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Submissions  
Climate Change Authority  
GPO Box 1944  
Melbourne VIC 3001

Submission lodged via email to:  
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**Submission to: Renewable Energy Target Review  
Issues Paper**

Snowy Hydro Limited welcomes the opportunity to make a submission to the Climate Change Authority's Renewable Energy Target Review Issues Paper.

Snowy Hydro strongly advocates no changes to the Large Renewable Energy Target (LRET). The LRET which came into effect in 2010 is performing well and we see no evidence to suggest that the existing policy settings won't continue to meet the objects of the Renewable Energy Act in the future.

Snowy Hydro is in the midst of a \$400 million Snowy Mountains Hydro Electric Scheme modernisation program that commenced in 2009. This significant long term investment decision was predicated on a stable and predictable LRET of 41,000 GWh by 2020. Any changes to the LRET would present sovereign risk for our hydro investments to date and jeopardise our future investment plans to continue to modernise the Snowy Mountains Hydro Electric Scheme to deliver more efficient, clean, and renewable energy. Attachment 1 to this submission highlights some of the hydro investments that Snowy Hydro has made to date.

On a more general note the Mandatory Renewable Energy Target (MRET) and its successor the LRET has been continually subjected to reviews and major policy changes since its inception in 2001. Each review or policy change introduces a period of heightened uncertainty which ultimately results in a higher risk premium required for prospective investments. From the consumers perspective this means higher costs to deliver the Target and from the Commonwealth Governments perspective these frequent reviews may adversely undermine the achievement of the LRET.

The CEC has commissioned a study that shows that the LRET can be met if the market has confidence that the existing policy settings remain unchanged. Similarly the AEMC also conducted a study that concluded in 2011 which showed that the LRET can be met if there continues to be a carbon price.

It is also widely known that the Federal Opposition's policy position is to repeal the carbon tax/price. The next Federal election is less than 15 months away. Snowy Hydro believes it is premature to consider any major changes to the enhanced Renewable Energy Target in the present situation where there is policy uncertainty on the carbon tax/price. Snowy Hydro therefore advocates no changes in this current review.

For the next scheduled 2014 review we believe the Climate Change Authority should consider less frequent reviews (perhaps everywhere 4 years thereafter) on the premise that the current bi-annual review process is creating unnecessary uncertainty and increasing both regulatory and investment risks.

The LRET is a technology neutral market based policy that has delivered the lowest cost renewable energy to consumers. Snowy Hydro believes that any changes to promote specific technologies through for instance “banding” or “capping” not only undermines investment confidence but would also increase the cost of meeting the LRET.

Banding or capping of renewable technologies would require perfect foresight to ensure that the chosen technology can be delivered with the required quantum and in the forecast timeline to replace existing renewable energy technologies that have been “capped” out. History has shown that these approaches would have been very inefficient and would have increased the cost of complying with the Target.

For instance, in the early years of the MRET the popular belief was that Biomass was going to dominate the market and supply a very significant proportion of the REC supply. Biomass has in fact turned out to be significant producer of RECs but nowhere near the “forecast” level of supply that was predicated at the time. Our point is had there been a “banding” or “capping” approach to eligible technologies this would have meant that consumers would have paid a lot more to meet the relevant MRET requirements.

In summary we strongly advocate no changes to the LRET to promote a stable and predictable environment that is conducive to long term investment decision making. Furthermore we believe the LRET is a technology neutral and market based policy that ensures the delivery of the lowest cost renewable generation. We therefore advocate against any policy position that would cap the contribution from any specific renewable energy source thereby increasing the cost to consumers of meeting the LRET.

Snowy Hydro looks forward to participating in the next stages of the review process. Please contact me on (02) 9278 1862 if you would like to discuss any issue associated with this submission.

Yours sincerely,



Kevin Ly  
Manager Market Development and Strategy

Attachment 1 – Details of some investments to date

Jounama Small Hydro Power Station		
Date	June 2010	Where is it? <i>Latitude: -35.56; Longitude: 148.305</i>
Cost	\$16.5 million total cost	
Increases	<p>Snowy Hydro finished construction, in 2010, of a small hydro-electric power station attached to the existing river diversion conduit at Jounama Dam. The 14.4 MW small hydro enables renewable energy to be economically recovered from the release of waters to Blowering Reservoir and is GreenPower accredited.</p> <p>The power station is designed to generate 55 GWh per year of renewable energy.</p>	
More info:	<a href="http://www.snowyhydro.com.au">www.snowyhydro.com.au</a>	
Works	<p>Jounama Hydro comprises of a turbine / generator configured unit located on the downstream side of the Jounama Dam and connected to the Jounama Pondage via the existing River Diversion Conduit.</p> <p>The turbine generator and auxiliary plant is housed in a cylindrical concrete structure .</p> <p>A tailrace and weir arrangement was formed by excavating the existing rock in the old riverbed near the base of Jounama Dam. This channel distributes water into Blowering Reservoir and maintains a minimum tail water level for the turbine.</p> <p>The connection of the generator to the 66kV network is via a transformer and switchgear, located near Jounama Dam.</p> <p>Figure 1 (Before Jounama Hydro construction) depicts under utilised kinetic energy as water was released from Jounama outlet structures downstream to Blowering Reservoir.</p> <p>Figure 2 shows the constructed Jounama Hydro power station.</p>	

Figure 1 Before



Figure 2 – Opening Day



## Lower Tumut Power Station Modernisation Project

Date	2008 to 2012	
Cost	\$79.7 million. This is part of a \$400 million scheme modernisation program.	
Increases	Energy efficiency gains of 3%.  Capacity increases of between 25 to 50MW per generator unit.  Increase reliability due to replacement with advance controls and protection systems technology across the entire scheme.	
More info:	<a href="http://www.snowyhydro.com.au">www.snowyhydro.com.au</a>	
Works	<p>Major refurbishment works in the Lower Tumut Power Station have been completed. Lower Tumut's 6 Generating Units (1500MW total) have now all been modernised and upgraded with:</p> <ul style="list-style-type: none"><li>• new governing, control and protection systems installed;</li><li>• all mechanical and electrical components overhauled; and</li><li>• the turbine runners replaced.</li></ul> <p>The upgraded units are now capable of providing between 25 and 50MW of additional capacity each.</p>	

Figure 1



## Guthega Power Station Modernisation Project

Date	2010 – 2012	
Cost	\$21 million. This is part of a \$400 million scheme modernisation program.	
Increases	<p>Guthega Power Station is the oldest station in the Snowy Mountains Hydro Electric Scheme.</p> <p>Energy efficiency increase of 7% delivering more renewable energy from each unit of water released through the generator turbines.</p> <p>Capacity increase of up to 4.5 MW.</p>	
More info:	<a href="http://www.snowyhydro.com.au">www.snowyhydro.com.au</a>	
Works	<p>Major refurbishment works in the Guthega Power Station have been completed. Both Generating Units (66 MW total) have now all been modernised and upgraded with:</p> <ul style="list-style-type: none"> <li>• new governing pumps and actuation;</li> <li>• new control and protection systems installed;</li> <li>• all mechanical and electrical components overhauled; and</li> <li>• the turbine runners replaced.</li> </ul>	

Figure 1 – Guthega Machine Hall



Figure 2 – Guthega Stator Lift

