

# Senate Standing Committee on Economics

## ANSWERS TO QUESTIONS ON NOTICE

### Treasury Portfolio

### Additional Estimates

23 – 24 February 2011

Question: AET 174

Topic: Climate Change Modelling Outside Treasury –  
Market Mechanism against Action Mechanism

Hansard Page: E 103

Senator Cameron asked:

**Senator CAMERON**—Okay. In terms of the overall economy, have you done any analysis that can demonstrate the benefit of a market mechanism against this direct action mechanism—that is, government just taking money out of the budget and handing money over for projects to the polluters and saying, ‘Do your best?’ Have you done any analysis on that?

**Ms Quinn**—We have not undertaken any economic modelling evaluating those two alternative schemes at this moment.

**Senator CAMERON**—Do you know if there is any modelling outside of Treasury?

**Ms Quinn**—There has been some discussion about alternative schemes, as I mentioned earlier. There are other organisations that have reviewed the competing schemes. The OECD has done an analysis of some schemes as well—the different types of regulatory versus market based mechanisms—and they have concluded that market based mechanisms are a more efficient way to reduce abatement. I am happy to take it on notice and provide some of those reports for your consideration.

Answer:

Economic analysis and modelling work looking at the relative merit of alternative policy mechanisms for achieving greenhouse gas abatement has been undertaken by a number of international and domestic organisations.

OECD, *The Economics of Climate Change Mitigation*, Paris: OECD, 2009.

The OECD analysed the pros and cons of national and international policy instruments to tackle climate change. It found that ‘[t]he core of a cost-effective policy package is putting a price on [greenhouse gas] emissions through carbon taxes, emission trading schemes (e.g. cap-and-trade systems), or a hybrid system combining features of both. This encourages emitters to look for and implement the cheapest abatement options’ (p.54).

[http://www.oecd.org/document/56/0,3746,en\\_2649\\_34361\\_43705336\\_1\\_1\\_1\\_1,00.html](http://www.oecd.org/document/56/0,3746,en_2649_34361_43705336_1_1_1_1,00.html)

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Productivity Commission, *What Role for Policies to Supplement an Emissions Trading Scheme?: Productivity Commission Submission to the Garnaut Climate Change Review*, May 2008.

The Productivity Commission has argued that broad market-based mechanisms, such as an emissions trading scheme, are most likely to achieve emission reductions at lowest cost to the economy and community (p. XI). More targeted, supplementary measures will generally be more costly, unless they (i) address spillovers associated with research and development, (ii) address information barriers that may prevent the uptake of efficient technologies, or (iii) address gaps in the coverage of an emissions trading scheme (p. XIII).

<http://www.pc.gov.au/research/submission/garnaut>

Centre for International Economics (CIE), *Review of the proposed CPRS*, prepared for the Menzies Research Centre, April 2009.

The CIE found that a large body of research has led to the conclusion that price based measures for targeting mitigation provide the most flexible and effective policy mechanisms for encouraging mitigation (p.9). If Australia is to reduce emissions (as part of an international scheme), establishing a carbon price must be central to any policies to do so. There are a very large number of ways to reduce emissions. Only price based policy mechanisms allow the choice to be made in an economically efficient way. There are a number of ways of establishing such a price: a tax, an emissions trading scheme or a hybrid of taxes and trading.

[http://www.liberal.org.au/\\_docs/CIEReviewOfCPRS.pdf](http://www.liberal.org.au/_docs/CIEReviewOfCPRS.pdf)

Ross Garnaut, *Update Paper 6: Carbon Pricing and Reducing Australia's Emissions*, March 2011.

Ross Garnaut argued that economy-wide pricing of carbon is the centre piece of any policy designed to reduce emissions at the lowest possible costs (p.2). The difference between the costs, and potential environmental outcomes, of market-based measures and regulatory interventions is large. The regulatory approach would require governments to have a lot of information about individuals' and firms' responses to regulation, and the welfare costs of those interventions (p.8).

<http://www.garnautreview.org.au/update-2011/update-papers/up6-key-points.html>

Resources for the Future and the National Energy Policy Institute, *Toward a New National Energy Policy: Assessing the Options*, Washington, DC: Resources for the Future, 2010.

Regarding the United States economy, Resources for the Future and the National Energy Policy Institute modelled the costs of a range of policy options and concluded that a cap-and-trade style emissions trading scheme provides the most cost effective way to reduce domestic energy-related CO<sub>2</sub> emissions (p. 142). Although there are some small-scale policies with lower average cost per ton of CO<sub>2</sub> reduced, their average cost would be higher if they could be scaled to deliver the same magnitude of reductions in CO<sub>2</sub> as the emissions trading scheme that was modelled.

<http://www.rff.org/toward-a-new-energy-policy>

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HM Treasury, *The Economics of Climate Change: The Stern Review*, Cambridge University Press, 2007.

The Stern Review considered a range of policy responses for climate change mitigation and found that, in general, it is preferable to tax negative externalities rather than subsidise preferable outcomes (p.389). It noted that carefully targeted provision of direct financial incentives could be appropriate where there is capital market failure, technology market failure, or to achieve wider policy objectives such as the provision of information to consumers.

[http://webarchive.nationalarchives.gov.uk/+http://www.hm-treasury.gov.uk/sternreview\\_index.htm](http://webarchive.nationalarchives.gov.uk/+http://www.hm-treasury.gov.uk/sternreview_index.htm)

Productivity Commission, *Carbon Emission Policies in Key Economies*, Research Report, June 2011.

The Productivity Commission identified more than 1000 carbon policy measures in the nine countries studied, ranging from (limited) emissions trading schemes to policies that support particular types of abatement technology. It concluded that the cost effectiveness of these actions in achieving abatement, and the amount of abatement actually achieved, varies widely, both across programs within each country and in aggregate across countries. Explicit carbon pricing, such as is in place in the United Kingdom, appears to have been a cost-effective way of achieving considerable abatement.

[http://www.pc.gov.au/\\_data/assets/pdf\\_file/0003/109830/carbon-prices.pdf](http://www.pc.gov.au/_data/assets/pdf_file/0003/109830/carbon-prices.pdf)