



US HYDROPOWER

Council for International Development

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Proposed Hydropower Initiative to the Asia Pacific Partnership

As governments worldwide continue restructuring their energy sectors to encourage private investment, there are struggles to create market systems that foster bona fide competition among different generation resources, and greater struggles to encourage clean energy development. The U.S. hydropower industry believes that the Asia Pacific Partnership organized by the White House Council for Environmental Quality should play a major role in leveling the playing field and in addressing this issue.

Up to this point, hydropower and other capital intensive resources have been handicapped and kept from contributing their reasonable share of long-lasting, emissions-free power to the benefit of national economies. Far less hydropower has been developed in recent years than reason would dictate, with the greatest share of new electric generating capacity being provided by thermal plants.

Hydropower is an excellent resource for adding low cost baseload and peaking power to the global energy mix. It can also provide a revenue stream which can help to finance other development priorities such as water projects, roadways, reforestation etc. National energy plans around the globe demonstrate a strong commitment to hydropower. There is an estimated *\$700 billion market in the developing world*, yet the challenges to bring these projects online must be addressed at several levels. New or greenfield projects, and modernization of existing facilities are the two major areas in which private investment is expected. The US hydropower industry is the largest in the world. Over the last two decades U.S. hydropower industry companies have perfected their skills at developing and operating small and medium sized plants in the US. At the same time industry has developed leading edge technology and expertise in upgrading and rehabilitating installed capacity with very impressive results. New equipment, turbine designs, coatings, and automation have contributed to this success.

While the U.S. industry has much to be proud of, they are also realizing that over the next several years the U.S. market will be tapped out, and that they will have to seek unfamiliar markets to export their goods and expertise to the developing world. Looking at the APP partners, several have significant market potential for hydropower. The US Hydropower Council for International Development believes that a hydropower initiative should be immediately established in one of the markets that can easily be replicated in other partner markets. *India has expressed a near term-need for 50,000 MW of hydropower-that is an estimated \$50 Billion of investment.* US Hydropower Council member companies have been active since 1992 and therefore are very familiar with

the market. Below are some major areas of effort which could be undertaken in this area--

Many of the existing facilities could *optimize their energy output by an added 20-40% by using upgrade, modernization or rehabilitation technologies* which U.S. companies are well placed to provide. In India, U.S. companies have done preliminary studies which estimate *13,000 MW of additional power can be brought on line without building new capacity*. This would be achieved through energy efficiency improvements and investment in improvements in power generation provide additional energy without involving additional sites, and could easily be realized in less than five years. Furthermore the cost of this generation will be competitive with any generation source, and will be a fraction of that of new development. Vast amounts of small and medium sized hydropower project opportunities exist for U.S. hydropower investors in India. *An estimated 15,000 MW of small hydropower could easily be brought on line through private investment in less than five years*. In addition, significant potential can easily be tapped with expansion of the grid, *this will be necessary to bring on the 84,000 MW of hydropower potential to meet future energy demand in India*.

In order to realize these projects the industry needs assistance in the following areas—

Funding Support Needed

-to cost-share technical assistance and advocacy* for the hydropower initiative (this a priority and needs a minimum of \$1 million)

-to expand the grid to unreachable areas in India where the majority of untapped hydropower potential exists (this will take hundreds of millions of dollars and should be cost-shared with some USG funding and multilateral funding)

-to develop an R&D initiative to address siltation issues in turbine and equipment design (this should be a multiyear effort with an estimated \$2-\$5 million per year for a minimum of 3 years addressed through US DOE and other USG programs)

-to work with equipment and service providers, US government and export credit agencies to develop a creative financing package to ensure that the US hydropower industry can be competitive and that Indian purchasing requirements are met (this should include USTDA, OPIC and EXIM)

Technical Assistance and Advocacy Support Needed

-*Technical Expertise* is needed to partner with Indian experts to create a partnership to most effectively design a program for rehabilitation. A team approach will ensure that best practices will be applied. An R&D initiative to focus on sedimentation issues is also a priority. While some sedimentation issues exist in the SE of the United States, the international market has major sedimentation issues. US companies have already begun to work on this issue but additional research on sedimentation and rehabilitation is required. This technology will be needed on almost all of the continents of the world.

-Finance and Business Expertise to identify a model to finance projects using US finance/credit agencies to ensure that US companies will get paid and to assist the Indian Government in designing a financing package that will meet their needs. This expertise will also be needed to help advocate on behalf of these investments because ECA's have little on no experience funding rehabilitation or hydropower overall.

-Policy and Governance Expertise is needed. Industry should be the core of this expertise since they are most familiar with the barriers they face. US and Indian Government policymakers at the highest levels must participate in order to be successful. Having a platform or venue to air issues is critical to resolving these issues. We suggest creating a Hydropower Board to address these needs. The concept paper is attached.

