

Australia's carbon policy – a retreat from core principles

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1. INTRODUCTION

Successive Australian governments have been committed to the introduction of an emissions trading scheme (ETS) designed to mitigate climate change.¹ In December 2006, the then-Prime Minister John Howard announced that Australia would move towards a domestic emissions trading system, to start no later than 2012.² The subsequent Rudd government proposed an Australian Carbon Pollution Reduction Scheme (ACPRS) in 2008. The proposed ACPRS had two objectives: first, to meet Australia's emissions reduction targets in the 'most flexible and cost-effective way'; and second, to sustain a global response to climate change.³ The ACPRS legislation was twice defeated in the Australian Parliament in 2009. As a result, at the beginning of 2010, the government put the ACPRS on hold. Later in 2010, the government announced its intention to propose a temporary carbon pricing scheme,⁴ and also, set up the Multi-Party Climate Change Committee (the Committee)⁵ consisting of members of the federal government and senators.⁶

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¹ Wilder M. and Fitz-Gerald L. 2009, Review of policy and regulatory emissions trading frameworks in Australia. *AERLJ*, vol. 27, pp. 1-22.

² *Ibid.* Note, however, that in 2005, the Australian State and Territories issued a discussion paper concerning a national emissions trading scheme which would cover the power generation sector.

³ CPRS. 2009. *Carbon Pollution Reduction Scheme*. p. 10. Available at (Accessed 15/03/2011): <http://www.climatechange.gov.au/government/initiatives/cprs.aspx>.

⁴ A carbon pricing scheme is often called a 'tax' because during the fixed price period, the liable parties are obliged to purchase fixed price carbon units which is similar to paying tax. However, they cannot trade the units on the market, as under an emissions trading scheme.

⁵ Multi-Party Climate Change Committee. Available at <http://www.climatechange.gov.au/government/initiatives/mpccc.aspx>.

⁶ The Committee includes: the Prime Minister, the Hon Julia Gillard MP, the Deputy Prime Minister, the Hon Wayne Swan MP and the Minister for Climate Change and Energy Efficiency, the Hon Greg Combet AM MP, joined by co-deputy chair of the Committee, Australian Greens Deputy Leader Senator Christine Milne, Australian Greens Leader Senator Bob Brown, Mr Tony Windsor MP, and Mr Rob Oakeshott MP. The Committee is assisted by the Parliamentary Secretary for Climate Change and Energy Efficiency, Mr Mark Dreyfus QC MP and Mr Adam Bandt MP, and by expert advisors Professor Ross Garnaut, Professor Will Steffen, and Mr Rod Sims.

The Committee's intention was to establish a climate change framework outlining the broad architecture for a carbon price. The Committee issued eleven policy principles designed to provide a consistent basis for the deliberations on a carbon price.⁷ The principles were as follows:

- Environmental effectiveness
- Economic efficiency
- Budget neutrality
- Competitiveness of Australian industries
- Energy security
- Investment certainty
- Fairness
- Flexibility
- Administrative simplicity
- Clear accountabilities, and
- To support Australia's international objectives and obligations.⁸

The Multi-Party Climate Change Committee stated that the 11 principles will guide the design decisions of the pricing mechanism. The Committee also specified that these principles should direct the development of any carbon price mechanisms.⁹ Thus, it is reasonable to suggest that both policies – the transitional carbon price mechanism and future emissions trading – should be in accordance with these principles. However, even at first sight, the proposed legislation does not seem to reflect these criteria adequately. In this light it is tempting to examine the proposed legislation more closely to identify how well it addresses the 11 principles. Although, analysing the entire division of climate change policy, including all of the relevant policies, would be an enormous task. Thus, this paper will discuss only the major characteristics of the proposed instruments and their potential capacity to address the principles (criteria) established by the Committee.

2. THE CARBON PRICING SCHEME

The Committee released draft legislation on 28 July 2011. In October 2011, the Australian House of Representative passed the carbon pricing legislation which was later approved by the Australian Senate. The carbon price scheme (the scheme) operates from 1 July 2012 as a temporary measure designed to reduce greenhouse gases (GHG). The carbon price is \$23 for the 2012–13 financial year and increases by 2.5 per cent in each of the following two years.¹⁰ Under the scheme, liable entities buy and surrender carbon units equal to their direct emissions (based on historic levels) of carbon dioxide equivalents (CO₂). Failure to surrender necessary carbon units will result in a fine. After the transitional period, the carbon price mechanism converts to a cap-and-trade ETS supplying a flexible carbon price.¹¹ From 1 July 2015, the carbon

⁷ Multi-Party Climate Change Committee. Available at:

<http://www.climatechange.gov.au/~media/Files/minister/combet/2011/media/february/mr20110224.pdf>

⁸ It is important to note that the principles are not stated in any order of priority. See Multi-Party Climate Change Committee, above note 7.

⁹ Multi-Party Climate Change Committee, above note 7.

¹⁰ Multi-Party Climate Change Committee, above note 7.

¹¹ *Ibid.*

units will be auctioned. Hence, even though the carbon pricing mechanism is sometimes labeled a 'carbon tax', the Australian government is still committed to emissions trading.

The carbon price scheme covers four of the six GHGs counted under the Kyoto Protocol, including carbon dioxide (CO₂), methane (CH₄), nitrous oxide (N₂O) and perfluorocarbon (PFC),¹² and has broad coverage of the following emissions sources:

- the stationary energy sector
- industrial processes sector
- fugitive emissions (other than from decommissioned coal mines), and
- emissions from non-legacy waste.¹³

The scheme covers around 500 entities which emit 25,000 tonnes of CO₂ per year or more and certain waste facilities emitting more than 10,000 tonnes per year, constituting about 50 per cent of Australia's GHG.¹⁴ Agriculture and transport fuels are excluded from the scheme, although transport fuels used by off-road heavy vehicles (except for agriculture, fishing and forestry) are covered indirectly by a reduction in existing fuel tax concessions. To transfer a carbon price signal to rail, domestic shipping and domestic aviation fuel tax excises have increased. The treatment of fuel will be reviewed in 2014. During the fixed price transitional period under the scheme, liable parties cannot use international emissions reduction units for compliance. However, during the flexible price period, internationally recognised permits may be used to acquit up to 50 per cent of a party's liability.¹⁵

There is no cap on emissions during the fixed price period and the number of carbon units is unlimited. However, starting from 2015–16, the Climate Change Authority (an independent statutory body which is yet to be established) will set a cap on emissions taking into consideration international and Australian emissions reduction targets. Currently, Australia is committed to reducing emissions by 5 per cent of 2000 emissions levels by 2020, and by 80 per cent of 2000 levels by 2050.¹⁶

¹² Hydrofluorocarbons and sulphur hexafluoride will face an equivalent carbon price, which will be applied through existing synthetic greenhouse gas legislation.

¹³ Stationary energy includes emissions from fuel consumption for electricity generation, fuels consumed in the manufacturing, construction and commercial sectors, and other sources like domestic heating. Industrial processes emissions are side-effects of production from non-energy sources, for example, it includes emissions from cement production, metal production, chemical production, and consumption of HFCs and SF₆ gases. The fugitive emissions relates to the energy sector and covers emissions that are linked with the production, processing, transport, storage, transmission and distribution of fossil fuels such as black coal, oil and natural gas. The waste emissions relate to waste dumped at landfills.

