

**ISSN 1835-9728**

**Environmental Economics Research Hub  
Research Reports**

**Additional Action Reserve: A proposed mechanism to  
facilitate additional voluntary and policy emission  
reductions efforts in emissions trading schemes**

Paul Twomey, Regina Betz, Iain MacGill, Robert Passey

**Research Report No.48**

**January 2010**

**About the authors**

Paul Twomey is a Research Fellow from the Australian School of Business and member of the Centre for Energy and Environmental Markets at UNSW

Regina Betz is a Senior Lecturer in the School of Economics, UNSW and member of the Centre for Energy and Environmental Markets at UNSW

Iain MacGill is joint Director of the Centre for Energy and Environmental Markets at UNSW and Senior Lecturer in the School of Electrical Engineering and Telecommunications, UNSW

Robert Passey is a Senior Research Associate at the Centre for Energy and Environmental Markets at UNSW

**Environmental Economics Research Hub Research Reports** are published by the Crawford School of Economics and Government, Australian National University, Canberra 0200 Australia.

These Reports present work in progress being undertaken by project teams within the Environmental Economics Research Hub (EERH). The EERH is funded by the Department of Environment and Water Heritage and the Arts under the Commonwealth Environment Research Facility.

The views and interpretations expressed in these Reports are those of the author(s) and should not be attributed to any organisation associated with the EERH.

Because these reports present the results of work in progress, they should not be reproduced in part or in whole without the authorisation of the EERH Director, Professor Jeff Bennett ([jeff.bennett@anu.edu.au](mailto:jeff.bennett@anu.edu.au))

Crawford School of Economics and Government  
THE AUSTRALIAN NATIONAL UNIVERSITY  
<http://www.crawford.anu.edu.au>

## Table of Contents

Abstract	4
1. Introduction	4
2. On the Role of State and Local Government in Mitigation Actions	8
3. Options for Additional Action	10
4. Additional Action Reserve	12
5. Conclusion	17
References	17

## Abstract

An Additional Action Reserve (AAR) is proposed as a mechanism to allow for initiatives by government and voluntary private interests to make additional emissions reductions beyond a nationally set cap. The key idea of the AAR is to annually set aside a proportion of the Australian Emission Units (AEUs) which can then be retired if state or local government, businesses or individuals take specific emission reduction measures which go beyond those expected to be driven by the CPRS. AEUs allocated to the reserve that are not retired through additional activities would then be made available to CPRS participants. By providing an upper bound to such actions, the scheme would limit the uncertainty as to the quantity of available permits for emitters and provide a limit to the potential losses of auctioning revenue from AEU retirements. Compared to some other options to allow for additional action (such as buying-and-retiring of permits or future reductions of the national cap) the scheme combines the favorable features of accounting for tangible, psychologically-satisfying actions (such as installing a home solar PV system) with a transparent process that assures the participant that such actions are having an immediate effect in reducing national emissions. Elements of this approach have already been seen in the Regional Greenhouse Gas Initiative (RGGI), an inter-state emissions trading scheme which began in the United States in 2009.

## 1. Introduction

Over the last decade, cap- and-trade emissions trading schemes have emerged as one of the more favored policy instruments of consideration by climate policy makers. The most well known application is the European Union's Emissions Trading Scheme (ETS) which began operating in 2005. At present, a number of other countries are in the consultation and policy development process of introducing their own domestic schemes. Australia is currently debating the introduction of the Carbon Pollution Reduction Scheme (CPRS). In the US, the centre piece of a new energy and climate change bill is also likely to include an emissions trading scheme.<sup>1</sup>

An inherent design feature of cap-and-trade schemes is that once the cap on emissions has been set, then no actions by individuals, organizations or governments within the system can provide additional reductions beyond the level of the cap. Thus the emissions cap is also an emissions floor. For example, if an individual reduces emissions by installing a solar PV system on their roof, then the reduced electricity required from existing fossil fuel generation will free-up carbon permits that would otherwise have been used by electricity generators and thus allow for increased carbon emissions elsewhere in the system, and potentially lower carbon prices. In Australia, this disconnect between individual action and the aggregate emissions outcome has become a source of much contention in the media and in hearings and submissions to Government policy processes.<sup>2</sup> It has been variously characterised as a

---

<sup>1</sup> Note that the Kyoto protocol sets emissions caps for selected countries, and permits trading. It might therefore be argued that for these countries, there is no scope for voluntary action to reduce emissions beyond this cap regardless of whether they have implemented a national ETS or not. However, the language of the Protocol makes it clear that the emissions targets represent minimum levels of emission reduction efforts, while Article 17 permits emissions trading between countries but doesn't require it. Governments can reduce emissions beyond their Kyoto targets should they choose to do so (Passey and MacGill, 2009).

<sup>2</sup> For example Dennis (2008), Stapleton (2009), Gittens (2009), VCMA (2009).

fundamental flaw, an appropriate consequence of this type of measure, or just a distraction (Senate Standing Committee on Economics, 2009).

For emissions trading, the concept of voluntary action is particularly complex; the only mandatory requirement under an emissions trading scheme is for liable emitters or their fuel suppliers to obtain and surrender permits equivalent to their direct (or upstream) emissions. Emitters are free to undertake any activities they wish as long as they have sufficient permits for annual compliance. The theory is that a price for carbon will emerge from trading between market participants who obtain different values from such emissions. This price will drive the most efficient changed decisions in order to meet the target.

