total about 3.4 MW of output, HydroWorld.com has learned. The four new hydroelectric plants will be set up through public-private partnerships and include the 550-kW Kutubpur and 300-kW Dhakauli projects to be built in Meerut, 1.8-MW Betwa-1 in Jhansi, and 750-kW Akbarpur in Bulanshahar. AMR Power Private Limited will develop Kutubpur and Dhakauli, while Oasis Contractors and Private Limited will develop Betwa-1 and Akbarpur.

All of the hydropower plants are expected to be commissioned by 2016, assuming they are approved by the Uttar Pradesh Energy Task Force and State Cabinet. HydroWorld.com reported in July that a recent GlobalData report shows India's potential for small hydropower growth to be amongst the world's most significant.

Work begins on Philippines' 7-MW Tudaya 2 hydroelectric plant

Hydro World (August 20, 2012)

Hedcor Inc. -- a wholly-owned subsidiary of AboitizPower Corporation -- has broken ground on its 7-MW Tudaya 2 hydropower project. The US\$23,576,600 Tudaya 2 plant will use water from Tudaya Falls, which is located within the Mount Apo National Park in the Philippines' Davao del Sur Province. The project will provide "reliable, dependable and competitively priced power, thereby strengthening the region's position as a destination for business, investment and tourism," according to AboitizPower President Erramon Aboitiz. Power

generated by the Tudaya 2 plant will primarily be sold to the Davao del Sur Cooperative Inc. (DASURECO), which hopes it will reduce its carbon dioxide emissions by more than 30,000 tons per year.

AboitizPower says Tudaya 2's carbon neutrality qualifies it for registration under the United Nation's Framework Convention on Climate Change as a Clean Development Mechanism (CDM) project, allowing the company to sell certified emission reduction units (CERs) to industrialized countries.

HydroWorld.com previously reported that two of AboitizPower's Filipino projects -- the Ambuklao and Binga hydropower plants -- gained CDM status in June 2011. "As one of the largest producers of renewable energy in the country, the Tudaya Hydro 2 is our contribution to the worldwide effort to reduce greenhouse gas emissions," says Hedcor President Rene Ronquillo. Tudaya 2 is scheduled to be completed during the first quarter of 2014. AboitizPower says the hydropower project will create more than 400 employment opportunities.

Europe

[Albion, Dragon Hydro partnering for new 300 kW project](#)

Hydro World (August 16, 2012)

Capital investment group Albion Ventures LLP is entering the hydropower industry with an investment of almost US\$2 million in a new Dragon Hydro Limited scheme. The money will help Dragon Hydro develop a 300 kW hydropower plant on the Afon Cadair River in Wales' Gwynedd County.

The project will benefit from the United Kingdom's feed-in tariff (FiT) plan and reflects Albion's history of investing in green technologies. "This investment highlights Albion's continued commitment to the renewables sector," says Albion representative Michael Kaplan. "Hydropower is the oldest renewable technology and we are very pleased that the government continues to support small-scale hydro through feed-in tariffs." Albion says the project is expected to be complete by Q3 2013.

[Delayed Windsor Castle project on track for end-of-year completion](#)

Hydro World (August 9, 2012)

A plan for hydroelectric production at Windsor Castle has been delayed as a result of complications with the project's 11,000-volt transmission line. The US \$2.7 million scheme, which was to have been operational by now, includes two 12-meter by 4-meter Archimedes Screw turbines and is expected to provide a capacity of 300 kW when complete.

A decision was recently reached to drill two small horizontal tunnels under the River Thames and a nearby rail that will be used for the lines. A representative from the project's developer, Southeast Power Engineering Limited, says this solution is the most environmentally friendly option and shouldn't disrupt rail service. Assuming all goes as planned, the project is expected to be producing power by the end of this year.

Clean Development Mechanism

Programmatic CDM news

Programmatic CDM

While earlier this year, two renewable energy / small hydropower Programme of Activities (PoA) were successfully registered for [Mexico](#) and [Thailand](#), two more SHP PoAs are requesting registration at the moment, e.g. [Tunki Small Scale Hydropower Program of Activities](#) for Peru, as well as [Chilean Small Hydroelectric Power Plants Programme of Activities](#) (PoA 6285).

Only two more new SHP PoAs have entered validation since July, as the end of 2012 and the end of the first Kyoto Protocol is approaching. In Indonesia, the [BWC Sustainable Mini Hydropower Programme of Activities](#) aims to include small-scale run-of-river hydropower plants and plants with a dam. The [Small Hydropower Programme of Activities in Armenia](#) entered validation in August, its purpose is to use carbon finance for SHP projects. The PoA has been supported by the European Bank of Reconstruction and Development through financing Technical Assistance for the set up of the PoA in the frame of the ArmSEFF program (the Armenian Sustainable Energy Finance Facility for industrial energy efficiency and renewable energy projects) in order to enable, simplify and support development of SHPP projects in Armenia. This PoA aims to include small-scale run-of-river hydropower plants, and plants with reservoirs.

First round of CDM Loan Scheme reveals great interest for CDM projects

A newly launched loan scheme aimed at helping spur CDM projects in developing countries closed its first round of applications with a strong show of interest from countries across the world. The Scheme received applications from 42 projects in 23 countries in Latin America and the Caribbean, Asia and Africa. Africa had the bulk of applications, with 29 coming from the continent.

