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## Recent developments in Australia and implications for linking

*Project Meeting "Linking issues in the post 2012 Carbon market"*

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## Outline

- Current status of emissions trading proposal in Australia
- Current proposal
  - Target
  - Coverage
  - Linking
  - Penalty
- Problem of voluntary action in Australia
- Conclusions





## Australia's proposed CPRS

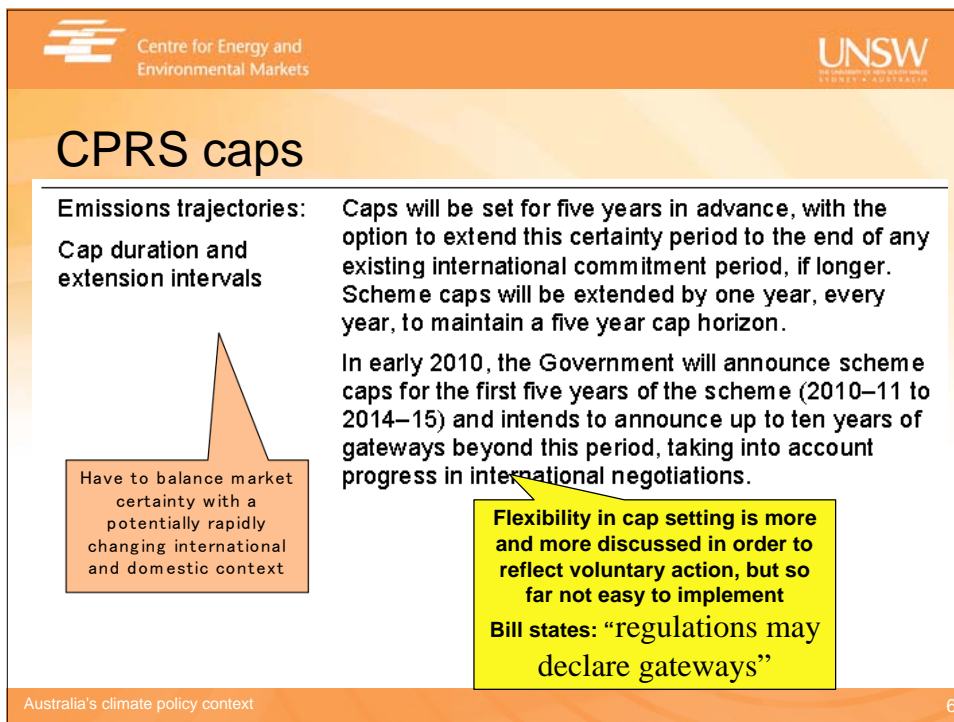
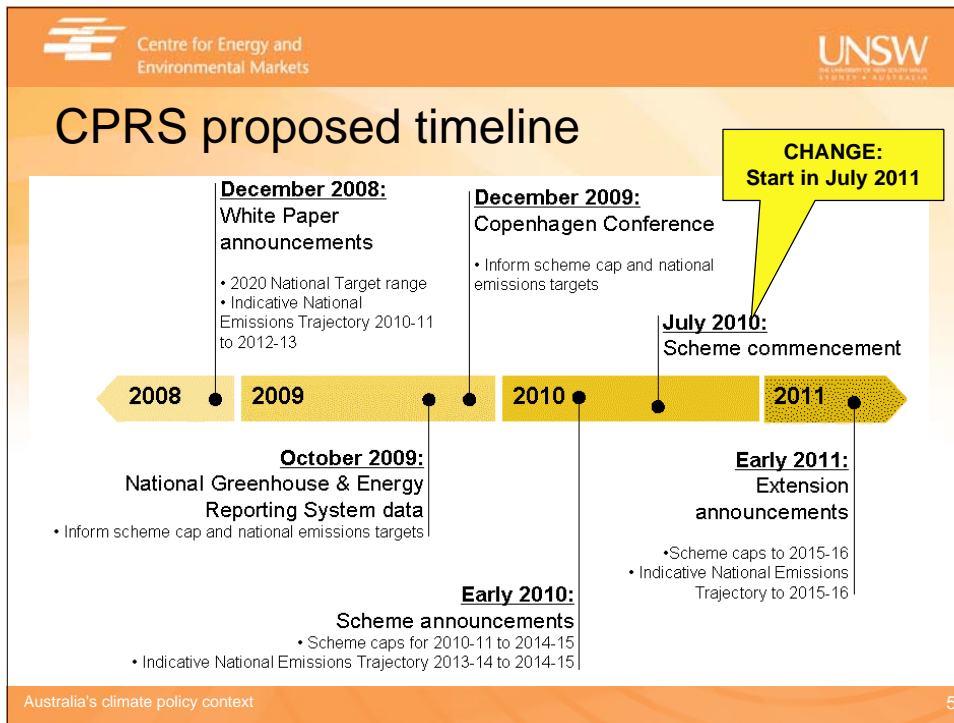
- Emissions Trading for Australia first proposed in late 1990s, have seen State-based efforts (GGAS) and proposals (NETT), former Federal Government task group design
- Kevin Rudd Federal Gov't's primary proposed climate policy response
  - CPRS Green and White paper in 2008, Draft Bill Feb. 2009 and Bill introduced in Parliament May 2009 (some changes wrt draft) to be voted in Senate 13th of August
  - A set of existing and promised other policies for renewable energy (20% in 2020 extended Renewable Energy Target), technology innovation in CCS, Energy Efficiency Strategy outstanding
- Implementation closely linked to national emissions targets because CPRS covers and therefore caps most Australian emissions: Accounting for voluntary action is a big issue