Critics of this ‘cap and floor’ feature of emissions argue that the scheme will seriously compromise the incentive for so-called ‘voluntary action’ - emission reducing investments or activities that go beyond those driven by strict economic self-interest, including ethical motivations such as social and environmental responsibility.<sup>3</sup> To disempower those who actively want to make a difference may result in an attitude of ‘it’s the government’s problem, they can fix it.’ (VCMA, 2009)

These claims are not without some evidence. The Australian Technology Association (ATA) has conducted survey work on its members with regard to their motivation for taking voluntary action such as purchasing GreenPower or installing solar PV panels (ATA, 2009). In a 2007 survey of over 1,300 individuals’ motivations for installing solar PV systems they found that 78% cited the desire to have a positive impact on the environment. In a 2009 survey of 520 ATA members who purchased GreenPower, they found that 93% stated that the primary reason or one of their main reasons for doing so was to reduce carbon emissions. The survey also found that 33% of respondents would cease doing so if it made no overall impact on Australia’s aggregate emissions. A further 49% of those who were considering purchasing GreenPower stated that they would not do so should their efforts not make a difference.

Parallel concerns have arisen of the effect of the CPRS on the credibility of branding and marketing claims in the growing Carbon-Offset market, which provides a range of products to individuals, companies and communities to offset their greenhouse emissions. To be credible, most argue that offsetting should be associated with genuine additional abatement over-and-above what would occur through the operation of the CPRS. If offsetting activities have to move outside the CPRS, which most likely will be offshore given the broad coverage of CPRS,<sup>4</sup> the critics argue that an important source of funding for domestic investment in low emissions technologies will be lost.

There have also been some more sweeping statements, including the suggestion that the CPRS is a ‘zero sum game’ or a ‘carbon pollution reallocation scheme’ (Stapleton, 2009; ABC, 2009). However, as has been pointed out by the Government and others, the critics here fail to appreciate that while the cap may be the source of disconnect between individual action and aggregate emissions, it is also the driver of emission reductions (Jotzo, 2009). So long as the cap is binding, the CPRS will involve emission reductions below business-as-usual, and by definition these net reductions cannot be displaced by other emission activities.

---

<sup>3</sup> Definitions of ‘voluntary action’ vary but this one is reasonable. See for example the Wikipedia definition - “Done, given, or acting of one's own free will. Working or done without payment”.

<sup>4</sup> The CPRS is proposed to cover all major sectors other than agriculture and forestry (which is permitted to opt-in to the scheme).

Therefore all emission reductions, including voluntary actions, contribute in part to these net emission reductions. To focus only on the final equilibrium state fails to account for the emission reductions required to reach that state.<sup>5</sup>

Defenders of this feature of the cap-and-trade scheme also point out that expectations of voluntary action can be taken into account when setting the cap. Alternatively, future cap settings can be adjusted to account for past voluntary actions. Furthermore, additional action is possible through other avenues including the purchasing and retiring of allowances.

Some commentators have also noted that the relatively low volume of uptake of GreenPower, a government accredited program where consumers can choose to pay extra for renewable-sourced power, suggests that voluntary action is a relatively small component of total emission reductions (Jotzo, 2009). As such, some observers have argued that too much attention has been paid to this issue which has become a distraction from more pressing concerns such as the free allocation of allowances to the coal sector and emissions intensive trade exposed (EITE) industries and the setting of the level of the cap itself (Pezzey et al, 2009).

Nevertheless, while we agree that these other design issues are probably of greater significance, there may still be a case for considering adjustments to the CPRS to take account of additional action. Our concerns address both having the *ability* to reduce emissions beyond a federally set cap as well as the likely dampening effect on *incentives* for many types of additional or voluntary actions under the current offered solutions. The alternative we propose, the Additional Action Reserve, attempts to provide a means of addressing these concerns while minimizing and changes to the design and operation of the CPRS.

Concerning the *ability* to reduce emissions, there has been very little discussion in Australia on the fundamental issue of liberty involved in restricting the choice of aggregate emissions to the Commonwealth Government. There is an interesting analogy with the case of charitable donations or foreign aid. In Australia, the Commonwealth Government uses tax payers' money for various foreign aid projects in the developing world. The Government also currently supports charitable giving by offering tax concessions for donations to approved organizations. Consider if, instead, the Government not only failed to provide such concessions for donations but then reduced budget expenditure on charitable causes by the same amount as was privately donated. Worse, it then provided an equivalent 'across the board' tax reduction for everyone including those who don't voluntarily give. The loss of liberty and the loss of incentive to be able to 'make a difference' in world poverty and development would surely be seen as unacceptable by the public. Why is it acceptable with global carbon emissions?

This issue also highlights that the problem may not be overcome by setting a tighter cap. No matter how strong the cap or trajectory, there will be people or organizations who want to make further efforts to offset the impacts of others or be seen as socially responsible (VCMA 2009a). Sometimes, of course, voluntary action is undertaken on the basis that it will ensure others do not have to act. However, it seems unlikely that environmentally concerned parties

---

<sup>5</sup> Similarly, in any trading market, in the final competitive equilibrium state no market participant can be made better off through trade without making someone worse off (a Pareto optimum). No one argues, however, that trading markets are therefore pointless or 'economic rent reallocation schemes'. Markets are valuable because of the mutual trading gains that participants acquire in *reaching* the final equilibrium.

in Australia will choose to take voluntary actions on the basis that this will make it easier for other parties, particularly large emitters, to avoid taking action. Instead, voluntary action is most likely to be motivated by the desire to drive improved overall environmental outcomes for Australia and the world. Setting a strong cap and allowing for additional action are parallel issues. So is the issue of how governments might adjust caps according to voluntary action because it ‘reduces the cost to the economy of the scheme and hence allows greater ambition in future target’, as was argued by the Federal Government in its initial response to concerns over voluntary action.<sup>6</sup> To continue the foreign aid analogy, would the public accept a government argument that it is actually worth them making voluntary donations to foreign aid organizations because by reducing budget expenditures and taxes, these volunteers create the opportunity for the government to increase taxes and then budget expenditure on charitable causes at some point in the future.

