

IN-SHP

*International Network
on Small Hydro Power*



**Volume No.3 ISSUE No. 11
062012**

- ▶ 2 Events of IC-SHP
- ▶ 4 Special Reports
- ▶ 5 World News
- ▶ 8 CDM News
- ▶ 10 Coming Events

NEWSLETTER

Message from the Director General



Prof. Liu Heng
Director General, IN-SHP

This June marked the 20th anniversary of the original United Nations Conference on Sustainable Development (also known as Earth Summit). IC-SHP participated in water and energy events of the conference, which again took place in Rio de Janeiro, Brazil. Rio 20+ notably put sustainable development and renewable energy on the international agenda, particularly as we are getting closer to the Millennium Development Goal deadline of 2015.

The World SHP Development Report has been compiled as a first draft version by mid - June and is now being edited. In the next month it will go for peer-review, before it can be published by the end of this year with the financial support of UNIDO. In order to make this global report a regular publication, we have now also sought for funding from the Chinese Ministry of Commerce and are awaiting their approval.

Earlier in June, IC-SHP's Chenzhou Base in Hunan Province hosted more than 30 training participants from African, Asian and Latin American countries. They were attending a 2-month long training on renewable energy for developing countries, which is part of China's South-South technical cooperation.

Finally, I hope you will enjoy the 3rd edition of our IN-SHP newsletter this year. 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. 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. **Prof. LIU Heng attended RIO+20 in Brazil**
2. **Prof. LIU Heng spoke at the 4th Annual EU Day, Shanghai**
3. **Jämtkraft Sweden paid a study tour with procurement interest to SHP equipment manufactures in China**



Prof. Liu Heng attended RIO+20 in Brazil

Invited by UNIDO, Prof. Liu Heng, DG of ICSHP attended RIO+20- “The United Nations Conference on Sustainable Development” in Brazil on 17th to 20th June, 2012. At the Rio+20 Conference, world leaders, along with thousands of participants from governments, the private sector, NGOs and other groups, came together to shape how we can reduce poverty, advance social equity and ensure environmental protection on an ever more crowded planet to get the future we want.

During the conference, Prof. Liu joined several academic exchange activities, including “Sustainable Development: Do we need a green industrial policy?”, “Dublin Rio Principles, where do we stand, what lessons learned”, and the activities of “UN-Energy Day” and “UN-Water Day”. In addition, invited by Switzerland, he also gave a keynote speech on the workshop of “Resilience for communities- what do we really need by 2015”.

Besides above side events, Prof. Liu actively communicated with UN and relevant institutions, in order to expand the exchange, inquire into cooperation opportunities and reach many agreements on SHP cooperation.

Prof. LIU Heng spoke at the 4th Annual EU Day, Shanghai

Prof. LIU Heng, DG of ICSHP, gave a keynote speech on *Water Challenges and Opportunities in China* at a seminar on the occasion of May 9, 2012- the 4th Annual EU Day, Shanghai. The event was co-hosted by the Danish Consulate General in Shanghai and China Europe International Business School (CEIBS). As current holder of the EU Presidency, Denmark had chosen to focus on water at this year’s annual EU Day. Water industry experts gathered to present thought-provoking discussions on “Blue Gold: A Business Perspective on China’s Water Challenges”.



About 80 attendees included Danish Counsel General, CEIBS directors, distinguished representatives of European countries' General Consulates, professors and MBA students in Shanghai.

Prof. LIU cited China is facing some serious challenges in its water industry. These include water shortage, water pollution, and low efficiency, said Prof. Liu, adding that the Chinese government has made great efforts to overcome these hurdles. For example, China's First Central Document, issued by the government in 2011, specifically focuses on China's water reform and water development. And 4000 billion RMB (470 billion Euro) will be used for water projects in the next decade.



Following Prof. LIU's speech, Mr. Lars Skov Andersen, Deputy Team Leader of the EU-China River Basin Management Programme, presented China-EU Water Platform progress, and next Mr. Stig Larsen, the Director of Business Development at Grundfos, a Danish manufacturer of pumps and water systems addressed the audience by introducing a new solution for water supply system, "Demand Driven Distribution". A panel discussion on the topic, "How to Solve China's Water Shortages and Make a Profit at the Same Time" followed the speeches, and the speakers answered and debated on questions from the audience.

