PacificHydro

11 March 2015

Climate Change Authority
GPO Box 1944
Melbourne VIC 3001

By email: submissions@climatechangeauthority.gov.au

Dear Anthea,

Submission to the Special Review

Pacific Hydro welcomes the opportunity to provide a submission to the Climate Change Authority on its special review of Australia's emission reduction targets.

Pacific Hydro is a leading Australian renewable energy company with over 20 years' experience in project finance, development, construction and operation of hydro, wind, solar and geothermal power projects in Australia, Brazil and Chile. Pacific Hydro is also a licenced electricity retailer for commercial, industrial and SME customers in a number of Australian deregulated energy markets.

Pacific Hydro is a wholly owned investment within IFM Investors' Australian Infrastructure Fund. IFM Investors is one of Australia's largest investment management firms, managing in excess of $50 billion on behalf of institutional investors globally. IFM Investors is owned by, and invests on behalf of, 30 Australian Industry Superannuation funds. Through IFM Investors' ownership, Pacific Hydro provides sustainable infrastructure investment opportunities for around 5 million Australian superannuants. We aim to achieve investor returns by powering a cleaner world.

As a proudly Australian company with investments which can be materially affected by energy and climate change policy settings, we have a strong interest in Australia's emission reduction goals.

In our attached submission we have highlighted the principles that we believe are critical towards supporting a transition to cleaner energy systems. Strong emissions reduction targets will benefit investors in clean energy, result in a strong and sustainable economy and benefit Australian communities through lower environmental and health costs.

Yours sincerely,

Michael Fuge
Chief Executive Officer
Pacific Hydro

PacificHydro

Submission to the Climate Change Authority on its special review of Australia's emission reduction targets

11 March 2015

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1. Introduction

Pacific Hydro welcomes the opportunity to make this submission to the Climate Change Authority on Australia's emission reduction targets.

Pacific Hydro considers that the setting of long term emission reduction targets and the implementation of policies to achieve those targets is important for the future prosperity of all Australians.

Substantial reductions in emissions are being proposed by other countries around the world and it will be important that Australia does its fair share. Currently, Australia's efforts are not in line with those of other developed countries[i], however this can be addressed in its stated intentions in the lead up to the UN Climate Change Conference in Paris later this year.

2. Overriding Principles

In Pacific Hydro's view the following principles should guide the Authority in its review.

2.1 2 degree limit

The international community has made repeated commitments to reduce emissions such that global warming is limited to less than 2 degrees above pre-industrial levels. Australia has made undertakings to help avoid a 2 degree rise in temperatures under the UNFCCC's Cancun Agreements and Durban Platform for Enhanced Ambition.

Further, in November 2014, the Presidents of the United States and China announced their respective post-2020 actions on climate change, recognizing that these actions are part of the longer range effort to transition to low-carbon economies, mindful of the global temperature goal of 2°C.

Australia should set its goals in the short and medium term to ensure it plays its fair part in avoiding a global temperature rise greater than 2 degrees.

It is worth noting however, that avoiding a temperature rise of 2 degrees does not guarantee a safe climate. Climate scientists warn the assumption that we will avoid serious damage to the world's climate if we limit the warming to 2 degrees is untrue[ii]. Accordingly the Authority should ensure that medium term targets are proposed which reflect Australia's' fair contribution to an average warming less than 2 degrees.

2.2 An orderly transition

Reducing emissions will require a transition away from high emissions to cleaner, lower emissions systems and infrastructure. This will create inherent opportunities and challenges for the Australian economy and our society, which are considered in more detail in the following chapters.

Australia's international competitiveness will be best served by an orderly and efficient transition, thereby creating the lowest cost pathway to a low emissions economy. An orderly transition provides an opportunity for investors and businesses to adjust to future market conditions which include emissions limits, thereby reducing the risk of having to abruptly write-down the value of emission intensive businesses and assets.

