

Date of hearing: 26 January 2012

Title of hearing: China's Global Quest for Resources and Implications for the United States

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Testimony before the U.S. – China Economic and Security Review Commission

About International Rivers

International Rivers is an international environmental and human rights NGO with offices in Brazil, India, South Africa, Thailand and the U.S., and has been monitoring the environmental and social impacts of dam projects for the past 25 years. We work to protect rivers and defend the rights of communities that depend on them. As an international NGO, we do not represent any national or commercial interests. We seek to promote water and energy solutions for a just and sustainable world. We are not in principle opposed to dams but will work to stop destructive dam projects such as those impacting millions in the Amazon and Mekong River Basins.

In 2006 International Rivers started monitoring China's global role in dam building. We have conducted dialogues with China Export-Import Bank (EXIM) and since 2009, Sinohydro Corporation, a State-Owned Enterprise (SOE) and the world's largest hydropower company. Through our dialogue with Sinohydro, we made constructive contributions to their environmental policy, verified data and information about Chinese overseas dam projects, and raised concerns from host country NGOs about destructive dam projects in which Sinohydro is involved.

China's Role in Dams Overseas

In recent years, China's hydropower industry has significantly expanded its involvement in overseas markets and now dominates the international hydropower industry. International Rivers is aware of over 300 projects in 66 countries which Chinese companies and financiers are involved in. Types of involvement include dam funding (provided by state and non-state-owned banks, export credit agencies and investment firms), dam development (companies who take a lead on dam planning and construction and may also invest in the project), and contracting and equipment supply. Chinese companies are predominately building hydropower dams and more than two-thirds of the projects being monitored by International Rivers constitute large hydropower projects (greater than 50 megawatt (MW) generating capacity). However Chinese companies have also been involved in the construction of water supply, flood control and irrigation projects. Chinese dam building activity is concentrated in South-East Asia (127 projects) and Africa (86 projects). The regional concentration in activity is consistent with the overall geographic focus of Chinese overseas investment. 72% of China's foreign direct investment by the end of 2010 (US\$300 billion) was based in Asia. It is also important to note that in the past two years, China has rapidly increased its presence in the Latin

American hydropower market and currently has around 22 hydropower projects at the feasibility study or project construction stage.

China EXIM Bank, the official export credit agency of the Chinese government, has provided critical funding for many large hydropower projects and is now the largest funder of hydropower projects in the world. China Development Bank, one of China's policy banks, has also recently emerged as a funder of several large hydropower projects through "resources-for-infrastructure" deals in Ecuador and Kazakhstan. While the level of participation of other state-owned banks in overseas hydropower dams remains limited and piecemeal, the Industrial and Commercial Bank of China (Ethiopia, Sri Lanka), Bank of China (Lao PDR, Ecuador) and Peoples Bank have all supported overseas projects. Chinese dam builders have also been the recipient of dam building contracts from the International Financial Institutions such as World Bank, African Development Bank and Asian Development Bank.

Sinohydro Corporation dominates the international hydropower market and by its own estimates has a market share of around 50%. International Rivers is aware of Sinohydro's involvement in approximately 195 dam projects in 60 countries across Asia, Africa, Europe, the Pacific and Latin America. Other state-owned dam building companies with international portfolios include China Three Gorges Corporation and its subsidiary China International Water and Electric Corporation (Cameroon, Ecuador, Guinea, Lao PDR, Malaysia, Nepal, Pakistan, Sudan, Tunisia), China Gezhouba Group Corporation (Burma, Cambodia, Ecuador, Ethiopia, Iran, Kazakhstan, Nepal, Lao PDR, Nepal), Guodian Corporation (Cambodia, Indonesia), Datang Corporation (Burma), Huadian Corporation (Cambodia) and China Power Investment Corporation (Burma).

In a growing number of cases, Chinese companies are developing hydropower projects using their own credit lines. Sinohydro has recently used its own credit lines to develop and operate hydropower projects in Cambodia (Kamchay Dam) and Lao PDR (Nam Ngum 5). In Pakistan, China Three Gorges Corporation announced plans in March 2011 to invest up to \$15 billion in wind and hydropower projects, which includes four mega hydropower projects –Bunji (7,100 MW), Kohala (1,100 MW), Bhasha and Karot.

Chinese companies have also expressed their desire to develop multiple projects or dam cascades along undammed rivers. In Lao PDR, Sinohydro surveyed the Nam Ou River, a major tributary of the Mekong River and identified up to eight hydropower projects. Construction of the first dam in this cascade will begin in 2012. In Burma, China Power Investment plans to develop six hydropower dams on the headwaters of the Irrawaddy River in addition to the Myitsone Dam project primarily for power export to China. In Colombia, HydroChina a state-owned engineering firm is surveying the entire Magdalena River for hydropower development potential.