The US Hydropower Council for International Development looks forward to further discussions about the Asia Pacific Partnership. Please feel free to contact Debby Stone at 202.383.2536 or debbys@us-hydropower.org

**INDO-U.S. HYDROPOWER DEVELOPMENT BOARD:
A BILATERAL PUBLIC-PRIVATE PARTNERSHIP**

CONCEPT NOTE

MANDATE

Recognizing:

- The overarching need to expand hydropower generation capacity in India;
- The need to increase business confidence among private developers and investors
- The important benefits of clean, low-cost power for India's economic development and social well-being;
- The synergies of international cooperation between U.S. and Indian developers, engineers, constructors, equipment manufacturers, and financial institutions;
- The large, unmet needs for investment;
- The transitional state of India's regulatory regime for power generation, transmission and distribution;
- The critical need to stimulate private investment and development;
- The urgency of developing a coordinated national approach to hydropower development;
- The irreducible role of public sector involvement through provision of public resources, especially water resources, land use, and rights of way;
- The vital role of the States in the regulation of power, a concurrent subject under the Indian constitution;
- The vital role of the Central Government as convener in developing national policies and development approaches;
- The critical need for a common point of reference for monitoring development and implementation of such policies;
- The importance of lowering the time and costs of access to information about policies, projects, and experiences;
- The time value of money invested in project development and hence the need for clear, time-bound processes for project bidding and proposal evaluation;
- The need to create national structures for promotion of the hydropower industry and for cross-border collaborations; and
- The need to assure transparency and predictability in all phases of public-private interaction

The undersigned parties agree voluntarily to join forces to form the Indo-U.S. Hydropower Development Board (hereafter, "the Board"), a national authority in India to fulfill the following functions (and others as the participants may, from time to time, decide):

- Make binding recommendations to participating Central and State Government institutions, project developers and financial institutions on appropriate policies, guidelines, and procedures for development of India's national hydropower resources – such recommendations are understood to be self-binding for the participants (as participation is voluntary), but non-compliant participants are subject to removal from the Board;
- Facilitate project development and support innovative financing approaches;

- Conduct appropriate studies, surveys, or inquiries regarding status of regulation, the industry, and projects, or any other subjects related to hydropower development as the Board may direct;
- Provide ready access to such general (non-proprietary) information as the Board may possess or acquire concerning all relevant aspects of hydropower development;
- Review implementation of Board policies, guidelines, and procedures, and advise participants of compliance or non-compliance by parties;
- Coordinate and support initiatives by participating individuals and institutions to promote hydropower development;
- Educate government officials, industry and the public at large about the benefits of hydropower development for India;
- Provide a focus for coordination of financial institutions' involvement in hydropower projects and development of the industry;
- Provide an expert body for consultation with interested parties;
- Provide an authoritative, effective vehicle for facilitating public private dialogue and coordination of Central and State government policies related to hydropower development.

STRUCTURE

The Board shall be constituted as an activity of the Indo-U.S. Economic Dialogue, under the aegis of the Prime Minister's Office in India and the Executive Office of the President in the United States. The Board shall have the status of an autonomous legal entity with authority to make rules for its participating members.

The principal decision-making body of the Board shall be a *Governing Committee* consisting of individuals representing the following institutions:

- The Union Ministry of Power
- The Union Ministry of Environment
- The Power Finance Corporation of India
- The Power Trading Corporation of India
- IREDA
- 2-3 State Governments, rotated from among a pool of participating states
- The Planning Commission
- The Federation of Indian Chambers of Commerce and Industry (FICCI)
- 4-5 Private Sector Participants from India and the United States, elected or rotated from a pool of participating companies
- Tata Energy Resources Institute (TERI)
- An Indian NGO or research institute with relevant expertise
- A U.S. NGO with expertise in water resource management and hydropower development
- U.S. Department of Energy
- U.S. Agency for International Development (AID)
- U.S. Hydro
- U.S. Department of State
- U.S. Corps of Engineers
- U.S. Trade Development Administration (TDA)

- U.S. Chamber of Commerce (U.S.-India Business Council, or USIBC)

Indian institutions and members shall constitute an absolute majority on the Governing Committee.

The executive functions of the Board, including convening meetings of Governing Committee and *Working Subcommittees* and maintaining regular notes and correspondence with the participants, shall be conducted by a professional *Secretariat* constituted and funded on terms established by the Governing Committee. The Secretariat shall be directed in its day-to-day operations by a *President* appointed by the Governing Committee.

Routine business activities and functions of the Board shall be conducted through Working Subcommittees constituted of representatives drawn from all participating institutions; each Working Subcommittee shall be chaired by a member of the Governing Committee whose responsibility shall be to keep the Governing Committee informed of the activities of the Subcommittee. The Governing Committee shall determine the number of individuals that shall participate in each Working Subcommittee. Election to Subcommittees shall be by regular rotation.

Working Subcommittees may include the following:

- *Policy*, with responsibilities for formulation of recommendations for State and Central Government policies, guidelines, and procedures for hydropower development India
- *Finance*, with responsibilities for investigating and making recommendations for appropriate steps to stimulate and facilitate access to low-cost, long term financing for hydropower project
- *Techno/Economic Assessment*, with responsibility for improving the quality and accessibility of project information available to all stakeholders, with a view to reducing the costs and risks of project development, and for making recommendations for the appropriate mix of public and private funding for technical and economic assessment
- *Advocacy*, with responsibilities for government relations and public education
- *Implementation*, with responsibility for review of compliance with Board recommended policies
- *Ad hoc and other standing Subcommittees* as the Secretariat shall propose and the Governing Committee shall direct

PROCEDURES

The *President of the Secretariat*, in consultation with the Working Subcommittees, shall make recommendations to the Governing Committee on the appropriate policies and procedures, including funding and grant-raising in support of the Secretariat, to govern the activities of the Board. These policies and procedures shall be written down and made available to all participating members. All members shall be enjoined to assure compliance with these policies and procedures.

The Board shall issue an annual report including a summary statement of its principal activities and financial status.