Presentation to the Asia-Pacific Partnership on Clean Development and Climate (APP)

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The Asia-Pacific Partnership on Clean Development and Climate (APP) brings together Australia, Canada, China, India, Japan, Republic of Korea and the United States of America to address the challenges of climate change, energy security, and air pollution in a way that encourages economic development and reduces poverty. This grouping represents around half of the world's emissions, energy use, gross domestic product and population. It is an important initiative that engages key greenhouse gas emitting countries in the Asia Pacific region. This speech by Mr Pierce was presented to the 3rd Energy Regulatory and Market Development Forum held in Sydney, Australia on 3- 5 November 2010. This forum is a project under the Power Generation and Transmission Task Force of the APP.

Introduction

Good morning ladies and gentlemen and let me add my welcome to this rather unique forum, which brings together so many important policy makers and regulators in the energy sector, from the Asia-Pacific region and further afield.

The Asia- Pacific Partnership on Clean Development and Climate has been in existence for about five years, so this is a good time to reflect on what has been achieved, as well as challenges for the future.

The Partnership was formed to facilitate voluntary co-operation in the sharing and diffusion of technologies that promote achievement of each countries' energy and climate change policies. There is an impressive list of projects being undertaken by the Partnership across the eight work areas. This illustrates the scope and benefits of sharing information and ideas on issues that underpin not just the energy sector but the direction and nature of economic development and its environmental impacts.

This Energy Regulatory and Market Development forum is one of the important projects within the Partnership that recognises the critical role that the market and regulatory frameworks play in the energy sector's ability to efficiently achieve the goal of a more sustainable use of the environmental resource upon which we all depend.

I am sure that over the next two days we will find that while there is much that differs in the market conditions and regulatory structures in our countries, there are lessons we can all learn, and common themes that we can draw on, as we undertake our respective roles at home.

In addition to the members of the Partnership, the involvement of the UK and New Zealand in this forum is particularly welcome given their experiences of liberalising energy markets alongside tackling environmental challenges.

Over the last 15 to 20 years there have been major changes in the Australian energy sector that reflect, I suspect many of the themes that we will hear from each country over the next two days.

The reform program that created Australia's National Electricity Market (NEM), and subsequently the emerging national gas market, has delivered substantial benefits to customers through more efficient risk allocation, productivity improvements, competition, continued strong investment and reliable supply.

This program however is not some mythical perpetual-motion machine. There are no 'set and forget' options. The laws of thermodynamics apply as much in the world of governments, policy makers and regulators as they do to the physical world.

The ability of our industry and regulatory structures to deliver the outcomes - the performance our populations value - requires a significant and continuous supply of time and effort by officials such as ourselves.

In the Australian context:

- the State Government of New South Wales is currently in the process of selling a number of its main energy sector businesses;
- an expanded Renewable Energy Target (RET) will come into effect next year;
- the Prime Minister's Task Group on Energy Efficiency has recommended a range of measures to deliver a step change in the take-up of energy efficiency measures;
- various approaches to demand management and the application of 'smart grid' technologies are being trialled and applied; and
- the Federal government has established a multi party parliamentary committee, which is due to report on the preferred form of a carbon price by the end of 2011.

These and other developments are occurring at a time when the Global Financial Crisis (GFC) and the subsequent impacts on the real economy have shaken the confidence of some in the resilience and effectiveness of markets and their associated regulatory structures to deliver affordable, reliable, efficient and environmentally sustainable supply and use of energy.

The Australian Energy Market Commission's (AEMC) work however is based on the proposition that such objectives cannot be delivered without harnessing competitive markets and market incentives.

In the current context, this view applies most directly to measures that Governments adopt to address climate change and the achievement of emission reduction commitments.

Market incentives do not operate within a vacuum and to work effectively depend upon:

- clear and consistent policy directions; and
- clear and consistent governance and regulatory arrangements

This is particularly important when the forces of economics and finance need to be reconciled with the laws of physics.

Where does the AEMC fit?

Australia's energy market governance framework is a reflection of:

- our federal system of government and the dominate responsibility for the sector resting with the States; together with
- recognition of the physical and economic interdependence of the States and the impact of the sector on the performance of the national economy.