## Australia's target

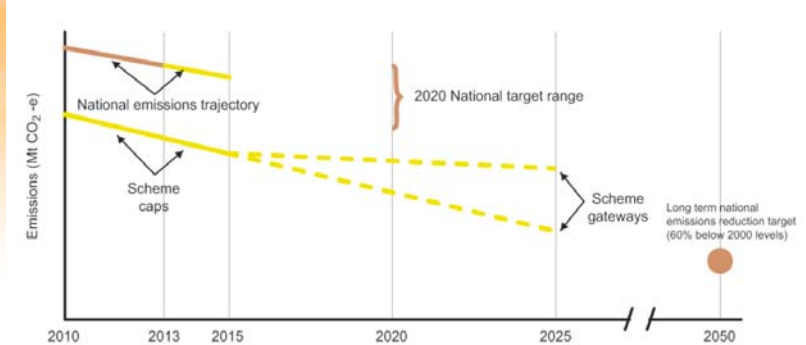
Target at 2020	Conditions	Indicative date Australia achieves 25% below 2000 levels
5%	None	2034
15%	<p>International agreement where <b>major developing economies</b> commit to substantially restrain emissions and <b>advanced economies</b> take on commitments comparable to Australia's (i.e. White Paper conditions)</p> <p>In practice this implies:</p> <ul style="list-style-type: none"> <li>- global action on track to stabilisation between 510-540ppm CO<sub>2</sub>-e</li> <li>- advanced economy reductions in aggregate, in the range of 15 – 25% below 1990 levels;</li> <li>- substantive measurable, reportable and verifiable commitments and actions by <b>major developing economies</b>, in the context of a strong international financing and technology cooperation framework, but which may not deliver significant emissions reductions until after 2020;</li> <li>- progress toward inclusion of forests (REDD) and the land sector, deeper and broader carbon markets, low carbon development pathways.</li> </ul>	2024
25% (up to 5 percentage points through Government purchase)	<p>Comprehensive global action capable of stabilising CO<sub>2</sub>-e concentrations at 450ppm CO<sub>2</sub>-e or lower. This requires a clear pathway to achieving an early global peak in total emissions, with <b>major developing economies</b> slowing the growth and then reducing their emissions, <b>advanced economies</b> taking on reductions and commitments comparable to Australia, and access to the full range of international abatement opportunities through a broad and functioning international market in carbon credits.</p> <p>This would involve:</p> <ul style="list-style-type: none"> <li>- comprehensive coverage of gases, sources and sectors, with inclusion of forests (REDD) and the land sector (including soil carbon initiatives (e.g. bio-char) if scientifically demonstrated) in the agreement;</li> <li>- clear global trajectory, where the sum of <b>all economies'</b> commitments is consistent with 450ppm CO<sub>2</sub>-e or lower, and with a nominated early deadline year for peak global emissions not later than 2020;</li> <li>- <b>advanced economy</b> reductions, in aggregate, of at least 25% below 1990 levels by 2020;</li> <li>- <b>major developing economy</b> commitments to slow growth and to then reduce their absolute level of emissions over time, with a collective reduction of at least 20% below business-as-usual by 2020 and a nomination of a peaking year for individual major developing economies;</li> <li>- global action which mobilises greater financial resources, including from <b>major developing economies</b>, and results in fully functional global carbon markets.</li> </ul>	2020







