

IN-SHP

*International Network
on Small Hydro Power*



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NEWSLETTER

Message from the Director General



Prof. Liu Heng
Director General, IN-SHP

I'm proud to present the fourth edition of our IN-SHP newsletter. We are an international organisation that strives to promote the use of small hydro power (SHP) as a clean energy solution to meet the growing demand for energy in the world. The network supports over 380 organisations in more than 75 countries in their small hydro power related activities. This newsletter highlights some of IN-SHP's recent and forthcoming activities.

The headquarters of IN-SHP, the International Centre on Small Hydro Power (ICSHP), is one of UNIDO's International Technology Centres. This March a meeting was held in Vienna between the centres for renewable energies, including the ICSHP and its regional sub-centres in Asia and Africa. The objective of the meeting was to share experiences and to strengthen cooperation between the centres.

Supporting projects under the Clean Development Mechanism (CDM) is an important service offered by the ICSHP. Recently two CDM projects developed by the ICSHP in China were officially accredited. The centre has also been involved in a research on a green hydropower index system

composed of hydrological parameters. This research has been going on since 2009 to assist the evaluation of impact of hydro power projects on river systems.

In January the IN-SHP also hosted a visit from Zambia in the context of the 'Lighting up Rural Africa' project. This newsletter also has short articles on how China plans to use SHP to meet its emission reduction targets and what are the latest hydro power developments in the world.

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.

Special Events

1. **DG Of ICSHP Attended UNIDO Technology Centre Director Level Conference**
2. **ICSHP's Two CDM Projects Successfully Registered in UN**
3. **Study on Index System and Assessment Method of Green Hydropower**
4. **China's SHP Contributing to Emission Reduction**

DG Of ICSHP Attended UNIDO Technology Centre Director Level Conference



Invited by UNIDO, Prof. Liu Heng, the Director General of ICSHP attended the UNIDO director level conference during 14-18 March 2011 in Vienna. The meeting was chaired by Mr. Monga, UNIDO Energy and Climate Change Secretary, and the directors of technology centers under auspices of UNIDO who were present are from The International High-tech Center (Italy),

the International Hydrogen Energy Center (Turkey), International Solar Energy Center (Lanzhou, China), ICSHP(Hangzhou, China), and ICSHP's regional sub-centers in Asia (India), in Africa (Nigeria). 40 people attended the meeting.

This meeting is the first meeting for the technology centres to communicate with each other, share experiences, increase understanding, and expand cooperation. Under UNIDO's international cooperation framework, the technology centers will play an important role in the clean and renewable energy sector, meanwhile, jointly promote global energy and industrial development. During the meeting, Prof. Liu Heng, the Director General of ICSHP introduced the basic situation, emphasizing China's successful experience and achievements in the development of small hydropower, the organization of "Hydro Power for Today Forum", the organization of international training courses, CDM project consultation services for the host country, highlighting the "Light Up Rural Africa" program and global SHP development promotion activities. In Vienna, Prof. Liu Heng also met with Director General of UNIDO, Mr. Yumkella and Permanent Representative of Chinese government to UNIDO.

ICSHP's Two CDM Projects Successfully Registered in UN

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. Meanwhile, 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.

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.

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 China would expand its installed hydropower capacity to 300 million kilowatts by 2015 in an effort to cut carbon emissions.

IC-SHP News

- 1. Zesco Managing Staff Visited ICSHP for Hydropower Equipment Supply**
- 2. UNIDO Project Evaluation Team Visited ICSHP**

Zesco Managing Staff Visited ICSHP for Hydropower Equipment Supply



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.

UNIDO Project Evaluation Team Visited ICSHP



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.

World SHP News

- 1. China, Iran to Build World Tallest Dam**
- 2. Ethiopia Plans Hydropower Project along Nile River**
- 3. Cheves Hydropower Project Preliminary Works under Way in Peru**

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.

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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.

Finance and Investment

- 1. Climate Change Negotiations and International Funding**
- 2. Private Financing Advisory Network**

Climate Change Negotiations and International Funding



A High-level Advisory Group on Climate Change Financing has been established at the **16th Conference of Parties** (COP) to the UNFCCC in Cancun, Mexico last year. The purpose was to negotiate an international climate change policy agreement for 2013 onwards, since the Kyoto Protocol expires at the end of 2012. In the meantime, 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) 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 and 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

New International Renewable Energy Agency



The new International Renewable Energy Agency (IRENA, 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.