¹⁴ Multi-Party Climate Change Committee, above note 7.

¹⁵ The Commentary on the provisions also states that international linking with the European Union scheme and New Zealand Schemes are desirable and if agreed, EU Allowances and NZ units would be prescribed under the Clean Energy Bill. (Multi-Party Climate Change Committee, above note 7).

¹⁶ The Australian Government has been criticised for these low GHG reduction targets. For example, Professor Garnaut (the federal government's climate change adviser) recommended a 25 per cent reduction, while many other commentators suggest that an even more ambitious GHG reduction target is needed. See for example: Garnaut, R. 2008. *Australia Counts Itself out*. Available: <http://www.theage.com.au/national/australia-counts-itself-out-20081219-72ei.html?page=-1>; Brook, B. 2009. *Carbon Tax or Cap-and-Trade? The Debate we never had*. Available: <http://bravenewclimate.com/2009/02/14/carbon-tax-or-cap-and-trade-the-debate-we-never-had/>

It is projected that the carbon price scheme will raise \$24.5 billion over its first four years. However, it will not be revenue neutral; the budget deficit is expected to be around \$4 billion.¹⁷ The reason for that is an extensive spending plan to compensate industries and households and to invest in renewable energy. There are significant tax cuts and increases in allowances, payments and benefits. In particular, the tax free threshold has almost tripled from the previous \$6,000 to \$18,200 from 1 July 2012, and then increase to \$19,400 from 1 July 1 2015. Thus, all taxpayers with an income below \$80,000 will effectively receive tax cuts from 1 July 1 2012.¹⁸

Further, an assistance package of \$9.2 billion will be allocated over the first three years to Australian industries to eliminate competitiveness issues associated with the carbon price scheme.¹⁹ Most affected industries such as steel, aluminium, zinc, pulp and paper makers will acquire free permits covering about 94.5 per cent of industry's average carbon costs. In addition, \$300 million is to be assigned to the steel industry's shift to clean energy. A coal sector jobs package at \$1.3 billion is dedicated for mines that are most affected by the carbon price.²⁰

Further consideration has also been given to complementary measures that support research, development and commercialisation of green technologies. In particular, a \$10 billion Clean Energy Finance Corporation will be created to invest in new technologies and \$3.2 billion will be allocated to the Australian Renewable Energy Agency.²¹ Additionally, small grants will be available for community-based energy efficiency programs. On top of that, the government is committed to closure of 2000 megawatts of the dirtiest power generators by 2020.

Overall, the broad architecture of the proposed carbon price scheme seems to resemble in some aspects the design of the previously introduced ACPRS.²² However, the carbon price, in some respects, is a substantial improvement on the heavily compromised ACPRS. Generous compensation for affected industry is a temporary measure and based on historic emissions levels, thus the incentive to reduce emissions is not eroded. The assistance package for households is designed to compensate low and medium income earners rather than high income earners. Raising the income tax threshold allows taking about a million low income taxpayers out of the income tax system.²³ Finally, a range of supporting measures designed to encourage energy efficiency and green innovation is also a significant improvement.

¹⁷ Multi-Party Climate Change Committee, above note 7.

¹⁸ However, the individual income tax rates for higher income earners are raised. For example: 19% for income over \$18,200 (was 15%) and 32.5% for income over \$37,001 (was 30%). Source: <http://www.ato.gov.au/individuals/PrintFriendly.aspx?ms=individuals&doc=/content/00309813.htm>.

¹⁹ Multi-Party Climate Change Committee, above note 7.

²⁰ For details see: Carbon Pollution Reduction Scheme and Carbon Pricing Mechanism: comparison of selected features. Available at: http://www.aph.gov.au/About_Parliament/Parliamentary_Departments/Parliamentary_Library/Browse_by_Topic/ClimateChange/cprs.

²¹ Ibid.

²² For details see: CPRS. 2009, above note 3.

²³ Clean Energy Future. Available at: <http://www.cleanenergyfuture.gov.au/wp-content/uploads/2011/06/09-FS-Household-Assistance-Tax-Reform-110708-1234hrs.pdf>

3. AN ASSESSMENT OF THE CARBON POLICY AGAINST CORE PRINCIPLES

The preceding section discussed major design characteristics of carbon policy introduced by the Australian government. This section is devoted to evaluation of the carbon policy against each individual principal proposed by the Multi-Party Climate Change Committee. This evaluation will facilitate identification of the major shortcomings of the carbon policy.

3.1 Environmental effectiveness

The environmental effectiveness of climate change policy generally implies an effective reduction in GHG emissions. To evaluate the effectiveness of a policy option, it is necessary to determine whether the objectives are being achieved. However, ex-ante evaluation of the potential effectiveness of a policy is a key difficulty of much evaluation research.²⁴

The environmental effectiveness criterion is strongly interconnected with the other criteria discussed below, but at this point it is taken as effective reduction of GHG emissions by the policy as defined by the Committee.²⁵ A transitional carbon price mechanism and future emissions trading could be equally appropriate for GHG reduction, despite having different characteristics. An existing experience, similar to the theoretical literature, does not provide clear guidance on the prioritising of one policy option over the other.²⁶ However, the ineffectiveness of existing carbon taxes and/or ETSs might be attributed to the low reduction targets and faulty design rather than the instruments themselves. In this light it is reasonable to suggest that, first of all, the effectiveness of these instruments would depend on the GHG reduction target established for a particular policy. Generally, a carbon policy must achieve significant GHG reduction in order to be effective. There are certainly many other factors influencing the effectiveness of climate change policies, but a considerable GHG reduction target is undeniably a critical prerequisite of an effective policy. Although the long-term target of 80 per cent is rather significant, the present short/medium-term reduction target set by the Australian government is inadequate.

The coverage of the policy is another important aspect directly related to the effectiveness of the policy in an environmental context. The carbon price scheme covers just about 50 per cent of GHG sources, providing a clear price signal to covered polluters but leaving aside another 50 per cent of polluters. The coverage of the scheme might be expanded in the future but at this point it is unlikely that this policy would create broad-based incentives across polluting sectors and activities. If

²⁴ Munda, G., Nijkamp, P. & Rietveld, P. 1994. Qualitative Multicriteria Evaluation for Environmental Management. *Ecological Economics*, 10, 97-112.

²⁵ All other discussed criteria are also considered according to the definition given by the Multi-Party Climate Change Committee.

²⁶ For example, carbon taxes implemented in Scandinavian countries have a narrow tax base, various exemptions and imbalanced tax rates. All these factors significantly reduce the environmental effectiveness of this instrument. Existing ETSs, so far, also have not demonstrated remarkable environmental effectiveness, being often linked with low reduction targets, limited coverage and grandfathering of permits. See for example: EEA. 2006. Using the Market for Cost Effective Environmental Policy. Available: http://reports.eea.europa.eu/eea_report_2006_1/en (Accessed 27/10/2009); Ellerman, D. & Joskow, P. L. 2008. The European Union's Emissions Trading System in perspective. Available: <http://www.pewclimate.org/eu-ets> (Accessed 27/10/2009).

transport and agriculture sectors are included in the scope of the scheme, the price signal would be adequate. Thus, considering the low emissions reduction target and limited coverage of the policy, its effectiveness is likely to be rather low.

