

## 5 Correcting the great failure

**A**FTER THE long, slow slide in the national wealth rankings that characterised much of Australia's 20th century economy, our century of protectionism ended in a series of measures undertaken from 1983.

The move coincided with a similar shift in China. And it was followed within a decade by several Southeast Asian economies, and more ambivalently (but in the end decisively) by India and by the collapse of the Soviet Union. Within a stunningly brief historical period, the world had its first truly global economy since the 19th century.

Australians did not want to join this global movement. No Australian industry wanted to be pushed from the safety of local conditions into the tough world of great and unknown competitors. But once the barriers were down, a remarkable reinvigoration happened. Australian productivity surged.

All exports grew strongly, but were led by an extraordinary range of goods and services, many embodying high intelligence and skills. Manufacturers, services and raw materials producers all flourished in unexpected ways. Education moved from being an inward-looking home industry to the top ranks of our export industries. Australian firms established dominant global positions in niches as diverse as insurance (QBE), infrastructure finance (Macquarie), blood products (CSL), cardboard boxes (Amcor), shopping malls (Westfield), travel publishing (Lonely Planet) and surf clothing (Billabong).

The wonders of the free market, and the inspiration, energy and hard work of the Australian private sector, took businesses to global success that neither politician nor bureaucrat could have picked.

It was and remains a remarkable period of Australian corporate reinvention built upon the innovative genius that free individuals bring to their craft. Such are the forces that can be unleashed when individuals are given the appropriate signals.

A similar historic choice confronts Australia now in its goal to reduce greenhouse gas emissions. On the one hand, a market-based price on emissions reflects the costs that atmospheric carbon imposes on the rest of society and asks individuals and firms to adapt and create solutions that incorporate that price. The other approach is by regulation, through which firms and individuals are required by law to refrain from emissions-intensive activity to an extent that adds up to the required reduction in emissions. In the latter approach, the government controls many consumption and production

decisions by individuals and firms, based ideally on careful calculations of the activities that can reduce emissions at the least social cost.

The market-based approach requires all of the information that determined the recommendations on the targets for reducing emissions that underpin this book. The regulatory approach requires all of the information required by the market-based approach. It also requires a lot of information about individuals' and firms' responses to intervention by government and about the costs of those interventions.

Australia was only one small part of the 20th century struggle of ideas about ways of managing the economy. The regulatory approach went under the names of 'central planning' and 'protectionism'. The case for regulation depended on assessments of high transaction costs and instability in the market economy, as well as on the capacity of government to make a wide range of decisions more reliably than individual economic actors.

As it was here in Australia, that contest of ideas was won everywhere by the market economy. It was not won in theory. It was won by observing the results of predominantly market-based decisions and predominantly regulatory interventions. The market economy proved itself able to create solutions and find opportunities with far greater efficiency than the regulatory approach.

It is not that the outcome of the contest disqualifies interventions of some kinds, where that is clearly the most effective way of correcting specific market failures. But it has left a presumption in favour of market-based decisions unless there is clear evidence that regulation would give better results in a particular case.

As noted by Nicholas Stern, climate change represents the greatest market failure the world has ever seen. With a price on carbon, individuals and businesses can take into account the costs of their actions that are borne by society at large. Individuals and firms can decide how emissions will be reduced to meet Australia's fair share in global emissions reductions. Millions of people will find millions of ways—large and small—of reducing emissions at relatively low cost. They will find ways that no politician or bureaucrat in Canberra, Washington or Beijing has ever thought about. They will use specific and often local knowledge to discard some that might quickly have crossed the minds of the bureaucrat. The introduction of a carbon price to correct for the external costs of emissions in itself is an economic reform where the benefits far outweigh the costs.

Putting a price on carbon is not the whole climate change mitigation policy story. There are some other market failures pertaining to incentives

associated with the carbon price. The most important of these makes a case for the provision of public support for investment in research and development of low-emissions technologies.

The carbon price operating through markets leads to changes in decisions that used to take no account of the costs of climate change. But it is actually a less distorting and less economically costly form of taxation than many of the other ways in which Australian governments raise revenue. A judicious use of the revenue raised by pricing carbon can increase economic wellbeing to the extent that it is used to reduce other highly distorting taxes.

## The carbon price

Currently, the global emissions reduction challenge is to implement the world's commitment to limiting temperature increases to 2°C (or 450 parts per million carbon dioxide equivalent).

The 2008 Review recommended that, in the absence of an effective global agreement, Australia should introduce an emissions trading scheme geared to what others were doing but begin with a fixed price period. We would then be ready to define a target and to float the emissions permit price at some later time, when there were clear rules and opportunities for international trade in permits.