Furthermore, there is also a question of prudence in confining the ability to reduce aggregate emissions to one level of government. There are many good reasons for letting the Commonwealth government be the chief determiner of mitigation policy. These include having uniformity in policy across the States, minimizing administration costs and having a stronger, centralised stance in international negotiations. However, there is also the danger that if the CPRS becomes overly compromised, with very weak targets that are locked in for 5 to 15 years, then there will no longer be available the recourse for action by other levels of government or corporate or community action. We only need remember that up until recently in both Australia and the United States, when both Federal Governments failed to act decisively on climate change, it was the State and Local Governments that filled the policy vacuum by implementing a number of innovative and significant policy initiatives. The potential financial clout of these other levels of government also highlights that the discussion of *additional* action involves a larger issue than *voluntary* action as represented by Greenpower and carbon offsets markets.

Another of our concerns involves the dampened *incentives* that the current available options for additional action involve. For example, buying and retiring carbon permits does not have the same tangible, psychologically-satisfying benefits such as buying a hybrid vehicle or installing a PV solar home system. Alternatively, claims that these latter actions *may* be taken into account in the cap setting process by whatever Government is in power five years later may not be very reassuring for many people.

Given these concerns, the purpose of this paper is to propose a feasible mechanism to allow for additional action that includes domestic action indirectly covered by the CPRS (such as energy efficiency or renewable generation) and does so in a manner that is transparent and can be seen to have immediate effects. The key idea of the Additional Action Reserve is to annually set aside a proportion of the Australian Emission Units (AEUs) which can then be retired if the Federal, State or Local Government, businesses or individuals take specific emission reduction measures. To minimize the effect on liable parties in the CPRS, it would be targeted at those measures which go beyond those expected to be driven by the CPRS. AEUs allocated to the reserve that are not retired through additional activities would then be made available to CPRS participants. By providing an upper bound to such actions, the scheme would limit the uncertainty as to the quantity of available permits for emitters and provide a limit to the potential losses of auctioning revenue from AEU retirements.

---

<sup>6</sup> For example, Senator Wong on the 7:30 Report, 23 February 2009.

In November 2009, after negotiations with the Coalition, the Government presented a number of revisions to the CPRS which included the proposal to create “a new mechanism to take voluntary action into account in target setting, with potential for targets to be adjusted beyond 15 or 25 per cent.” We propose that the Additional Action Reserve, as outlined in this paper, could serve as the basis for such a mechanism.<sup>7</sup>

The idea of using a reserve to set aside allowances for future contingencies has already been seen to in previous emission trading schemes. The European Union’s ETS and the SO<sub>2</sub> and NO<sub>x</sub> schemes in the United States all have special reserves for new entrants. Most notably, as discussed further below, the Regional Greenhouse Gas Initiative (RGGI), an inter-state emissions trading scheme which began in the United States in 2009, allows for the States an option of having a reserve for voluntary renewable purchases which allows for the retirement of such purchases from accredited renewable schemes. So far, nine of the ten States have implemented this option.

In the Australian context, the idea of retiring allowances or the related idea of annually reducing the cap commensurate with verified additional action (but not in the context of a reserve) has been suggested in reports or submissions by the VCMA (2009a,b), Dennis (2009) and Flear and Dennis (2009).

The outline of this paper is as follow. Section 2 discusses further the importance of the ability of the States and Local government to have a facility for additional action. Section 3 looks at the options available for additional or voluntary action. Section 4 outlines the key elements of the Additional Action Reserve and its operation. Section 5 concludes the paper.

## **2. On the Role of State and Local Government in Mitigation Actions**

For much of the past decade, while the previous Federal government was largely inactive in advancing national emission reductions or promoting renewable energy sources, the States played an early and important role in climate policy by introducing a number of initiatives and schemes. A similar leadership role was also seen in the states of the United States.

Now that the Federal Government has reclaimed a leadership role in climate policy there is a call for States to move back from certain aspects of climate policy. In Australia, the Government established the Strategic Review of Australian Government Climate Change Programs (‘The Wilkins Review’) in February 2008 to determine whether existing climate change programs were efficient, effective and complementary to the expected Carbon Pollution Reduction Scheme (CPRS). One of the conclusions of the inquiry was that the sole responsibility for setting Australia’s mitigation policy should rest with the Commonwealth. A number of justifications were offered. Firstly, under the Australian Constitution, external affairs powers are vested in the Commonwealth. It is the Commonwealth who has the power to bind the nation to emissions reductions under current and future international agreements on climate change. This would seem to suggest that the Commonwealth is the natural centre of responsibility for mitigation policy. Secondly, there was recognition of the need to minimise the compliance burden on business resulting from differing regulation across States.

---

<sup>7</sup> It should be noted, that the statement of the Government’s proposal to create a new mechanism for voluntary action only mentions household voluntary action (including GreenPower). This hints that perhaps the Government wants to restrict the additional action mechanism to households. We argue, however, that is probably just as important for a new mechanism to include other levels of government as well as community and corporate additional action.



Thirdly, the consolidation of mitigation policy to one level of government would reduce the level of regulatory uncertainty for participant in the CPRS. Finally, there was a concern for potential wasteful and distortions arising from too many overlapping policies:

“The consequences of many jurisdictions pursuing the same or competing goals in the same policy space (whether it be climate change or some other area) is likely to lead to duplication, complexity, wasted resources and questionable results. Such a situation is not in the national interest. ... This is demonstrated by the current plethora of climate change programs across jurisdictions ... this situation can, in the Review’s opinion, be attributed to a lack of clarity around roles and responsibilities in relation to climate change, caused by the failure of the previous Commonwealth Government to set out a clear framework for climate change policy.” (Wilkins Review, 2009, p.12)

Wilkins argued that States and local government should turn more attention to issues of adaptation since many of these climate change impacts are going to be local and regional in character.