3.2 Economic efficiency

According to the Committee, a carbon price mechanism should achieve emissions reduction cost-effectively and minimise the costs of emissions reduction to the Australian economy. This criterion is frequently prioritised by economists, although experts from other fields may not consider this criterion so favourably.²⁷

In the short term, an emissions trading scheme is expected to raise prices more than revenue-equivalent fixed carbon price mechanism like a tax.²⁸ This is because marginal abatement costs increase quickly as abatement enhances, but emissions over any short interval make little difference to the accumulated stock.²⁹ Pizer argues that it is preferable to let the levels of emissions remain uncertain, as under taxes, than to allow the marginal price of emissions reductions to linger uncertainly, as under an ETS.³⁰ In other words, a fixed carbon price would by no means impose unreasonable costs on the reduction of GHG emissions, but a quantity target could.³¹ Along this line, price certainty is an influential factor relating to economic efficiency. The long-term predictability of input prices is vital for investors and technological development. A fixed carbon price is able to convey a certain price signal to industry and consumers whereas an ETS price signal entails less certainty. Experience indicates that a price signal under ETS policy may fluctuate due to changes in economic conditions,³² and it will therefore be impossible to predict the carbon price even for big business.³³ Under an effective ETS, price volatility would significantly affect business investments.

The recent global financial crisis clearly illustrates that markets are not self-sufficient. Likewise, it is not clear whether the ETS would be as functional and efficient as

²⁷ For detailed discussion on various relevant criteria see: Guglyuvatyy, E. 2010. Identifying criteria for climate change policy evaluation in Australia. *Macquarie Journal of Business Law*, 7, 98-130.

²⁸ Aldy, J. E., Krupnick, A. J., Newell, R. G., Parry, I. & Pizer, W. 2009. Designing Climate Mitigation Policy. *Resources for the Future, Discussion Paper 08-16.*, p. 30. Washington DC.

²⁹ Ibid.

³⁰ Pizer concludes that: 'My own analysis of the two approaches [carbon taxes vs. emission trading] indicates that price-based greenhouse gas (GHG) controls are much more desirable than quantity targets, taking into account both the potential long-term damages of climate change, and the costs of GHG control. This can be argued on the basis of both theory and numerical simulations.' (Pizer, W. 2002. Combining Price and Quantity Control to Mitigate Global Climate Change. *Journal of Public Economics*, 85, 409-434., p. 432).

³¹ Literature seems to agree that it is more difficult to achieve cost-effectiveness under an ETS, especially in the early years, due to price uncertainty. See for example: Pizer 2002; Aldy, J. E., Ley, E. & Parry, I. 2008. A Tax-Based Approach to Slowing Global Climate Change. *Resources for the Future, Discussion Paper 08-26.* Washington DC.

³² See: Aldy et al. 2009 above note 28; Brook 2009, above note 16.

³³ Green et al. suggest that an ETS is not able to offer certainty since emissions permits do not legally represent real property rights. The government may modify the ETS regulation, which could diminish the value of emissions permits owned by industry. (Green, K. P., Hayward, S. F. & Hassett, K. A. 2007. *Climate Change: Caps vs. Taxes.* Available: www.aei.org/publication26286/)

planned, and whether prices of permits would remain reasonably stable.³⁴ The fixed carbon price, on the other hand, would levy the same burden on the polluters and provide similar incentives to implement environmentally-friendly technologies regardless of economic boom or decline. The carbon price scheme will provide more certainty over price than the ETS. Considering the criteria of economic efficiency, the certainty associated with a fixed carbon price would have an advantage over a flexible price, even if it is equipped with a price floor and ceiling, as under the future Australian emissions trading scheme.³⁵ From this perspective, the Australian government's commitment to an ETS may diminish the efficiency of the carbon price mechanism.

Another precondition of economic efficiency is the equivalence of the price signal. It is well recognised that economic efficiency can be increased if all polluters face the same carbon price. As discussed above, the proposed policy covers a limited range of GHG sources, accordingly decreasing its cost-effectiveness. Taken as a whole, the design defects of the policy, such as its coverage and GHG reduction target, may significantly influence its efficiency. In addition, the price volatility associated with the future ETS will negatively affect its performance; specifically, reducing the economic efficiency of this policy.

3.3 Budget neutrality

It is preferable to develop a revenue-neutral carbon price mechanism where revenue is used to fund green innovations and to compensate both households and businesses.³⁶ As discussed previously, the revenue from the carbon price policy will be utilised to compensate low-income households and businesses. In addition, the revenue will be used for transition relief for displaced workers (such as miners), supporting energy research and development, and encouraging conservation activities.³⁷

Both the transitional carbon price scheme and future ETS will generate considerable revenue and it is rational to apply the revenue-neutrality principal to the design of the policy.³⁸ A major tax reform involving an increase in the tax-free threshold is essential

³⁴ Professor Brook (2009, above note 16, p. 9), criticising the ACPRS proposed by the Australian government, argued that: 'An emissions cap and trade approach provides no certainty in price where emissions will need to be reduced (more than the 5% that might happen with recession anyway). There is a risk that with an artificial price cap, the ceiling might be reached and businesses will run out of permits. At that stage we will face an impossible economic dilemma and the government will need to choose between acknowledging that the CPRS didn't work or it might force business sectors into closure. The claim that it is difficult for a carbon tax approach to manage uncertainty around future carbon price is by definition untrue because it is far more direct, transparent and can be more easily forecast.'

³⁵ A price ceiling and floor will apply for the first three years of the flexible price period. The ceiling will be set at \$20 above the expected international price and will rise by 5 per cent in real terms each year. The price floor will be \$15, rising annually by 4 per cent in real terms (Multi-Party Climate Change Committee, above note 7).

³⁶ The Committee suggests that the policy should be budget-neutral but this does not preclude other climate change measures being funded from the Budget.

³⁷ Multi-Party Climate Change Committee, above note 7.

³⁸ Bosquet, B. 2000. Environmental Tax Reform: Does it Work? A Survey of the Empirical Evidence. *Ecological Economics*, 34, 19-32, p. 19; EEA. 2005. *Market-based Instruments for Environmental*

to compensate many low-income families who would otherwise be severely affected. However, industry assistance of \$9.2 billion over the period 2014–15 is arguably too generous. Overall, the proposed legislation is not budget neutral because there will be \$3.961 billion gap from 2011–12 to 2014–15 in funding needed from the budget for the programs proposed.³⁹ In addition, there will be an unknown cost to shut down the most polluting power stations. Another issue is a potential sharp fall in the Australian carbon price when emissions trading starts in 2015.⁴⁰ This would produce an additional pressure on the federal budget. For example, if the carbon price fell to \$15 a tonne when the emissions trading scheme starts in 2015, the call on the budget would be some \$3 billion annually from 2015–16 to 2019–20.⁴¹ In this light it is reasonable to conclude that the proposed legislation in its present status is unlikely to be budget neutral.