The recent turmoil in key economic policies designed to reduce emissions is, unfortunately, an excellent example of the costs and inefficiencies created when an unstable policy environment exists or if there is uncertainty around midterm targets. The introduction then removal of the carbon price is estimated to have cost the electricity retail sector up to $100million to address the changes in customer billing systems. Further, the uncertainty in the Renewable Energy Target (RET) has delayed substantial investment in new clean infrastructure.

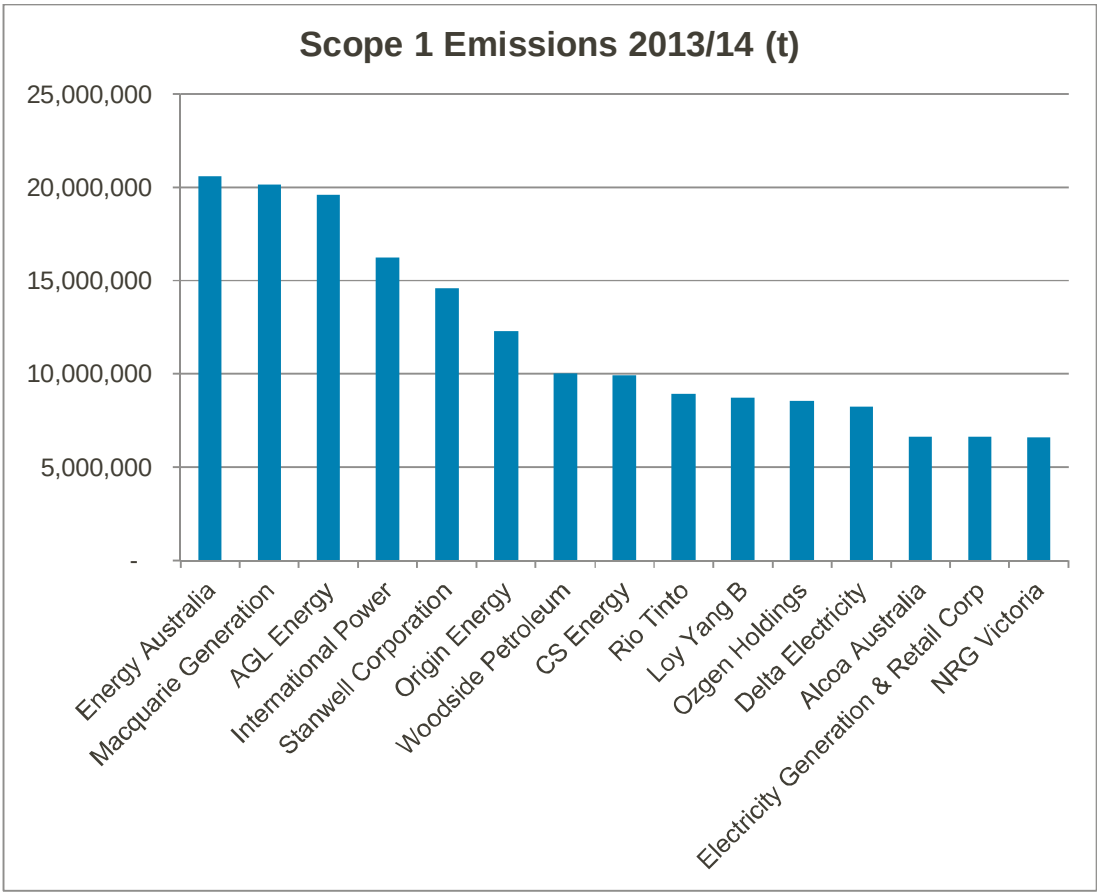
Recent analysis of carbon budgets and its practical considerations indicate that the bulk of fossil fuel reserves cannot be exploited if an average warming of 2 degrees is to be avoided. In the absence of midterm emissions target, the risk of un-burnable reserves appears to remain misunderstood by industry, investors and governments. For example a recent report[iii,iv] determined that 90% of Australia's coal reserves should not be burnt, to avoid warming above 2 degrees.

In an orderly transition there would be medium to long term signals which dampen investment in high emissions infrastructure and support new investment in clean assets. The current absence of medium term targets with appropriate mitigation policies will likely result in overinvestment in high emissions infrastructure with subsequent potential for stranded assets and future write-down of company balance sheets.

