Message from the Director General

I would like to welcome you to the third edition of this new-look IN-SHP Newsletter. The mission of IN-SHP is to promote the development of small hydropower (SHP), a clean energy solution, to meet the growing energy demand all over the world. The network consists of over 380 organizations in more than 75 countries, who can benefit from the expertise of IN-SHP in their small hydropower related activities. This newsletter highlights some of IN-SHP’s recent and forthcoming activities.

According to recently published reports, the year 2009 saw continued growth of global hydropower capacity despite the world financial crisis. Potential for future development looks bright with ever increasing funding opportunities for renewable energy. To support technological development, this June the IN-SHP opened a hydropower control equipment manufacturing base in Changsha. Likewise a forum on SHP and Clean Development Mechanism in China was held by the IN-SHP in Shanghai in July to discuss this special form of finance.

The annual training course on SHP and Sustainable Development of Rural Communities for Officials of Developing Countries was once again held in July. The course, financed by the Chinese Ministry of Commerce, brought together 31 participants from Africa, Asia, Europe, the Caribbean, and the Pacific. In May IN-SHP also organized a workshop at the UN pavilion of the Shanghai World Expo 2010 to share SHP experiences in different parts of the world.

Meanwhile, work continued on pilot projects in Sierra Leone, Liberia, and Zambia for the Light Up Rural Africa (LURA) Programme.

Please read on for more details about these activities and more. As ever, we are tremendously grateful for your continued support and would welcome any news, comments or suggestions that you would like to share with us.
Special Events

1. 2010 Seminar on SHP and Sustainable Development of Rural Communities
2. Opening of ICSHP Changsha Hydropower Control Equipment Manufacturing Base
3. Shanghai World Expo 2010 SHP Workshop

2010 Seminar on SHP and Sustainable Development of Rural Communities

On 23rd -30th January, 2011, the managing staff and engineers of Zambian National Electric Power Corporation(ZESCO), paid a visit to ICSHP. The purpose of this trip that Zambian delegation paid is to carry out equipment quality acceptance for Zambia Shiwang ‘andu hydropower station under the "Lighting Up Rural Africa" program.

During its stay, Zambian delegation also visited such hydropower equipment manufacturers as Zhejiang Jinlun Mechanical Works, Linhai Electric Co., LTD, Jiangshan Transformer Co., LTD, Hangzhou Sanhe Electric Equipment Co., LTD. and Hangzhou Nanwang Automation Technology Co., LTD. The delegation gave a high praise and recognition to the equipment quality and manufacturing technology and hope to further broaden cooperation with ICSHP in Zambia.

Opening of ICSHP Changsha Hydropower Control Equipment Manufacturing Base

On 17th to 19th January, 2011, one project evaluation team from the United Nations Industrial Development Organization visited ICSHP to carry on the inspection and assessment for the previous project implementation. Prof. Liu Deyou, the Deputy Director discussed with Mr. Dobinger Johannes, the project evaluation official on project implementation, and gave introduction about the development history of the center and project activities over the past years.

During the visit, the team also visited ICSHP's Jinhua hydro equipment manufacturing base and some small hydropower demonstration projects. The team gave high evaluation and affirmation to ICSHP for its small hydro power promotion work. Staff of multilateral development division of the center received the team and accompany the tour.

Shanghai World Expo 2010 SHP Workshop

Hunan Qinan Hydropower CDM project developed by ICSHP was successfully registered on 30th January 2009 at the United Nations. In August 2010 on-site DOE check was conducted, and on January 20th, 2011, this project was issued 41004 tons CER by the United Nations Executive Board.
YunNan Maer Hydropower CDM project has passed EB re-examination and successfully been registered, and this project was also developed by ICSHP. This project registration time is December 6, 2010. It is estimated that the 24MW project will lead to around 81,000 tons emissions reductions.
IC-SHP News

1. China SHP and Clean Development Mechanism (CDM) Forum
2. Visiting Delegation from Sri Lanka

China’s SHP Contributing to Emission Reduction

China's first hydropower station, Shilongba Power Station, was built near Kunming, provincial capital of Yunnan, 100 years ago. "The rapid development of the hydropower industry is of great significance to optimizing China’s energy structure and reducing carbon emissions," Sun Yucai, executive vice chairman of the China Electricity Council, said at the ceremony.