Possible Factors in the Outward Expansion of China's Dam Building Industry

First, unprecedented domestic demand for resources has required the Chinese government to develop a strategy for accessing new resource deposits, which have so far not been exploited because other developers have considered them insignificant in size, geographically remote or politically risky. In many cases, this strategy has also led to Chinese investment in auxiliary infrastructure such as pipelines, roads, railways, power plants and transmission lines. Chinese companies are usually called upon to build this infrastructure, which has tended to be funded by conventional loans secured by resource payments. To illustrate, China has made significant investments in the development of Sudan's oil resources and has a 40% share in Sudanese oil projects. In addition, China has also invested in a pipeline, an oil refinery, a railroad, and several thermal and hydroelectric power plants, including the Merowe Dam, to support its Sudanese oil extraction activities. China has also offered and/or is implementing similar investment packages in Angola, Congo, Ethiopia, Gabon, Zambia and Ecuador to meet its domestic resource needs.

Second, China's hydropower industry has also been a beneficiary of the Chinese government's "going-out" strategy launched in 2001 and subsequently adopted in the 11th and 12th Five Year Plans. The objectives of the "going out" strategy, according to the UNCTAD are to promote "the international operations of capable Chinese firms with a view to improving resource allocation and enhancing global competitiveness." Government incentives and strengthening bilateral relations has ensured the proliferation of Chinese overseas dams.

Third, fierce competition for hydropower projects and low profit margins for energy producers in China has also driven companies to look overseas for profits. For instance, three different survey and design institutes conducted feasibility studies for the Nu River hydropower cascade even though only one will receive a contract if and when the projects are approved. State-owned power generation companies such as Datang, China Power Investment, Guodian and Huadian have very low profit margins or are making losses due to low power tariffs and the high costs of developing and maintaining energy generation and assets in China. Confirmation of the attractiveness of international projects can be found in the current five and ten year plans of companies like Guodian and Gezhouba, which outline their intention to rapidly develop their international hydropower construction businesses.

Fourth, the competitiveness of the Chinese dam building industry has ensured their global success. More often than not, Chinese companies are able to do the job for much less than their western counterparts and have significant experience from building large dams in China. For example, in the international tender process for the Asian Development Bank funded Nam Leuk hydropower project in Lao PDR (completed in 2000), China International Electric and Water Corporation submitted a bid that was 28% lower than the consultant engineer's estimate and 25% lower than the second-lowest bidder. In such cases, it is very difficult for host country governments to turn down the significant

savings that the Chinese companies offer. Chinese companies have also begun to build their reputation as being able to deliver quality and timely projects, however this is still to be definitively proven within the international hydropower industry.

Environmental and Social Standards and Regulations on Dam Building

Overall China's environmental policies, standards and regulations regarding its overseas dam building sector are on an upward trend. Chinese hydropower companies have made clear that they have no desire to be a developer or contractor of "last resort" and have actively sought to build their reputation as international leaders and responsible actors overseas. This section will first outline international dam building standards and second, describe efforts by the Chinese government and by the Chinese hydropower industry to set environmental policies guidelines for overseas investments and in particular, overseas dams.

There are a series of non-voluntary international environmental and social guidelines for dam development. The World Commission on Dams (WCD) established the most comprehensive guidelines for dam building. The WCD's final report describes an innovative framework for planning water and energy projects. The framework is intended to protect dam affected people and the environment, and ensure that the benefits from dams are more equitably distributed. The WCD framework covers key areas for improved planning of dams, including the need to fully assess all available options for meeting water and energy needs; addressing outstanding social issues from existing dams before building new ones; gaining public acceptance for key decisions; and the importance of healthy rivers. China was originally represented on the WCD but its representative withdrew from the panel due to health reasons.

The dam industry body, the International Hydropower Association launched the "Hydropower Sustainability Assessment Protocol (HSAP)" in 2011 which establishes a scoring system to assess the sustainability of hydropower projects. The protocol does not establish any guidelines or standards, but provides a means of evaluation at any stage of the planning and construction. The China Institute for Water Resources and Hydropower Research Institute and China Three Gorges Corporation represented China in the forum that developed HSAP.

The WCD's final report and HSAP reflect attempts to set and measure international best practices in dam building, however the primary sources for environmental and social safeguards still remains the host country and the Chinese government. National environmental planning legislation usually dictates the standards and regulations governing dam projects but are not reliable sources for ensuring adequate protections for affected communities and the environment. The majority of Chinese hydropower projects are in emerging or developing countries with relatively poor environmental approvals processes and weak or non-existent enforcement capacity. For example, Myitsone Dam in Burma was not subject to any environmental approvals process as there is no such requirement under Burmese law and in the case of Cambodia's Kamchay Dam developed by Sinohydro Corporation, vague environmental impact assessment laws meant that the

environmental impact assessment could be conducted and submitted after construction had begun. Weak national protections have prompted a number of Chinese companies to adopt Chinese environmental standards as a minimum when operating overseas.

