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Hydro Tasmania
the renewable energy business

15 August 2008

The Secretary
Joint Standing Committee on Treaties
House of Representatives
PO Box 6021
Parliament House
Canberra ACT 2600

Email: jsct@aph.gov.au

Dear Sir or Madam

Re: Kyoto Protocol to the United Nations Framework Convention on Climate Change

Thank you for the opportunity to provide comment on Australia's ratification of the Kyoto Protocol and on the opportunities arising from this.

Hydro Tasmania is Australia's largest renewable energy generator, and is internationally recognised for its expertise in renewable energy. Hydro Tasmania continues to make a major contribution to the production and growth of renewable energy and reduction of greenhouse gas emissions including through global wind energy developer Roaring 40s, a joint venture company between Hydro Tasmania and China Light and Power, and with a Consulting business providing expertise internationally.

Hydro Tasmania recognises climate change as an important issue for Australia and supports Australia's ratification of the Kyoto Protocol. Specifically, this submission addresses the opportunities and obligations arising from ratification of the Kyoto Protocol, including:

- Australia's role in international negotiations;
- Access to international carbon markets; and
- Australia's domestic policy setting.

Australia's role in International Negotiations

It is clear that Australia cannot solve the global climate change challenge alone, particularly given that the nation currently makes a very small contribution to total global greenhouse gas emissions. The establishment of common but differentiated international emissions reduction targets, based on the latest scientific evidence, is essential to ensure that all countries make a contribution - within their means and potential - to the global challenge.

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Through the Kyoto Protocol, the United Nations Framework Convention on Climate Change provides the opportunity to facilitate agreement on international commitment to greenhouse gas emission reductions. Hydro Tasmania believes that it is in Australia's interest to participate in all international climate change forums in pursuit of an international agreement and that as a result, Australia's participation in the Kyoto Protocol is essential.

Access to international carbon markets

Through the Kyoto Protocol, the Clean Development Mechanism (CDM) has encouraged emissions reductions in developing countries that may not otherwise have had incentive to reduce emissions. In addition, ratification of the protocol by Australia has opened the door for Australian companies to take advantage of further investment opportunities internationally.

The future of international carbon markets, such as the CDM, depends in part on developing international consensus on climate change. If achieved, international agreement would provide certainty for new and existing projects and encourage further emissions reductions internationally.

Australia's domestic policy setting

If Australia is to have a meaningful response to the climate change imperative, it is Hydro Tasmania's view that the full environmental and social cost of carbon must be recognised. In light of this, the proposed Carbon Pollution Reduction Scheme (CPRS) will form an essential element of Australia's greenhouse response. Furthermore, the CPRS will offer opportunities for the ongoing development of Australia's renewable and low emission generation sources as well as advancements in energy efficiency throughout the entire economy. The scheme design must ensure the full cost of carbon is reflected in all investment decisions as soon as practically possible. If the scheme is to deliver on its abatement objectives, it will require a sufficiently high carbon price from its commencement.

Until there is demonstrated certainty that carbon price levels (and therefore wholesale electricity prices) are able to support the commercialisation of mainstream renewable energy technologies, there will be an ongoing need for the expanded national renewable energy target (RET) scheme. Hydro Tasmania supports the Government's commitment to implementing an expanded RET, which is an efficient and effective policy measure to incentivise the deployment of renewable energy until such time as the proposed CPRS recognises the full cost of carbon.

Through the proposed CPRS and RET, the Australian Government has made a strong commitment to national action on emissions reduction. These policy incentives, when implemented, will position Australia favourably to contribute to the international debate on climate change and ensure a strong negotiating position. Furthermore, they will ensure that Australia is well placed to benefit from the opportunities presented by the Kyoto protocol and global climate change mitigation.

Opportunities presented by the CPRS and RET

As Australia's largest renewable energy generator, Hydro Tasmania recognises the importance of continued investment in zero and low emissions technologies. To ensure continued momentum and investment in these technologies, it is important that both the CPRS and RET are implemented quickly and efficiently. These policies provide opportunity for the development of new renewable energy as well as the refurbishment and maintenance of existing generation plant. To this effect, Hydro Tasmania has identified opportunities for achieving 1,000 GWh of additional renewable energy from its existing power stations through specific system enhancement projects, as detailed in Attachment 1. The viability of many of these projects will be dependent on the right policy incentives to help develop renewable energy projects, as has been achieved to date through the Mandatory Renewable Target (MRET). In the absence of either an appropriate RET incentive or suitably high carbon price, then some of these projects will not be financially feasible.

Hydro Tasmania supports the inquiry into the Kyoto Protocol and welcomes the opportunity to provide the Joint Committee with further information about the contents of this submission or any other issues. Should you have any queries or require further information, please contact Kane Thornton, Manager Climate Change Strategy on (03) 8628 9735 or email kane.thornton@hydro.com.au.

Yours faithfully

<Original signed>

Andrew Catchpole
General Manager
Communications & External Relations

ATTACHMENT 1 – OVERVIEW OF HYDRO TASMANIA'S 1,000 GWH PROJECT

From the early 2000s, Hydro Tasmania has been pursuing greater insight into climate change and its potential impacts on its operations. A review of the existing 80 years of hydrological records has shown a decline in hydrological yields, especially over the past 31 years. This resulted in the business using the last 31 years of inflow data for business planning which has effectively reduced the expected annual inflows by 1000 GWh to 9,000 GWh.

Hydro Tasmania has taken up the challenge to identify and develop opportunities from the current system which could be captured to restore the "lost" inflows rather than just accepting the reduced system rating. On this basis a target to identify 1000 GWh of additional energy from system enhancement of the Hydro Tasmania's assets was set.