3.4 Competitiveness of Australian industries

It is well established that the higher production costs caused by carbon policies affect the international and sectoral competitiveness of firms.⁴² The concern for international competitiveness generates strong opposition to GHG reduction policy. In the case of Australia, the concerns for the competitiveness of export and energy-intensive industries represent a real political hurdle. Energy generators and energy-intensive industries, such as the steel and chemical industries, are the most disadvantaged by GHG reduction policies.⁴³ These industries exercise a political power that is sufficient to influence the implementation of carbon pricing in Australia. This is despite the fact that a preliminary examination of the impact of the ACPRS on Australia's ASX100⁴⁴ companies indicated that for approximately 75 per cent of companies the impact would be less than 2 per cent of value, and in most cases, below 1 per cent of value if a carbon price is \$20 tonne.⁴⁵ Nonetheless, the literature and experience indicate that it

Policy in Europe. Technical report 8. European Environmental Agency. Available: http://www.eea.europa.eu/publications/technical_report_2005_8.

³⁹ Carbon Pollution Reduction Scheme and Carbon Pricing Mechanism: comparison of selected features, above note 20.

⁴⁰ The Business Council of Australia, Submission to the Joint Select Committee Inquiry into Australia's Clean Energy Future. Available at: <http://www.bca.com.au/Content/99521.aspx>

⁴¹ Ibid.

⁴² See for example: OECD. 2003a. Environmental Taxes and Competitiveness: An Overview of Issues, Policy Options, and Research Needs. Available: [www.oecd.org/olis/2001doc.nsf/LinkTo/com-env-epoc-daffe-cfa\(2001\)90-final](http://www.oecd.org/olis/2001doc.nsf/LinkTo/com-env-epoc-daffe-cfa(2001)90-final) (Accessed 04/09/2009). OECD. 2008. Environmentally Related Taxes and Tradable Permit Systems in Practice. Centre for Tax Policy and Administration. Available: http://www.oecd.org/department/0,3355,en_2649_34295_1_1_1_1_1,00.html (Accessed 29/08/2009).

⁴³ Garnaut, R. 2008. *Garnaut Climate Change Review*. Available: http://www.garnautreview.org.au/domino/Web_Notes/Garnaut/garnautweb.nsf (Accessed 21/11/2011).

⁴⁴ The ASX 100 index is Australia's premier large capitalisation equity index. It is comprised of 100 stocks selected by the Standard & Poor's Australian Index Committee.

⁴⁵ In particular, this report suggests that for the mining industry, a reduction in value would be 0.5–1.5 per cent; for paper, steel, cement, mineral sands and aluminium industries the impact would be 0.57 per cent. (Climate Institute 2008. Submissions to the Carbon Pollution Reduction Scheme Green Paper. *The Climate Institute*. Canberra., p. 15.) However, some industries such as LNG and a number of chemical companies could benefit from stronger demand generated by GHG reduction policy. For example, AGL profits might increase by almost \$150 million (at \$20 a tonne of carbon), and by in excess of \$200 million if a carbon price would be \$40 a tonne. (Parkinson, G. 2008. *Time for a Renewable Vision*. Available: <http://www.businessspectator.com.au/bs.nsf/Article/Time-to-stop-backing-fossils-HR6CS?OpenDocument>).

is necessary to alleviate or compensate the losses of businesses, to distribute the costs more evenly and to enhance the political feasibility of a GHG reduction policy. The compensation measures are clearly one of the most influential factors associated with competitiveness issues.

Despite providing generous compensation for businesses, the carbon price mechanism and future ETS differ in some characteristics influencing the competitiveness of businesses. An ETS will be endowed with an international linkage mechanism⁴⁶ which provides an extra opportunity for businesses to meet their liability under the scheme. Certain types of internationally recognised permits may be used to acquit up to 50 per cent of an entity's liability when emissions trading starts.⁴⁷ With such generous linkage, the price of Australian permits will depend on international carbon markets. A linkage mechanism will directly affect domestic action and, as a result, an Australian national emissions target would be achieved with a small real reduction of Australia's GHG. Therefore, whilst linking is a useful provision offering extra opportunity to the participants, it must be restricted to supplementing domestic reduction. The amount of international emissions units surrendered by business should be limited to no more than 10 per cent of the total permits surrendered.⁴⁸ In this way, the Australian carbon price will be isolated from the influence of international carbon price and domestic reduction will not be jeopardised.

The proposed legislation renders extensive assistance packages to affected industries, thus considerably reducing competitiveness concerns. Additionally, a generous international linkage mechanism provides extra opportunities for businesses to meet their obligations.

3.5 Energy security

Energy security is an increasingly important element of Australia's security policy agenda.⁴⁹ Australia is one of the world's largest exporters of coal and uranium, and therefore at present, Australia's position in the global energy market appears to be confident.⁵⁰ However, to increase energy security, Australia should diversify its energy sources. Future technological development can help to reduce the emissions intensity of the economy and to meet the challenge of energy security in the long term.

⁴⁶ Generally, an international linkage mechanism offers companies covered by the ETS the opportunity of investing in emissions reduction projects in developing countries such as those in China, and bringing carbon credits back to use in the domestic ETS. Therefore, companies can use credits from the Kyoto Protocol mechanisms to fulfil their obligations under the ETS. Such international linkage undeniably provides an additional flexibility for the participants. For example, the EU ETS provides similar arrangement for the participants.

⁴⁷ International linking has been substantially criticised see for example: Jaffe, J. and R. N. Stavins. "Linkage of Tradable Permit Systems in International Climate Policy Architecture." Discussion Paper 08-07, Harvard Project on International Climate Agreements, Belfer Center for Science and International Affairs, Harvard Kennedy School, September 2008.

⁴⁸ Jaffe J. and Stavins R. 2007. Linking Tradable Permit Systems for Greenhouse Gas Emissions: Opportunities, Implications, and Challenges. International Emissions Trading Association, published at United Nations Climate Change Conference COP13/CMP3, Bali.

⁴⁹ National Energy Security Assessment December 2011. Commonwealth of Australia.

⁵⁰ Australia's Energy Production, Consumption and Exports. Available at:
<http://www.ga.gov.au/energy/basics.html>

Reportedly, Australia trails behind other OECD countries in energy efficiency advancement, while there are many opportunities to upgrade energy efficiency.⁵¹ Policies to improve energy efficiency need to be developed to address specific market failures. Otherwise, these non-price market failures will raise the cost of meeting a GHG reduction target to the economy. Additionally, improving energy efficiency can significantly lower households' exposure to rising energy prices.⁵² A number of analysts recommend targeting technology development directly, specifically by introducing measures aimed at stimulating research.⁵³

The Australian government proposed a number of critical complementary policies to support climate change mitigation efforts, including: energy efficiency information, the low income energy efficiency program, a household energy and financial sustainability scheme, the Remote Indigenous Energy Program, the Tax Breaks for Green Buildings Program, and the Energy Affordability Scheme, amongst other programs.⁵⁴ Moreover, substantial funds are dedicated for research and development including the aforementioned Clean Energy Finance Corporation, Australian Renewable Energy Agency, \$200 million over five years for grants to support business investment in research and development in renewable energy, low-pollution technology and energy efficiency. In addition, a range of existing programs to support clean energy innovation will be continued with committed funding of over \$2 billion.⁵⁵ Undeniably, these initiatives and funding are needed for successful development of green technologies and therefore should supplement the GHG reduction policy.