Within China, there are no laws or regulations as yet that specifically addresses the social and environmental impacts of Chinese overseas dams. However, in response to mounting criticisms of the impacts of Chinese companies working overseas, the State Council in October 2006 issued a set of “Principles Governing the Activities of Foreign Investment Firms.” The State-owned Asset Supervision Administration Commission (SASAC), which oversees China’s SOEs, has also taken steps to ensure that SOEs set the standard for corporate social responsibility. In January 2008, SASAC issued “Corporate Social Responsibility Guidelines for State-Owned Enterprises,” which required SOEs to “set an example of honesty and trustworthiness, resource conservation, environmental protection and people-centeredness.”

The strongest indication of an upward trend in addressing the overseas environmental impacts of Chinese companies is the development of draft guidelines by the Ministry of Commerce and Environmental Protection. Such guidelines would oversee the environmental impacts and policies of Chinese companies operating overseas. It is important to appreciate that such a measure to oversee and monitor the overseas activities of Chinese companies goes well beyond efforts of other governments including the U.S., and reflects a strong view within the Chinese government that the overseas operation of Chinese companies, particularly large SOEs, serves as a critical component of China’s soft power and public diplomacy.

In addition to broad corporate social responsibility requirements and the development of specific environmental impact guidelines, overseas investments also require general sign off by various Chinese government departments including the State Council, National Development and Reform Commission, Ministry of Commerce and State Administration for Foreign Exchange. For example, all overseas investments greater than US\$10 million fall under the purview of the Ministry of Commerce, which is required to sign off on the investment. The Ministry of Commerce is the primary government institution that approves, manages and monitors overseas investments initiated by central SOEs, and is required to approve investment projects over \$100 million dollars in countries with high safety risks and countries without a diplomatic relationship with China. Investment projects between \$10-100 million or initiated by local SOEs must be approved by the provincial based departments. As part of the approval process the Ministry of Commerce may seek advice from the host country embassy’s economic counselor. It is unclear the extent to which social and environmental risks are considered by the Ministry of Commerce. However after the suspension of Myitsone Dam, the Chinese government has indicated that it will increase its attention to risks and challenges facing Chinese enterprises when approving foreign investments.

China Needs to Address its Overseas Risks

The President of Burma, Thein Sein's decision to suspend the Myitsone Dam in September 2011, came as a surprise and shock to the senior executives of the Chinese dam developer, China Power Investment. Myitsone Dam was China Power Investment's first foray into overseas dam building and was viewed as an important project for the development of its international business. China Power Investment's surprised reaction can be attributed to its failure to address national opposition to the project and its desire to isolate the construction site from Burma – a SASAC report of August 2011 praised China Power Investment's Community Party units for their "closed management" and described the project site as "an isolated island floating above the national soil of Burma."

In his statement to the Parliament of Burma, President Thein Sein said that the government had to act "according to the desire of the people." Burmese civil society groups have long opposed the dam which under the 2006 deal signed between the Chinese government and the Burmese military junta, would have seen 90% of the power generated from Myitsone Dam go to China. The hydropower project was large even compared with dams in China. Myitsone Dam, at 6,000 MW and with a proposed reservoir greater than the size of Singapore (295 square miles), would have forced the relocation of around 12,000 people and impacted around 20,000 people during construction and in operation.

Opposition to the project also grew due to a complete lack of transparency around the environmental and social impacts of the dam. Construction at the dam site began long before any environmental studies had been finalized. While the Chinese developer felt it was good practice to do an Environmental Impact Assessment (EIA), the EIA was not released until public opposition was high and by our own analysis was by no means comprehensive (for example, the EIA failed to investigate any downstream impacts).

China Power Investment's failure to engage with local civil society groups and mounting opposition to Myitsone Dam is not an isolated case. Compared to China, the local communities, environmental organizations, trade unions and media in host countries can be more vocal and independent. To date many Chinese companies have been ill prepared to deal with community concerns and complaints, and unresponsive to requests for engagement and dialogue. In January 2011, Mr Li Fusheng – an Assistant General Manager of China EXIM Bank wrote in the Chinese language newspaper, Huan Qiu (Global Times): "Unfortunately, most Chinese companies are not good at dealing local communities, non-governmental organizations, and local and foreign media, apart from local governments and partners. Some companies have not made any efforts to communicate with different voices and have even refused to do so" (unofficial translation by International Rivers). Mr Li went on to suggest that a failure of Chinese companies to engage with stakeholders had impacted China's business interests and competitiveness.

