

Modelling illustrative electricity sector emissions reduction policies

Overall the consultation paper is well prepared, clear and addresses the key areas. The policy options to be considered cover the range of available choices, and the descriptions of how the policies will be treated are mostly good. Model descriptions and tables of assumptions are comprehensive.

Key concerns:

- Policy 4 description is not clear – it appears that all generators with emissions above a threshold are required to gradually decrease their emissions – presumably resulting in many existing plants operating at sub-optimal capacity factors. This appears to be illogical and very unlikely to be a good option – is this option therefore worth pursuing?
- The model descriptions are fine, but a key element that is missing is evidence of track record. How have the models been tested and validated? Are there any publications, peer reviewed or otherwise, that could be used to gauge the reliability of these models?
- As always, there are a large number of assumptions such as future costs of various technologies and fuels. These costs are quoted to several significant figures (i.e. Tables 3 & 4) where fairly uncertain numbers should be rounded to the nearest round figure, i.e. Black coal with CCS at \$7877/W should be just \$7900/W. In an ideal world uncertainty ranges for each assumption should be provided, and an ensemble of simulations should be run with combinations of values within those ranges used to test the sensitivity of those assumptions.
- Regarding costs for nuclear power, it would be prudent to include consideration of the experience of the current Gen III nuclear build in Finland where costs for a 1.6GW plant have blown out to 8.5 billion euro = \$AUD8700/kW. (see <http://www.world-nuclear.org/info/Country-Profiles/Countries-A-F/Finland/>).

I hope these suggestions are useful for refining the scope of the consulting work.