## Caps & Gateways



- 5 years of caps, extended annually
- 10 years of 'gateways', extended every 5 years



## CPRS coverage

Design feature	White Paper final position
<p><b>Sectoral coverage</b></p> <p>Broadest coverage of any existing ETS in the world.</p> <p>A range of 'transitional' arrangements to avoid price 'impacts' on fuels for particular end-users</p>	<p>Coverage of stationary energy, transport, fugitive emissions, industrial processes, waste and forestry sectors and all six greenhouse gases.</p> <p>Emissions from landfill waste sites that closed prior to 30 June 2008 will not be included in the scheme.</p> <p>Emissions from waste deposited prior to 1 January 2009 will be excluded from the Scheme until 2018.</p> <p>Forestry to be included on an 'opt in' basis from scheme start - only forestry activities that are recognised in Australia's Kyoto Protocol accounts will be eligible for inclusion in the Scheme. Deforestation will not be included in the Scheme. It is not practical to include agricultural emissions in the emissions trading scheme at commencement. The Government is disposed to cover agricultural emissions in 2015 with final decision in 2013.</p>



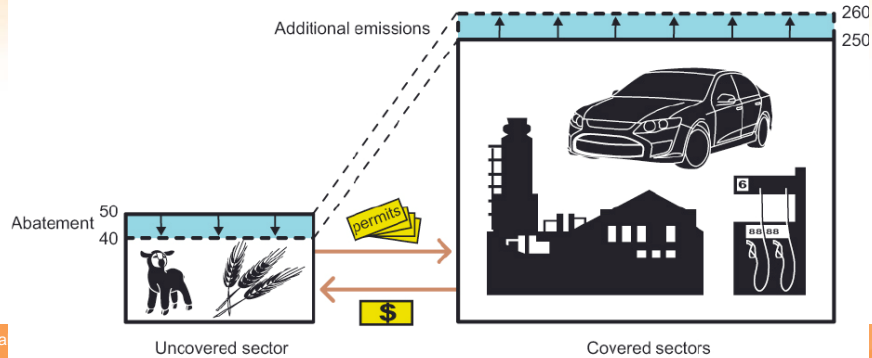


## CPRS Offsets

### Domestic offsets

The Scheme's broad initial coverage leaves limited scope for domestic offsets. Offsets will not be allowed from agriculture emissions in the period prior to coverage of these emissions. The Government will consider the scope for domestic offsets in 2013.

Box 6.11: Effect of including domestic offsets in a cap and trade Scheme



## CPRS obligation

Design feature	White Paper final position
Point of obligation	Point of obligation set as a combination of direct and indirect: <ul style="list-style-type: none"> <li>Stationary energy (combination of direct emitters above 25,000t CO<sub>2</sub>-e and fuel supplier for small emitters)</li> <li>Transport (upstream point of obligation only, via excise system)</li> <li>Industrial process emissions (direct emitters, 25,000t CO<sub>2</sub>-e threshold)</li> <li>Fugitive emissions (direct emitters only 25,000t C CO<sub>2</sub>-e threshold)</li> <li>Waste (direct emitters only, 25,000t CO<sub>2</sub>-e in rural areas, 10,000t CO<sub>2</sub>-e if a landfill facility is operating within proximity to another landfill facility, with a distance to be determined in the regulations)</li> <li>Large users (emissions of greater than 25,000t CO<sub>2</sub>-e from a single source) and other eligible entities will be able to 'net out' (purchase without a carbon price) their fuel purchases and directly manage their scheme obligations.</li> </ul>

Expected to be less than 1000 direct participants



## Liable entities

Design feature	White Paper final position
<p><b>Definition of a liable entity</b></p> <p>Federal, State and Local Governments will be liable for obligations arising from their facilities</p>	<p>In general, entities with operational control over covered facilities or activities will be liable for emission obligations arising from those facilities or activities under the scheme. With the approval of the scheme regulator, entities will have the ability to transfer scheme obligations arising from a covered facility to another entity with financial control over that facility, where certain criteria are met.</p> <p>For corporations, obligations will be placed on the controlling corporation of a company group where either the controlling corporation or a member of the group has operational control over a covered facility or activity. With the approval of the scheme regulator, entities will have the ability to transfer scheme obligations arising from the controlling corporation to another legal entity within the same corporate group, where certain criteria are met.</p>