Jämtkraft Sweden paid a study tour with procurement interest to SHP equipment manufactures in China



From 22th-26th April a high level delegation from Jämtkraft Sweden paid a study tour to China. The delegation was headed by Mr. Anders Eriksson, CEO of Jämtkraft. The purpose of this study tour was to seek small hydropower turbines & generators suppliers for its three on-going small-scale hydropower refurbishment projects in Sweden. Furthermore, Jämtkraft would also like to take this opportunity to look more into the Chinese SHP equipment manufacturers and then through comprehensive evaluation to select some reliable and well-reputed Chinese manufacturers with whom long-term lasting partnership can be established for future cooperation. It is expected that apart from the on-going SHP refurbishment projects, the Chinese cost-effective SHP equipment could be further spread to Sweden, Norway and more plants in North Europe.

Jämtkraft Sweden is a community-owned firm rooted in Jämtland, Sweden. It has four areas: power, grid, heat and telecom. In recent years, facing the crucial issues within energy sector, Jämtkraft has been expanding its business to renewable power generation, putting focus on hydropower, wind power and biomass. Currently in Sweden most of the small hydropower plants are to be refurbished with increased capacity. Jämtkraft catches this significant business opportunity by obtaining 17 SHP plants of the refurbishment program in its region.



Special Reports:

China New Rural Hydropower Electrification

- 1. Shangrao County vigorously develops SHP to relief insufficiency of power supply**
- 2. Linxia State of Gansu Province has a great boom in SHP construction**

Shangrao County vigorously develops SHP to relief insufficiency of power supply

In recent years, Shangrao County of Jiangxi Province takes measures to promote the development of SHP and relief insufficiency of power supply.

Shangrao County has abundant water resources with potential advantages for development of renewable energy. In last few years, Shangrao County strengthened the support for small hydropower development and effectively integrated inner water resources based on national Renewable Energy Law. Through scientific management and overall arrangement, on-grid capacity of small hydropower stations has been improved.

Currently, total installed capacity of small hydropower in the whole county is around 97.4 MW, and annual generation is over 200 GWh for three consecutive years. It makes a new contribution to economic development and new rural construction of the whole county.

Linxia State of Gansu Province has a great boom in SHP construction

In past years, Linxia state of Gansu Province attracted investment on the basis of government policies to develop small hydropower. By the end of 2011, there were 58 hydropower plants with 2.259 GW of total installed capacity and 10.009 TWh of annual generation. Rural small hydropower on-grid generation is account for 26% of the whole state.

Linxia State has over 30 rivers with abundant water resource that is account for 12.4% of Gansu Province. The exploitable capacity is 2.463 GW that is account for 24.1% of Gansu Province.

It is reported that there are 13 hydropower plants in Linxia state on the construction with 83.7 MW of total installed capacity, valued RMB0.767 billion.

With the deeply implementation of reform and open up and West Development as well as the support of national policies on SHP development, SHP on-grid tariff is increasing year by year. During the 12th five-year plan, Linxia Province is planning to construct medium hydropower stations on the main streams but develop small hydropower plants on the other branches, in order to protect the environment better.

World SHP News

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

America

[El Salvador Prefers Mini Hydro Station](#)

Central Asia Data (May 9, 2012)

A study by the National Energy Council (CNE) in conjunction with the Japanese [International Cooperation Agency](#) (JICA) outlines a strategy for the next 15 years in the development of technologies using renewable resources.

"One of the main conclusions of the study is that the country can support the installation of small hydro stations, given the abundance of water it has. The document details the potential for implementing different renewable generation technologies (wind, biomass, photovoltaic, and others), and financial feasibility analysis and technical recommendations," reports Laprensagrafica.com.

El Salvador also has potential for photovoltaic projects, the study said. The CNE also announced that the Development Bank of El Salvador will provide funding for these projects.

[Minerco to liquidate Honduran hydropower plant](#)

PennWell (May 15, 2012)

Renewable energy developer Minerco Resources Inc., has announced that it will sell its 4-MW Iscan hydroelectric plant in Honduras. HydroWorld.com has learned that Minerco acquired the hydropower facility in January 2011 from Energetica de Occidente S.A. de C.V. (Enercosa). In exchange for full control of the then-uncompleted plant, Enercosa received 1 million shares of Minerco stock in two installments. The Houston-based company says the project will have an estimated annual return of 30% with an initial capital expenditure of between \$50,000-100,000. Minerco president V. Scott Vanis says the company is selling the Iscan plant to concentrate more on the development of the 6-MW Chiligatoro hydropower plant.

Asia

[First Bhutanese Hydropower Construction Company to register this month](#)

Thinly Wangmo (May 19, 2012)

Bhutan's first hydropower construction company to be called the Bhutan Energy and Infrastructure Limited (BEIL) will be registered with the Ministry of Economic Affairs (MoEA) within this month.