Although the national electricity market started to develop in the early to mid 1990s, the current governance framework was established under an intergovernmental agreement signed in June 2004.

This agreement sets out the National Electricity and Gas Objectives as well as the role of the Ministerial Council on Energy and the institutional bodies that regulate and operate the markets.

The Australian Energy Market Commission was established as a statutory commission under its own Act to perform two principle functions:

- to make and amend the National Electricity and Gas rules; and
- to conduct reviews of the energy markets on behalf of the Ministerial Council.

Our statutory rule making and provision of advice is guided by the National Electricity and Gas Objectives which are also embedded in the National Electricity and Gas Laws.

These objectives are to:

> "Promote efficient investment in, and efficient operation and use of, electricity and natural gas services for the long-term interests of consumers with respect to price, quality, safety, reliability and security"

The interests of energy users – current and future – are therefore paramount to our decision making and provision of advice to the MCE.

The Australian Energy Regulator (AER), whose Chairman will speak to you next, implements the rules relating to economic regulation of the monopoly network sector and rule compliance and enforcement and functions.

The Australian Energy Market Operator (AEMO) is the wholesale market operator and has various planning, co-ordination and market information provision functions.

The challenge of climate change policy

Australia is now a signatory to the Kyoto protocol and has committed itself to a 5% reduction by 2020. The considerable scale of the task can be seen by reference to the contribution of the stationary energy sector to overall carbon emissions from Australia and the heavy reliance on coal fired generation capacity.

As is the case in most places, the choice of generation technology is primarily a reflection of the relative price and availability of the primary fuel sources which in Australia's case has lead to the dominance of coal. A complete technological transformation of the generation sector will be required if our emissions reduction commitments are to be met. Policies will therefore be required to effect this change, which will significantly test the responsiveness and robustness of energy markets.

The Australian Government is committed to ensuring that 20% of electricity comes from renewable sources by 2020. This is expected to require an additional 45,000GWh by 2020, or approximately 10,000MW of renewable generation capacity, against the level of renewable energy output in 1997. The Renewable Energy Target is divided between large and small scale generation, with a supplier or retailer obligation to achieve the target and an associated tradeable certificate scheme designed to promote investment in the most efficient forms of renewable energy.

Following the recent federal election the government has now appointed a multiparty parliamentary committee to advise it by the end of 2011 on how best to put an explicit price on carbon.

In addition to these federal policies we have a range of state based schemes, including for instance in New South Wales a base-line and credit emissions trading scheme, a gas target in Queensland, and in many parts of the country feed-in-tariffs for residential solar. There has however been some concern about the cost and efficiency of some of these schemes as a means to reduce emissions, and the burden they will place in the future on all customers.

The Prime Minister's Task Group on energy efficiency has recently issued its report with a range of recommendations for improving Australia's energy efficiency. Amongst the recommendations is an obligation on retailers to deliver a defined level of improvement in energy efficiency.

Climate change policies and deregulated energy markets

A range of carbon related policy measures are therefore being brought to bear on achieving our international obligation to reduce emissions by at least 5% on 2000 levels. This will present considerable challenges to competitive energy markets to operate effectively under these policy developments and continue to deliver energy policy objectives at minimum costs to consumers.

We consider these challenges emerge in three key areas in particular:

- Competitive investment in generation capacity.
- Demand side participation.
- Transmission investment and operation.

I expect these challenges are familiar to many of you in your particular countries.

Generation investment and adequacy

Both the electricity and gas sectors are entering a period when a higher level of investment will be required be that for adding to capacity replacing capacity approaching the end of its economic life or 're-tooling' the emissions intensity of the existing capital stock. In the electricity sector, estimates of the required generation investment over the next five years are up to $1.5 billion per year. The global financial crisis and uncertainty over the scope and form of climate change policies may affect the volume and form of generation capacity entering the NEM. This can happen in two ways.

First, uncertainty over a future carbon price may encourage participants to delay investment and where they do invest, choose less risky smaller scale options, which do not require a carbon price to be financially viable. However, this may lead to a technological pathway which is higher cost once a more broad ranging carbon policy is introduced.