Nonetheless, in addition to the aforementioned green initiatives, a broad-scale feed-in-tariff (FIT) which would replace all state-level FIT schemes⁵⁶ and apply to all renewable energy generators, needs to be implemented in Australia.⁵⁷ Overall, these measures may have dissimilar effects during the fixed price period and future emissions trading but such effects are difficult to forecast. For the purpose of this analysis, it is assumed that the supplementary measures proposed to be included in the carbon policy package are likely to increase Australian energy security.

⁵¹ IEA 2008. *Worldwide Trends in Energy Use and Efficiency: Key Insights from IEA Indicator Analysis*. International Energy Agency, Report to G8. Paris.

⁵² Aldy et al. 2009, above note 28.

⁵³ Some analysts argue that it is necessary to address each market failure with separate policy instruments. See, for example; Daily, G. C. & Ellison, K. 2002. *The New Economy of Nature: The Quest to Make Conservation Profitable*, Washington DC, Island Press; Fischer, C. & Newell, R. G. 2007. *Environmental and Technology Policies for Climate Mitigation. Resources for the Future, Discussion Paper 04-05*. Washington DC.

⁵⁴ For details see: Carbon Pollution Reduction Scheme and Carbon Pricing Mechanism: comparison of selected features, above note 20.

⁵⁵ Ibid.

⁵⁶ Energy Matters. Available at: <http://www.energymatters.com.au/government-rebates/feedintariff.php#fit-table>

⁵⁷ Since solar and wind energy is generally more expensive than energy produced through burning of fossil fuels, renewable energy needs to be subsidised to encourage its production. FIT is a rate paid to producers of renewable energy, or in other words, it is a way of subsidising renewable energy.

3.6 Investment certainty

Investment confidence is critically important for the development and deployment of new, energy efficient and clean technologies in Australia and worldwide. In this context, the predictability or regulatory certainty of GHG reduction policy is a significant aspect influencing future investments. Considerable investment from the private sector is required to stimulate the progress and implementation of green technologies. Evidently, such investments depend on the predictability of GHG reduction policy.

Predictability and certainty of a climate change policy significantly depends on the certainty of a GHG reduction target. A first element of predictability that the government should announce is unambiguous GHG reduction targets which would enable planning by businesses of their investments and other activities. This precondition would facilitate the initial credibility of the climate change policy. As discussed previously, the element of certainty in reduction targets is integrated into the considered carbon policy. However, it is worth noting that the government aims to establish the caps on emissions for the first five years of the ETS in 2014.⁵⁸ Investment decisions require full information on carbon caps well in advance but unfortunately, this is not the case under Australian carbon policy.

Another important precondition of policy predictability is carbon price certainty. The long-term predictability of input prices is vital for investors and technological development. However, as noted earlier, there is a fundamental problem with a flexible carbon price. For the fixed price period in the first three years, the price will be \$23 in 2012–13, \$24.15 in 2013–14 and \$25.40 in 2014–15 per ton of CO₂.⁵⁹ A fixed carbon price is able to convey a certain price signal to industry and consumers whereas an ETS price signal entails less certainty. The EU ETS current price is around EUR8 and the Certified Emission Reduction (CER) price is around EUR4. Thus, if emissions trading starts today, the Australian carbon price is likely to slip to \$10–\$15.⁶⁰ The operation of the \$15 floor prices, when international units are traded well below \$15, is blurred. Under this scenario, liable businesses may buy international carbon units for 50 per cent of the requirement and the demand for the domestic carbon units will be very depressed, resulting in low prices. The emissions price volatility associated with emissions trading would significantly affect investment certainty.

Presumably, even relatively stable political regimes like Australia cannot guarantee the predictability of such a long term policy as climate change. Even if a government will guarantee predictability of either carbon price mechanism or ETS, there would still be uncertainty in the long-term as a new political party may come to power and change the policy or the policy may need to be updated due to new information. This is especially true considering that the opposition leader, Tony Abbot, has promised to

⁵⁸ If the parliament rejects the regulations presented in 2014, the mechanism will automatically allow for a pre-prescribed pollution cap to come into effect for the first flexible price year only.

⁵⁹ Multi-Party Climate Change Committee, above note 7.

⁶⁰ The prices are current at 22/03/2012. Available at: <http://www.pointcarbon.com/>

repeal the carbon price legislation if he comes to power.⁶¹ Therefore, it is clear that some element of legislative uncertainty will remain in any case. Overall, the carbon price and the ETS might provide some investment certainty. Nevertheless, the carbon price will be known in advance and would be more stable, while the ETS price stability is highly questionable. The uncertainty in price and emissions caps associated with the ETS decisively diminishes the credibility of this instrument. Thus, it is justifiable to suggest that the policy, particularly future ETS, proposed by the Australian government would not facilitate an adequate level of investment certainty.

3.7 Fairness

Generally, the literature indicates that distributional concerns are deemed to occur when a carbon tax or an ETS are introduced.⁶² The negative distributional impact across households is a major issue for governments introducing climate change policies and the Australian government is no exception.

The impacts of carbon taxes and an ETS significantly depend on the revenue's utilisation. If the revenue is recycled in a proper way – in favour of low-income or disadvantaged groups – the adverse distributional effect can be neutralised substantially or completely, or even reversed, depending on the recycling scheme.⁶³ Another aspect of revenue recycling affecting households, especially in long term, is energy efficiency measures and research and development (R&D) funding. If part of the revenue is spent for these purposes, new green technologies and the energy efficiency measures available to households would facilitate a reduction in the distributional burden.⁶⁴

It is compulsory to consider incorporating measures for compensating the unfavourable distributional effects when designing a new GHG reduction policy. As mentioned above, the Australian government is allocating part of the revenue from the carbon price scheme to increase the tax-free threshold and to expand welfare programs for low-income households.⁶⁵ Additionally, a significant part of carbon policy revenue is also dedicated to energy efficiency and R&D measures. Thus, it is reasonable to conclude that the proposed carbon policy is able to address this principal.

⁶¹ Tony Abbott promises to get rid of carbon pricing scheme within six months of being elected to power. Available at: <http://www.news.com.au/national-old/tony-abbott-promises-to-get-rid-of-carbon-pricing-scheme-within-six-months-of-being-elected-to-power/story-e6frfkw9-1226334281970>

⁶² Ekins, P. & Dresner, S. 2004. *Green Taxes and Charges: Reducing Their Impact on Low-Income Households*. York. Available: <http://www.jrf.org.uk/bookshop/eBooks/1859352472.pdf>; EEA. 2005. *Market-based Instruments for Environmental Policy in Europe. Technical report 8*. European Environmental Agency. Available at: http://www.eea.europa.eu/publications/technical_report_2005_8

⁶³ Ibid.

⁶⁴ Ibid.

⁶⁵ For example, according to the government, the average household will see cost increases of around \$9.90 per week, while the average assistance provided will be around \$10.10 per week. Carbon Pollution Reduction Scheme and Carbon Pricing Mechanism: comparison of selected features, above note 16.