The 1000 GWh project is focused on enhancing the amount of water captured and utilised through Hydro Tasmania's existing assets at minimum cost and with minimal environmental and social impacts. Projects will be targeted towards developing small infrastructure to use the existing large infrastructure (ie power stations, dams and transmission lines) more effectively, rather than investing in new large infrastructure.

The following projects have been targeted:

- catchment diversions and diversion upgrades
    - improving canal efficiencies by relining or upgrading the capacity of canals;
    - ensuring existing small weirs are operating effectively to maximise water transfers; and
    - investigating new diversion schemes to put more water through the existing power stations;
- new storages - build small (relative to current) storages to act as regulating storages to capture higher inflows in winter. This inflow can then be released through the current system;
- raising existing storages - the likelihood of more extreme inflow events may increase as a result of climate change. Raising existing storages to capture more inflow to release during drier periods may add significant value;
- mini-hydro schemes - there are opportunities in the current system where energy is dissipated (ie drop structures) to put in mini-hydro schemes; and
- new power station development or redevelopment of existing power stations – some of the Hydro Tasmanian system are approaching 60 to 70 years of age. There is an opportunity to look at improving these schemes with modern technology or even reconfiguring the schemes/stations.

Over the past 12 months, an initial review of opportunities was conducted. This unveiled a number of potential ideas that look to be economically feasible. Twenty four projects have been identified as having high potential to contribute to system enhancement. These have been classified as 'Top Projects'. A project is considered to be a Top Project if it performs well under the following criteria:

- low cost to generate;
- minimal environmental impacts;
- strategic priority; and
- ease of implementation.

The Top Projects identified this year have an estimated CAPEX cost of $203M and have the potential to provide an additional 439 GWh of renewable energy (refer Figure A1). The majority of the CAPEX associated with Top Projects is associated with dam construction, dam raising and mini-hydro projects.

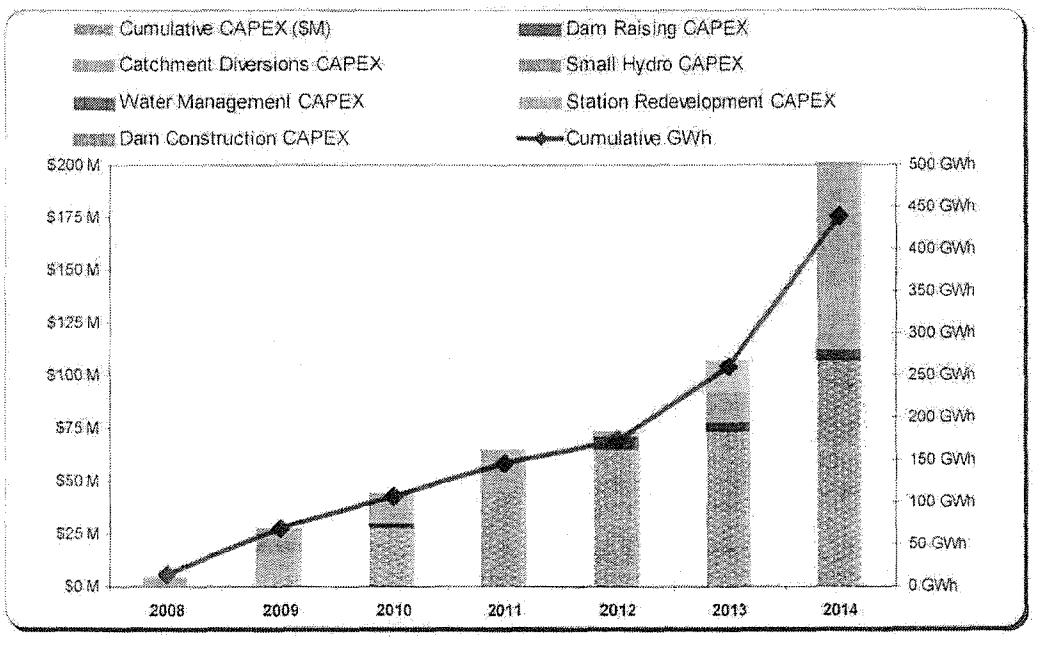

Figure A1 Top Projects proposed implementation schedule

Some of the top projects that are currently being evaluated include:

- Red Hills Diversion in to Lake Plimsol which was previously designed in the original Anthony Scheme but was cut due to costs and also the excess energy situation at the time (1996);
- Ouse River project which will capture winter flows in an off-stream storage and an on-stream storage to maximize the regulation through the Great Lake and Derwent Schemes;
- a pipeline of mini hydro projects and a business model to successfully develop these projects;
- assessment of storage raising of existing storages (ie Lake Plimsol which was reduced in size in the mid 1990's due to the need to cut costs, Lake Rowallan) to capture high inflows events which are lost from the system;
- upgrade of existing turbines to improve efficiencies; and
- application of a smoother lining to Tarraleah canals to increase the flow rate by up to 30% on current flows and reduce spill at the upstream storage (Lake King William).

All projects implemented under the 1000 GWh project will need to be economically viable and ensure that the social and environmental impacts are minimised. Due to the amount of projects and the investment required, the development program is likely to span over many years (ie 15+).

The viability of many of these projects will be dependent on the right policy incentives to help develop renewable energy projects as has been achieved to date through the MRET. In the absence of either an appropriate RET incentive or suitably high carbon price, then some of the 24 projects identified so far will not be financially feasible.