6 Better climate, better tax

I WAS FLYING back across the Pacific from the United States when a friendly face appeared in what had been an empty seat alongside me. 'I got a lot out of reading your report on climate change', said the chairman of one of Australia's largest greenhouse gas emitters, formerly chief executive officer of another. 'But I have a question. Why did you go for an emissions trading scheme and not a carbon tax? There's going to be such a fight about free permits for trade-exposed industries because everyone can see exactly what's happening. With a carbon tax, you could just make the exemptions and everyone would forget about them, just like all the other tax exemptions.'

Well, I don't think it would have been quite like that. Apart from anything else, I saw my job as making sure that Australians understood the implications of policy decisions that were eventually taken. Every dollar of revenue from carbon pricing is collected from people, in the end mostly households, ordinary Australians. Most of the costs will eventually be passed on to ordinary Australians. Every dollar handed out for one purpose is not available for something else. Here we discuss the best uses of the carbon revenue.

The carbon price is the central element of a set of policies that will secure large reductions in Australia's emissions at the lowest cost to the Australian economy. In addition, unlike regulatory or direct action measures, a market-based mechanism can collect revenue in a way that is more efficient than some existing taxes, for use in raising productivity, promoting equity, encouraging innovation in low-emissions technology, providing incentives for sequestration in rural Australia, and easing the transition for trade-exposed industries.

Using direct action measures to achieve a similar amount of emissions reduction would raise costs much more than carbon pricing, but would not raise the revenue to offset or reduce the costs in any of these ways. The costs might be covered by budgetary expenditure, but this affects who pays the costs, not whether the costs are there. Other people's taxes have to rise to pay for expenditures under direct action.

In the long run, households will pay almost the entire carbon price as businesses pass carbon costs through to the users of their products. Various owners of business assets involved in international trade might carry part of the costs through a transition period; but, again in the long run, only business owners who earn 'rents' from natural resources or control of monopolies would have their incomes diminished.

It might seem appropriate, therefore, to pass on all revenues from carbon pricing to households as tax cuts and in other ways. But there are other claims on part of the revenue that carry larger benefits to Australians in the early years. Later, it is appropriate for the share of revenue being passed on to households to rise.

For the revenue that is passed on to households, the way in which it is applied has large implications for economic efficiency. We can substantially reduce the economic cost of reducing emissions by using the revenue from a carbon price to replace inefficient taxes.

It is sometimes suggested that providing households with assistance would cancel out the benefits of introducing a carbon price. It is said that, if we impose a carbon price that costs a household $100 and then provide that household with a tax cut worth $100, nothing has changed. These suggestions are wrong. The carbon price, even with the tax cut, alters the relative prices of more and less emissions-intensive goods and services. High-emissions goods become more expensive relative to low-emissions goods. Demand for the former falls, while demand for the latter rises. And putting a price on emissions encourages producers to use less emissions-intensive processes to produce goods and services.

For example, electricity—being relatively emissions-intensive in current circumstances—will rise relative to other prices with the introduction of a carbon price. A household facing a higher electricity bill will have an incentive to reduce its electricity consumption over time. If the household receives money through a tax cut to cushion the impact of higher electricity prices, there is no reason why it will spend all of this assistance on electricity. The household can be expected to spend the tax cut on a range of goods and services, guided by prices that take into account the costs of emissions. Regardless of the assistance, electricity will still be relatively more expensive, so electricity consumption can be expected to fall over time.

The success of a carbon price in altering the relative prices of more and less emissions-intensive goods depends crucially on the nature of the assistance provided to households. If assistance is directly linked to the consumption of relatively emissions-intensive goods (for example, rebates related to the amount of electricity used), then it will remove the incentive for the household to switch away from more emissions-intensive goods and towards less emissions-intensive goods. A tax or social security adjustment would not discourage households, now facing relative prices that reflect the socials costs of the goods they consume, from lowering their emissions.

Benefits of tax reform

A carbon price of $26 per tonne of carbon dioxide equivalent would generate around $11.5 billion in potential revenue from the value of permits in 2012–13.

The amount of revenue rises with the carbon price, but falls as emissions decrease. The revenue from a carbon price is expected to rise for a decade or so. In the longer term, the revenue from a carbon price will stabilise and then start to decline as a result of steady falls in emissions eventually overcoming the rise in permit prices.