3.8 Flexibility

According to the Committee, a carbon price mechanism needs to be flexible to respond to changing international circumstances and new information on climate change. Indeed, the flexibility of the policy is especially vital in the context of climate change. In some areas of policy making, flexibility might not be a critical criterion for effective performance of policy. In the case of climate change – the consequences of which are decidedly uncertain and very difficult to predict – the degree of flexibility of the policy required to reflect new information must be reasonably high. Flexibility allows governments to respond to future uncertainties.⁶⁶

It is generally agreed that uncertainty about climate change will not be resolved soon but new information is likely to occur regularly; hence, it is important to maintain flexibility.⁶⁷ In general terms, if the carbon price is too severe it could be fairly simply decreased. If the carbon price does not provide genuine GHG reduction it could be increased. Either way, the carbon price may be adjusted on the basis of new scientific or economic data. Such amendments might be made on a regular basis, thus facilitating predictability and allowing a constant review of the effectiveness of the scheme.

It might be argued that the ETS is less straightforward in this context. Since emissions permits represent significant financial value, it is more difficult to adjust emissions trading. If, for example, permits are auctioned but the reduction target needs to be enhanced, it may be challenging to buy the permits back from the participants. Conversely, such a problem would not appear under the carbon price approach which lacks financial assets (emissions permits).

Goulder and Parry⁶⁸ suggest that an ETS with banking and borrowing provisions⁶⁹ might be somewhat more advantageous in respect of flexibility than a carbon tax. They suppose that if new information came through necessitating a constriction in the reduction target, the price can be attuned automatically under an ETS. Participants and traders would expect more stringent reduction targets and, therefore, present and anticipated future permit prices would increase ahead of an actual adjustment to GHG emissions reduction targets.⁷⁰ They maintain that, if new data would occur under a carbon tax, the legislative adjustment of the tax rate might take some time. The market may provide the ETS with an additional mechanism increasing flexibility. Thus, implied sensitivity to changes is an advantage increasing the flexibility of the ETS policy but not associated with the carbon price mechanism.

⁶⁶ Anda, J., Golub, A. & Strukova, E. 2009. Economics of Climate Change under Uncertainty: Benefits of Flexibility. *Energy Policy*, 37, 1345–1355.

⁶⁷ Garnaut 2008, above note 43, Anda et al. 2009, above note 66.

⁶⁸ Goulder, L. H. & Parry, I. 2008. Instrument Choice in Environmental Policy. *Resources for the Future, Discussion Paper 08-07*. Washington DC.

⁶⁹ Banking and borrowing – by allowing participants to bank permits when permit prices are low and borrow permits from future periods when prices are high, price volatility under an ETS can be controlled to some extent.

⁷⁰ Goulder and Parry 2008 above note 68.

Indeed, the market may react faster than the government to the changing situation, but under tax and ETS, the reduction target would need to be adjusted legitimately, which might be equally complicated and time consuming under both regimes.⁷¹ The actual legislative adjustment of a regime would depend on many factors, such as the design of a regime, bureaucracy, and parliamentary acceptance, amongst many others. The regime considered in this paper is theoretically flexible. The ETS emissions caps can be reassessed in the same way as the carbon price may be updated on a regular basis with regard to the latest scientific information. However, legislative adjustment of the regime – especially the enhancement of the reduction target – is unlikely to be easy.

3.9 Administrative simplicity

The Committee suggests that a carbon price mechanism should be designed to minimise compliance costs and implementation risks. Compliance costs are often analysed in conjunction with administrative costs that are borne by the government.⁷² The compliance and administrative costs issue is generally well recognised in various fields of public policy, but since climate change policy is relatively new, there has been little attempt to estimate these costs.⁷³

Generally, analysts are inclined to agree that carbon taxes are likely to be organisationally simpler than an ETS. There is also some literature investigating the compliance costs of an ETS. For example, Kerr and Mare,⁷⁴ in their study of transaction costs⁷⁵ in the US-led credit trading scheme, find that transaction cost effects are sufficiently strong to decrease the total achieved gain from trade by 10 to 20 per cent.⁷⁶ There were also some estimates of compliance costs related to the EU ETS.⁷⁷ However, the EU ETS is applied middle-stream, thus covering a number of businesses. An upstream ETS or carbon price would apply to a significantly smaller

⁷¹ Quiggin, analysing uncertainty and climate change policy, notes in this respect: “(t)here is unlikely to be much difficulty in maintaining flexibility to relax mitigation policy if the problem of climate change turns out to be less serious than the current median estimate. Governments can cut taxes on carbon, give away additional emissions permits and relax regulatory constraints, all of which will generally be popular moves. It will be rather more difficult to maintain the flexibility to move to more aggressive mitigation policies than are contemplated in initial agreements.” (Quiggin, J. 2008. *Uncertainty and Climate Change Policy. Economic Analysis & Policy*, 38, 203-210., p. 209).

⁷² Some researchers have a tendency to unite administrative and compliance costs under the term ‘operating costs’ see for example: Pope, J. & Owen, A. D. 2009. *Carbon Emission Taxes: Potential Revenue Effects, Compliance Costs and Overall Tax Policy Issues. Australasian Tax Teachers Association Conference*. Christchurch.

⁷³ Ibid.

⁷⁴ Kerr, S. & Mare, D. 1998. *Transaction Costs and Tradable Permits. The United States Lead Phasedown*. Available: http://www.motu.org.nz/pdf/transaction_costs.pdf., p. 3.

⁷⁵ Generally, economists tend to consider transaction costs as costs incurred by businesses covered by a policy, thus separating these costs from the administrative costs borne by government.

⁷⁶ It is noted that the losses from transaction costs were considerable for some companies, especially smaller businesses. Kerr and Mare conclude that transaction costs, in fact, reduce the efficiency savings of an ETS (Kerr & Mare 1998 above note 74).

⁷⁷ For example, research by the UK Emissions Trading Group (ETG) based on a survey of its members assessed these costs as totalling up to £68 million for UK businesses participating in Phase I. That is quite significant considering that the EU ETS covers less than 50 per cent of GHG emissions. Moreover, the research estimates compliance costs for Phase II of the EU ETS at more than £100 million over the duration of the scheme. Riddell, N. 2008. *Administrative Cost of the Emissions Trading Scheme to Participants. The UK Emissions Trading Group, Working Group 5/6 Study*. London.

number of businesses, implying lower compliance costs associated with the policy. Pope and Owen estimated that the operating costs of the ACPRS will be around AU\$200 million annually.⁷⁸ They also note that there will be additional start-up costs roughly estimated at about one year of operating costs (AU\$200 million). Pope and Owen suggest that, since the ACPRS will cover about 1,000 emitters, aggregate compliance costs for the participants are likely to be moderate.⁷⁹ Indeed, compliance costs associated with the ACPRS may not seem to be drastic, but if we were to compare it with compliance costs under a carbon tax, the conclusion might be different.⁸⁰

The considered carbon policy is applied upstream and hence the policy minimises compliance costs in this respect. However, the more complex the climate change policy, the more cost it would involve to comply for covered businesses. An ETS, complex-by-nature, entails significant associated costs, such as fees paid to brokers or exchange institutions to find trading partners, negotiating costs, insurance costs and so forth. An ETS requires the creation of a new market mechanism, government body and certain new arrangements from businesses.⁸¹ Overall, compliance costs for businesses under an ETS may be comparably high.