The loan scheme is run jointly by the UNFCCC, the United Nations Office for Project Services (UNOPS), and UNEP Risoe Centre. It provides interest-free loans for CDM projects in LDCs, as well as countries with fewer than 10 registered CDM projects. The loans are to cover development of project design documents; validation by a designated operational entity; registration of the project; and monitoring and verification of emission reductions. The types of projects submitted were equally varied. There were 22 applications for PoAs, covering mainly cook stove and small-scale biogas projects. In addition, 11 large-scale projects in a wide range of technology sectors, including transport, methane avoidance and renewable electricity, were also received.

Future of CDM

The high-level panel established to conduct a policy dialogue on the Kyoto Protocol's Clean Development Mechanism (CDM) has concluded its final meeting by developing a set of recommendations for reforming the CDM, after three days of intense deliberations (Johannesburg, 26 July 2012). The eagerly awaited recommendations cover issues such as the role and value of the carbon markets, sustainable development, regional distribution, governance structure, additionality, appeals and grievance mechanisms as well as the development of new carbon market mechanisms. The panel will officially announce its recommendations in mid September, immediately after the sixty-ninth meeting of the CDM EB in Bangkok.

More information: www.cdmpolicydialogue.org and www.cdm.unfccc.int

World Small Hydropower Development Report



World Small Hydropower Development Report



The International Centre on Small Hydro Power (IC-SHP) is the Secretariat of the World SHP Development Report which will be published before the end of this year. The aim of the report is to give a global overview of the status of SHP and thereby inform SHP practitioners, policy- and decision-makers, investors on the opportunities that SHP has to offer as a clean, renewable and local energy for sustainable development.

We are currently editing and peer-review stage and are therefore not accepting anymore contributions. However, since this is an on-going project, we are always glad to hear from practitioners of countries that would like to provide information for their country. Countries, where we are still seeking contacts include e.g. Colombia, Bolivia, Nicaragua, Venezuela.

Additional information and some preview case studies are provided on the now updated World SHP Development Report homepage section of www.inshp.org.

Forthcoming events

**3rd Technical Workshop of the Regional Program & 6th Hydro Power for Today Forum
World Future Energy Summit 2013**



**3rd Technical Workshop of the Regional
Programme
& 6th Hydro Power for Today Forum**



***"Small Hydro Energy: Local Solutions to Climate Change and Sustainable
Development"***

The 3rd Technical Workshop of the Observatory and the 6th Hydro Power for Today Forum will be hosted in Mexico D.F. (specific location to be confirmed) from 5 to 7 November 2012. It is jointly organized by UNIDO, the IC-SHP in coordination and the Mexican Authorities in energy matters, specially the Electric Power Research Institute, aims to portray the key aspects to increase small hydro energy deployment for sustainable development, in particular employment creation and poverty alleviation, in developing countries and countries with economies in transition.

This event is framed in UNIDO's strategy to promote renewable energy worldwide. The ICSHP aligned with UNIDO's strategy to deploy globally renewable energy in a context of sustainable development, will join efforts to celebrate the 6th Hydro Power for Today Forum, which responds to a series of activities organized every year by the ICSHP, aiming at establishing continuous platform to share views and learning lessons among experts and decision makers on how to improve the renewable and green energy practices-specifically small hydro energy-to contribute to mitigate climate change effects, poverty alleviation and economic growth.

The event will therefore gather together experts and representatives from key regional and international institutions working at the small hydro energy field so as partners of ICSHP and those key stakeholders which are currently involved in the implementation of the Observatory regional programme in order to exchange views on the challenges and potential solutions for successfully implementing small hydro energy systems as a vehicle for local development.

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Overview

The World Future Energy Summit (WFES) 2013 will bring together global leaders in policy, technology and business to discuss the state of the art, develop new ways of thinking and shape the future of renewable energy.

Building on the high profile successes of WFES 2012, the sixth annual gathering of future energy's world leaders will be home to brilliant minds and inspiring thinkers for three days of expert debate and world class innovation in the heart of Abu Dhabi.

January 2013 will mark the first year of the International Water Summit which will be held in conjunction with the World Future Energy Summit. The International Water Summit is the only event that focuses specifically on the water energy nexus and the challenges of this within arid environments. The event will include a political summit, expert conference and exhibition for delegates and water experts from all over the world.

Now, as the centerpiece of Abu Dhabi Sustainability Week, WFES 2013 will work seamlessly with a string of other global conferences in sustainability, renewable energy and cleantech, including the inaugural International Water Summit and IRENA to create an unrivalled global hub of expertise and connections.

With truly worldwide reach and authoritative subject matter expertise, WFES 2013 will bring together depth of knowledge and breadth of talent to inspire audiences, share insights, stimulate debate – and influence the agenda for the years in prospect. It is a platform from which conventions can be challenged and new thinking shaped.

Conference speakers, delegates and exhibitors are truly world class. WFES 2012 Opening Ceremony speakers included the Premier of China and the Prime Minister of Korea as well as the President of the United Nations General Assembly and the Secretary General of the United Nations. Heads of State and Heads of Government have used WFES as a unique global platform from which to launch initiatives, announce investment, make policy statements and deliver targeted media messages designed to raise awareness and increase business.

More information: www.worldfutureenergysummit.com.

Coming Events

ESI Hydropower Africa Sandton Convention Centre, Johannesburg, South Africa 17-21 September, 2012	Report of Sustainable Energy for All Report New York, USA 18- 21 September, 2012
The Oil & Renewable Energy Show 2012 Manchester Central Convention Complex, Manchester, United Kingdom 17-18 October, 2012	9th Annual Southern Cone Energy Summit Swissotel Lima Peru 2-3 November, 2012
6th Renewable Energy India 2012 Expo India Expo Centre & Mart, Greater Noida NCR Delhi, India 7-9 November, 2012	World Future Energy Summit 2013 ABU Dhabi National Exhibition Centre 15-17 January, 2013

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