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Asian Development Bank
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Re: ADB Energy Strategy (draft of May 2007)

Dear Sirs

The International Hydropower Association (IHA) wishes to thank you for the opportunity to comment on the Asian Development Bank's (ADB) draft Energy Strategy, dated May 2007. We note that this is an important update of ADB's thinking and it follows on from the most recent ADB Energy Policy review in 2000. We consider this strategy to be a vehicle through which the ADB can take a leadership role in addressing the energy challenges confronting Asia and the world today.

Renewable Energy, Sustainably Developed
As a general comment we are pleased to note that ADB is considering a major change in its focus in response to the climate-change imperative. In particular, we strongly endorse the strategy proposal that: *ADB's support for renewable sources of electricity is to be increased substantially* (paragraph 73).

However, we believe that ADB should use a more contemporary definition of renewable energy. The current draft at paragraph 37 defines renewable sources of energy to include *'only small and mini hydro, solar, wind, geothermal, ocean sources, biomass (other than the present non-commercial use), and hydrogen*.'

Here, we believe there have been errors in both inclusion and exclusion. We recommend that the definition of renewable energies is abstracted from the 2004 Declaration of the Bonn International Conference on Renewable Energies (footnote, page one). This excludes hydrogen and includes hydropower without reference to its scale.

Hydrogen is an energy carrier and is therefore not a renewable energy source. However, it should be considered as a clean technology when its derivation is from a renewable source, and IHA actively supports further development of hydrogen technologies through electrolysis powered by hydro and other renewable sources. Hydropower scale is a continuum; small- and large hydro are not separate species. In your current draft, large hydro is considered separately in the strategy, and there is even reference (paragraph 54) that *there are opinions that large hydro is not to be considered as a renewable source of electricity.* In our view, international policy on hydropower has moved on significantly from such opinion. Indeed, the contemporary view on hydropower is captured in the following declarations:

Ministerial Declaration of 170 Countries, World Water Forum, Kyoto 2003:

> *"We recognize the role of hydropower as one of the renewable and clean energy sources, and that its potential should be realized in an environmentally sustainable and socially equitable manner"*

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Reiterating the Johannesburg Plan of Implementation (World Summit on Sustainable Development, 2002), the Declaration of the International Conference on Renewable Energies, Bonn 2004, signed by 154 countries, reaffirms that hydropower (without exclusion by scale) is one of the renewable technologies that can:

> *"significantly contribute to sustainable development, to providing access to energy, especially the poor, to mitigating greenhouse gas emissions and reducing harmful air pollutants, thereby creating new economic opportunities and enhancing energy security through cooperation and collaboration."*

For the last four years, the international policy debate has focussed on sustainability criteria rather than scale, as confirmed by the statement of UNEP Executive Director, Dr Klaus Töpfer, Dams and Development Forum, Geneva, September 2003:

> *"UNEP is no longer concerned by the small or the large, but by the well planned and well managed"*

The first of your three proposed strategy pillars is '*Meeting the Energy Demand in a Sustainable Way'*. We consider that a sustainability perspective is the preferred approach to use when considering the suitability of future energy developments. Therefore, we strongly recommend that your definition of renewable energy be changed to include all scales of hydropower, and that the consideration of hydropower projects should be based on clearly articulated sustainability principles.

In this regard, IHA has developed a set of Hydropower Sustainability Guidelines and an associated Sustainability Assessment Protocol that incorporate widely accepted criteria to promote consideration of environmental, social and economic aspects of sustainability in the planning, implementation and operation of hydropower projects. These can be found at www.hydropower.org . These documents have been independently assessed and field tested by two of the world's leading conservation organisations, The Nature Conservancy and WWF International, and IHA is working in strong collaboration with both these organizations to explore broader application. The IHA Guidelines and Protocol are also referenced by the Organization for Economic Cooperation and Development in its Trade Directorate on Renewable Energies and Water Projects. Most recently, the IHA Guidelines and Protocol have been analysed through the ADB/MRC/WWF Joint Initiative on Environmental Criteria for Hydropower in relation to the Mekong River Basin (2007).