The government promised at the Copenhagen Conference on global climate change last year that China would cut its carbon emissions per unit of gross domestic product (GDP) by 40 to 45 percent by 2020. China also undertook a commitment to generate 15 percent of its power from non-fossil sources by 2020, up from the current 7.8 percent. As the most competitive non-fossil energy, hydropower was key for China to realize its emissions reduction goal. China has long relied on coal to fuel its economic growth with about 83 percent of its electricity produced by coal-fired stations, according to the NEA. To match the installed hydropower capacity of 200 million kilowatts, thermal power plants would have to burn 288 million tons of coal equivalent, emit 855 million tons of carbon dioxide and 5.4 million tons of carbon sulfur dioxide every year, according to China Electricity Council estimates.

Zhang Guobao, director of the NEA, told Xinhua Wednesday that hydro projects with another 70 million kilowatts capacity were under construction, and another 100 million kilowatts of capacity was needed. "If all the planned hydropower projects begin construction in the next three years, it is still possible to expand the current installed hydropower capacity to 380 million kilowatts by 2020," Zhang said. "We need careful and detailed planning and imperative approval procedures," he said. In a separate interview with web portal Sina.com Wednesday, Zhang said China would expand its installed hydropower capacity to 300 million kilowatts by 2015 in an effort to cut carbon emissions.

Visiting Delegation from Sri Lanka

Zhejiang Jinlun Electromechanic Co., Ltd. which founded in 1958, is located in the economically developed east coast city Jinhua, Zhejiang Province. As a key enterprise designated by National Mechanical Industrial Bureau, and entitled as the SHP(Small Hydro Power) Demonstration Base by UNIDO, Jinlun is ranked at the first of top ten manufacturers in small hydro power equipment. Jinlun boasts an area more than 170,000 square meters, with building space of 100,000 square meters and over 700 employees. Independent intellectual property rights on hydropower equipments, advanced designing concept and philosophy as well as capacious workshop which equiped with more than 400 sets of various mechanical processing and testing machines all enable Jinlun to manufacture equipments with high efficiency and good quality. Jinlun consists of Jinshui Power Plant Engineering Co., Ltd., Hydropower Equipment Research and Develop Center, Mechanical Branch, Generator Branch, Installation Branch, After-Sale Service Center, Jinhua Ylun Plastic Die Carrier Co., Ltd., Jinhua Jinlun Import&Export Co., Ltd., Jinhua Yalun Mechanic Co., Ltd., which provide one package service like EPC contracting, engineering, civil construction, installation and commissioning, training, etc. with total assets more than 70 million USD. With more than 50 years' experience in manufacturing hydropower equipments, now Jinlun is fully capable to manufacture turbine with more than 200 specifications that fall into 4 categories of Francis, Kaplan, Pelton and Tubular, single unit capacity up to 100Mw. The products with Jinlun brand have been installed at more than 800 places in 31 domestic provinces, municipalities and
autonomous regions, as well as more than 40 countries and regions in 5 continents. The units with advanced
technology have been operating safely and stably for decades.

IC-SHP Projects Update

1. Green Hydropower

Jinlun has been approved by Ministry of Commerce of the People’s Republic of China to have the qualification of overseas project contracting. With its professional experience in hydro power field, Jinlun is always at your service by providing high quality products and customized solutions.
Website: http://www.zjl.com

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Study on Index System and Assessment Method of Green Hydropower

Since September 2009, IN-SHP has been undertaking a Green Hydropower research project for the Ministry of Water Resources (MWR) in China. Green hydropower assessment refers to a process of evaluating the impact of hydropower projects on river ecosystems. The aim of the research is to reduce the negative ecological influence and promote favorable development between hydropower and river system environments. The project will establish a green hydropower index system composed of hydrological parameters IN-SHP is also discussing the feasibility of preferential policy to support green hydropower in China. A series of practical investigations of different hydropower stations will help support the work.

Hydropower is the most important renewable electricity source worldwide. It shows clear advantages for the global reduction of CO2 emissions but creates ecological impacts on the river’s environment to some extent. China already has an environmental influence evaluation system for hydropower projects but this is pre-evaluation only. Post-evaluation of hydropower environmental impacts is only during research and trial activities. Yet post-evaluation of green and sustainable development for hydropower is increasingly important.

International examples, such as the ‘Green hydro’ standard in Switzerland, ‘low impact hydropower’ in the US and the IHA’s Sustainability Guidelines and Sustainability Assessment Protocol are providing good case examples for the research. For hydropower stations at operational stage, the study will set up an evaluation system through a fuzz integrated evaluation method, in order to benchmark green hydropower based on China's specific situation. Green hydropower will be divided into three levels through further detailed evaluation. Eco-compensation and payment for ecosystem services (PES) mechanisms for watersheds are also being investigated. The project is scheduled for completion by August 2011.
Sub-centers’ News

1. CELAPEH (INSHP’s Sub-centre in Latin America)
2. Other Regional Centers and Bases for Small Hydro Power

News from CELAPEH, Columbia – INSHP’s Sub-centre in Latin America

1. Preliminary approval to CELAPEH project for Haiti
   CELAPEH, together with the European Association for Small Hydro (ESHA) prepared and presented to the European Union a proposal leading to rebuild a small hydro power station and supply electricity to up to 5000 Haitians who lost their housing due to 12. February earthquake, and will be relocated to a new settlement. In case of final approval, EU contribution amounts to 2.5 million Euros.

