

## **CARBON POLLUTION REDUCTION SCHEME\***

By Imam Ali, MACROC EDO

### **1. Introduction:**

Most scientists now agree that human activities have contributed to increases in GHG emissions causing the planet to warm up. Consequently there is a significant risk to the habitat from a change in climate. In response the Australian Federal Government has announced a long-term target of reducing the nation's GHG emissions by 60 per cent below 2000 levels by 2050; the medium-term target range is a reduction of between five to 15 per cent below 2000 levels by 2020.<sup>1</sup> More specifically, it proposes:

- A minimum reduction of emissions to five per cent below 2000 levels by 2020, and
- Up to 15 per cent reduction in emissions below 2000 levels by 2020, subject to a global agreement being reached.

The Carbon Pollution Reduction Scheme (CPRS) is the principal vehicle the Federal Government intends to use in meeting the desired targets. This national trading scheme will be introduced in 2010, following earlier reports on the subject by Professor Ross Garnaut<sup>2</sup>.

### **2 Key Features of CPRS**

The key features of the CPRS are:

- It will be a 'cap and trade' scheme.
- The cap on the quantity of GHG that can be emitted is designed to place Australia on a low-emissions path that minimizes transition costs to industry and at the same time encourages investment in low-emissions technologies while ensuring Australia's ongoing economic prosperity.
- The scheme will cover as much as practical all green house gas emissions by industry sector.
- The scheme will be designed to enable international linkages.
- The scheme will address the competitive challenges facing emissions-intensive trade-exposed industries in Australia and those non tradeable sectors strongly impacted by the CPRS.
- Compensation will be provided to assist households (particularly low and middle income households) to adjust to the impact of carbon prices and to assist them to reduce their emissions.

#### **2.1 The 'cap and trade' mechanism**

The CPRS will set an annual limit (i.e. a cap) on the quantity of GHG emissions that can be produced by all firms in the sectors covered by the Scheme. The Federal Government will issue 'permits' that entitle the holder to emit GHG emissions. The total number of permits available will be equal to cap established by the Government. Firms in the sectors covered by the CPRS will be required to acquire and surrender a permit for each tonne of GHG emissions they produce during a year.

---

<sup>1</sup> Department of Climate Change Carbon *Pollution Reduction Scheme, Australia's Low Pollution Future, White Paper*, December 2008

<sup>2</sup> Garnaut Climate Change Review, *Final Report*, September 2008

## **2.2 Setting caps**

The Federal Government will set the emission reduction cap for a five-year period. The caps will be set to facilitate a national emissions trajectory that is consistent with the Federal Government's medium-term target range of 5 to 15 per cent below 2000 levels by 2020. The indicative trajectory for the first three years of the scheme is:

- 109 per cent of 2000 levels in 2010/11
- 108 percent of 2000 levels in 2011/12, and
- 107 per cent of 2000 levels in 2012/13/14

In 2010, the Federal Government will announce a further two years of the trajectory up to and including 2014/15, guided by any international commitment period if applicable. Final scheme caps reflecting this trajectory will be announced in early 2010 prior to commencement of the scheme<sup>3</sup>.

## **2.3 The price of carbon**

The whole purpose of setting a cap on GHG emissions is to make the right to emit scarce and therefore valuable. This scarcity creates a price for carbon, which is reflected in the price of permits. The permits will be tradable and therefore their price (i.e. the carbon price) will be determined by the market. The carbon price will reflect the market's best estimates of the current and future costs of reducing emissions within the limits stipulated in the Scheme.

The quantity of emissions allowed under the scheme cap will affect the carbon price. In general, if a lower scheme cap is set, it will result in a higher carbon price because fewer permits will be issued and hence less GHG allowed to be emitted.

The Federal Treasury's modeling of carbon suggests that:

- A five per cent medium-term target, with stabilisation at 550 parts per million CO<sub>2</sub>-e, requires a carbon price in 2010 of \$20/tCO<sub>2</sub>-e (in 2005 dollars) or \$23/tCO<sub>2</sub>-e (in nominal terms),
- And a 15 per cent medium-term target, with stabilisation at 510 parts per million CO<sub>2</sub>-e, requires a carbon price in 2010 of \$28/tCO<sub>2</sub>-e (in 2005 dollars) or \$32/tCO<sub>2</sub>-e (in nominal terms).