The alarm signals sent by the suspension of the Myitsone Dam are not the first to go off on China's global role in dam building and have also not gone entirely ignored.

Sinohydro's Environmental Policy – A First Step in Responding to Overseas Environmental and Social Impacts

Sinohydro has been active in the international hydropower power market since the 1980s. However it was international civil society criticism of Sinohydro's civil works contract in the destructive Merowe Dam project in Sudan, which began a process within the company to address and respond to its overseas environmental and social impacts. In an article published in the journal "Public Diplomacy Quarterly" of Chinese People's Political Consultative Committee, Sinohydro's CEO, Mr Fan Jixiang acknowledged that the criticism of its projects in Africa by International Rivers had "seriously undermined Sinohydro's image." Sinohydro invited International Rivers to a meeting in 2009 and we have been engaged in a constructive dialogue since then. In March 2010, Sinohydro informed International Rivers that it was preparing an environmental policy and invited our input. In our recommendations we made clear that if Sinohydro wanted to become a world-class brand, then it needed to adopt a world-class environmental policy and meet its international responsibilities, which Sinohydro has since accepted.

In late 2011, Sinohydro Corporation adopted an environmental policy which if implemented would put it amongst the leaders of the global hydropower industry. The environmental policy adopts a number of "no-go" zones for hydropower development including World Heritage Areas, Ramsar listed wetlands and habitats of internationally protected species. Sinohydro has also adopted the World Bank safeguard policies pertaining to indigenous peoples, resettlement and the environment, as its minimum standard. Sinohydro's environmental policy goes in part to meeting the Chinese government's expectations that SOEs should operate responsibly overseas. In his article in Public Diplomacy Quarterly, Mr Fan wrote "[SOEs] are widely expected to fulfill civil obligations in the international community. To this end, enterprises need to pay more attention to social responsibility in international business and take environmental protection and sustainable development into consideration in the company's overall strategic plan."

Sinohydro's environmental policy also comes at a time when there has been unprecedented interest in Chinese overseas investments. In the lead up to Sinohydro's Initial Public Offering on the Shanghai Stock Exchange in September 2011, prospective investors, financial markets analysts and the Chinese state media discussed Sinohydro's draft environmental policy and its adequacy in addressing Sinohydro's overseas risks. Of course the challenge for Sinohydro will be the implementation of the environmental policy, which will require a fundamental change in the way it does business.

Sinohydro is by no means alone in responding to concerns about Chinese overseas dams. In Ethiopia, the media reported that the world's biggest funder of large dams, China EXIM Bank delayed financing for the Chemoga-Yeda Hydropower Project on the Nile River in response to concerns from downstream countries. This delay follows China EXIM's Bank decision to suspend the Belinga dam project in Gabon, after a local NGO's letter informed the Bank that the project violated its own environmental policy. In

a separate example of the unwillingness of Chinese dam builders to build dams overseas at any costs, the China Southern Power Grid Company announced that it had withdrawn from several controversial projects in Cambodia according to the South China Morning Post, because it saw itself as a socially responsible company (September 2011).

Conclusion – View From the West

China has not turned out to be the rouge dam builder we feared it might be, instead Chinese dam builders have made clear that their aim is to be a responsible international actors. Nonetheless, Chinese companies continue to face many challenges when operating overseas as the Chinese government, financiers and companies themselves struggle to get the policy settings and implementation practices right. International Rivers expects there may be other Chinese overseas dams like Myitsone Dam project that will be fiercely opposed by local communities, but that such instances may also spur on policy reform and changes in the way that Chinese companies do business. We also expect that there will be increased scrutiny of Chinese overseas dam building within China. In our experience, Chinese media, NGOs and academics are extremely interested in the challenges and risks facing state-owned companies.

China's global role in dam building has and will continue to present both opportunities and challenges for the western dam building industry, including U.S. companies. Anecdotally, we are aware that Chinese companies are interested in partnering with U.S. companies given their existing global expertise, and international networks and infrastructure in key markets such as Africa and Latin America. Sinohydro for example, has discussed ways of working in partnership with AES Corporation to strengthen its African operations. Nonetheless, there will be instances where U.S. companies will be in direct competition with Chinese companies.

China, like the U.S. has an interest in global development and environmental protection. Two recent developments indicate that China may have some positive and constructive influence on whether and how dam projects are being developed around the world: Sinohydro's environmental policy and the intention of the Chinese government to issue guidelines on the environmental impacts of Chinese enterprises operating overseas, is evidence that China is capable of pushing the global hydropower industry to take on even higher environmental and social standards. Of course, implementation of good intentions will be crucial – but it would be prudent for traditional dam builders and funders to take notice and try to meet China's challenge to do better.