Resembling the logic of compliance costs, the simplicity of the policy is significant for the minimisation of administrative costs. Pope and Owen, analysing the potential operating costs, suggested that the government should establish a new independent body to manage ACPRS. However, their estimation appears to be too optimistic.⁸² The government has established a range of bodies to manage various climate policy related issues.⁸³ For example:

- The Climate Change Authority established as an independent body to review key aspects of the carbon price mechanism and the government's climate change mitigation initiatives.

⁷⁸ Pope and Owen 2009, above note 72, p. 16.

⁷⁹ Ibid.

⁸⁰ Tax is not as novel an instrument as an ETS and it does not require any new arrangements from the participants. Carbon tax involves little costs, over all stages of their life span, because a tax could be paid through the current tax infrastructure.

⁸¹ Many commentators agree that emissions trading usually requires new institutions (regulatory bodies). See, for example: Quiggin, J. & Gans, J. 2007. *Submission to the Prime Ministerial Task Group on Emissions Trading*. Available: http://docs.google.com/View?docid=dc8dmjgw_6d967zm; Humphreys (2007); Metcalf, G. E., Palstev, S., Reilly, J., Jacoby, H. & Holak, J. 2008. *Analysis of U.S. Greenhouse Gas Tax Proposals*. MIT Joint Program on the Science and Policy of Global Change. Cambridge.

⁸² For example, Humphreys, discussing the compliance costs associated with a potential Australian ETS, argues: "Many of these costs of trading are already apparent in other trading systems, such as the EU carbon trading system and the Australian taxi-licensing system. Taxi licences have been slow to adjust to changing conditions (resulting in a poor and prohibitively expensive service), have created a wasteful artificial market in licences that benefits licence traders but not the government or the economy, involves administrative and compliance costs, and has been notoriously difficult to reform." (Humphreys, J. 2007. *Exploring a Carbon Tax for Australia*. *Centre for Independent Studies, Perspectives on Tax Reform 14*. St Leonards., p.4.)

⁸³ Clean Energy Agreement. Available at: <http://www.climatechange.gov.au/government/initiatives/mpccc/resources/clean-energy-agreement.aspx>

- An independent regulator (the Clean Energy Regulator) established to administer the carbon price mechanism within a limited and legislatively prescribed discretion.
- The Clean Energy Finance Corporation (CEFC) established to support projects using a range of funding tools: loans on commercial or concessional terms, loan guarantees or equity investments (\$10 billion).
- The Australian Renewable Energy Agency (ARENA) is a Commonwealth Authority established under the Commonwealth Authorities and Companies Act (CAC Act). ARENA will have independent governance of \$3.2 billion in existing government support for R&D, demonstration and commercialisation of renewable energy technologies.
- An independent Land Sector Carbon and Biodiversity Advisory Board established by legislation to review and oversee land sector initiatives, including those related to abatement and biodiversity.

In this light, it seems that the administrative and compliance costs of the carbon pricing regime might be relatively high. Overall, this implies a number of new arrangements and complex rules which increase the administrative complexity of the policy.

3.10 Clear accountabilities

The Committee suggested that a carbon price mechanism should have transparent rules and clear accountabilities to promote business and community confidence. The transparency and accountability principle is often undermined by policy makers. The transparency of a policy is vital to support environmentally effective objectives, lower the overall costs of GHG reduction and to build a reliable foundation for decision-making. Transparency plays a key role in many aspects of climate change policy⁸⁴ and is often cited as the primary argument for a carbon tax.⁸⁵ Transparency of the policy can strengthen democracy, increase trust in government, lead to legitimacy, credibility, and enhance public education, all of which is important.⁸⁶ An ETS by definition is less transparent and a more multifaceted policy than a carbon tax. As noted above, an ETS requires complex and broad legislation that is not simple to

⁸⁴ For example, the EU ETS directive provides that the NAP must go through a mandatory public participation process to maximise transparency of the policy. GHG reduction policy legislation and procedures must be maximally transparent, otherwise the stakeholder participation procedure will become obsolete and thus the public acceptability of the policy will be uncertain. (Matthes, F., Graichen, V. & Repenning, J. 2005. *The Environmental Effectiveness and Economic Efficiency of the European Union Emissions Trading Scheme: Structural Aspects of Allocation*. Available at: http://www.wwf.de/imperia/md/content/klima/2005_11_08_full_final_koinstitut.pdf).

⁸⁵ Broad literature suggests that a carbon tax is transparent and easy to understand for the public. See: Shapiro, R. 2007. Addressing the Risks of Climate Change: The Environmental Effectiveness and Economic Efficiency of Emissions Caps and Tradable Permits, Compared to Carbon Taxes. Available: http://www.sonecon.com/docs/studies/climate_021407.pdf; Freebairn, J. 2008. Taxes or Tradable Permits to Reduce Greenhouse Gas Emissions. *Musgrave Symposium, June 2008*. Sydney.

⁸⁶ Renn, O. 2004. The Challenge of Integrating Deliberation and Expertise: Participation and Discourse in Risk Management. In: Macdaniels, T. L. & Small, M. J. (eds.) *Risk Analysis and Society: An Interdisciplinary Characterization of the Field*. Cambridge: Cambridge University Press.

comprehend for the public and businesses. Professor Mann⁸⁷ vividly summarises this problem:

The complexity of a cap-and-trade system makes it difficult for taxpayers and consumers to determine who will be paying the costs, and how much those costs will be. The complexity allows affected industries to jockey for advantage and exemptions without the general public understanding what is going on. From an end-user cost perspective, a carbon cap-and-trade system is opaque, not transparent. This may be viewed as a political advantage – if consumers don't understand that some industries are getting off without paying their fair share, it is unlikely that consumers will raise objections. Political compromises can then be made among the industries without fear of public uproar.

Transparency benefits the industries bearing the burden of a carbon price, since it may facilitate price certainty.⁸⁸ As discussed earlier, a carbon price set through a fixed price mechanism similar to a tax will not fluctuate with the market, thus providing transparent and certain costs required for businesses' investment decisions. Additionally, such a mechanism is transparent in terms of openness for the public and businesses because it can be simply levied per tonne of carbon content of fuel, per kWh of electricity or litre of petrol, and is therefore easy to understand. The ETS, on the other hand, requires a market structure and other arrangements which are evidently more complex mechanisms and thus less transparent than a straightforward fixed carbon price. Therefore, it is reasonable to conclude that while the carbon price mechanism provides a certain level of transparency and accountability, a future ETS would involve some uncertainty and complications – hence the overall ability of Australian carbon policy to address this principle is rather limited.

3.11 Supports Australia's international objectives and obligations

To support Australia's international objectives and obligations, a carbon pricing mechanism should have a capacity for international harmonisation. The Australian government tends to prioritise international harmonisation of climate change policies.⁸⁹

Many analysts agree that an ETS is much easier to harmonise with other countries' carbon mitigation programs.⁹⁰ Indeed, an ETS generates a natural unit of exchange for harmonisation: permits denominated in units of GHG emissions. Since the costs associated with climate change (e.g. coastal flooding, crop loss, etc.) have no connection with the source of GHG emissions, the rationale for ETS global harmonisation is understandable. If emissions reductions are cheaper to make in China than in Australia, emissions ought to be reduced first in the former where costs are

⁸⁷ Mann, R. 2008. Crouching Lobbyist, Hidden Subsidy? How to Overcome Politics and Find Our Green Destiny. *The Ninth Annual Global Conference on Environmental Taxation*. Singapore., p. 17.

