The Third Asia-Pacific Forum on Low-Carbon Technology

Renewable Technology Transfer Demo Projects- A Case Study of Small Hydropower

小水电可再生能源技术转移项目示范

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About ICSHP and It's Activities

ICSHP is a public and non-profit institution directly under auspices of United Nations Industrial Development Organization (UNIDO), China's Ministry of Water Resources and Ministry of Commerce, as well as, ICSHP is headquarters of International Network on Small Hydro Power (INSHP), which is an international organization with more than about 480 members from 85 countries.
ICSHP is the global family of small hydro power with the aim of promoting small hydro power worldwide.

MOFCOM

ICSHP was established in 1994, and the headquarters building for IN-SHP was inaugurated for use in 1998.

About ICSHP and It's Activities

In last twenty years, ICSHP has created a unique form of international "triangular" cooperation among developing countries, developed countries and international organizations.For example, under UN South-south cooperation framework, with support of UNDP and Denmark government, ICSHP has been involving in China-Zambia, China-Ghana RE cooperation.

In 2016, UN Secretary General Mr. Ban Ki-Moon visited the International Center on Small Hydro Power and delivered speech at the Session on South-South Cooperation for Climate Change jointly organized by UNDP, UNIDO and ICSHP.

"Small hydropower is an important renewable energy. I hope the International Center on Small Hydro Power (ICSHP) continues to make great contributions to the development of small hydropower worldwide".

Renewable energy introduction

The world energy market is constantly under adjustment with more diversified sources of energy supply.

Renewable electricity already become the important strategic measure of global energy transition and combating climate change. In many countries, renewable energy is a commanding height and important new field for economic development.

Renewable energy introduction

The technology of renewable energy represented by nuclear, wind power, solar energy, bio-energy and small hydro will make continuous breakthroughs therefore their generation costs will tend to fall at a speed vastly beyond people's current expectation.

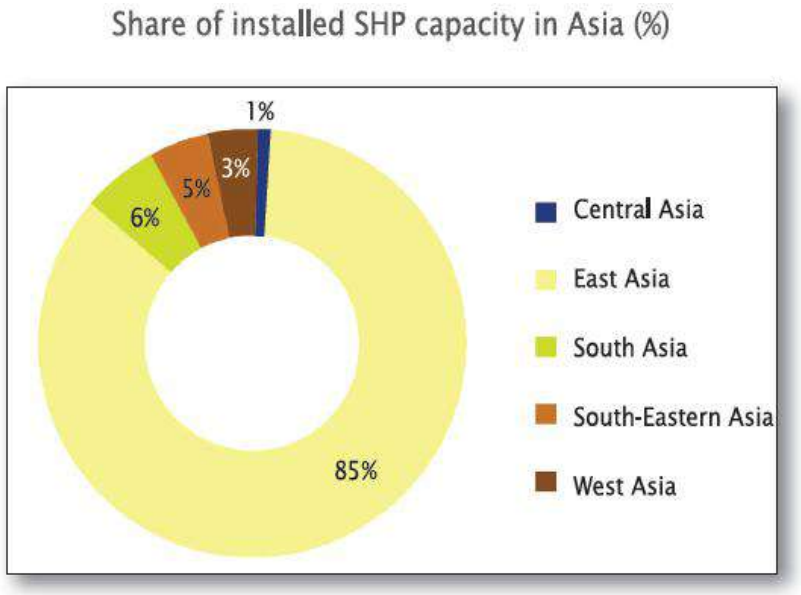
The bright prospect for the supporting technologies represented by smart grid and large-scale energy storage battery will further push forward the development of new energy, resulting in a larger share of renewable energy in energy structure.

Small hydropower is one of important renewable energy, and has been used for over 100 years in the world.

Being a mature technology, with low operational costs, reduced environmental effects, reasonable financial viability, and proven advantages in reducing CO2 emissions while providing socio-economic benefits, small hydropower development has been paid great attention in the world.

Renewable energy introduction

According to the WSHPDR2016, Asia has vast potential of small hydro power resources, however they are unevenly distributed across the continent. Almost 80% of discovered shp potential is concentrated in just three countries-China, Tajikistan and India. The total installed shp capacity of Asia is 50,729 MW and total estimated potential is 120,614 MW. The installed shp capacity of Asia has been increasing over the past few years. Asia has good potential for shp development based on its untapped resources and the renewable energy development policies in many countries.