A carbon price has some short-term negative effects on productivity growth and incomes—although less than direct action that secures similar reductions in emissions.

The modelling for the 2008 Review, and the Treasury modelling for the Rudd government's Carbon Pollution Reduction Scheme, ignored the benefits to productivity and incomes that could be secured by judicious use of the revenue from the carbon price. Carbon price revenue can be used to improve the tax system through reducing tax disincentives to work.

Other modelling has found that tax reform could offset a substantial share of the fall in rates of growth in incomes resulting from a carbon price. Analysis updated for this book shows that using carbon price revenue to fund well-designed tax reform could halve the impact on GDP of achieving the minus 5 per cent emissions reduction target in the period to 2020. Another way of looking at the results is that well-designed tax reductions allow Australia to achieve a minus 15 per cent emissions target in 2020 with around the same projected economic costs as achieving a minus 5 per cent target without reductions in income tax.

It should not be surprising that the benefits of well-designed tax reform are substantial. Economists and others have been calling for reforms along these lines for more than a decade—calls that have been echoed in the 2010 Henry tax review.

A large part of the gains in national income from tax cuts comes from increased participation in the labour force and employment. The gains extend beyond the effects on incomes: increases in employment are intrinsically valuable, enabling individuals to contribute and be valued in additional and important ways.

Existing taxes (including income tax, savings tax and indirect taxes) reduce incentives for some people to participate in the workforce. Low-income earners, for example, are typically more sensitive to tax rates

than high-income earners. Decisions by mothers on whether to undertake paid work are particularly sensitive to their effective tax rate. The introduction of a carbon price to reduce emissions without a reduction in other taxes would result in less growth in real wages, thereby reducing work incentives further. Reduction of emissions to the same extent through regulatory action would reduce incentives by even more.

On the other hand, the introduction of a carbon price with a judicious reduction of other taxes may actually increase work incentives.

This suggests that there is a substantive case for linking 'revenue-positive reforms' (carbon pricing) with 'revenue-negative reforms', such as reductions in high effective marginal tax rates and associated disincentives to labour market participation.

Dividing the pie

Efficiency and equity objectives would be well served by allocating much of the revenue to reducing personal income tax rates on households at the lower end of the income distribution. This could be the kind of tax and social security reforms envisaged in the Henry review. Such an adjustment would increase incentives to participate in the labour force at a time when Australia faces shortages of labour and inflationary pressures. There can be a substantial reduction in the disincentives to work created by the interaction of taxation and the withdrawal of pensions and benefits.

Second, for those low-income households that do not stand to benefit from tax cuts, adjustments could be made to indexation arrangements for pensions and benefits that protect against disproportionate increases in the prices of particular goods and services that these households consume in unusually high proportions. Full compensation and not overcompensation should be the objective.

Third, any additional inequities would need to be corrected by targeted support for households with exceptional energy requirements for health and other reasons.

Fourth, part of the revenue should be used for firms or the carbon pricing scheme regulator to purchase carbon credits from the land sector.

Fifth, there is a case for assisting the trade-exposed industries to an extent that offsets the effects on product prices of other countries having carbon constraints that impose lower costs than Australia's.

Petrol prices

There have been considerable concerns about the distributional effects of increases in petrol prices associated with carbon pricing, particularly for those living in outer suburban and regional areas. It is not obvious how these effects can be simply compensated at reasonable transactions costs. They are actually small in relation to incomes and compared with the effects of variations in world oil prices.

In the meantime, the increase in petrol prices following the introduction of a carbon price could be offset through a one-off reduction in petrol excise, funded by other tax adjustments that had similar or larger positive effects on emissions. The cost of a one-off reduction in excise at the time of introducing carbon pricing could be covered by reform or abolition of the preferential treatment of the fringe benefits tax arrangements related to private vehicle use, and the reduction in other subsidies for fossil fuel consumption.

The fringe benefits arrangements were identified as being highly distortionary by the Henry review. Under these arrangements, the taxable value of a car's fringe benefit falls at specific intervals as the distance driven increases. This arrangement encourages more driving than would otherwise be the case and therefore increases emissions. Abolition of the concessional treatment of fringe benefits in the form of private use of corporate vehicles would pay for the initial removal of the effects of the carbon tax on petrol and diesel. If reform rather than abolition were adopted by government, as in the 2011 budget, the balance of the costs could be covered by removal or reform of other taxation arrangements that encourage the use of fossil fuels.