⁸⁸ Shapiro 2007, above note 85; Freebairn 2008, above note 85.

⁸⁹ See for example: Multi-Party Climate Change Committee, above note 7.

⁹⁰ See: Green et al., above note 33; Garnaut 2008, above note 43.

lower.⁹¹ Thus, a universal exchange unit is critically important for the international harmonisation of climate change policies around the globe. While the ETS is naturally equipped with such a unit, GHG reductions under the carbon tax are not easily transferable to a particular exchange unit. Besides, existing international Kyoto units are well suited for the ETS, whereas there is no similar arrangement for the carbon tax.

Furthermore, due to certainty in emissions targets, an ETS is more conducive to international environmental agreements, such as the Kyoto Protocol. Generally, emissions reduction targets can be settled more easily than, for example, tax rates.⁹² In reality, the countries would have to find a compromise regarding tax base, tax rate, and treatment of other taxes and/or subsidies that influence the effective burden of a carbon tax. The Australian government, in proposing the ACPRS, also argues that harmonisation of carbon taxes will require multi-national agreement which is difficult to achieve in practice.⁹³ This argument seems to be logical but it has not been proven in practice.⁹⁴ For example, the EU ETS is linked with the Kyoto Protocol flexible mechanisms but it is not harmonised with other schemes.⁹⁵ Certainly, there are few other ETSs in the world but, more importantly, the economic conditions in various countries (especially developed and developing countries) differ considerably which makes it difficult to harmonise national ETSs.⁹⁶ Nonetheless, certain quantitative GHG reduction targets associated with the ETS can potentially be more naturally harmonised than such a sensitive issue as tax rates.

The present practical trend is that more and more governments are introducing and proposing emissions trading which adds further to its possible harmonisation.⁹⁷ Since major economies tend to propose and implement an ETS rather than carbon tax to reduce GHG emissions, many other countries are likely to follow suit.⁹⁸ Thus, the

⁹¹ Stavins, R. 2007. Proposal for a U.S. Cap-and-Trade System to Address Global Climate Change: A Sensible and Practical Approach to Reduce Greenhouse Gas Emissions. *The Brookings Institution*. Washington DC.

⁹² Shapiro (2007, above note 85) suggests that despite a carbon tax having environmental and economic advantages over an ETS, an international harmonisation of carbon taxes would be rather difficult. See also, Stavins 2007, above note 91; Garnaut 2008 above note 43.

⁹³ CPRS 2009, above note 3.

⁹⁴ Professor Brook (2009, above note 16, p. 8), criticising emissions trading proposed by the Australian government, notes in this context: 'The reality check needed here is that harmonisation is not likely to occur in either case because even if all nations could participate in the market, nations have different economic wealth. We don't have free trade and market parity in any other aspect of global markets so it is a fallacy to suggest that carbon prices will equalise across nations regardless of whether there is a carbon tax or a cap and trade approach, particularly when we need action from both developed and developing nations.'

⁹⁵ Although, the experience of the EU ETS demonstrates that linking of emissions trading with the Kyoto mechanisms provides an additional abatement option for the participants. This provides evident incentive for the governments around the world to consider an ETS rather than carbon tax as a national climate change policy.

⁹⁶ Brook 2009, above note 16.

⁹⁷ See: Status of Global Mitigation Action. Available at: <http://www.climatechange.gov.au/en/government/initiatives/multi-party-committee/resources.aspx>.

⁹⁸ Garnaut (2008, above note 43, p. 311) states in this context: 'Australian mitigation policy needs to be considered in the international context of action and commitments. The world is now some way down the track towards an international system based on emissions reduction targets, starting with developed countries. Regulatory approaches, carbon taxes, hybrid schemes and baseline and credit schemes would

influence of international trends in climate change policy is another factor in favour of the ETS. Overall, a large amount of theoretical literature as well as the above discussion gives priority to the ETS in respect of international harmonisation. Therefore, the considered carbon policy, especially future ETS, implies a strong case to support efficiently Australia's international objectives and obligations.

4. OVERALL ASSESSMENT

On the whole, the examination of the Australian carbon policy capability implies the following results:

Principles (criteria)	Comments	Provisional Assessment
Environmental effectiveness	Under present settings it is unlikely that the proposed carbon policy would address this criterion.	Fundamentally flawed
Economic efficiency	The design defects of the considered policy may significantly reduce its economic efficiency.	Flawed
Budget neutrality	In its present status, the introduced policy is unlikely to be budget neutral.	Flawed
Competitiveness of Australian industries	The carbon policy renders an extensive assistance package to affected industries and, in three years, will provide generous international linkage, thus considerably reducing competitiveness concerns.	Supported
Energy security	Supplementary measures included in the carbon policy package are likely to increase Australian energy security.	Supported
Investment certainty	The price uncertainty associated with the ETS as well as general legislative volatility significantly reduces investment certainty of the carbon policy.	Flawed

not be readily integrated with existing and emerging international arrangements that could provide Australia with lower-cost mitigation opportunities.⁷

Fairness	Since a significant part of carbon policy revenue is dedicated to low-income households and energy efficiency as well as R&D measures, this principle is addressed.	Supported
Flexibility	The proposed policy provides certain degree of flexibility but the legislative adjustment of the policy may prove to be difficult.	Flawed
Administrative simplicity	The policy package has a number of measures which imply complicated rules and require the creation of new institutions thus eroding the administrative simplicity principle.	Flawed
Clear accountabilities	The considered policy is implicitly complex and non-transparent; hence it is unlikely to address this principle.	Flawed
Supports Australia's international objectives and obligations	The policy design is well suited to reflect this criterion.	Supported

Overall, the above analysis demonstrates that the present policy designed by the Australian government fails to address a number of the critical principles outlined by the Multi-Party Climate Change Committee, particularly; environmental effectiveness, economic efficiency, investment certainty, administrative simplicity and clear accountabilities. The criteria that the carbon policy sustains well are competitiveness of Australian industries, fairness and Australia's international objectives and obligations, which seems to be prioritised by politicians. As a result, the introduced carbon policy contradicts some of the critical principles which were meant to be addressed in the first place. In this light, it is reasonable to conclude that the Australian government should revise some of the vital aspects of the proposed carbon policy. For example, it is necessary to increase the GHG reduction target, expand the coverage of the policy and reconsider the international linkage mechanism. There are certainly many more gaps to be addressed in the Australian carbon policy framework but they were well discussed elsewhere.

5. CONCLUSION

This article has assessed the recently introduced Australian carbon policy on the basis of the principles outlined by the Multi-Party Climate Change Committee. The policy was examined with particular reference to the relevant contemporary literature, existing practices and empirical studies. Generally, the introduced carbon policy mechanism is capable of providing a carbon price signal. On the other hand, it is an obscure and complicated policy that is characteristic for an ETS. The policy nonetheless has some advantages – specifically, support for international action, which is being constantly delayed.

The conclusion of this analysis is that the present carbon pricing regime is ‘a curate’s egg’ and hence it must be substantially revised, intimately addressing the critical principles distinguished by the Multi-Party Climate Change Committee that would allow Australia to develop a more effective and sustained carbon policy solution.