Activities in Asia-Pilot SHP Projects

India	CHEMBUKADAVU - I	2.70 MW (3 x 0.9 MW)
	CHEMBUKADAVU - II	3.75 MW (3 x 1.25 MW)
	URUMI - I	3.75 MW (3 x 1.25 MW)
	URUMI - II	2.40 MW (3 x 0.8 MW)
Sri Lanka	Agalawawattu	10kW
	Kithulgala	10kW
DPRK	Biryu	400kW
Malaysia	Kota	4000kW

ICSHP provided assistance to project developers in Vietnam, Nepal, Indonesia, Laos, DPRK, Malaysia , kyrgyzstan , Philippines ,Sir Lanka, Pakistan, etc. to get suitable SHP equipment from China.

Activities in Asia-Capacity building

On 7-8th of May 2018, 'South-South Cooperation': China-Indonesia Seminar on Small Hydropower International Cooperation and National Capacity Building was held in Jakarta. The seminar was co-sponsored by International Center on Small Hydro Power, the United Nations Industrial Development Organization, the Indonesian Ministry of Industry, and the Ministry of Mines and Energy.

Activities in Asia-Capacity building

The seminar was divided into four parts: 'Small Hydropower Development and International Cooperation', 'Marine Economy Green Energy Project Implementation Roadmap Plan', 'Small Hydropower Development and Equipment Manufacturing Enterprise Exchange' and 'Promotion of Indonesia's National Capacity Building'. A total of more than 50 representatives from government, research institutes, universities, hydropower companies, and international organizations attended the seminar.

Activities in Asia- Scale-up projects of SHP

"Scale up SHP Development Project" is an idea to provide technical assistance, conduct feasibility studies and make potential investment plans. In 2016, the Inception Meeting on "Scale up SHP Development Project" Held in Hangzhou supported by UNIDO, Ministry of Commerce of China, Ministry of Water Resources of China. In Asia, Kyrgyzstan and Myanmar as selected for the project. Meanwhile, according to the initiative of "The Belt and Road (B&R)" in China, this project is aimed to provide opportunities for outstanding Chinese SHP companies and investors to go abroad for further development.

Activities in Asia- Technical cooperation

ICSHP conducts multilateral and bilateral technical cooperation to expand continuously the region and scope of the market in Asian countries.

(⑴)Cooperate with Nepal National Academy of Sciences to jointly build Sino-Nepal Small Hydro Power Technology Joint Research Center, and apply for Zhejiang “Belt and Road Initiative” International Scientific Cooperation Project in 2018;
(⑵)In Apr. 2018, technical expert conducted field measurement of project site in Philippines, and proposed initial suggestions to the owner on project development;
(⑶)In May 2018, at the request of World Bank, organize the personnel of Pakistan Cape Province Electricity Bureau to come to China for technical visit and lay a foundation for the following cooperation.
(⑷)In June 2018, deputy director of the center participated in the Asia Clean Energy Forum(ACEF) 2018 held at ADB's headquarter in Manila, Philippines.