## Tradable Unit

- Permits allow you to emit one tonne of Greenhouse Gas (CO2 equivalent) once
- Permits are date stamped (vintage), can be used from the date they become valid





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## CPRS market arrangements

Design feature	White Paper final position
Price cap	<p>The scheme will have a transitional price cap for the period 2010–11 to 2014–15.</p> <p>The level of the price cap will be set at \$40 commencing in 2010-11.</p> <p>The level of the price cap will rise in real terms by 5% per year.</p>
Banking of permits	Unlimited banking of permits will be allowed under the Scheme (except those accessed under the price cap arrangements).
Borrowing of permits	The Scheme will allow liable entities to discharge up to 5% of their obligations by surrendering permits dated from the following year.

Threatens environmental effectiveness and economic efficiency of scheme

**CHANGE:** 2011-12: 10\$ fix price And from 2012-13 price cap starting at \$40 for 4 years 2015-16

**CHANGE:** no banking under 10\$ fixed price

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## Penalty or price cap?

**Figure 3.3 Price cap set above market clearing price**

Unit price (\$)

Price cap

Market clearing price

Scheme cap

Emissions (Mt CO<sub>2</sub>-e)

Price cap is non-binding

**Figure 3.4 Price cap set below market clearing price**

Unit price (\$)

Market clearing price

Price cap

Initial scheme cap

Effective scheme cap after use of price cap mechanism

Emissions (Mt CO<sub>2</sub>-e)

Use of price cap mechanism loosens emissions cap

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## Penalty design after price cap (2016)

- Section 134:
  - if at the end of 15 December in the next eligible financial year, the person has a unit shortfall for the current eligible financial year it has to pay for each Number of shortfall units the prescribed amount for the current eligible financial year which is
    - (i) an amount is specified in the regulations for the 2 current eligible financial year—that amount; or
    - (ii) otherwise—an amount equal to 110% of the benchmark 4 average auction price for the previous financial year.
  - the number of units in the unit shortfall is the person's **make-good number** for the current eligible financial year the person is a **liable entity** for the next eligible financial 29 year.



## CPRS international linkages

Design feature	White Paper final position
Acceptance of international units	<p>Liabe entities will be able to meet their obligations by using eligible international units for compliance in the scheme.</p> <p>The use of eligible international units will not be subject to quantitative restrictions.</p> <p>Liabe entities will (initially) be able to surrender certified emission reductions (with the exception of long-term and temporary certified emissions reductions), emission reduction units and removal units.</p>
Acceptance of non-Kyoto units	International non-Kyoto units will not be accepted for compliance in the scheme. This will be reviewed for the post-2012–13 period in the light of future developments in international negotiations.
Exporting permits	In the initial years of the scheme, export of carbon pollution permits will not be allowed. A minimum of five years notice will be given on a decision to allow the sale and transfer of carbon pollution permits, except where an independent review finds that establishing a bilateral link will not have a significant impact on the permit price in the scheme, and the responsible minister decides to waive or shorten the notice period.