Several clear principles must guide policy if a carbon price is effectively and efficiently to drive the transition to a low-carbon economy. The principles are derived primarily from the objective of the policy—that is, to address the market failure of the cost that one firm's greenhouse gas emissions imposes on others.

- environmental integrity—confidence that genuine emissions reductions have been achieved on the scale required
- cost-effectiveness—emissions reductions should be achieved at least cost to the community, by avoiding duplication and overlap with other policies, and using revenue from the scheme to reduce the costs of mitigation
- swift revision of the scheme in response to the recommendations of regular, transparent and independent reviews—sound, independent governance will increase the chances that the scheme moves to its optimal design over time
- autonomy—the scheme should minimise reliance on recurring judgments by government, and instead harness the efficiency of the market within an independently managed framework.

Other important criteria for assessing options for carbon pricing models include administration and transaction costs; the ability to provide confidence for investors and participants; and the opportunities to support, and link to, existing and emerging international markets.

There are several models for putting a price on carbon. All are reasonably described as market-oriented approaches. The major difference is that some models set limits on the quantity of emissions and allow the price to vary, while others set the price of emissions and allow the quantities to vary. That said, carbon-pricing models share core features, including their use of a price signal and promoting greater efficiency benefits than regulation. Most, but not all, generate government revenue.

An emissions trading scheme with an initially fixed (and rising) price has some advantages. In the short term, a fixed price can provide steadiness, when a floating price would be volatile while the scheme remained the subject of fierce political dispute. It allows firms to become familiar with compliance under the scheme, and allows Australia to move towards a quantity constraint as knowledge of the scheme and confidence in its stability expand. Such an approach has the added benefit of gradually building industry capacity, and establishing and testing the necessary institutions and administrative infrastructure.

International trade in abatement is a legitimate and important element of an efficient global solution to climate change. The eventual transition from a fixed to a floating price, as well as linking with other schemes, will assist in allowing emissions reductions to take place where they are cheapest. One advantage of emissions trading over a carbon tax or an emissions trading scheme with a permanent fixed price is that it facilitates just such private international trade. Otherwise trade in entitlements has to be conducted through a government window.

Australia's resource endowment and comparative advantage in emissions-intensive industries makes our country a natural importer of permits and exporter of emissions-intensive products. We have fewer opportunities for low-cost abatement on the scale required to meet reasonable targets than many other countries (although development of land-based opportunities may change this, as discussed in Chapter 10). With greater opportunities for trade in emissions entitlements, Australia can be more ambitious and commit to doing its fair share in global action at lower cost.

In implementing an emissions trading scheme with a fixed-price start, there are two sets of decisions to be made: the starting price and how much the price will rise in each subsequent year; and the timing, conditions and manner of transition to emissions trading with a price that is set by market exchange.

The first objective of Australian mitigation policy must be to support the emergence of a strong and effective global agreement. This must be kept in mind in setting a domestic carbon price. The price must be consistent with Australia contributing its fair share to the global effort to reduce emissions. It should set us on a path to meeting the commitments to reduce emissions that we have made to the international community.

The setting of the initial price should also put Australia on a path towards longer-term outcomes. We need to place our economy in a good position for the future emissions reduction challenge and a world of global action. We should ensure that we do not encourage arbitrary or redundant investments or divestments that make no sense in the carbon policy world that follows the fixed price.

If Australia's carbon price is set too high—out of step with international action—there could be an unnecessarily costly transition. This is likely to raise doubts about the scheme's sustainability. Expectations that the scheme may be amended or abandoned will raise the supply price of investment in activities affected by it.

On the other hand, too low a price could impose transactions costs for no real gain. It would not raise the chances of reaching the goals of Australia and the international community. In the absence of a logical link to the larger objective, it would be difficult to establish credibility.

Australia's current policy settings and commitments are also relevant to a starting price. Australia has had an unconditional target since 2008 to reduce emissions by at least 5 per cent by 2020 (relative to 2000 levels). This target has bipartisan support. It became a commitment to the international community in Copenhagen in December 2009, and became part of a set of international agreements at Cancun in December 2010. Modelling suggests that to meet this target Australia's carbon price would need to commence at around \$26 in 2012.

The targets allow unlimited permit imports, so Australia's domestic emissions could exceed the number suggested by its target. The use of imported entitlements must depend on the integrity of the available international permits—they must represent real reductions in emissions in partner countries with hard targets and must not be counted against the targets of the countries from which they have been purchased. Trading partners should have a firm national target, whether calculated on a percentage reduction of emissions in a base year or a reduction in emissions intensity. The 5 per cent figure is a 'net' rather than domestic emissions reduction.