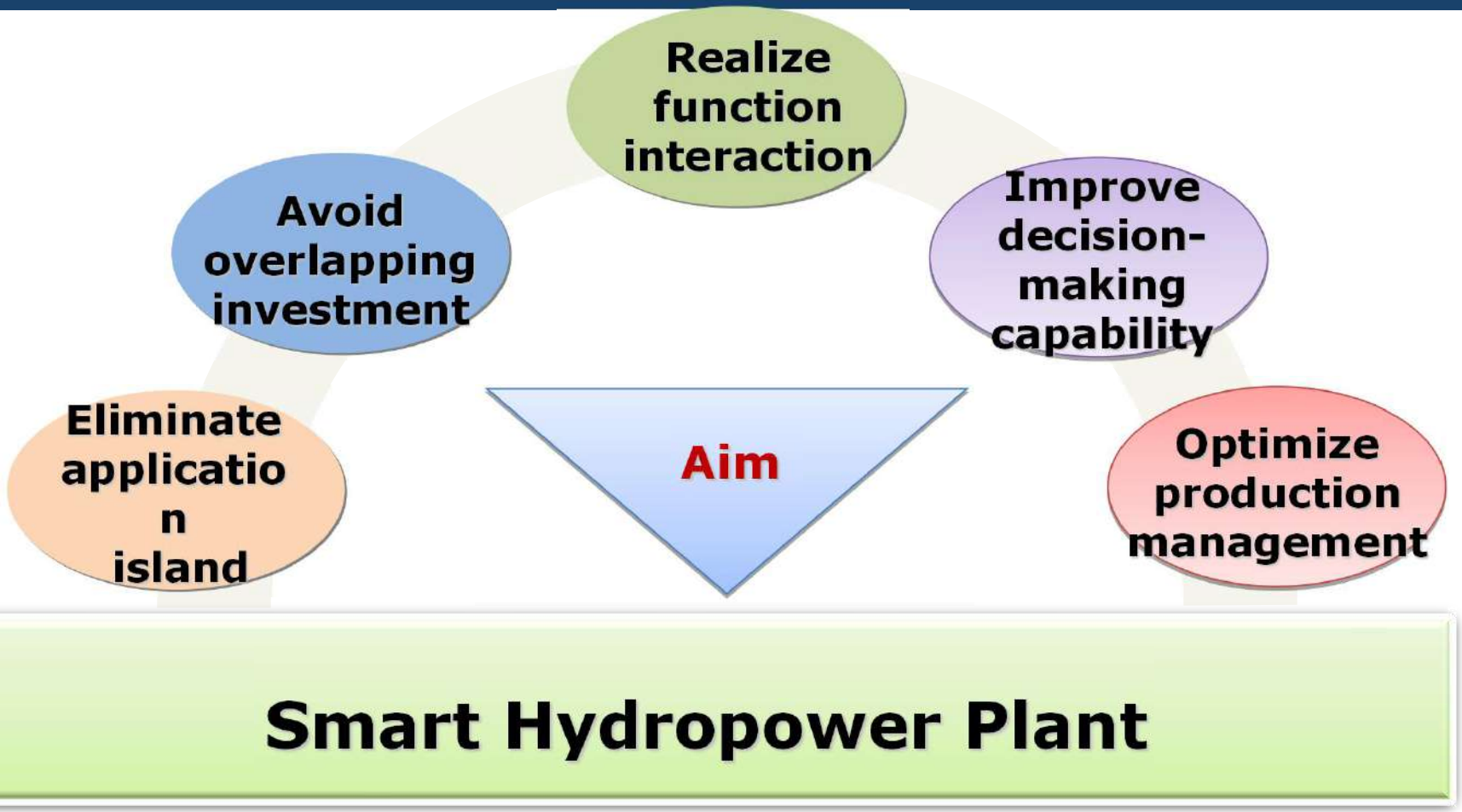
Way forward for technical cooperation

China SHP development is a successful model for solving electricity shortage problem and adaptation of climate change. With support of UNIDO, UNDP, ICSHP takes responsibility to promote SHP development worldwide.

From technical view, we should enhance the innovation of technology including the development of situation and prospect of smart hydropower plant, the green hydro power development , the hybrid system of renewable energy including solar together with hydro, and so on.

From the commercial view, we should push the green finance support for small hydro power development, and create more solutions for sourcing of funds for small hydropower like scale up project model, inter-guarantee of the project, investment of small hydro power together with industry productive use, even to consider the block chain technology for small hydro funding.