For the future, the smaller incremental increases in carbon prices could be compensated through additional rounds of tax cuts, when the scheme as a whole would be contributing positively to rural incomes.

Protecting the vulnerable

Protecting the most vulnerable is critical to the success of the carbon price. The reform of income tax of a kind proposed in the Henry review efficiently addresses equity concerns for most taxpayers on low and middle incomes. For households with little or no income, the transfer system provides a general social safety net. It insulates the most vulnerable from structural change to a large degree because payments rise at least in line with prices (as measured by the CPI). So even if the rest of the economy suffers a negative shock that reduces real income, the nominal levels of benefits automatically increase for the most vulnerable. However, indexation is not perfect.

Indexation may not reflect exactly the price increase that consumers face, for two reasons. First, indexation is measured on a typical basket of goods. Consumers with different levels of income consume different baskets of goods. Analysis conducted for the 2008 Review suggested that the CPI would have risen by 1.1 percentage points following the introduction of a carbon price at $23 per tonne of carbon dioxide equivalent in 2010, whereas the prices faced by one-fifth of households with the lowest incomes would have risen by 1.3 percentage points. Second, the CPI does not take into account the change in goods consumed that results from the introduction of a carbon price. As consumers are expected to switch away from relatively emissions-intensive goods (such as electricity) following the introduction of a carbon price, indexation may overstate the price rises faced by households.

Recipients of pensions and benefits face higher prices before they receive a higher payment. This is due to a lag in the availability of data and in the timeliness of adjustment. For instance, the indexation of the pension and Newstart Allowance lags behind price increases by between three and nine months and that of Youth Allowance by between six and eighteen months. It is appropriate for the government to bring forward indexation of benefits with the introduction of a carbon price, while smoothing down indexation later to avoid overcompensation. This approach was adopted when the goods and services tax was introduced.

Care needs to be taken in changing social security arrangements that there is no exacerbation of existing high marginal effective tax rates. Changes in social security and tax arrangements taken together should be designed to substantially reduce disincentives to work.

Many pensioners are a particularly vulnerable group as many are unable or reasonably disinclined to supplement their transfer payment by working. The focus here should be on preserving assistance to those on the full-rate pension. Pensions typically rise in line with wages, as a benchmark applies to ensure that they do not fall below a fixed share of male total average weekly earnings. Generally, wages rise more than prices. But in periods of high inflation, prices could rise more than wages, and so pensions increase by the greater of the two.

However, over time—when wages return to growing faster than prices—pensions will revert to the same fixed proportion of wages as they would have received in the absence of high inflation. In order to preserve their real income, compared to what it would have been in the absence of a carbon price, assistance should be delivered through a supplement, the real value of

which is preserved over time through price indexation, as was the case with the introduction of the goods and services tax.

Some households use higher proportions of their income on electricity, gas and other goods and services that are particularly emissions-intensive and so experience especially large increases in costs. Some low-income households use much more electricity and gas than others, because some members have health problems or disabilities requiring special treatment. This was one reason why the government's proposals for an emissions trading scheme in 2009 provided for 'overcompensation' of low-income households.

It would be better to deal with the problem of undercompensation of households with special energy requirements directly. Households with special energy requirements can be identified through state and territory governments and private organisations, and provided with lump sums that compensate for their exceptional requirements without removing incentives to reduce energy use. This will deal with the problem more reliably, while leaving more revenue for productivity-raising taxation reform for workers on low and middle incomes.

Trade-exposed industries

The 2008 Review outlined the case for transitional assistance to emissions-intensive, trade-exposed industries. These industries have high emissions per unit of output and are highly exposed to international competition.

There are two propositions supporting this case.

First, imposing a carbon price in Australia ahead of similar carbon constraints in our trade competitors, if it were to occur, could result in some movement of emissions-intensive, trade-exposed industries from Australia to other countries that impose less of a carbon constraint. This could result in an increase in global emissions—in the event that the activity moves to a country that uses a more emissions-intensive production process than Australia. This is the universally recognised environmental risk of carbon leakage.