We will need to tighten our target in line with international action, hopefully to the levels that would be required if the international community is to reach its declared goal of holding the global temperature increase to 2°C. The starting point has to prepare us for later adjustment if and when it is required.

Also relevant are explicit carbon prices in existing international markets and places where economy-wide carbon pricing policies are present. Future linking and trade in entitlements will occur more smoothly if the gap between Australian and overseas carbon prices is not too great. The current (May 2011) price of emissions permits in the European Union emissions trading scheme is around €17 (A\$23) per tonne of carbon dioxide equivalent. The current price of offsets in the form of Clean Development Mechanism credits is around €13 (A\$17) per tonne.

Another indication of suitable, and credible, prices for carbon is provided in economic analyses that guide regulatory decisions in the United States, where a systematic approach has been taken to these issues. The US Government recommends that economic assessments use a social cost of carbon of US\$21 (A\$20) per tonne of carbon dioxide equivalent, rising over time to US\$26 (A\$25) in 2020, and US\$33 in 2030 in 2007 dollars (A\$31). In the United Kingdom, this price is higher, with investors in the non-traded sector advised to consider £26 (A\$40) per tonne to be a suitable cost of carbon.

Taking all of these considerations into account, I recommend that Australia's initial carbon price be in the range of \$20 to \$30. The mid-point of this range would be appropriate in the absence of compelling reasons to move away from it.

Once a carbon price is established, its rate of increase will need to balance the considerations outlined above: Australia's contribution to global goals, our existing commitments, domestic credibility and other countries' climate change mitigation policies and their associated implicit carbon prices.

Prices to ensure the optimal depletion of a finite resource—in this case, the earth's limited absorptive capacity—will increase over time at the rate of interest, as Hotelling concluded back in 1931. It is my assessment that a mature market would come to apply something like an interest rate of about 4 per cent in real terms—2 per cent representing the risk-free real rate, and the other 2 per cent a risk premium. This is the rate at which a well-informed market could be expected to raise the rate over time if the initial rate had been set appropriately to meet an emissions reduction target that is not changed

over time. It is appropriate, then, to simulate the likely market movement by raising the fixed price of emissions by 4 per cent per year in real terms.

### **Floating the price and setting the target**

Investors need clarity about when and the conditions under which the transition to a floating price will occur. To support a smooth transition, the necessary institutions and supporting infrastructure should be established from the beginning of the scheme. It is important to specify rules for the scheme as soon as possible, including arrangements for auctioning permits and for acceptance of offsets and international permits. Having this framework agreed, understood and embedded alongside a fixed price will build confidence in the transition, and allow rapid and smooth movement to a floating price when the time is right.

The following conditions might be considered to be relevant to the timing of a shift to a floating price:

- Development of global agreements if sufficient countries (weighted by significance in the international economy and trade) take on emissions targets in the medium and long term. Following Cancun, this condition would seem to have been met, although it may be wise to wait and observe for a while the implementation of the Cancun agreements.
- Opportunities for trade. These may exist in substantial quantities, liquidity and stability in advance of the kind of global agreement envisaged in the 2008 Review. They could be nurtured through a regional agreement with neighbouring countries that are complementary to Australia. A regional market would need to be underpinned by emissions targets that represent each member's fair share in a global effort, and in the short term by commitments that are proportional to comparable countries' commitments. Trade with New Zealand, Indonesia, other ASEAN countries, Japan, Korea and Indonesia, and potentially Papua New Guinea, Timor-Leste and the South Pacific, may be relevant. Australia and Indonesia could discuss the merits of forming the core of a wider regional agreement. In developing countries with weak administrative systems, other countries would need to provide assistance with administration and compliance. Trade with the European Union and parts of North America may become relevant. However, the latter would probably be similar to Australia in seeking to purchase surplus emissions entitlements from others, and so trade with them would need to be within wider trading arrangements that included countries that were naturally net exporters of permits.

- The establishment of credibility and stability of the domestic scheme. The desire to build confidence during a period of political uncertainty is one reason for starting with a fixed price, and this role is completed when the domestic political process has accepted that the scheme is here to stay.

Judgments about whether the above conditions have been met will have subjective elements. It will be difficult for participants in the market to assess when the transition might occur. There is a risk that uncertainty would encourage destabilising pressure on the decision-making process by interests that stood to gain or to lose from a delay in the transition to a floating price.

On balance, therefore, there are advantages in fixing the date of transition in advance, and in working to ensure that adequate opportunities for credible international trade in entitlements are available by the time of transition. This book favours three years, that is, in the middle of 2015, unless the independent regulator, on expert advice, judges that the opportunities for international trade in entitlements are not sufficient to support a liquid and stable permit market.