3. Costs and benefits of reducing emissions

3.1 Focus on power sector

This submission focuses on the power sector. The power sector is responsible for one third of Australia's emissions in 2012 and therefore represents a significant opportunity for emissions reduction. It is also notable that 11 of the top 15 emitters[v] (scope 1) in Australia are the owners of coal fired power generators.



3.2 Broader Costs & Benefits

Reducing emissions will require a transition away from past practices and industries which are emissions intensive. The transition to a lower emissions economy will attract new investment to replace ageing infrastructure and society and business will have to do more with less and find low emission alternatives.

Such a transition will incur costs, but in many cases, it can be expected that in the long term there is an accrued benefit. Where energy efficiency can be deployed, for example, there is often an immediate benefit.

There is evidence that the current power generation sector already imposes a significant cost burden on society. For example, a study published in the American Economic Review estimated

that the health and environment costs of coal-fired generation are greater than the value of the industry to the US economy[vi].

The lesson from this research is that any assessment of the costs and benefits has to take into account the "social cost" of an industry, as the economic damage from an emissions' intensive industry can outweigh the economic benefits.

There has been substantial analysis on the social cost of carbon which should be considered in any analysis of the costs and benefits of reducing emissions. International estimates of the social cost range between A$42 and A$190 per tonne of CO_2 equivalent[vii,viii,ix,x].

Further, emissions intensive industries are benefactors of subsidies from the Federal and state governments. For example, the national subsidy for coal fired generation in Australia in the period in 2012-13 was estimated to be $3.6 billion[xi]. Subsidies such as these should be taken into account when considering the costs and benefits of reducing emissions.

3.3 Transition costs

Decarbonising the power generation sector will create additional costs. These costs will come in the form of:

- Augmentation of distribution and transmission assets;
- New (low emissions) generation capacity; and
- Loss of value in high emissions facilities and potential for stranded assets.

The recent review of the Renewable Energy Target provides some insights into the costs of transitioning the network and generation sectors, as discussed below.

The Government's expert review in August 2014[xii] determined that the network costs (i.e. costs to augment distribution and transmission assets) to achieve the large scale Renewable Energy Target (LRET) are considered low. Advice from the Australian Energy Market Operator (AEMO) indicated that extending the LRET to achieve 30% penetration of renewable energy would represent a second order level of costs. AEMO said:

> *"…there is likely to be some additional costs, though any such costs are expected to be of a much lower order than the consumer and investment costs being modelled by the panel…"*

It is interesting to note that transition of the generation sector can occur with little or no cost to the consumer. Analysis of the impact of wind generation in the National Electricity Market (NEM) between 2007 and 2012 indicates suppression in wholesale electricity prices of more than 10%[xiii]. Further, the Government's RET review[xiv] found that repealing the LRET, effectively stopping new capacity of renewable energy entering the NEM, would lead to an increase in prices to consumers beyond 2020.

In the case of the LRET, the transition is occurring at the expense of existing power generation owners, which mostly own and operate high emissions coal fired plant.

If the transition to a cleaner power sector is to occur, the value of existing high emissions plant must fall, to make way for new lower emission infrastructure. The existing generation fleet is aging where around 75% of existing thermal plant is greater than 25 years old and some 20% is more than 40 years old[xv]. The bulk of the existing thermal plant is therefore well beyond its technical design life. As many of these assets were procured during privatisation in the late 1990's and beyond, current owners might assert their assets have a value well above their depreciated cost. However, in any assessment of costs of mitigation in relation to asset values, the Authority should take into account the carbon risk that the willing buyer should have been aware of at the time of purchase. For example, in 1990, the Liberal Party under Andrew Peacock committed to a substantial greenhouse gas emission reduction target[xvi].

In Pacific Hydro's view the transition to cleaner more distributed networks will occur as new technologies with lower delivered energy costs increase their market share. For example there will

be more distributed generation, networks will likely balance rather than deliver energy, efficiency measures will continue to reduce demand and energy storage will eventually offer an alternative for grid connected customers. This transition will be more efficient if regulators, businesses and communities can rely on medium term targets which thereby inform markets of the likely phasing out of high emissions plant.