Furthermore, the Treasury modeling suggests that the carbon price will rise to between \$35 – \$50/tCO<sub>2</sub>-e (in 2005 dollars) by 2020, depending on whether emissions reductions are tracking towards a five or 15 per cent medium-term target respectively.

Creating a carbon price increases the relative prices of goods and services that have the most GHG emissions associated with their production and use. This will provide incentives for people and firms to reduce GHG emissions, choose less emissions intensive goods, technologies and processes, and invest in low-emissions technologies.

## **2.2 Mitigation mechanism**

Any GHG emissions reduction measure will entail costs. For example, the CPRS may give rise to costs associated with generating energy using low-emissions technologies that are more expensive than the technologies currently in use. Consequently, the ensuing structural adjustment will likely see job losses in some industries and regions and new opportunities arising elsewhere.

---

<sup>3</sup> Independent pricing and Review Tribunal Review of NSW Climate Change Mitigation Measures, *Other Industries Issues Paper*, December 2008

The CPRS aims to mitigate Australia's emissions at the lowest possible cost to the economy, with the market determining the most cost-effective way of reducing GHG emissions. For example, by placing an overall cap on GHG emissions a sector that has a lot of relatively low-cost abatement opportunities will take these up first before progressively higher cost abatement options. The market thus determines the evolution of the abatement process.

Trade in permits in the open market will ensure that permits go to firms that value them most highly – i.e. those that face higher relative costs from reducing their GHG emissions. To illustrate the point let us say that the market price for a tonne of carbon is \$30. Firm A. can reduce its emissions at a cost of \$25 a tonne, which is lower than the market price for a permit. If the firm had a permit it would sell them and realize a positive cashflow of \$5 per tonne. If the firm had no permits, it would be cheaper for the company to abate than to buy a permit so that it could emit.

Consider Firm B, which is able to reduce emissions for a cost of \$70 per tonne of emissions. Its cost of abatement is higher than the market price for a permit. If the company had permits, it would use them and emit. In doing so they would 'save' \$40 per tonne of emissions. If the company had none, it would buy them in the market so it could emit.

Different companies will have different abatement costs and opportunities, depending upon their operations. Under the CPRS, the decision whether to emit or abate will differ from company to company.

The incentives in the market place work to shift the permits to the highest value use and to encourage the cheapest abatement to occur first. The trade in carbon pollution permits ensures that the emissions cap is achieved at least cost to the economy.

The introduction of a carbon price will change the relative prices of goods and services, making emissions-intensive goods more expensive relative to those that are less emissions intensive. This, in turn, provides a powerful stimulus for consumers and businesses to adjust their behaviour, resulting in a reduction of emissions.

### **2.3 CPRS coverage**

All six GHGs listed under the Kyoto Protocol will be covered. Further, the CPRS will initially cover five of the seven sectors accounted for under the Kyoto Protocol: the stationary energy, transport, fugitive emissions, industrial processes and waste sectors.

Within the covered sectors, the Federal Government has set an emissions threshold so that scheme obligations generally only apply to entities with a facility emitting 25,000 tonnes of CO<sub>2</sub>-e a year or more.

Given the difficulties associated with covering some emissions from the waste sector, particularly emissions from past waste streams ("legacy emissions") waste sector will be included in the CPRS, but legacy emissions will be excluded until 2018.

2015 would be the earliest that Agricultural sector could be covered by the scheme. The timing will depend on when it can resolve difficulties such as developing reliable methods of estimating agricultural emissions. A final decision on including or excluding agriculture will be made in 2013.

As the CPRS will not cover all sources of emissions, the scheme cap and Australia's total national emissions target will be different. The Federal Government proposes to reconcile

the difference by notionally allocating permits for sources of emissions not covered by the scheme and retiring these each year on behalf of the uncovered sectors.