Speaking to The Bhutanese, the Member Secretary of the Interim Committee of the BEIL, Gopal Waiba said, "the company wanted to complete the registration process by the end of the February this year, but registering the core promoters under Construction Development Board (CDB) was problematic, which caused the delay in the registration process."

The company also lost a few investors due to the slow registration process. "It was getting too long to get us registered, which was causing a financial burden on us," said one contractor who chose to remain anonymous.

The Interim Committee of the BEIL is positive that MoEA will not take more than a week to register the company. Gopal Waiba said the objective behind establishing the company was to build the Bhutanese economy, and also to be a lucrative national revenue generator earning in Rupees.

The company plans to undertake all the hydropower construction work in hydropower sites in Bhutan. "The company would also do the feasibility study for 15-50 MW sites that have already been found," said Gopal Waiba.

From 17 promoters that registered during the consortium meeting on 20th February 2012, today, there are around 30 investors in the company. The company will work with an initial investment of around Nu 30mn, where each promoter puts in a minimum contribution of Nu 0.5mn. The initial investment will be spent on the first phase of the company, which includes setting up the company, conducting the feasibility studies, construction of roads and bridges and other relevant survey required by the company. The second phase will include purchasing equipment and the construction of hydropower plants, which will require an additional investment of Nu 2bn to Nu 4bn.

To raise the capital sum required, the company will float shares of minimum 30% to 49% to the public. "The main motive is to encourage savings and investment culture in the Bhutanese society," said Gopal Waiba. "Though it is a long term investment, the company is planning to give dividends to shareholders by the 5th or 7th year of installment," he said.

The promoters are optimistic about the venture, and termed it as a "milking cow" for the potential it holds in generating revenue, and in creating employment opportunities. The company expects to recover the cost of investment within 12 to 14 years of installment. "We can see a prosperous future in this venture since the nation has many potential sites for hydropower energy," said Leki Dorji Norbu from Bhutan Engineering.

The government will allow hydropower energy venture to be exempt from tax, and permit it to recover the cost of investment within a minimum period of 30 years, and with an extension period of 15 years. The President, of the Construction Association Board (CAB) and one of the main promoters of BEIL, Ugen Tshechup said that they are looking forward for such an opportunity given by the government.

The company stated it has a huge potential to earn Rupees, and the government should extend full cooperation in the venture. The Secretary of CAB, Cheku Drukpa said, "the Rupee crunch has not affected the formation of the company." Although there will be some problems in securing investment at the initial period, the company is determined to start even if they have to borrow in foreign currency from reserves in other nations. Once in operation, BEIL believes that they can accelerate the hydropower projects and also help curb the Rupee crunch.

The company will also focus on enhancing the national engineering capacity, professionalism, cost efficiency, and quality in the hydropower industry. "We would like to take part in any of the small hydropower projects and gain experience and knowledge," said Ugen Tshechup.

BEIL is looking to set up their head office in the capital. Consultancy firms like, Afcon and Aquagreen among others are working with the company for now. The company logo is also being finalized, and the recruitment of Bhutanese workers will start once the company registration goes through.

[**Aboitiz Power expanding hydro portfolio with two new generating facilities**](#)

PennWell (May 25, 2012)

Filipino management and investment group Aboitiz Power Corp. announces its plan to construct two run-of-river hydroelectric plants: 16.4-MW Sita and 11.8-MW Simod. The hydropower plants, which will be built on the Sita and Simod rivers near Kitaotao in Bukidnon Province, will have a combined generation capacity of 28.2 MW, according to information provided by the Philippine Information Agency (PIA).

PIA says the company is the country's largest hydropower producer, with 38.2 MW of capacity at 15 small hydropower sites. In addition, Aboitiz Power also operates the [175-MW Ambuklao-Binga](#) and [360-MW Magat plants](#).

[**RusHydro, Kazakhmys sign deal for small hydroelectric development**](#)

PennWell (June 14, 2012)

Utilities RusHydro and Kazakhmys have signed a tentative deal that would see the Russian energy conglomerate construct up to 300 MW-worth of small hydroelectric plants in Kazakhstan, HydroWorld.com has learned. "Kazakhstan needs further investment in its power sector in order to maintain adequate and reliable supplies and assist economic growth," says Kazakhmys official Oleg Novachuk. "Currently, just 10% of Kazakhstan's power is generated from hydro plants, with nearly 90% coming from coal-fired stations." The companies say they expect to assume 30% of the project costs, with the remainder coming from external loans.