The draft Energy Strategy proposes that "*ADB will also selectively support large hydropower plants requiring seasonal storage reservoirs with multipurpose benefits*" (paragraph 77). While IHA endorses the optimization of services from freshwater reservoirs, we consider that all sustainably developed hydropower should be part of your renewable energy expansion strategy, and that hydropower can legitimately be the primary purpose of freshwater reservoirs whenever this is appropriate. This is especially relevant given that the flexible operation of storage hydro provides support for the intermittent nature of wind, ocean and solar energy. It can also provide the peaking capacity for geothermal base load generation. These same traits can also assist in the reduction of emissions through the steady-state operation of conventional fossil-fuelled powerplants in a mixed energy system. This would be in addition to the better-known ancillary services of frequency control and voltage regulation within transmission systems, and the wide range of water management services than have a strong synergy with hydropower development.

The ADB strategy document could be strengthened with a paragraph dedicated to the definition of sustainability and associated assessment aspects. A suggestion is noted in the Appendix to this letter, abstracted from the IHA Sustainability Assessment Protocol.

Greenhouse Gas Emissions from Reservoirs

We were also concerned to read at paragraph 55 that "*According to scientific studies (* ~~UNEP 2001~~ Dams and Development; A new framework for Decision Making), large reservoirs produce significant amounts of GHG, like carbon dioxide and methane due to the submergence of vegetation and forest land.*" Such a generalisation is not supported by the scientific community. While there is still more research required in this area, the current position is that net carbon

* Should read: "*World Commission on Dams, November 2000"* – however, the Commission carried out no such scientific studies; it simply compiled a review of basic research carried out in the later part of the 20th Century.

dioxide emissions from freshwater reservoirs are insignificant in relation to their impact on the natural carbon cycle. As for methane emissions, these require a substantial part of the water body to be in a persistent anoxic condition. Such circumstance has only been identified in a small number of reservoirs, despite extensive field monitoring. A research forum established by UNESCO is following this matter, and part of its objective is to identify a predictive model for the occurrence of anoxia in future reservoirs. The UNESCO Forum on the GHG Status of Freshwater Reservoirs will meet again in Brazil in September 2007. A statement of participants from the first meeting (December 2006) is available on the UNESCO website: http://www.unesco.org/water/ihp/pdf/ghg_participants_statement.pdf.

ADB Support to foster public-private partnerships

ADB may wish to test new renewable-energy-specific models of development. One such model is proposed below:

1. Private-sector developers are repeatedly expected to demonstrate the need for a project, even though this work is outside of the sector's domain. ADB could provide public funding for strategic (renewable) energy re-assessments at market- and regional levels to determine energy needs and to assess the options to meet these needs. For hydropower options, this should be integrated with regional- and basin water management strategies.

2. Where a potential renewable energy option is available in a region, ADB could fund the project assessment and optimization under public-sector management, so that risks, impacts and mitigation measures are clearly defined. This would enable the private sector to compete for the project implementation phase within bankable risk profiles. Consideration could even be given to the recuperation of the initial public-sector funding once the project is operational. A suitable tool for this repayment could be through a revenue stream derived from carbon credit.

In conclusion, we are grateful for the opportunity to review this draft of the ADB Energy Strategy, and hope our comments will be of use for input to the next draft. We would be pleased to assist with any clarification that you may require from our side, and would welcome the opportunity to review future versions.

For and on behalf of the International Hydropower Association

Prof Dr Dogan Altinbilek
President

Roger Gill
Vice President

Richard Taylor
Executive Director

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Appendix: Sustainable Hydropower Development

(Extract from the IHA Sustainability Assessment Protocol)

Sustainability is a fundamental component of social responsibility, sound business practice and natural resource management.

Sustainable development has been defined as development that meets the needs of the present without compromising the ability of future generations to meet their own needs (Report of the World Commission on Environment and Development, 1987). Sustainability requires the integration of three components – economic development, social justice, and environmental protection – as interdependent, mutually reinforcing pillars.

Key sustainability aspects that must be considered for new energy projects cover:

- Demonstrated need for the project
- Government and proponent policies
- Political risk and regulatory approval
- Site selection and design optimisation
- Design, construction, and operational risks and sustainable performance of partners and suppliers
- Project finance risk
- Economic viability and service delivery
- Markets, innovation and research
- Additional benefits and capacity building
- Short and long term reliability
- Planned operational efficiency
- Community acceptance
- Social impact assessment and management planning
- Extent and severity of social, economic and cultural impacts on directly affected stakeholders
- Safety issues and hazards
- Cultural heritage
- Environmental impact assessment and management planning
- Extent and severity of predicted environmental impacts
- Air, water, and ground emission, and waste management
- Greenhouse gases

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