Subsequent to the Wilkins review, the Council of Australian Governments (COAG), the peak intergovernmental forum for the Commonwealth, States and Territories of Australia, released a set of principles of jurisdictions to review and streamline existing climate change mitigation measures (COAG, 2008). The fourth and final principle concerns the appropriate level of government for complementary policies:

Where measures meet the above criteria [concerning identifying remedies to market failures], they should generally be implemented by the level of government that is best able to deliver the measure. In determining this, consideration should be given to which level of government has responsibility as defined by the Constitution or convention/practice, the regulatory and compliance costs that will be imposed on the community, and how the delivery of the measure is best coordinated or managed across jurisdictions. (COAG, 2008)

This principle appears to allow more room for mitigation action by lower levels of government if a suitable justification can be made. However, it is most likely that COAG had in mind the same justification for concentrating mitigation policy to the Commonwealth level.

In their focus on costs and efficiency in mitigation action, what both the Wilkins Review and the COAG principles of jurisdiction fail to discuss is the risk aspect of policy instrument outcomes. The outcome of a policy instrument, such as a cap-and-trade scheme, is not certain and there is always a danger that it may underperform in meeting the policy goal (especially if there is a price-cap and unlimited number of permits can be issued). In such a situation it would be important to have other available options open. Or even more broadly, the political will driving the operation of the instrument may sink away thus also resulting in the weakening of original policy goal. It may therefore be unwise to introduce a policy instrument, such as the current CPRS, which has an inbuilt mechanism that mutes the effectiveness of many other mitigation policy instruments, including those at other levels of government.

With respect to the disincentive effect of a cap-and-trade scheme, it should be noted that State policies on renewable energy and energy efficiency concern issues wider than mitigation policy, including investment and employment stimulation as well as energy savings. Even to the extent that State policies are driven in part by mitigation concerns, a cooperative spirit

between the States and the Commonwealth does not mean that there will necessarily be a disincentive effect from the CPRS on State emissions mitigation action. The States may be content in 'doing their part' in helping Australia achieve its national targets. Nevertheless, it may become an issue. According to *The Age* in March 2009, a high level ministerial brief advised the Victorian Brumby Government to rethink State policies such as subsidies for solar farms and panels and a shift to a hybrid car fleet because they would not contribute any additional greenhouse gas cuts under the CPRS. The confidential ministerial brief advised the State Government that it should now only bother with green measures if they are more cost effective than alternatives (Millar, 2009). However, there have not been any official statements expressing concern or frustration of the role of the States in the CPRS.

In the United States, a number of commentators have also argued for maintaining space for States to preserve their ability to implement policies that achieve additional emissions reductions (Litz et. Al, 2008; Butraw et al, 2009; Bianco et al, 2009; Centre for Resource Solutions, 2009). In October 2008, 152 member of the House of Representatives signed a letter to House Speaker Nancy Pelosi outlining principles for climate change legislation, including the principle that "federal global warming requirements must be a floor, not a ceiling, on states' ability to protect their citizens' health and state resources" (Bianco, et al 2009).

### **3. Options for Additional Action**

This section briefly outlines the main options that could be available for additional action under a cap-and-trade program.

#### ***3.1. Buy and retire Australian Emission Units***

Under this option, one can purchase and surrender carbon pollution permits (Australian Emission Units, AEU), and thus effectively reduce the cap by reducing the number of available permits for polluters. This has been one of the solutions offered by the Government as part of the new set of measures for the CPRS released in May 2009. The Energy Efficiency Savings Pledge Fund will operate out of a new institution call the Carbon Trust which is described as aiming to support households and businesses to engage on climate change. While the fund is presented in the context of the savings individuals may achieve on their energy bills from implementing energy efficiency measures, the 'fund' is simply a portal to allow for any individual to donate money to retire permits. It is in no way directly linked to any investment the individual may have made. Indeed, if the costs of the mitigation that an individual undertakes are artificially high (due to various barriers) then the individual is asked to pay out even more cash (to the retirement fund) if he or she wishes the investment to have an effect on Australia's overall emissions. The availability of a tax deduction for such payments is of only limited value.

Of course, individuals wishing to make additional action need not suffer this double hit; retiring permits alone is enough for additional action. However, the intangible nature of such action is likely to be much less psychologically satisfying than more concrete voluntary actions. As the Voluntary Carbon Market Association has noted, "retiring a permit is not a public statement of commitment to reducing emissions like a solar PV system on the roof or hybrid car parked in the driveway; nor does it offer the personal satisfaction of helping to increase habitat for threatened species or improve the well being of communities in developing nations." (VCMA, 2009, p.7)

The value of this approach also hinges on the perceived integrity of the ETS itself. For example, voluntary schemes based on the surrender of EU ETS allowances in the first phase of the EU ETS proved a debacle when it was finally revealed that Governments had given too many free allowances to industry. Environmentally concerned members of the public paid good money to ‘retire’ what turned out to be worthless allowances.

Given questions about the governance and credibility evident of the proposed CPRS design, parties considering voluntary action might not wish to be reliant on the CPRS actually being effective at reducing emissions. Furthermore, there is no guarantee of driving local emission reductions – liable parties are able to buy certain international Kyoto units to meet their obligations. As mentioned further below, there are growing concerns that some of these units may not be truly additional and hence result in the absolute reductions in emissions necessary to maintain the integrity of the CPRS cap (Passey and MacGill, 2009).

There are also major issues of equity involved. For example, parties might well wonder if they were buying permits from large emitters that were given these permits for free. Again, the example of charitable giving towards foreign aid highlights the possible inadequacies of this approach. The purchase and voluntary retirement of CPRS compliant units has parallels with people wishing to make such donations only being able to do so by giving money to the Government. While the Government commits to spending this additional money on foreign aid, the person has no control over where this spending actually occurs. In practice, a significant amount of charitable giving is targeted to particular causes because of the belief that Government priorities are inappropriate. One can imagine considerable frustration and loss of motivation if a person making a donation disagreed with the priorities of the government of the day.