"The combination of RusHydro and Kazakhmys brings a balance of knowledge and skills which should deliver a successful and profitable outcome," Novachuk says.

HydroWorld.com reported in March that Tajikistan utility Barki Tojik was seeking consultants for [rehabilitation of the 3,000-MW Nurek hydroelectric plant](#), which supplies Kazakhstan with some of its power.

Meanwhile, [RusHydro announced in May that it plans to collaborate with Voith Hydro](#) in the development of a new equipment manufacturing plant in Russia's Saratov region.

Europe

[**Albania looking to sell four hydropower plants to foreign investors**](#)

PennWell (June 8, 2012)

The Albanian government is interested in selling four state-owned hydropower plants to private investors, according to information provided by the country's Ministry of Economy, Trade and Energy. The source says Albania is interested in selling its Bistrica 1 and 2, Ulez and Shkopet hydroelectric facilities -- which have a combined total generating capacity of 80 MW -- to one of three foreign investors. Interested are Austrian utilities Verbund AG and EVN Group and French energy producer Compagnie Nationale du Rhone CNR. The Ministry didn't specify the monetary amount being sought for the four hydropower plants, although Austrian financial journal Wirtschaftsblatt reports that the price would likely come to about US\$1.25 million per MW.

[**Dutch company to supply 25 hydropower units to Nepal**](#)

PennWell (June 20, 2012)

Dutch turbine manufacturer Tocardo International has closed a deal to sell 25 of its T100 generating units to Glow Tech Solutions of Nepal. The turbines will add a total capacity of 2.5 MW to Nepal's grid once connected, the company says. Installation of the turbines is being supported by The Netherlands' Private Sector Investment program, which has allocated funds to create a joint venture between [Tocardo](#) and Glow Tech Solutions. The hope is that the agreement will help create Dutch jobs as production and assembly of the turbines accelerates over the next few years.

"By starting with smaller turbines that are relatively easy to install and maintain, we are quickly developing this new energy source," says Tocardo Chief Executive Officer Hans Van Breugel. Financial terms of the deal were not disclosed. HydroWorld.com reported earlier this week that [Nepal is hoping to attract more than US\\$6 billion in hydroelectric development investments](#).

Clean Development Mechanism

Recent programmatic CDM project under validation

Entering June 2012, significantly less new programmatic CDM projects including SHP are entering validation compared to the beginning of the year. The [Small Hydropower Programme of Activities in Albania and Serbia](#) aims to serve as a model for investors, authorities and public, and will result in perception changes that are critical to expanding the use of small hydro power in Albania and Serbia. Further, the establishment of a market for investing in small hydro power projects will significantly impact building of capacity to manufacture system components domestically and lead to value creation and availability of green job opportunities in the region.

In South Africa, a [Small Scale Renewable Energy Carbon Programme \(SRECP\)](#) has entered validation, which allows renewable energy technologies such as solar, wind as well as small hydropower to be included as a CPA (CDM Project Activity).

Another African multi-country PoA has entered validation: [Sustainable Promotion of East African Renewables \(SPEAR\)](#), which includes small hydro as well for Burundi, Kenya, Rwanda and Uganda. The PoA will help to increase access to renewable energy throughout East Africa, increasing the reliability of, modern energy services. The PoA will therefore promote income generating opportunities, help tackle the countries' power generation deficit, and improve their balance of payment by reducing the need to import fossil fuels.

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. It includes 14 sub-regional level and over 140 country level report or notes on small hydropower by local SHP experts or practitioners.

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.

Coming Events

<u>6th Annual Andean Energy Summit</u> JW Marriott Hotel, Bogota, Columbia 11-12 July, 2012	<u>ESI Hydropower Africa</u> Sandton Convention Centre, Johannesburg, South Africa 17-21 September, 2012
<u>HydroVision International</u> Louisville, Kentucky, USA 17-20 July, 2012	<u>Report of Sustainable Energy for All Report</u> New York, USA 18- 21 September, 2012
<u>ISESCO/WREN International Seminar in Britain</u> Old Ship Hotel, Brighton, East Sussex, United Kingdom 9-15 September, 2012	<u>The Oil & Renewable Energy Show 2012</u> Manchester Central Convention Complex, Manchester, United Kingdom 17-18 October, 2012

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e-NEWSLETTER is a free online publication keeping hundreds of people and organizations informed of the many factors that affect SHP development and their impact on creating a brighter and greener world.

For more information, please visit our website: www.inshp.org

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