## **2.4 International linkages**

An effective global carbon market will reduce abatement costs by ensuring that the cheapest abatement opportunities are pursued, regardless of where they occur. Hence, entities will be allowed to import an unlimited quantity of eligible international units (certain types of units issued under the Kyoto Protocol). Liable entities will be able to surrender imported units for compliance with the CPRS and these units will therefore be counted as contributing to meeting the national emissions reduction target. However, in order to facilitate an orderly start to the scheme, entities will not be allowed to export Australian permits to international markets in the initial years of the CPRS.

By allowing imports of eligible international units, the domestic market price of permit will also be strongly influenced by demand and supply conditions in international carbon markets. For example, if the Australian permit price is greater than the price for international units (i.e. the international carbon price), entities will have an incentive to import these international units. This reduces their demand for Australian permits. As a result, the Australian permit price will decrease until it converges with the international carbon price.

## **2.5 Transitional assistance**

Government will provide assistance to firms operating in emissions intensive trade-exposed industries by giving free permits. This will help these firms overcome the disadvantage of competing against those that do not have to adhere to comparable limits on their GHG emissions. Without such assistance, they may relocate elsewhere, causing 'carbon leakage' with no consequential reduction in GHG emissions.

The Federal Government will introduce a number of other assistance measures with the aim of assisting firms and individuals make the transition to a fully functioning CPRS.

- Measures will be developed to assist households. In the first three years of the CPRS, fuel taxes will be reduced to offset the impact on fuel prices.
- A Climate Change Action Fund will be set up to assist businesses, community sector organisations, workers, regions and communities adjust to a lower emissions economy. Types of activities which may be funded include investment in new low emissions processes and industrial energy efficiency
- Projects that help attain a lower carbon footprint.
- Limited assistance will be provided to firms in strongly affected industries, namely coal-fired electricity generators, to help them make structural adjustments.
- The Federal Government will place a cap on the price that entities would be required to pay for permits from 2010/11 to 2014/15, which will reduce the upside price risk for individual firms and cap the costs of the scheme overall. As the estimated carbon price in 2010 is between \$23 – \$32/tCO<sub>2</sub>-e in nominal terms, the Federal Government has decided to set a price cap for five years of \$40/tCO<sub>2</sub>-e in nominal terms at scheme commencement, rising in real terms by five per cent a year.

### **3. Conclusion**

The CPRS is a defining moment in Australian history. It represents a massive intervention by Government to achieve desired environmental outcomes, in the face of a failure of the market mechanism to deal with externalities. The CPRS is, nonetheless, market-based tool that will enable adjustment to a low carbon economy to proceed on a least cost basis by industries that value it most highly.

A number of transitional measures to cushion the impact of policy change on industries and households and community organisations are proposed. It is not clear whether local government will benefit directly from any of these measures. The Treasury modelling foreshadowed only a modest slowdown in economic growth. For the 2010 to 2050 period, real GNP per capita was forecast to grow at an average annual rate of 1.1 per cent across the policy scenarios, compared to 1.2 per cent in the reference scenario. Similarly, the inflation impact is one off, with the Consumer Price Index predicted to increase modestly in the range of 1% to 1.5%.

A wide range of existing environmental initiatives by state governments and local governments, community organisations, enlightened individuals and corporations will complement the transformative process induced by CPRS. Judging from the assistance measures outlined by the Federal Government there will be opportunities for more of these to be undertaken in future.

CPRS augments the aspirations of The Macarthur Centre for Excellence in Sustainability and the revisions to the existing Memorandum of Understanding currently underway will be informed by it. Moreover, the Symmetry Sustainable Business Program is a timely capability development initiative that will help small business make the necessary transition to a low carbon economy.

### **References:**

Garnaut Climate Change Review, *Final Report*, September 2008

Department of Climate Change Carbon *Pollution Reduction Scheme, Australia's Low Pollution Future, White Paper*, December 2008

Independent pricing and Review Tribunal Review of NSW Climate Change Mitigation Measures, *Other Industries Issues Paper*, December 2008

The Treasury, *Australia's Low Pollution Future: The Economics of Climate Change Mitigation*, October 2008

#### **\* Disclaimer**

Views expressed in this paper are those of the author and may not necessarily be shared by MACROC. The contents of the paper reflect the interpretation of the Carbon Pollution Reduction Scheme by the author and any errors and omissions or misinterpretations are solely the responsibility of the author.