The psychological motivation that comes with having some choice and control in altruistic donations is well known to charities. For example, the World Vision child sponsorship website allows one to choose the continent, gender, age or even the specific child one wishes to support.

### ***3.2. Purchasing domestic offsets***

Another avenue for additional action is to purchase domestic certified offsets from outside the CPRS. However, given the relatively wide scope of the scheme, the government itself has admitted that these opportunities will be diminished. However, there would still be opportunities such as the sequestration of emissions through the voluntary planting of trees that have opted-out of the CPRS or in the general agricultural sector, which now seems likely not to be included in the CPRS.

### ***3.3. Purchasing overseas offsets***

Buying overseas offsets is another mechanism for additional action. Such offsets could include: **Certified Emissions Reductions (CERs); Emission Reduction Units (ERUs); Removal Units (RMUs); Voluntary Emissions Reductions (VERs) and Voluntary Carbon Units (VCUs).**

However, such action does invoke the well known problem concerning the credibility of the claimed reductions under these various schemes. The level of credibility of the offsets varies among the schemes. Another concern for some may be that the growth of investment in

clean and green technologies and associated ‘green collar’ jobs would be taken offshore (VCMA, 2009a). Note, however, that some parties seeking to undertake voluntary action may be attracted to overseas offsets with higher levels of integrity – for example, ‘gold standard’ CERs, rather than purchasing CPRS AEU which are only as credible as the least credible international units that are fungible within the scheme.

### ***3.4 . Reducing the cap to account for additional action***

Another approach to additional action would be to periodically reduce the cap based on either projected (ex-ante) additional action or past (ex-post) verified additional action. This seems to be one of the mechanisms that the Government is proposing to assure the public that voluntary actions are being taken into account. The December 2009 revisions of the CPRS Bill, made after negotiations with the Opposition party, includes the requirement that “voluntary action by households - beyond that projected as a result of the CPRS - will be taken into account in setting future caps” and that “all emissions savings from the use of GreenPower in determining the cap.”

A concern with this approach is that the cap setting process is likely to be a political exercise that balances numerous factors in a very non-transparent manner. It is questionable as to whether there is much credibility in the claim that additional action has or will be taken into account in setting the cap. In Australia the re-setting of the cap would be at least five years ahead when there is likely to be a new minister and possibly new government which may have an entirely different agenda.

Furthermore, for the case of setting the cap ex-ante, anticipating a level of future voluntary actions, there are two further problems. Firstly, the level may be set incorrectly, possibly significantly underestimating the level of voluntary behavior that occurs. Secondly, once the cap is set there is still the same incentive problem, as, once again, it does not matter whether I personally undertake the (planned) additional action because if I don’t the reduction will still occur under the cap of the scheme.

### ***3.5. Retiring permits on behalf of additional action***

The final main option is to have a mechanism that automatically retires permits from the cap and trade scheme that correspond to the reduction in emissions from qualified additional emission reduction action. In the next section we outline a possible framework for such retiring of permits.

Compared to some other options that allow for additional action, the scheme combines the favorable features of accounting for tangible, psychologically-satisfying actions (such as installing a PV solar home system) with a transparent process that assures the participant that such actions are having an immediate effect in reducing national emissions.

## **4. Additional Action Reserve**

In this section we describe the basic implementation of the Additional Action Reserve. The key function of the AAR is to annually set aside a proportion of the Australian Emission Units (AEUs) which can then be retired if governments, businesses or individuals undertake specific emission reduction activities which go beyond those expected to be driven by the CPRS. The scheme would thus allow for initiatives by government and private interests to

reduce emissions below a baseline target. By providing an upper limit to the AAR (and thus the total number of permits in circulation) the scheme would maintain a level of certainty for other actors within the Carbon Pollution Reduction Scheme (CPRS) and provide a limit to the revenue that may be lost by the Government because it has fewer permits to auction.