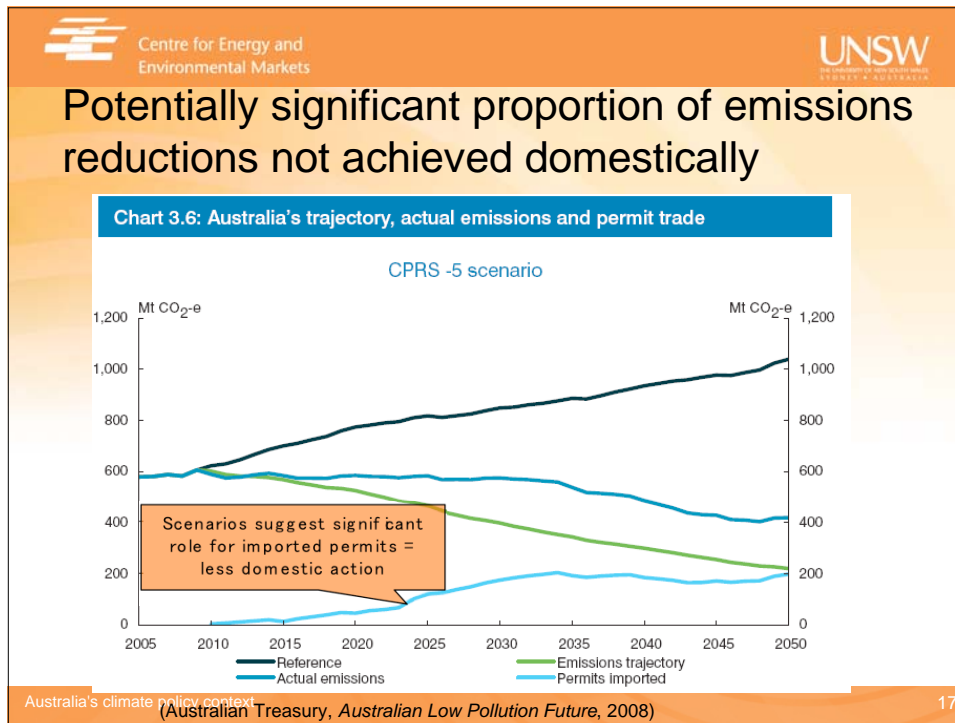
CPRS permit price will always be  $\leq$  CDM CERs & might see very little domestic action if CDM market delivers low prices (CDM additionality also proving questionable)

Opens it up for post 2012 international units

This special clause applies for New Zealand linking







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## Permit allocation

<p><b>Permit allocation (free allocation/auctioning)</b></p> <p>No guarantee given EITE arrangements</p>	<p>Allocations should progressively move towards 100% auctioning as the scheme matures, subject to provision of transitional support for emissions-intensive trade-exposed industries and strongly affected industries.</p>
<p><b>Treatment of households</b></p>	<p>The Government will use every cent it raises by putting a cost on carbon pollution to help households and businesses adjust and move Australia to the low pollution economy of the future.</p>
<p><b>Design feature</b></p> <p>Climate Change Action Fund</p> <p>Most emphasis on returning price impacts of CPRS as cash payments rather than actions to reduce energy consumption &amp; hence bills</p>	<p><b>White Paper final position</b></p> <p>The Government will commit \$2.15 billion to the CCAF between 2008-09 to 2012-13 to assist in smoothing the transition for businesses, community sector organisations, workers, regions and communities to an operating environment that includes a price on carbon. An additional \$300 million (between 2013-14 to 2014-15) will be provided for adjustment in the coal mining sector.</p>

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## EITE arrangements

Design feature	White Paper final position
<p><b>Mechanisms for emissions-intensive, trade-exposed industry (EITE) assistance</b></p>	<p>Assistance will be provided to EITE industries with up front (ex-ante) free allocation of permits at the beginning of each compliance period contingent on continuing production. This assistance is provided with the dual purpose of reducing carbon leakage and providing a measure of transitional assistance.</p>

Doesn't actually test carbon leakage as part of eligibility. Poor policy in response to stakeholder pressures that significantly reduces effectiveness, efficiency & equity of CPRS

$$A_i^{tot} = k_i^d (EI_i^d \times O_i^{tot}) + k_i^e (EO_i^e \times EAF_i^e \times O_i^{tot}) + k_i^g (NGO_i^g \times NGAF_i^g \times O_i^{tot})$$

Allocations with respect to direct emissions

Allocations with respect to indirect electricity emissions

Allocations with respect to upstream natural gas emissions where these are used as feedstock

*A<sub>it</sub>* = allocation of permits to entity *i* for emissions associated with activity *a* in period *t*  
*O<sub>it</sub>* = output of activity *a* by entity *i* in period *t*  
*k<sub>ia</sub>* = assistance rate for activity *a*, 60 or 90 % depending on the activity but will reduce over time by the carbon productivity contribution of 1.3 per cent per year. Add GRB 1.05 or 1.1  
*E<sub>ia</sub>* = direct emissions-intensity baseline for activity *a* (that is, the baseline level of direct emissions per unit of output for the activity), including the emissions associated with the use of steam  
*EO<sub>ia</sub>* = electricity-intensity baseline for indirect electricity emissions for activity *a* (that is, the baseline level of electricity per unit of output for the activity)  
*EAF<sub>it</sub>* = electricity allocation factor, which reflects the impact of the carbon price on the price of electricity. This could, but will not necessarily, vary across entities and/or time.  
*NGO<sub>ia</sub>* = natural gas (or its components) feedstock intensity baseline for indirect natural gas emissions for activity *a* (that is, baseline level of natural gas (or its components) feedstock used per unit of output for the activity)  
*NGAF<sub>it</sub>* = natural gas feedstock (or its components) allocation factor, which reflects the impact of the carbon price on the price of natural gas. This could, but will not necessarily, vary across entities and/or time.