2. CELAPEH to give SHP training course in Guatemala
   A five days course, organized by the International Center on Hydropower (ICH) and sponsored by the Norwegian Agency for Development (Norad) will take place in Guatemala from 29. November to 5. December. CELAPEH was invited to lead technical part of the course.

3. USA National Conference on Hydropower
   CELAPEH has been invited to make a speech at this conference, to be held in Washington DC, December 6th to 7th 2010.

4. CELAPEH General Assembly
   Annual ordinary general assembly was held in July 30 at CELAPEH’s headquarters. 68% of active members attended or were represented at the assembly meeting.

For more information, please visit http://www.celapeh.org/

Other Regional Centers and Bases for Small Hydro Power

In order to serve developing countries better, the IN-SHP’s Coordinating Committee proposed that IN-SHP establish sub-centers in the five continents to promote the localized development of SHP. At present, Asian, African and Latin American sub centers are operational. In addition to CELAPEH, these are:

- The UNIDO Regional Centre for Small Hydro Power in Kerala, India http://unidorc.org
- The UNIDO Regional Centre for Small Hydro Power in Abuja, Nigeria http://unidorc.org/nigeria

Based on the decisions of the Coordinating Committee and the leaders of the Ministry of Water Resources, IN-SHP national bases have been established in China to promote cooperation with the outside world, as well as to research new system innovations for SHP and grid management under the market economy. The bases are expected to promote the development of local SHP and the local economy and social development services. Four bases have already been built: Chenzhou Base in Hunan province, Zhangye Base in Gansu province, Jinhua Base in Zhejiang province and the newly opened Changsha Base in Hunan province.
Finance and Investment

1. **Climate Change Negotiations and International Funding**

Climate Change Negotiations and International Funding

The **16th Conference of Parties** (COP) to the UNFCCC will take place in Cancun, Mexico, from 29 November to 10 December 2010. The purpose is to negotiate an international climate change policy agreement for 2013 onwards, since the Kyoto Protocol expires at the end of 2012. In the meantime, a **High-level Advisory Group on Climate Change Financing** has been established to advise the UN Secretary-General on how climate finance pledges made at COP 15 in Copenhagen last year will be delivered. Their outcomes, to be published shortly, will feed into policy negotiations in Cancun.

The UK’s Overseas Development Institute ([www.odi.org.uk](http://www.odi.org.uk)) has developed a comprehensive **Climate Funds Update** with information on 21 international climate change funds, including information on funds pledged, deposited and disbursed, and project-level information. The website also has a new page which tracks Fast Start Finance pledges made by donor countries. Please visit: [www.climatefundsupdate.org](http://www.climatefundsupdate.org) and [www.climatefundsupdate.org/fast-start-finance](http://www.climatefundsupdate.org/fast-start-finance).

The **Private Financing Advisory Network** (PFAN) is a multilateral, public-private partnership initiated by the Climate Technology Initiative (CTI) in cooperation with the UNFCCC Expert Group on Technology Transfer. PFAN operates to bridge the gap between investments and clean energy businesses. PFAN identifies promising clean energy projects at an early stage and provides mentoring for development of a business plan, investment pitch, and growth strategy. In September 2010 it has energy financing and investor events in Brazil, China, Africa and India. Proposed projects can also be submitted to PFAN at any time. [www.cti-pfan.net](http://www.cti-pfan.net).

2. **New International Renewable Energy Agency**

New International Renewable Energy Agency

The new International Renewable Energy Agency (IRENA, [www.irena.org](http://www.irena.org)) was established in January 2009. To date, signatories of the organisation’s statute include 48 African, 38 European, 35 Asian, 17 American and 10 Australian/Oceanian states. Mandated by these governments worldwide, IRENA aims to promote the widespread and increased adoption and sustainable use of all forms of renewable energy. IRENA will facilitate access to all relevant renewable energy information and share experiences on best practices and lessons learned, including regarding policy frameworks, capacity-building and finance mechanisms. Abu Dhabi in the United Arab Emirates is the interim headquarters, while Bonn will host IRENA’s centre of innovation and technology and Vienna will host the liaison office for cooperation with other renewable energy relevant organisations.