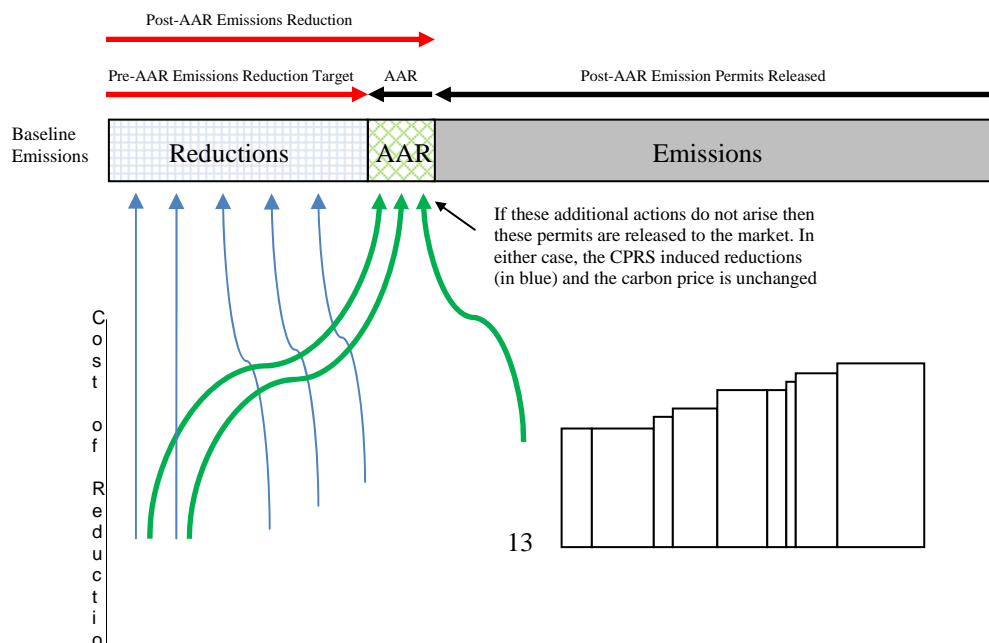
#### 4.1 Framework of the AAR

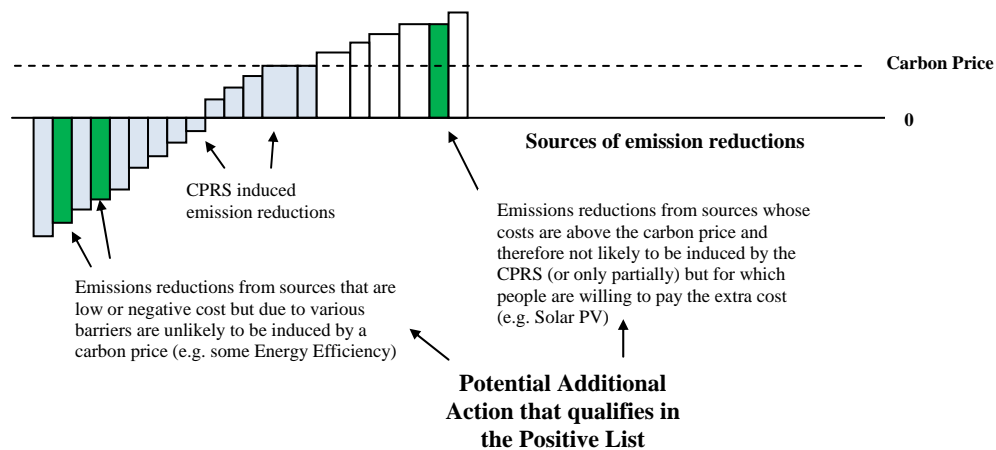
The key design features of the Additional Action Reserve are relatively simple and can be summarized as follows:

- (i) Set a new emission target which augments the original target by including additional potential reductions (e.g. for a target of -20%, increase it to -30%)
- (ii) Place the AEUs corresponding to the additional reductions in a reserve. Thus, instead of allocating, for example, 100% of a particular year's AEUs to the market, only allocate 88% and put 12% in the reserve.
- (iii) Create a Positive List (PL) of measures, which can constitute additional reductions, and which are selected on the basis that they are unlikely to be driven by the CPRS (ie. the carbon price would not significantly change from the implementation of the AAR). The characteristics of the PL are discussed below.
- (iv) When the annual compliance period is over, any additional actions that have been implemented will have their reductions verified. The equivalent number of permits to the verified reductions will then be cancelled from the reserve.
- (v) If the aggregated reductions do not use up the reserve within a compliance period, the remaining AEUs will be auctioned off.
- (vi) If the aggregate reductions are going beyond the reserve within a compliance period, the reserve level will be evaluated over time and a new reserve may be introduced in order to allow for more reductions.

The relationship between the AAR, the revised targets and the sources of emission reductions is illustrated in Figure 1.

Figure 1 The relationship between emissions reductions (targets) and the sources of emissions reductions





#### 4.2 Characteristics of the Positive List

There are at least three separate guidelines for inclusion of emission reduction activities in the Positive List (PL):

- 1) Whether it is unlikely to be driven by the CPRS or some other policy because of a market failure or institutional barrier, for example energy efficiency activities.
- 2) Whether it is clearly occurring because of voluntary action as evidenced by additional payments above the market cost of the product or service (e.g. GreenPower.)
- 3) Whether it is relatively easy to quantify the abatement achieved.

##### **Guideline 1**

There are likely to be a number of abatement actions which ostensibly appear to be low cost options under the CPRS (or perhaps even without carbon pricing) but are not occurring due to various reasons. The marginal abatement cost curve for Australia would provide a useful starting point for identifying such options. The existence of activities with negative costs that have not yet been taken up implies the existence of institutional, behavioural and market failures that are preventing their implementation. Thus, a small price increase from an emissions trading scheme is unlikely to have much effect and so additional government policies are likely to be required to push these opportunities. Other measures with positive costs may also be subject to various barriers – apart from price – and so should also be considered.

##### **Guideline 2**

There are likely to be another set of abatement actions that the public is pursuing that unambiguously involve paying a margin above the market price for that good or service without any immediate cost savings or monetary benefit. The most prominent example is GreenPower, where consumers accept an extra charge to their electricity bill for requiring a percentage of their power to come from green sources. There has been a significant level of concern regarding the future of this voluntary action under the CPRS. The Commonwealth's original response was that GreenPower sales above the 2009 level would be taken into account when future targets are set. This has now been amended to include all GreenPower sales. Recognition of GreenPower in the PL, however, would avoid the delay of its abatement impact until the next setting of the cap. A significant advantage of inclusion of GreenPower in the PL is also the important role that it plays in community engagement on tackling climate change.

### ***Guideline 3***

Another issue concerns whether it is relatively easy to quantify the abatement achieved. This guideline's concern is less to do with additionality (because all the PL activities occur under the CPRS cap), but rather the impact on the carbon price of the scheme. If the actual abatement is less than estimated, then more AEU's will be retired than "should be", thereby increasing the price of the AEU's remaining in circulation. If the actual abatement is more than estimated, this will reduce the price of the remaining AEU's.

The PL should only include measures in the covered CPRS sectors. In order to reduce transaction costs, it should be programmatic rather than project-based. Some activities that could be included in a PL, and satisfy the above guidelines to different degrees, are:

1. Energy Efficiency Programmes.
2. GreenPower.
3. Additional renewable energy deployment driven by targeted policies.
4. Electric vehicles.
5. Public transport roll outs.
6. Green "new deal" stimulus policies which lead to emission reductions.