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## EITE arrangements

**Eligibility for and calculation of assistance**

Eligibility for EITE assistance will be determined using industry average estimates of emissions intensity. The activity must also be demonstrated to be trade exposed. Emissions intensive activities are those with an emissions intensity above 1000t CO<sub>2</sub>/\$m revenue or 3000t CO<sub>2</sub>/\$m value added.

There are two assistance rates — 90% and 60% — with the most emissions intensive activities, over 2000t CO<sub>2</sub>/\$m revenue, receiving a 90% assistance rate and those with an emissions intensity above 1000t CO<sub>2</sub>/\$m revenue receiving a 60% assistance rate.

Assistance will be provided to new and existing entities at the same rates on the same basis. Allocation baselines will be based on historic information on the emissions intensity of all entities conducting a given activity.

Assistance will be provided in relation to direct emissions and some indirect emissions. Permit allocations for indirect emissions will be related to the cost increase associated with the use of electricity, steam, and natural gas and its components where these are used as feedstocks by an activity.

Administrative allocations of permits to EITE entities will be around 25% of permits, which is equivalent to around 35% including agriculture.

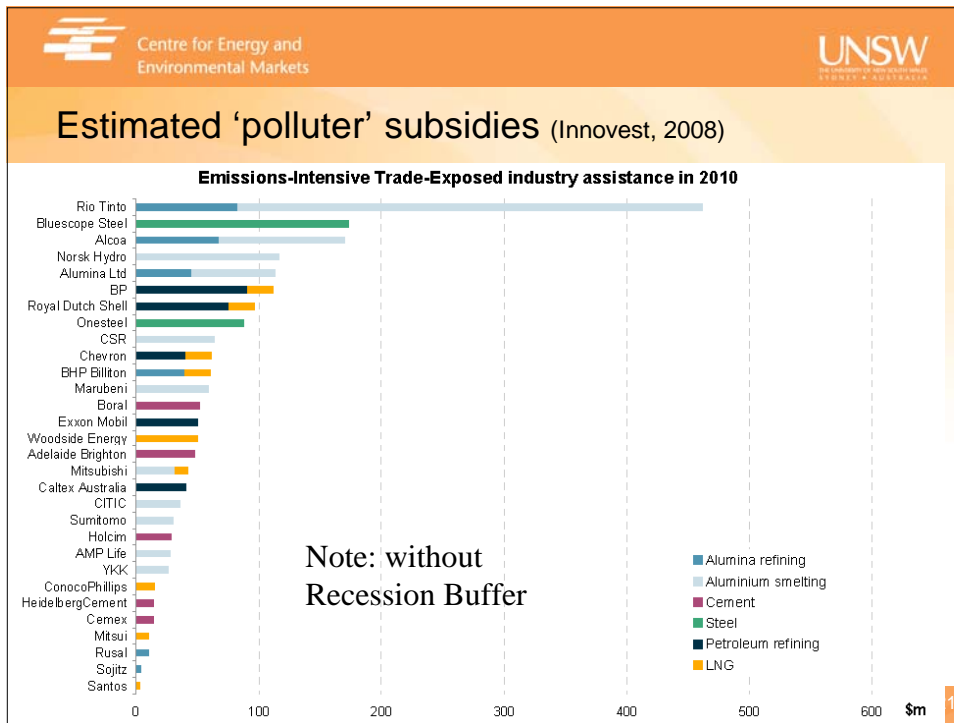
**CHANGE:**  
Global Recession Buffer: +5%

**CHANGE:**  
Global Recession Buffer (GRB): +10%

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### Other 'assistance' with free permits

Design feature	White Paper final position
<p>Assistance to strongly affected industries</p> <p>Only if they continue to produce!</p>	<p>Provide limited direct assistance to coal-fired electricity generators, in the form of allocations of administrative allocation of permits, to the value of \$3.9 billion over five years, based on a \$25 carbon price.</p> <p>Assistance to workers and regions to be delivered through the Climate Change Action Fund (CCAF).</p> <p>Assistance for the development and deployment of carbon capture and storage technologies to be delivered through existing programs.</p>

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## CPRS and complementary measures

### Complementary measures

The scheme will be the primary measure to achieve Australia's emissions reduction targets. Other measures will be required to address market failures that a carbon price alone cannot overcome, or to deal with the distributional consequences of the scheme.