This risk is difficult to quantify precisely. Analyses in Australia, Europe and the United States consistently suggest that the risk is real, but exaggerated in popular discussion. We should recognise that not all movement of production from Australia to other countries would involve carbon leakage. For example, Australian aluminium production is among the most emissions-intensive in the world, as it is mainly based on coal, some of it brown coal with exceptionally high emissions. The expansion of aluminium smelting elsewhere in response to reduced smelting in Australia is likely to generate electricity from water flows or natural gas, with zero or low emissions.

Second, if Australia were to impose a cost on carbon emissions which preceded or exceeded that of countries that are the hosts to major competitors, this could cause Australian production to contract below the level that would eventuate when our competitor countries faced a similar cost. Such a loss in productive capacity would be inefficient and costly to regain at a later date when most countries were imposing carbon constraints with similar costs to Australia's.

Of course, the opposite propositions are equally true and just as important for economic efficiency when Australian action lags behind that of competitors. If Australia falls behind other countries on mitigation, there will be incentives for uneconomic expansion of the favoured industries. This, in turn, damages other industries through the effects on interest and exchange rates and costs. There is as much damage to the economy in over-assistance as in under-assistance.

Accepting the two propositions that argue for positive assistance suggests a number of design features that will need to be in place when carbon pricing is introduced.

First, assistance will be of a transitional nature pending comparable carbon pricing in the rest of the world. Second, assistance should only compensate for the inefficient distortion arising from an uncoordinated global start to emissions reduction, with sales prices for emissions-intensive goods being lower than they would be if all countries imposed similar carbon restraints to Australia.

This means that assistance to all firms should be withdrawn once most countries are imposing similar carbon constraints. Some countries may continue to assist specific sectors and to create distortions even after most countries are imposing similar constraints. Such counter-subsidising would contribute to a destructive, reinforcing cycle of protectionism. It is important for Australia to work with other countries to secure international application of sound principles to avoid continuing distortion.

The 2008 Review described an approach to assistance based on avoiding the transfer out of Australia of production that would remain if other countries imposed similar carbon constraints to Australia. I called this the 'principled approach'.

While it would be desirable to move promptly to the principled approach to assistance for trade-exposed industries, this is not practical, as it will take some time to put in place arrangements to administer the scheme. The arrangements proposed for trade-exposed industries within the government's 2009 Carbon Pollution Reduction Scheme could be applied for the first three years, while institutional arrangements are established for the principled approach. In these three years, the 'buffer' for the effects of the

global financial crisis should be recovered, as it has been made redundant by recovery. The implementation of the interim arrangements almost certainly provides excessive assistance to some industries. This is especially unfortunate at a time when subsidising incomes and employment in one sector forces reduction in incomes and employment in other industries that are under stress from the resources boom (see Chapter 7). It may also provide under-assistance to some industries. Different observers will have different views on whether over-assistance exceeds under-assistance. These differences would be resolved through the work of an independent agency.

The pressure that is being applied to other Australian industries by the resources boom makes any over-assistance to the resources sector especially unfortunate at this time. The revision of assistance under the principled approach for the trade-exposed industries within the resources sector at the end of the three-year interim period is a matter of great importance and priority.

An independent agency should be responsible for developing the approach to emissions-intensive, trade-exposed industry assistance beyond the first three years of the scheme. The agency would have features similar to the Productivity Commission and could be the Productivity Commission.

The agency should be asked to review the new approach, and to vary it in the light of analysis and experience if variations would raise the incomes and welfare of Australians. It should develop a suitable work program to ensure priority sectors are considered early, in anticipation of the switch to the new, principled approach. Priority should be given to data collection and analysis on emissions-intensive, trade-exposed industries, which are receiving the largest amount of assistance.

Once a move from the interim to the new approach has been made, the agency should continue to provide advice on the operation of the assistance regime, including advice on when global carbon pricing has progressed to the point where there is no longer an economic justification for emissions-intensive, trade-exposed industry assistance for Australian firms.

The independent agency would be backed with the necessary resources and would have the professional capacity to do this job well. It would operate transparently in the manner of the Productivity Commission, exposing its methodology and data sources for public comment.

