

How to Allocate Emission Permits and How to Spend the Revenues

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A key issue in the design of an Emissions Trading Scheme (ETS) for Australia, and discussed in detail in the 20 March Garnaut Emission Trading Scheme Discussion Paper, is how emission permits will be allocated. Given that the value of these permits have been estimated to be worth between \$7-\$25 billion, both how permits are allocated and how revenues from emission permits are utilised by the Australian government has major socio-economic consequences.

Economics of Revenue Recycling

The Garnaut Emission Trading Scheme Discussion Paper argues that all emission permits be auctioned so as to avoid 'rent-seeking' behaviour by emitters to acquire a share of the windfall gains. The report also suggests that the returns from auctioning permits can be used for various purposes such as to improve the productive capacity of the economy, help trade-exposed and emission-intensive industries and to assist low-income households who will suffer relatively the most from increases in energy costs. If, however, emission permits are auctioned then the revenue it generates must also create its own rent-seeking from those who wish to benefit from increased transfer payments, larger subsidies, special 'relief' for carbon-disadvantaged firms and industries, etc. One way to reduce such rent-seeking on the revenue side is to allocate all the rent captured from the sale of emission permits to reduce distortionary taxes. This potential use of the revenues (that is, reduce distortionary taxes) is not included in the list of possible ways to utilise emissions permit revenues in the Garnaut Emissions Trading Scheme Discussion Paper.

A possible way to proceed in using the revenues from emissions permits is for the Australian Government to commission the Australian Treasury to prepare a list of the most welfare-distorting taxes and the amounts of revenue they currently collect. This list would form the basis of what taxes would be reduced or eliminated free from interference of special interests. By beginning with the most distortionary taxes first, and then working down the list, the revenues from emission permits would be used in

the most effective way to reduce welfare distortions in the economy. Apart from the payoffs of reduced rent seeking from such an approach, the so-called 'revenue-recycling' literature (Bovenberg and de Mooij 1994; Bovenberg and Goulder 1996) suggests that the welfare costs of introducing an ETS would be lower (although still positive) if the revenues were recycled to reduce existing distortionary taxes rather than allocated in ad hoc 'hand outs'. Given the very large sums of potential revenues involved, not to reduce existing distortionary taxes from the revenues associated with emissions permits would be to walk away from a once-in-a-lifetime-opportunity to reduce distortions in the economy and generate benefits for all Australians.

Emission Permits and Charges

Using revenues from an ETS to reduce distorting taxes does not require emission permits to be auctioned. Indeed, there are good economic reasons to allocate permits free of charge to large polluters but simultaneously impose an emissions permit rental charge to capture most of the windfall gains (Grafton and Devlin 1996). An emissions permit rental charge would be set as a percentage of what the market price of emission permits would be without a charge. This charge multiplied by the permit holdings of emitters would be used to calculate an amount that would need to be paid by each emitter to the Australian government on a quarterly or annual basis.

The important difference with using an emission permit rental charge compared to auctioning permits is that the permit price would fall by an amount equal to the percentage charge paid per permit. The reason an emission permit rental charge would reduce the market price of permits is because prospective purchasers of permits would be obliged to account for the stream of taxes to be paid when determining how much to pay for a permit. This is not the case if all permits are auctioned as there would be no tax liability attached to holding emission permits.

The longer is the duration of emission permits, the more their price will reflect future opportunity costs which are capitalised in the permit price and, thus, the bigger the absolute reduction in the market price of permits from the use of an emissions permit rental charge. However, even when permits of limited duration and denominated as annual emissions, as proposed in the Garnaut Emission Trading Scheme Discussion Paper, there may still be difficulties in borrowing funds by large polluters to pay for permits that are auctioned annually. If this were the case, then a quarterly assessed

emissions permit rental charge coupled with an initially free allocation of permits may be preferable to 100% auctioning of annual emissions permits

Lowering the market price of emission permits with an emissions permit rental charge offers several benefits. First, with the sub-prime crisis or ‘credit crunch’ some large emitters may find it difficult to raise the funds to buy permits that are auctioned, especially if such permits are valid over several years. Second, with imperfect capital markets a high permit price erects an additional barrier to entry and competition in the energy industry. Third, the higher is the market price of permits the greater is the incentive for speculative trading that can result in under (and over) investment in emissions control. Fourth, an emission permit rental charge does not distort economic behaviour and, relative to other methods of capturing windfall gains (such as a profit charge, output or input charge), favours polluters with the lowest emissions per unit of output (Grafton and Devlin 1996). Depending on the actual emissions trading scheme (especially the duration of the permits) these benefits listed above could more than offset the transactions costs associated with the initial free allocation of emissions permits to large polluters.

Coupling an emissions permit rental charge with an initially free allocation of permits to large polluters can offer the best of both worlds. It generates revenues for the Australian government that should be used to reduce distortionary taxes and, thus, improve overall welfare. It also mitigates the potential pitfalls that can arise with the 100% auctioning of emission permits.

References

Bovenberg, A. L. and de Mooji, R.A. 1994. Environmental Levies and Distortionary Taxation. *American Economic Review* 84(4): 1085-1089.

Bovenberg, A. L. and Goulder, L.H. 1996. Optimal Environmental Taxation in the Presence of Other Taxes: general Equilibrium Analyses. *American Economic Review* 86(4): 985-1000.

Grafton, R.Q. and Devlin, R.A. 1996. Paying for Pollution: Permits and Charges. *Scandinavian Journal of Economics* 98(2): 275-288.