Australia’s climate policy options – some key power sector considerations

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Australian energy policy objectives

Providing secure, affordable and sustainable energy is critical to maintaining Australia's prosperity. For this reason the Government is committed to finalising an Energy White Paper in 2012.

As one of only three net energy exporting OECD countries, Australia is well positioned with many sources of energy to support our domestic requirements and the creation of jobs and income from export opportunities, particularly in the Asia Pacific region. With almost 20 per cent of OECD gas reserves, we must ensure that our energy resources are developed efficiently and sustainably in order to optimise the overall benefit for the Australian community.

The Government recognises that the energy sector is currently facing major challenges. Australia's economy is growing strongly, and demand for Australia's energy – both domestically and for export – is also growing strongly. However, this growth also creates competition for inputs, in particular skilled labour, putting upward pressure on prices of energy. Furthermore, increasing the importance of replacing ageing energy assets, increasing generation and transmission capacity and thereby ensuring continued reliability of supply.

Possible climate policy implications: Join the queue.

Climate policies are complementary policies

Continued security of, and access to a competitively priced energy supply for households and industry is a critical priority. Alongside this, Australia needs to continue the transition to a low emissions and environmentally sustainable economy. This will require the development and deployment of new and cleaner low emission technologies supported through actions such as the introduction of a price on carbon.

The Energy White Paper will deliver a clear and robust whole-of-government policy framework to provide certainty for investors as well as reliability and security for the energy market.
Environmental externality costs likely outweigh direct costs; both likely outweighed by social externality benefits

<table>
<thead>
<tr>
<th>Environmental Externality Costs</th>
<th>$/MWh Estimate</th>
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<tbody>
<tr>
<td>Coal-fired generation in NSW (2009-10) Note: supplying &gt;90% of state electricity</td>
<td>Direct Long Run Marginal Cost (new SC plant)</td>
</tr>
<tr>
<td>Direct Short Run Marginal Cost (fuel, variable O&amp;M)</td>
<td>$10-14 (Acil Tasman as above)</td>
</tr>
<tr>
<td>External Health damage costs (PM10, SOx, NOx)</td>
<td>$13 (mid-range estimate of ATSE Externalities Study, 2009)</td>
</tr>
<tr>
<td>External Climate Change damage cost</td>
<td>$65 (using Stern Review estimate of $75/tCO2)</td>
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Possible climate policy implications: does this look like a traditional ‘externalities’ problem?
Overall objective for the NEM (NEL Sec. 7)

The national electricity market objective is to promote efficient investment in, and efficient use of, electricity services for the long term interests of consumers of electricity with respect to price, quality, reliability and security of supply of electricity and the reliability, safety and security of the national electricity system.

- Are all objectives reflected in market design?
  - One reason there is effective competition in the Victorian Retail Market is “Because the provision of energy is viewed as a homogenous, low engagement service “  AEMC, Effectiveness of Competition in Victoria, 2008

Possible climate policy implications: energy efficiency adversely impacted by disfunctional retail markets

- Lack of env. and wider sustainability objectives a design choice
  - As government desires that NEM contributes to achieving such objectives must implement ‘external’ policies to drive changes

Possible climate policy implications: not an imposition on participants but an obligation – role of NEM then to facilitate necessary changes
**NEM has successfully integrated significant wind to date**

<table>
<thead>
<tr>
<th>Period</th>
<th>All wind farms ($/MWh)</th>
<th>All other generators ($/MWh)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Financial year 2008-9</td>
<td>46.6</td>
<td>73.5</td>
</tr>
<tr>
<td>Financial year 2009-10</td>
<td>47.4</td>
<td>90.1</td>
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Possible climate policy implications: NEM appears to be effectively managing changes well beyond potential impacts of a ‘modest’ carbon price. But is the NEM ‘fit for purpose’ for transformation – e.g. near complete decarbonisation by 2030.
Managing security + reliability

*Maintaining NEM security has priority over commercial arrangements – widespread industry failure is not an option.*

- Carefully designed interface between market and centralised security regimes
  - Price can range from -$1000 to $12,500 / MWh (for brief periods)
- If system security or reliability of supply threatened, AEMO has authority to use
  - Security and Reliability Directions
  - Load Shedding
  - Reserve Trading

Possible climate policy implications: **Robustness is critical:** where is the security regime to ensure we can achieve desired climate objectives even if particular favored policies fail? Might this require policy ‘portfolios’ to manage risk?
NEM Governance

- Very high transparency in market operation
  - all participant physical and market behaviour is public (ex-post), market event reports, projections over weeks to decade timeframes.
- Formal separation of powers and interfaces between policy making, rule making, operation and enforcement
  - MCE, AEMC, AEMO, AER and ACCC
- Rules for changing the rules
  - Any party can propose a rule change at any time; triggers a formal process with high transparency and consultation

Possible climate policy implications: Serious governance the key to effective and efficient market-based policy approaches;
- High transparency with significant disclosure obligations to help us know – is it working? for whom?
- Robust against the rent-seekers (often incumbents)
- Fixable: “market and investor’ certainty should never over-ride necessary repairs and improvements

NEM governance appears far more robust than that for some other key environmental markets to date including MRET/eRET, NSW GGAS