Assistance provided to emissions-intensive, trade-exposed industries to correct for undesirable and inefficient outcomes should not be confused with providing support to industry for the loss of profits or asset value arising from the introduction of a carbon price in Australia. Any fall in asset value

stemming from the change in relative pricing creates no greater case for compensation than other government reforms to reduce other market failures. The introduction of measures to discourage smoking, to control the use of asbestos, to raise occupational health and safety and environmental standards, and to reduce lead in petrol are all cases in point.

The land sector

For good reason, agriculture and the land sector will not be comprehensively covered by carbon pricing in the early years. There are large advantages in allowing genuine sequestration in the land sector to be rewarded at the carbon price, whether or not that is currently allowed under the international rules developed at Kyoto and currently under discussion with a view to modification. There is great uncertainty about the claims that the land sector may make on carbon revenue, but they are potentially large. Chapter 10 suggests that, pending full coverage of the land sector in carbon pricing, provision be made for a proportion of the carbon revenue to be allocated for land sector credits.

Innovation

Public funding of low-emissions innovation over the medium term is necessary to compensate for the external benefits deriving from a private firm's investment in innovation, at a time when there is a high value in accelerated development of new, low-emissions technologies.

Chapter 9 explains the case for public funding of innovation in low-emissions technologies to rise to about $2.5 billion a year for policies across the innovation chain. The government is currently allocating about three-quarters of a billion dollars a year to innovation in low-emissions technologies through the three-year forward estimates and beyond. This funding will presumably continue, so that the carbon pricing package has to fund only the increase above three-quarters of a billion.

Table 6.1 brings together the recommended uses of the revenue in a budget-neutral framework.

Table 6.1: How it fits together[a]

	Fixed 2012–13 (%)	Floating 2015–16 (%)	2021–22 (%)	Total
Total permit revenue[b]	**100**	**100**	**100**	**100**
Household assistance	**55**	**60**	**60–65**	**60**
Tax reform	40	45	50	45
Benefits payments[c]	15	15	10–15	15
Energy efficiency	1	0	0	<1
Business assistance	**35**	**25**	**20**	**25–30**
Industry assistance[d]	30	25	20	26
Electricity transition	3	0	0	<1
Structural adjustment	2	0	0	<1
Innovation[e]	**10**	**15–20**	**20**	**15**
Carbon farming[f]	**5–10**	**10–15**	**15**	**10**
Gross expenditure	**105**	**110–15**	**115**	**110**
Less market offsets and existing innovation expenditure	5–10	10–15	15	10
Net budget impact	**0**	**0**	**0**	**0**

a. Fuel reform and aid monies are not drawn from permit revenue and are therefore not shown.

b. Includes the increase in revenues for the first three years from auctioning of permits for use at later dates. The sum of percentages may not add up to 100 per cent due to rounding.

c. Around half the welfare payments under the former Carbon Pollution Reduction Scheme package.

d. Proportion of assistance paid to emissions-intensive, trade-exposed industries assumed to fall by 1.5 percentage points each year after year three.

e. This percentage includes existing innovation funding.

f. This percentage includes Kyoto Protocol offsets sold to liable entities (which do not represent a cost to the government).

Conclusion

The carbon pricing scheme will generate large amounts of revenue—about 20 per cent of that collected by the goods and services tax. With careful use, the revenue can fully compensate low- and middle-income earners for the costs of the scheme while supporting a substantial efficiency-improving tax reform. At the same time, it can support assistance to avoid uneconomic reduction of production in emissions-intensive industries, incentives for large-scale utilisation of opportunities for biosequestration in the land sector, and fiscal incentives for innovation in low-emissions technologies. Some funds would be made available for structural adjustment if it emerged that there

were regions in which economic activity and employment were hit heavily by carbon pricing. Provision would be made for the possibility that loan guarantees to secure energy security were called through the early years of transition to a low-emissions economy.

The total potential revenue would include proceeds of sales of about 10 per cent of one year's permits in each year, for use at any time from three years after issue. This would support the emergence of a forward market in deliverable permits. It would increase net revenues from the sale of permits in the first three years of the scheme.

Over time, tax cuts for households, innovation and land sequestration would draw gradually more deeply on the revenues. Investing carbon revenue in these ways would boost economic growth and the resilience of our economy overall. Requirements for assistance to trade-exposed industries would gradually fall, as other countries' carbon constraints tightened, and were taken into account more accurately in Australian arrangements.