Given flawed design, CPRS unlikely to deliver significant real change towards a low-carbon economy in the short to medium term at least. A clear need for additional policies that drive real change.

Across all levels of government an overarching framework has been adopted for assessing and developing complementary measures to ensure initiatives contribute to Australia's emission reduction targets and do not undermine them in the context of the scheme. These principles will guide the future direction of Australia's emission reduction strategy and in particular will ensure that the impact of intervention options are evaluated against the lowest cost market price determined by the scheme.

State and territory governments are encouraged to terminate the Greenhouse Gas Reduction Scheme (GGAS) and the Queensland Gas Scheme.

Figure 18.1: Structure of the Climate Change Action Fund

**Target market:** Small and medium enterprises; firms not receiving other assistance and those at the lowest rate of EITE assistance; community sector organisations; workers, regions and communities.

**Funding:** \$2.15 billion over 5 years commencing in 2008-09, with an additional \$300 million over the period 2013-14 to 2014-15 for Coal Sector Adjustment

**Timing:** Program to be established in 2008-09 and program specific funding from 2009-10

**CHANGE:**  
more money for industry for investment in emissions reductions

**Stream 1: Information**

- \$130 million over 5 years
- Single access point
- Outreach through industry associations and community groups
- Advice on scheme operation and minimising impacts
- Assistance identifying energy efficiency improvements
- Enhancing energy audit and advisory services skills

**Stream 2: Investment**

- \$1.37 billion over 5 years
- *Small Business Capital Allowance and Community Organisation Capital Allowance*
- Applicants adopt energy efficiency activities from eligible products list
- *Innovation in Climate Change*
- Competitive grants for low emission technologies; processes and products; and high energy saving projects

**Stream 3: Structural Adjustment Provision**

- Ongoing monitoring of the need for structural adjustment assistance
- \$200 million provisional funding set aside to assist workers, regions and communities where a clear and sizable burden is identified or is highly likely to occur

**Stream 4: Coal Sector Adjustment**

- \$500 million over 5 years commencing in 2010-11 to the coal transitional assistance fund
- \$250 million over 5 years commencing in 2010-11 to assist coal mining operations with high fugitive emissions to implement abatement opportunities

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### Problem of additional action

GHG reductions of additional action in covered sectors will not lead to reductions to the atmosphere as the ETS / Kyoto budget stays the same

The diagram consists of four vertical bars. The first three bars are teal and represent 'ETS Budget (Sum of allowances)' and 'Emissions electricity'. The fourth bar is teal but has a grey section at the top labeled 'Emissions from elsewhere'. A teal arrow points downwards from the top of the fourth bar, labeled 'Reduction in Electricity'.

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### Solutions

- Take additional savings in cap setting into account (will politicians do this?, in Australia 5 years of caps and 5 years announcement of gateway changes)
- Buy allowances and cancel them, instead of energy savings (boring and you can not see any action!)
- Additional Action Reserve

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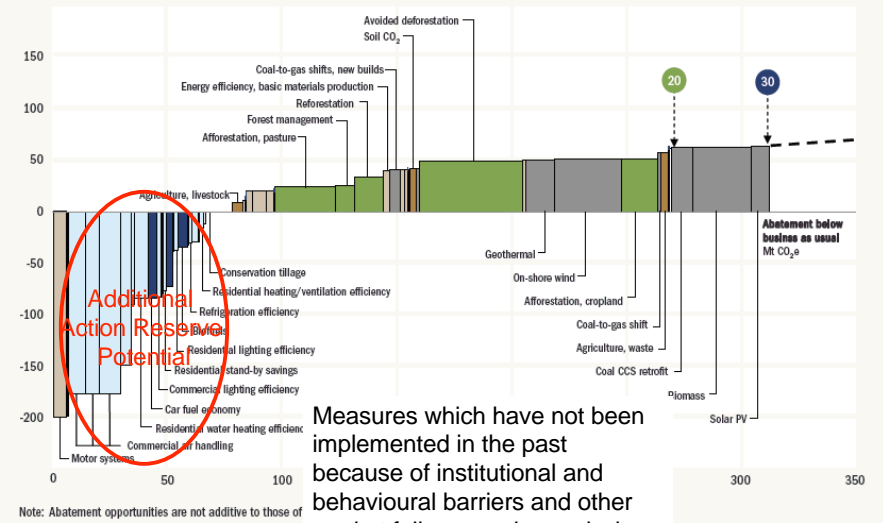


