



EERHPOLICYBRIEF

“Yes we can ...” : Carbon pricing through emissions trading with a price floor

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Carbon pricing remains the foundation of efficient climate policy. A price floor could be a useful future Australian emissions trading scheme reform. It can also be compatible with carbon pricing before full emissions trading. Price floors feature in both US and UK legislative proposals.

The Australian Government has committed Australia to reduce its greenhouse gas emissions by 5 to 25 per cent below 2 000 levels by 2020. Even the lower end of the range is a significant task in the face of strong underlying energy use and carbon emissions growth. Without a carbon price, these targets will be difficult to achieve, and ad-hoc policy interventions are likely to come at higher economic cost.

A floor price on emissions is one of the many possible reform elements to previously proposed legislation for emissions trading in Australia.

Price floors to manage uncertainty

Under emissions trading with a price floor, government sets an emissions target but also specifies and enforces a minimum carbon price.

Such a 'hybrid' approach provides more certainty about the carbon price than a pure emissions trading scheme (ETS). Hybrid approaches can also have a ceiling (or cap) on the carbon price, preventing the carbon price going above a certain level, and allowing emissions to go above the targeted level. Economic analysis suggests that hybrid approaches are more likely to achieve an efficient mitigation response under uncertainty (Roberts and Spence, 1976; Philibert, 2009), although there can be complex interactions with international linkage of emissions markets (Jotzo and Betz 2009).

Price floors automatically provide an incentive for further emission reductions if the costs of emission reductions are lower than expected, thus improving economic efficiency and reducing cost uncertainty. They can also improve the investment climate for clean technology. A problem for investors in low-carbon facilities is that future carbon price uncertainty increases investment risks. Credible policy measures for price floors under emissions trading reduce these risks.

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Price floors can be compatible with banking and borrowing of emission allowances, which also tend to reduce carbon price volatility. The design and implementation of price floors influences their effects on expected prices, public budgets, and to what extent they are compatible with international trading of permits (Wood and Jotzo, 2009).

Price floors in US and UK legislative proposals

Price floors are being proposed in both the US and the UK. They also exist implicitly in countries where both a carbon tax and emissions trading are in place.

The **American Clean Energy and Security Act** – also known as the Waxman-Markey Bill – stipulates emissions trading with a reserve price when emission allowances are auctioned. The reserve price starts at US\$10 per tonne of carbon dioxide and increases by 5 per cent above the rate of inflation each year. If enough permits were auctioned, rather than given out for free and international permits were not available at cheaper prices, this would provide a floor price.

The **American Power Act** – also known as the Kerry-Lieberman Bill – stipulates a reserve price when emission allowances are auctioned. The reserve price starts at US\$12 per tonne and increases by 3 per cent per year above the inflation rate.

Neither bill is likely to be passed in the immediate future by the US Senate, but together they send a clear signal about the likely inclusion of price floors in US carbon pricing legislation if and when it comes into effect.

The UK government is planning to introduce a price floor using a different mechanism. The UK proposal is a version of the 'variable fee' approach described by Wood and Jotzo (2009). The UK takes part in the EU emissions trading scheme. A minimum carbon price in the UK would be implemented by charging carbon emitters an extra fee (known as the 'reformed Climate Change Levy'), at a level yet to be determined. Firms would be able to offset the costs of purchasing ETS allowances against their liability for the Levy. If the EU ETS price is above the level of the Levy no net charge would be payable; if it is below, the difference would be paid through the Levy to the Treasury.

Several countries that take part in the EU ETS also have a carbon tax, including Sweden, Finland, and the Netherlands. In those countries, the effective carbon price is the sum of the EU allowance price and the tax, so the carbon tax functions as a price floor.

Possibilities for implementation in Australia

A price floor could be implemented in Australia if and when emissions trading legislation is re-introduced. One option would be to amend the now mothballed Carbon Pollution Reduction Scheme (CPRS, 2009) legislation to feature a reserve auction price (as under US legislative proposals) by amending the provisions on 'policies, procedures and rules for auctioning Australian emissions units'.

Alternatively, firms could be required to pay an additional levy for each tonne of emissions when they surrender a permit. This change could be made within the draft legislation's section on 'how eligible emissions units are surrendered'. The fee could be variable depending on the price of permits, kicking in only when permit prices fall below the floor level, or it could be a fixed fee (Wood and Jotzo 2010).



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Yet another option to provide greater certainty about prices and costs is to start emissions trading with a fixed price. In this case, the government sells an unlimited number of time-limited emissions permits at a set price. Suggested by Professor Garnaut (2008) for the initial years of emissions trading, this approach was featured in the May 2009 revision to the CPRS and has been supported by the opposition Greens party.

Plans for the CPRS have been shelved, yet new Prime Minister Gillard has stated that Australia needs a carbon price after establishing 'community consensus'. Policy approaches that provide carbon price signals independently of the CPRS are clearly of interest to policy makers.

With the **National Greenhouse and Energy Reporting Act (2007)** now in place, Australia has the technical and administrative basis to charge emitters a levy or tax for each tonne of emissions. In the absence of emissions trading, this would function as a carbon tax. If emissions' trading is introduced later, the levy could cease, or it could continue and function as a floor price.

Further reading

Garnaut, R. (2008), 'The Garnaut Climate Change Review', Cambridge University Press and www.garnautreview.org.au, Chapter 14.

Jotzo, F. and Betz, R. (2009), 'Australia's emissions trading scheme: opportunities and obstacles for linking', *Climate Policy*, vol. 9, pp. 402-414; earlier version published as Environmental Economics Research Hub Research Report No. 14.

Philibert, C. (2009) 'Assessing the value of price caps and floors', *Climate Policy* 9, 612-633.

Roberts, M. J. and Spence, M. (1976) 'Effluent Charges and Licenses under Uncertainty', *Journal of Public Economics* 5, 193-208.

Wood, P. J. and Jotzo, F. (2010) 'Price Floors for Emissions Trading', Environmental Economics Research Hub Research Report No.36.

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