A firm target for reductions of emissions over time will need to be established in advance of the movement to a floating permit price. Australia's current unconditional target for 2020 would be the legislated minimum emissions reduction target. The setting of a target above the minimum should be considered in the first two years of the scheme, following the first independent review of the target. Independent reviews should occur regularly, on a pre-announced set timetable.

The process and institutional arrangements for such a review are important. In the United Kingdom, the Climate Change Act 2008 mandates an emissions reduction target for 2050, and the processes for setting interim carbon budgets. The act requires the government (through its secretary of state) to take into account the advice of the independent Committee on Climate Change (established under the act), along with any representations made by other national authorities. The committee's input includes advice on whether the 2050 target should be amended, and on the level for interim carbon budgets. The legislation requires that if the government sets the carbon budget at a different level from that recommended by the committee, the secretary of state must also publish a statement setting out the reasons for that decision.

### **Governing Australia's emissions trading scheme**

There will be no success in mitigation, at a national or international level, without good governance. The policies that will mitigate climate change cut across strong interests of many kinds. These are circumstances in which it

is easy, indeed natural, for vested interests to capture policy, and for the ultimate reasons for policy to be forgotten. Good governance is an antidote to these tendencies: the articulation of clear and soundly based principles as a foundation for policy, and the establishment of strong, effective and well-resourced institutions to implement the principles.

I have recommended that three independent bodies be established to implement and administer Australia's carbon price arrangements: an independent scheme regulator, an independent committee to advise on targets, and an independent agency to advise on trade-exposed industries.

The scheme regulator, or carbon bank, should have a high degree of independence in the exercise of its responsibilities. The overarching objective of the carbon bank would be the implementation of the scheme as established in legislation. The carbon bank would also administer the assistance to trade-exposed industries.

An independent committee, similar to the UK Committee on Climate Change, would provide advice to the government on national targets and scheme caps; progress towards meeting targets; the switch to a floating price; and expanding coverage of the scheme. This would be done through regular reviews of the scheme, with the first review to occur no more than two years after commencement of the scheme so that its advice is available to the government before the switch to a floating price for emissions, and with subsequent reviews no later than five years after the preceding review.

As with the setting of emissions targets in the United Kingdom, the government could retain power to override operational decisions of the independent authority, provided that a statement is made to parliament within three months outlining and explaining its decision. The head of the authority would periodically appear before a parliamentary committee. In any case of adjustment, a new target would be announced promptly after the receipt of the independent advice, and legal adjustments made with effect no later than two years after the scheduled date of the review. The first review should be completed and the initial advice provided to government within two years of the commencement of the scheme. Reviews should occur at intervals no greater than five years.

There is good reason to expect sufficient trade to be present to switch from a fixed to floating price in 2015, so long as the establishment of international trading arrangements is given high priority by the government. In the remote circumstance that this does not come to pass, the independent body should examine the case for continuing the fixed price arrangements, taking into account this issue along with other relevant factors.

## Voluntary action

Voluntary emissions reductions by households and businesses should receive recognition in the administration of compliance with targets. As proposed by the government in its final Carbon Pollution Reduction Scheme package in 2009, this can be achieved by allowing for voluntary purchase of offsets for emissions (for example, for air travel), 'green power' and other similar arrangements to be added back into the emissions base for purposes of compliance with international commitments. In this way, the voluntary activity leads to a commensurate increase in the ambition of the emissions reduction target.

## Conclusion

This is the fourth time that Australia has moved towards economy-wide carbon pricing. Each time, the retreat of economy-wide action did not mean the end of climate change mitigation policies. An array of regulatory interventions took their place, with little effect on emissions but large effects on the Australian standard of living.

The US Government is, for the time being, adopting a relatively expensive approach to reducing emissions because it has no choice. Some Australians make that an argument for Australia to follow the United States in adopting relatively expensive means of reducing its emissions.

American economist Jagdish Bhagwati used to characterise a similar common argument for trade protection as: 'Beware. I will keep shooting myself in the foot until you stop shooting your own feet'.

If we are clever, we can apply mitigation policies that have relatively little effect on the rise in living standards in the years immediately ahead. We can do so while contributing our fair share to international action that provides substantial protection for the Australian standard of living in the more distant future.

The alternative is to suffer a major setback to productivity and the rise in living standards—now, from expensive mitigation policies; or later, as we face the consequences of failure of the international mitigation effort.

Australians would do well to make sure that this fourth movement towards a carbon price corrects Australia's part of the great market failure.