3. **Strong Renewables Growth in 2009**

Strong Renewables Growth in 2009

Twin reports published by UNEP (prepared by Bloomberg New Energy Finance) and REN21 together give a comprehensive overview of the current status and recent trends of the global renewable energy industry:
REN21’s Renewables Global Status Report 2010 states that total hydropower capacity grew by 3% in 2009 to 980 GW, despite the economic difficulties. The sector’s absolute growth was second only to wind power. It estimates that between 2 to 4GW of small hydro (defined as <10MW here) were added during 2009, to reach a total capacity of 60GW; 33GW being in China and 12GW across EU countries, while India added more than 2.5GW of small hydro capacity in 2009. Renewable energy overall now supplies 19% of global final energy consumption.

UNEP’s Global Trends in Sustainable Energy Investment 2010 report shows that 2009 was a difficult year due to the banking crisis, but globally there was still the 2nd highest annual investment in renewables ever and spending on new renewable capacity exceeded the year’s investment in new fossil fuel capacity. The small hydro sector continued to grow steadily, particularly in emerging economies such as China, India, Brazil and eastern Europe. With some $188 billion worth of ‘green stimulus’ commitments by governments and new pledges for $5 billion in development assistance for renewables in developing countries in 2009, the future outlook for renewable energy is promising.

**China, Iran to Build World Tallest Dam**

Iran and China will ink a $2 billion contract to construct the tallest concrete dam in the world in the western Iranian province of Lorestan, an official says.

The managing director of Iran's Water and Power Resources Development Company told IRIB on Sunday that the Chinese firm Sinohydro Corporation and Farab Iran Company will sign the cooperation deal to build Bakhtiari dam and power plant.

Mohammadreza Rezazadeh said that a delegation headed by Deputy Energy Minister Mohammadreza Attarzadeh has recently traveled to China and held negotiations on the financial resources of the project.

The official said that the two sides are scheduled to finalize the deal by March 15, and the construction operations will start in the next Iranian calendar year (to start on March 21).

The Bakhtiari Dam will be an arch dam on the Bakhtiari River within the Zagros Mountains. With a planned height of 315 meters (1,033 ft), the dam will withhold the largest reservoir of the country with a capacity of about 4.8 billion cubic meters.

By trapping sediment, the dam is also expected to extend the life of the Dez Dam 50 kilometers (31 miles) downstream.

The dam is planned to support a 1,500-megawatt hydroelectric power station. Iran has constructed about 580 dams, with 137 more under construction and 546 planned.

**Ethiopia plans hydropower project along Nile River**

ADDIS ABABA, Ethiopia 3/17/11 (PennWell) -- Ethiopia will start building a major hydro project along the Nile River to generate power to increase electricity...
production, Prime Minister Meles Zenawi said.

The Horn of Africa nation aims to produce 15,000 MW of power within 10 years, part of a strategy to spend $12 billion over 25 years to improve the country's power-generating capabilities, wire reports indicate.

The Ethiopian Electric Power Corporation said the hydro project would generate 5,000 MW upon completion in five to 10 years.

Power demand in Africa will rise by 150,000 MW between 2007 and 2030, according to the International Energy Agency.

**Cheves hydropower project preliminary works under way in Peru**

LIMA, Peru 3/14/11 (PennWell) --

Preliminary works for SN Power's 168-MW Cheves hydropower project in Peru have begun, the Norwegian company's local general manager told wire services.

Officials reported that planning is under way for the electromechanical and transmission line works and other aspects of the project, Business News Americas reported.

Preparation is under way to begin tunnel excavation work, reports indicate.

SN Power holds a 15-year supply contract starting in July 2014 from the state agency for promoting private investment ProInversion.

IFC, a member of the World Bank Group, will provide long-term financing of up to US$250 million to help build the Cheves hydropower project, SN Power announced.

The Cheves hydro project is located on the Huaura River, 250 kilometers north of Lima.
Coming Events

1. Hydropower and Renewable Energy Events in 2010

Hydropower and Renewable Energy Events in 2010

November

Hydro 2010
2-5 November
Rostock-Warnemunde, Germany
www.hydro2010.com

16th International Seminar on Hydropower Plants
24-26 November
Vienna, Austria
http://www.viennahydro.com/cms/

Renewable Energy World Asia
2-4 November
Marina Bay Sands Resort, Singapore
www.renewableenergyworld-asia.com

UN Climate Change Conference (COP 16)
29 November – 10 December
Cancun, Mexico
www.cc2010.mx/swb/

December

Small Hydro USA
6-7 December
Washington DC, USA
www.greenpowerconferences.com
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