technical cooperation



technical cooperation

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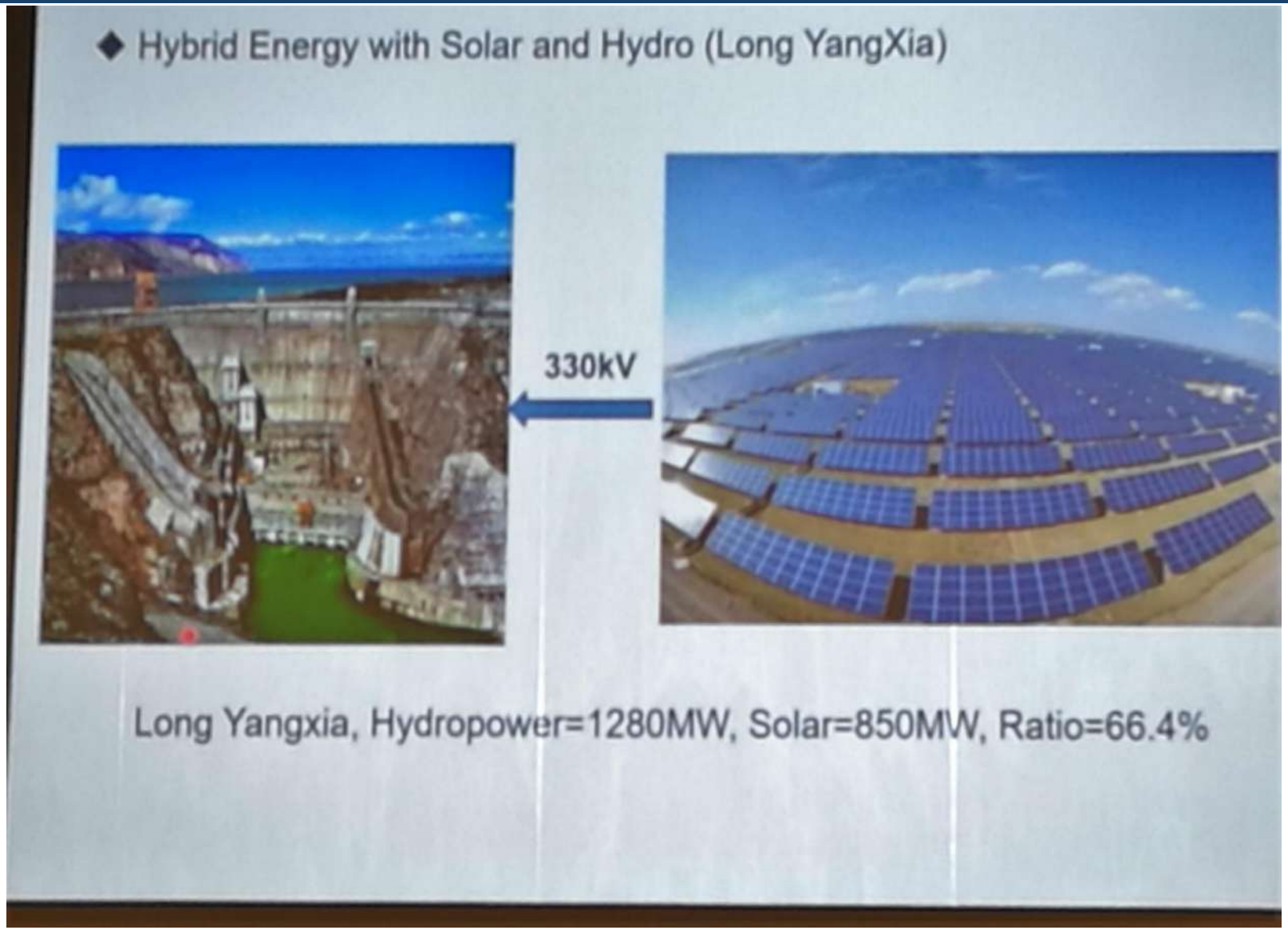