Second, capital market conditions as a consequence of the GFC, particularly when combined with uncertainty over climate change policies, may mean only large participants with strong balance sheets, or diversified portfolios, will be able to attract cost effective funding. This creates the risk of a less competitive market structure over time. In recent years investment in new generation capacity has been concentrated amongst a smaller number of larger vertically integrated companies, with relatively few projects undertaken by independent generators. If this trend continues it could have implications for the degree of competition in the market and the liquidity of the contract markets.

Another important issue is that a large proportion of the new low carbon investment requirement will come from intermittent capacity, such as wind. This will test system operation, but also more volatile prices may make some investment decisions more difficult. We have already seen periods of very high and very low, negative, spot prices as a result of wind penetration in the NEM.

The market in South Australia will be an important test case in this regard, since with 17% of overall generation capacity coming from wind it already has one of the highest penetrations of wind capacity in the world. We understand that only the Danish market currently has a higher percentage penetration.

All stakeholders, including Government, recognise that we need greater certainty about whether, when and how a carbon price will apply so that investors can enter the market with confidence.

Demand side participation

Thus far, demand side participation is an underdeveloped component of energy markets in many parts of the world, including Australia.

The benefits from more flexible demand may be higher when there is a greater level of intermittency in supply. A price on carbon will also increase the value of demand side participation (DSP) and energy efficiency. Demand side participation and energy efficiency measures have the potential to make a significant contribution to lowering carbon emissions. Importantly, the evolution of "smart grids" and two way communication systems between consumers and suppliers substantially increases prospects for demand side participation. Consideration of efficient approaches to the adoption of these technologies is therefore timely.

A number of state governments in Australia have already committed to requiring retailers to introduce smart meters into homes and businesses and the potential for smart grids is also being evaluated through a number of initiatives. However, without appropriate technical, contractual and regulatory arrangements, the full benefits of these technologies may not be harnessed. Similarly, there are a range of largely state based support schemes for small scale renewable energy projects, which are likely to encourage a significant increase in the scale of embedded generation. Although there have been changes to network charges to help ensure that such generation is appropriately rewarded for the reductions in network reinforcement that it helps avoid, it will be important to continue to ensure that the framework evolves to allow timely connection of such generation and provide appropriate financial rewards.

It is important to recognise that the potential value from demand side participation, being able to monitor and control individual loads in real time, runs right through the supply chain.

The key role for the AEMC is to identify and remove barriers to effective demand side participation across the supply chain, but in a more pro-active manner, to also identify the preconditions and actions that would need to be undertaken to improve the productivity and efficiency of the whole market. While the demand side represents an opportunity, it is important to recognise that demand side participation will only have a systemic and lasting impact if customers see value in it for themselves.

Network investment and operation

The RET will change the economics of generation and gradually move us towards a mix of plant that includes more renewable energy and less coal.

Renewable energy will generally need to locate in different areas compared to where generation has located traditionally, because of different fuel resource requirements. This will raise challenges for our transmission systems, given the geographical spread of the NEM and its existing transmission system.

The AEMC is currently reviewing the framework in Australia to identify areas where improvements to the co-ordination of generation and transmission investments could be made. We want to make sure that congestion and connection costs are kept at economically efficient levels from a total system perspective. We are looking at approaches to transmission in other countries to inform our review. We very much have an open mind at this stage. The current rules have connected a lot of wind generation in South Australia, so they can deliver additional connections, but we want to be sure that the framework will continue to minimise costs for customers.

Concluding remarks

The deregulation of Australia's energy markets over the last 15 to 20 years has delivered competitive outcomes with reliable supply. Addressing climate change will require transformative change to the way energy is sourced, distributed and used, and will 'stress test' the ability of liberalised energy markets, its regulatory structures and institutions to continue to deliver efficient outcomes for consumers.

It is therefore vital that climate change policies are designed and most importantly - implemented - in a way that makes the most use of market incentives to deliver the investment, innovation and competition required to ensure that the climate change policy objectives are achieved in the manner that is in the best long-term interests of consumers.

Thank you.