## Additional Action Reserve

- Set a new emission target by including additional potential reductions (e.g. for a target of -20%, now increase it to -30%)
- Set aside these additional required reductions in a reserve. Thus instead of an allocation, for example, of 80% of Allowances to industry, now only allocate 70% and put 10% in a reserve.
- Create a Positive List (PL) of measures, which can constitute those additional reductions, and which are selected on the basis that they would not beyond reasonable likelihood be driven by the ETS (ie. the carbon price from the ETS would not result in significant implementation).
- When the compliance period is over, the additional action measures that have been implemented and reductions have been demonstrated will be verified. The equivalent number of permits to the reductions will then be cancelled from the reserve.
- If the aggregated reductions do not use up the reserve, the remaining AEU's will be auctioned off

### Australian 2020 carbon abatement cost curve

Cost of abatement  
A\$/t CO<sub>2</sub>e





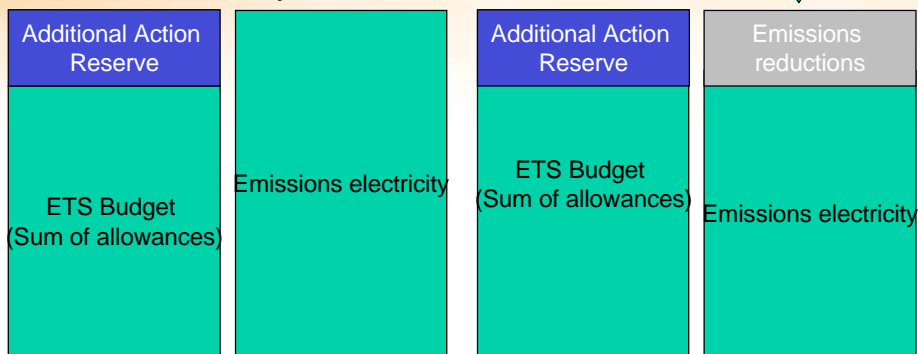
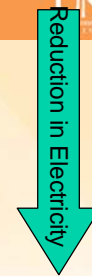
## Positive List

- GreenPower.
- Additional renewable energy deployment driven by policies.
- Energy Efficiency Programmes overcoming major barriers on State and Federal level.
- Biochar trials.
- Low emission demonstration projects.
- Greenfleet projects.
- Electrical vehicles.
- Public transport roll outs.
- Green new deal policies which lead to emission reductions.



## Solution

Additional GHG reductions will lead to reductions to the atmosphere as the ETS and Kyoto budget will be reduced by cancelling allowances and Kyoto Units





## Additional Action Reserve Advantages

- The scheme accounts for voluntary action which goes beyond that which is motivated by the ETS carbon price action
- By targeting only 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 finding the least-cost abatement solution. Even if it allows to account for higher abatement options (GreenPower) it accounts for the higher willingness to pay from some individuals.
- The scheme allows for other additional jurisdictional efforts by commonwealth, state and local government for complementary measures for the sectors covered by CPRS. This may drive policy innovation in the future.
- The scheme creates a mechanism for defined and limited strengthening of the emission target which will drive domestic change rather than offshore.
- The limit on the size of the reserve helps to guide price expectations for other actors in the CPRS.
- Low transaction costs compared to project based mechanism as it is based on a programmatic level.



## Conclusions

- CPRS is political issue and decision pending:
  - Opposition wants to postpone decision beyond Copenhagen as they are split
  - Rudd wants decision before Copenhagen (may use it to call early election)
  - Greens and independent Senators play crucial role
- Indirect link over CDM JI without quantitative limit
- Direct linking with New Zealand becomes political important
- Direct linking barriers international: fixed price (1st year), price cap (2-5th year) makes linking only realistic for period after 2016, but penalty still quite low (110% of average auction price + make good)
- Voluntary action discussing important







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