As most of the listed actions in the PL may be influenced by the carbon price to some degree, it is also suggested that each PL category may include a predetermined retirement factor to take into account the mixed motivations for emission reductions action. For example, a category may retire only 0.8 (80%) permits for each tonne of emissions reduced to account for the fact that 20% of the people who conducted such action or 20% of each person's motivation for such action was due to a higher carbon/electricity price.

### ***4.3 Potential benefits of the AAR***

#### ***Abatement benefits***

The AAR creates the opportunity for complementary measures and voluntary action by individuals, the community and other levels of government to reduce emissions below the cap. By doing so, it creates a mechanism for defined and limited strengthening of the emission target, where the additional reductions will be in Australia rather than offshore. It also provides guidance on what can be achieved with any additional measures.

#### ***Cost benefits***

To the degree that it targets specific abatement measures which are relatively cheap but have not been exploited due to market failures and other institutional barriers, the scheme is consistent with achieving least-cost abatement solutions for Australia. Where it enables higher-cost actions such as GreenPower to be additional, it does not increase abatement costs compared to what they would have been in the absence of the CPRS, because these actions would have occurred anyway. The limit on the size of the reserve provides certainty to industries and the Commonwealth covered under the CPRS regarding the maximum amount of retired permits, and so helps to guide price and cost expectations.

#### ***Policy innovation benefits***

The AAR will help to drive policy innovation by enabling policy initiatives to achieve net reductions to national emissions rather than just displace emission reductions from other areas.

#### ***Potential challenges for the AAR***

The main challenge for the AAR is to develop and define the Positive List. It would need to be an open list and be developed over time. A related problem is measurement of additional emissions reductions. The data requirements of the National Greenhouse and Energy Reporting System (NGERS) will help over time.

#### ***4.4 Similar reserve approach in other schemes***

The idea of using a reserve to set aside allowances for future contingencies has already been used in other emission trading schemes. The EU ETS has a special reserve for new entrants, and countries with Joint Implementation Projects create a JI reserve in order to avoid double counting. Some schemes have also had reserves to provide incentives for investing in renewable energy, energy efficiency, and early action by providing free permits as a financial reward.

Notably, the proposed design alteration to the CPRS is similar to one which is operating in the Regional Greenhouse Gas Initiative (RGGI) in the United States. This regional initiative is a cap-and-trade programme operating in ten states and provinces in the Northeastern United States. The initial coverage is for electricity generation only, which is about 25% of emissions in these states. The first three year compliance period began in 1 January 2009. Member states of the scheme independently determine how to allocate allowances and how to spend the proceeds of allowance auctioning.

Under the RGGI, the cap has been fixed from 2009 to 2014 at a level of 188 million tons of carbon-dioxide emissions per year. This is approximately 4 percent above the annual average level among the RGGI states between 2000 and 2004. From 2015 to 2018, the cap will drop by 2.5 percent per year. The final result is expected to be a 10 percent reduction in carbon-dioxide emissions from 2009.

In the consultation process for the design of RGGI, there were concerns for the effect of the scheme on voluntary renewable energy purchases or green pricing programs. In particular, there was unease as to the validity of the claims that providers could make as to the carbon reduction effects that purchasing renewable energy would have under an emissions trading scheme. As the Union of Concerned Scientists explained, denying renewable energy allowances in future carbon markets could dissolve both voluntary renewable energy markets and even the motivation to pass legislation for new and more stringent renewable portfolio standards (UCS, 2007).

The solution agreed to in RGGI is that under the Model Rules for allocation of allowances, each State is allowed to set-aside annually approximately one percent of its budget for retirement purchases. The renewable energy generation that can be demonstrated as attributable to a green pricing program results in the corresponding retirement of CO<sub>2</sub> allowances. In the case where some of the allowances are not used then the remaining allowances are subject to 'flowback' provisions and the CO<sub>2</sub> allowances become available for public auctioning.

Nine out of the ten states have chosen to adopt the rule. The reserve accounts have been variously called Voluntary Renewable Energy Set-Aside Account or Voluntary Clean Energy Provisions, etc. (EPA 2008)



Only with this retirement clause under the RGGI Model Rules, can green program renewables be certified under Green-e Energy, the nation's leading certification and verification program for renewable energy. The new clause will allow current renewable MWhs to retain their Green-e Energy eligibility, as they will prevent a certain amount of CO<sub>2</sub> from being emitted under the cap. Accordingly, in states that do not retire allowances on behalf of the voluntary renewable energy market, sales of renewable MWhs will not be credited with any CO<sub>2</sub> emissions reductions benefits under the emissions cap, and thus will not be considered eligible for Green-e Energy certification.

## **5. Conclusion**

Designing climate policy will always be a tricky task because most policy instruments are not perfect and involve various trade-offs in terms of effectiveness, efficiency and equity. There is a particular danger that by trying to simultaneously address too many concerns, the implementation of an instrument may result in one that is overly-complex, administratively burdensome and results in unintended distortions. We are conscious of this danger in our attempt to address the issue of additional action.

However, we believe that the issue of additional action is not necessarily trivial and if it is possible to address the problem in a way that requires minimal changes to the current legislation and does so in a manner that minimizes the impact on liable parties to the scheme, then it should be given serious consideration.

The Additional Action Reserve is one possible option to enable additional action on emission reduction without a wholesale re-design of policy that other options such as a carbon tax would require. As we have flagged, work would need to be done on the Positive List and verification process. However, this could already leverage off work already being done in NSW GHG scheme and National Carbon Offset Standard. There is also already a precedent to the proposal with the Regional Greenhouse Gas Initiative in the United States, although it is limited to renewable electricity.