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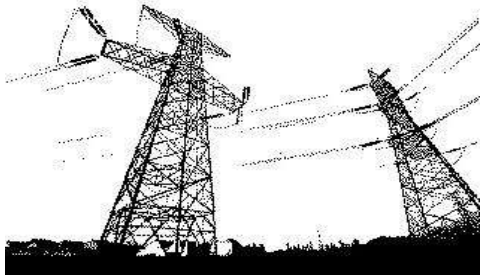
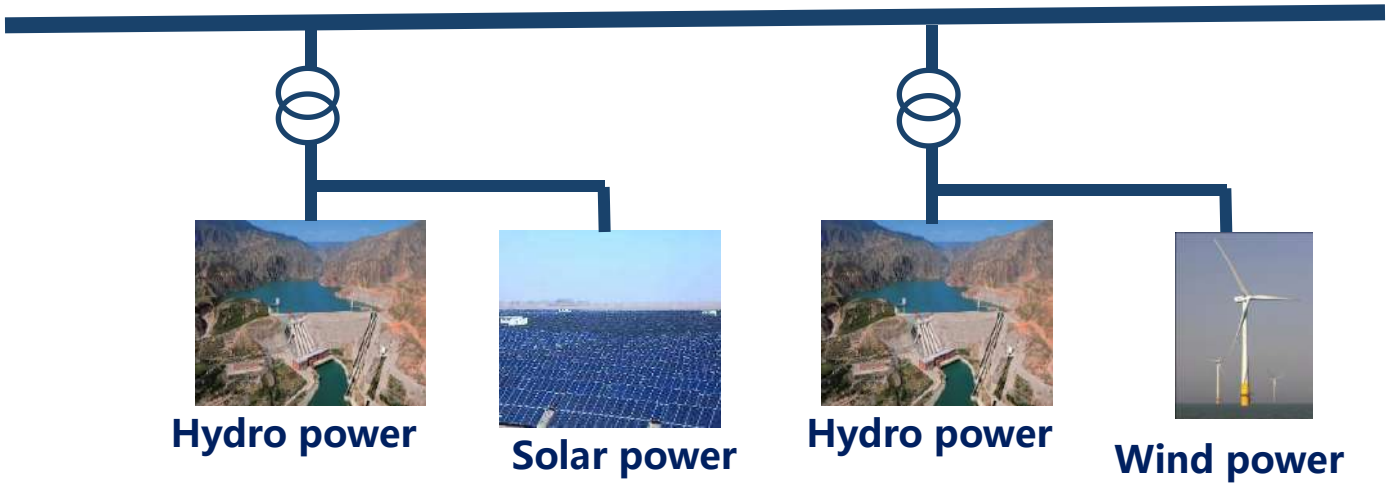
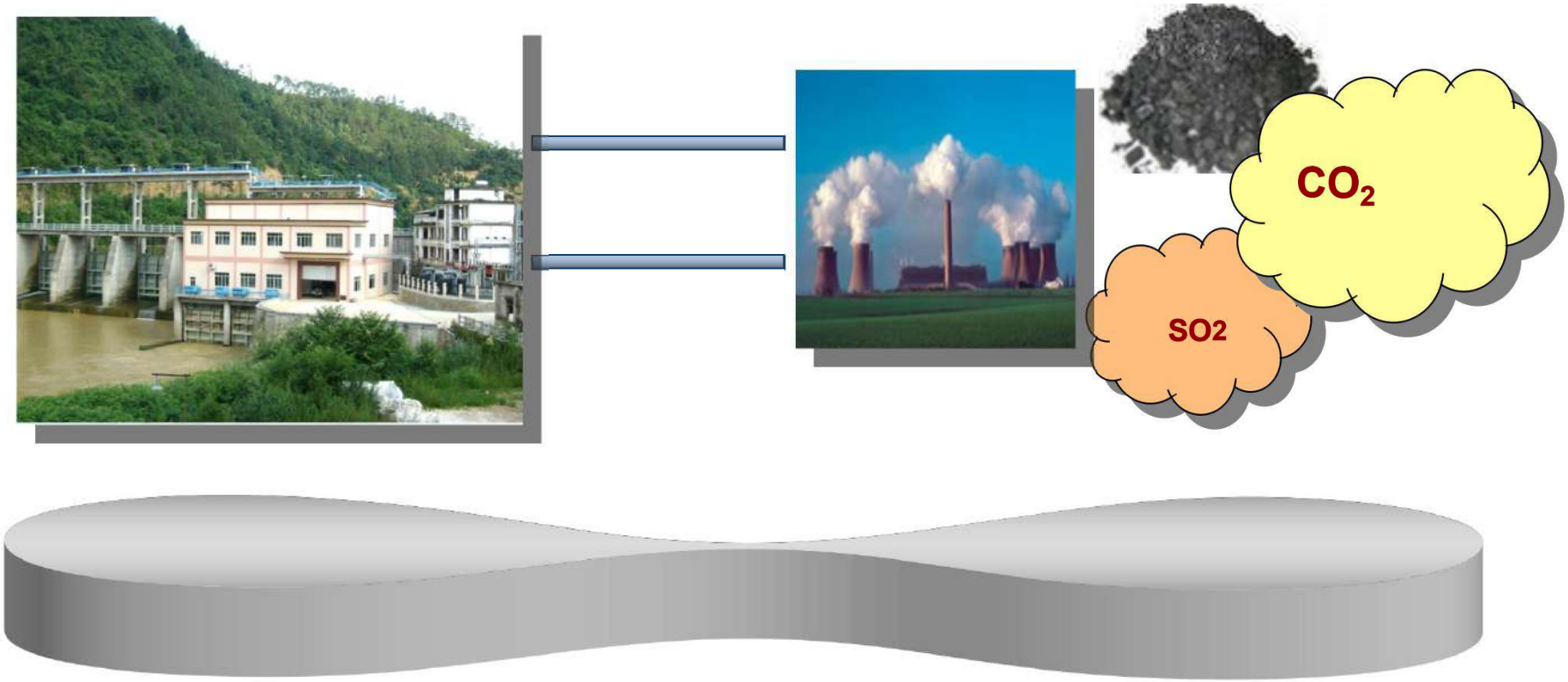




technical cooperation

Promotion of green small hydro



technical cooperation

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SL

中华人民共和国水利行业标准

SL 752—2017

绿色小水电评价标准

Standard for evaluation of green small hydropower stations

2017-05-05 发布　　2017-08-05 实施

中华人民共和国水利部　发布

Thanks for your attention!

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