4. Energy Sector Considerations

Pacific Hydro is of the view that the competitiveness of Australian industries is, amongst other factors, dependent on the delivered cost of energy. Accordingly the most efficient transition to low emissions energy systems will provide the lowest energy prices in the long term.

The following subsections detail policy areas which Pacific Hydro considers are most important in achieving a least cost transition to a low emission electricity sector.

4.1 Policy cycles and infrastructure planning

Investment decisions on energy assets are inherently based on long term forecasts. Project developers firstly outlay an initial investment to prepare a project for a final investment decision, which can typically take between 2 to 10 years. At the time of the final investment decision, the investor will determine the return to shareholders over its economic life (normally around 25 years). Therefore, long term signals, such as emission reduction targets, are crucial to infrastructure planning and investment decisions.

It is also important for investors that targets, once set, are not subject to political interference. The recent UK party leaders' joint climate pledge is an excellent example of political leaders demonstrating commitment to action on climate change that will assist investors in making long term decisions.

4.2 Regulation

a. Emissions regulation

The power generation sector is currently oversupplied in Australia[xvii]. This is a result of a lack of long term policies which provide an incentive to remove high emissions plant. For example, the introduction of a carbon price resulted in a cleaner energy mix and lower emissions[xviii]. However, once removed, emissions in the power sector have started to rise again[xix]. Without policies which adequately regulate emissions the emissions intensity of the electricity sector will remain high and potentially oversupplied.

The absence of a carbon pricing signal can also result in unintended consequences. For example, gas fired generation, which was widely expected to become the dominant fossil fuel, due to its lower emissions intensity and flexible operation, has given way to higher levels of coal fired generation[xx]. This will result in a relative increase in the overall emissions intensity of the electricity network.

There has been much analysis of the best policy to regulate emission reduction in Australia. In Pacific Hydro's view a price on carbon remains the most effective policy mechanism for reducing emissions.

Although the price on carbon has been removed by the current Government, it remains the preferred policy supported by many commercial enterprises in Australia[xxi]. More recently the World Bank announced that seventy three national and 11 regional governments, responsible for 54 percent of global emissions, have expressed support for putting a price on carbon[xxii].

In the absence of an emissions' pricing signal, Pacific Hydro considers direct emissions regulation as the next best policy mechanism. For example, governments can regulate the closure of high emissions thermal plant, with reasonable warning, to effect an orderly transition. Such regulation can be based on emissions intensity, for example.

b. NEM objectives

Pacific Hydro is strongly of the view that the laws which govern the electricity sector and its markets should include a clear reference to emissions reduction in its objectives. Currently the National Electricity Law includes the following objectives:

"promote efficient investment in, and efficient operation and use of, electricity services for the long term interests of consumers of electricity with respect to -

(a) price, quality, safety, reliability and security of supply of electricity; and

(b) the reliability, safety and security of the national electricity system"

It is difficult to expect, for example, that efficient investment can occur when it is heavily influenced by emission constraint signals, such as long term emission reduction targets, carbon pricing or schemes like the Renewable Energy Target, while relevant laws and regulations do not take these into account.

In our view, the introduction of an additional objective to efficiently invest and operate electricity services to assist in achieving climate policy would guide institutions and rule makers, such as the Australian Energy Market Commission, to make decisions which represent holistic market reform. In the long term this will have the most efficient and cost effective outcomes, which are best for the competitiveness of Australian industries.

c. Planning rules

Planning rules for new energy infrastructure are managed at a state level, which results in variation across jurisdictions. However, across Australian states and territories, there is limited assessment of a project's projected emissions in the planning approval process. Recently a group of health stakeholders called for increased regulation, based on an assessment of the health and environment damages caused by energy infrastructure in the Hunter Valley in NSW[xxiii].

In Pacific Hydro's view it is important that state based policymakers review and reset planning regulations to ensure they are consistent with medium to long term emission reduction targets.

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