The government frequently refers to the need for policy to engage and encourage community support for the transition to a low carbon economy. There is little debate over the fact that voluntary abatement is good for the environment and the economy and that it should be encouraged. The CPRS needs to be consistent with this aim. There is also a risk associated with having just one level of government able to implement policy to reduce Australia's emissions. State and Local Governments' ability to spur emission reductions through innovative policies has been important in the past and it may be unwise to lock it out of the future. The Additional Action Reserve may be a viable mechanism to address these concerns.

## **References**

ABC (2009) "Insulation handouts 'won't reduce emissions'," news articles on ABC News Website, February 5, 2009. Available at <http://www.abc.net.au/news/stories/2009/02/05/2483104.htm>

Alternative Technology Association (2008) *Submission to Carbon Pollution Reduction Scheme – Green Paper*, September 2008.

Alternative Technology Association (2009) *Submission to National Carbon Offset Standard Discussion Paper*, February 2009.

Bianco, N., J. Monast, T. Profesta, and F. Litz (2009) "Allowing States to Retire Allowances without Affecting National Allowance Prices: A Straw Proposal," *Working Paper March 2009*, Nicholas Institute for Environmental Policy Solutions.

Bird, L., C. Kreycik, B. Friedman (2008) *Green Power Marketing in the United States: A Status Report (11th Edition)*, Technical Report NREL/TP-6A2-44094 National Renewable Energy Laboratory, October 2008.

Burtraw, D. and B. Shobe (2009) "State and Local Climate Policy under a National Emission Floor", paper prepared for Climate Change Policy: Insights from the US and Europe, Paris 23-24 March 2009.

Centre for Resource Solutions (2009) "Support Voluntary Purchases of Clean, Safe 21<sup>st</sup> Century Energy with an Off the Top Rule under Cap and Trade," *Issues Brief*, May 18, 2009

Council of Australian Governments (COAG) (2008) "COAG Principles for Jurisdictions to Review and Streamline their Existing Climate Change Mitigation Measures", note available at [http://www.coag.gov.au/coag\\_meeting\\_outcomes/2008-11-29/docs/20081129\\_complementarity\\_principles.pdf](http://www.coag.gov.au/coag_meeting_outcomes/2008-11-29/docs/20081129_complementarity_principles.pdf)

Dennis, R. (2008) "Fixing the Floor in the ETS: The role of energy efficiency in reducing Australia's emission", Research Paper No. 59, *The Australia Institute*, available at [https://www.tai.org.au/file.php?file=fixing\\_the\\_floor\\_in\\_the\\_ets.pdf](https://www.tai.org.au/file.php?file=fixing_the_floor_in_the_ets.pdf)

Environmental Protection Agency (EPA) (2003) *Tools of the Trade: A Guide for Designing and Operating a Cap and Trade Program for Pollution Control*, Published by DIANE Publishing, 2003

Environmental Protection Agency (EPA) (2008) "RGGI State Set-Aside Provisions for Voluntary Renewable Energy (VRE)" Draft paper, October 25, 2008. Available at [http://www.epa.gov/greenpower/documents/events/rggi\\_status\\_table.pdf](http://www.epa.gov/greenpower/documents/events/rggi_status_table.pdf)

Fear, J. and R. Dennis (2009) "Zero-sum game? The human dimensions of emissions trading," *Australia Institute Paper No.2* August 2009

Gittens, R. (2009) "Emissions Impossible: The Sad Truth", *The Age*, February 25, 2009, available at <http://business.smh.com.au/business/emission-impossible-the-sad-truth-20090224-8gsv.html?page=-1>

Jotzo, F. (2009) "Emissions Confusions: Trading versus Taxes," Article on East Asia Forum, February 25<sup>th</sup> 2009, available at [www.eastasiaforum.org/2009/02/25/emissions-confusion-trading-vs-taxes/](http://www.eastasiaforum.org/2009/02/25/emissions-confusion-trading-vs-taxes/)

Litz, F., and K. Zyla (2008) "Federalism in the Greenhouse: Defining a Role for States in a Federal Cap-and-Trade Program", *Climate and Energy Policy Series, September 2008*, World Resources Institutes, available at <http://www.wri.org/publication/federalism-in-the-greenhouse>

Millar, R. (2009) "State emission cuts 'futile' and would aid polluters", *The Age*, March 23 2009, available at <http://www.theage.com.au/environment/state-emission-cuts-futile-and-would-aid-polluters-20090322-95oc.html>

Passey, R. and I. MacGill (2009) *CEEM Submission to the National Carbon Offset Standard Discussion Paper*, March, available at [www.ceem.unsw.edu.au](http://www.ceem.unsw.edu.au).

Pezzey, J., S. Mazouz and F. Jotzo (2009) “The Logic of Collective Action and Australia’s Climate Policy,” *Environmental Economics Research Hub*, Research Report No. 24, May 2009.

Sandbag (2009) *Submission to the Department of Climate Change in Response to the National Carbon Offset Standard*, December 2008.

Senate Standing Committee on Economics (2009) *Inquiry into the Exposure Draft of the Legislation to Implement the Carbon Pollution Reduction Scheme*.

Stapleton, J. (2009) “Reducing carbon footprint 'waste of time',” article in *The Australian*, February 21, 2009.

Union of Concerned Scientists (UCS) (2009) *RGGI, Climate Change, and the Voluntary Renewable Energy Market: Getting It Right*, Fact Sheet, 25<sup>th</sup> September 2007

Voluntary Carbon Markets Association (VCMA) (2009a) *Submission to the Senate Standing Committee on Economic Inquiry into the Exposure Drafts of Legislation to Implement the Carbon Pollution Reduction Scheme*.

Voluntary Carbon Markets Association (VCMA) (2009b) *Submission in Response to the National Carbon Offset Standard Discussion Paper*.

Wilkins, R. (2008) *Strategic Review of Australian Government Climate Change Programs*