Coming Events

1. [Vienna Energy Forum 2011](#)
2. [HYDRO 2011 Conference](#)
3. [Other Events](#)

[Vienna Energy Forum 2011](#)



The Forum will facilitate an international dialogue on providing universal energy access and on the multiple co-benefits of increasing energy efficiency. Core themes to be addressed at the conference include:

- Agreeing on a common understanding of energy access
- Agreeing on a strategy to ensure universal access to modern energy services and increase energy efficiency by reducing energy intensity by 40% until 2030
- Identifying indicative targets and policies in support of these objectives
- Prioritizing key national and regional actions on energy access and energy efficiency

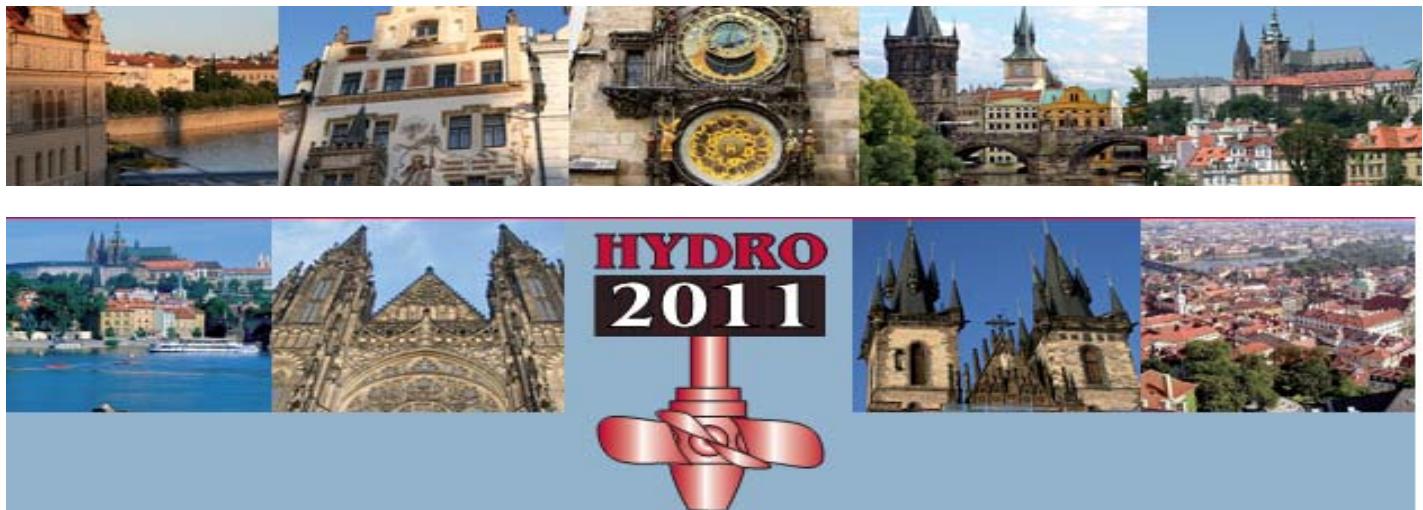
The Forum will bring together heads of state, policy-makers, experts, civil society and the private sector to discuss how to overcome energy poverty and how to move from declarations of intention to tangible action on the ground.

The discussion on these topics will serve to propose an international architecture on how to ensure universal energy access and reduce energy intensities. It will help map the related work of key stakeholders and define their roles and responsibilities. Based on this mapping, the development of an action-oriented roadmap will be initiated.

The event will coincide with the launching of the Global Energy Assessment. ICSHP will be invited to the meeting to discuss global energy cooperation, especially on clean renewable energy co-operation of small hydropower. ICSHP intends to invite the leadership of the hydropower industry, experts and business managers to pay a group visit.

For more information please visit: <http://www.unido.org/index.php?id=1001185> or contact: zhouxiao@inshp.org

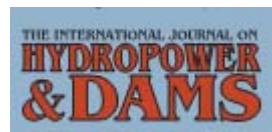
HYDRO 2011 Conference



Practical Solutions for a Sustainable Future

17 to 19 October 2011~Prague, Czech Republic

Organized by: Co-hosted by:



Supporting organizations include:



Policy-makers, developers, financiers, and hydro practitioners in all parts of the world are joining forces to maximize the many inherent benefits of multipurpose hydropower projects. Pumped-storage schemes are playing an increasingly important role, particularly in countries where intermittent renewable energy systems are being developed. Power trading is accelerating socio-economic development in many hydro-rich countries, and innovative small hydro schemes are providing practical solutions for rural electrification.

HYDRO 2011 Conference and Exhibition will bring together high level delegations from all countries with active hydro development programmes underway, to discuss priorities, achievements and challenges.

An important element of HYDRO 2011 will be the international Technical Exhibition which will extend throughout the Congress Centre, alongside the conference rooms. About 200 companies active in the hydro and dams profession will demonstrate their expertise and scope of suppliers or services.

IC-SHP will be one of the supporting organizations for the event. For more information: www.hydropower-dams.com

Other Events

US Hydro 2011

Marriott Waterside Hotel, Tampa, Florida

April 25-28, 2011.

<http://www.ushydro2011.com/>

Renewable Energy World Asia

Pragati Maidan, New Delhi, India

5-7 May 2011

www.renewableenergyworldindia.com

The 6th Annual "Renewable Energy" Conference

April 19 & 20, 2011

World Trade & Convention Centre

Halifax, Nova Scotia

<http://www.eiseverywhere.com/>

Hydro 2011

Esplanade Hotel in Perth – Fremantle, Western Australia,

7–10 November 2011

www.hydro2011.com

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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.

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We value your comments and suggestions. Please send these to the
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