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Carbon Trading – Implications for Business

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AICM Annual conference

Sydney, 21.10.2009

www.ceem.unsw.edu.au

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Outline

- Introduction in Emission Trading
  - Basics
  - Status of Carbon Pollution Reduction Scheme
- Key features of Carbon Polllution Reduction Scheme
  - Cap
  - Coverage
  - Allocation
  - Penalty
- Impact on Business
  - Direct
  - Indirect

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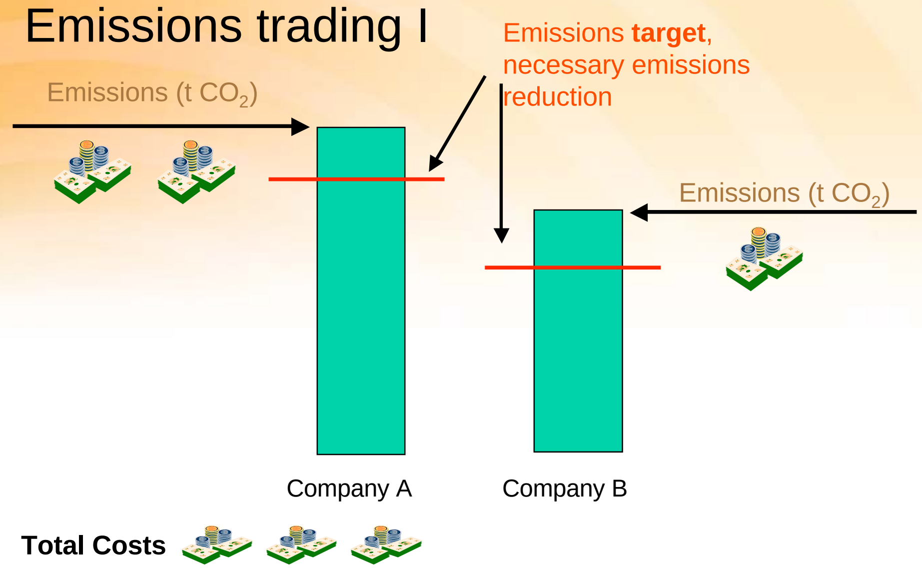
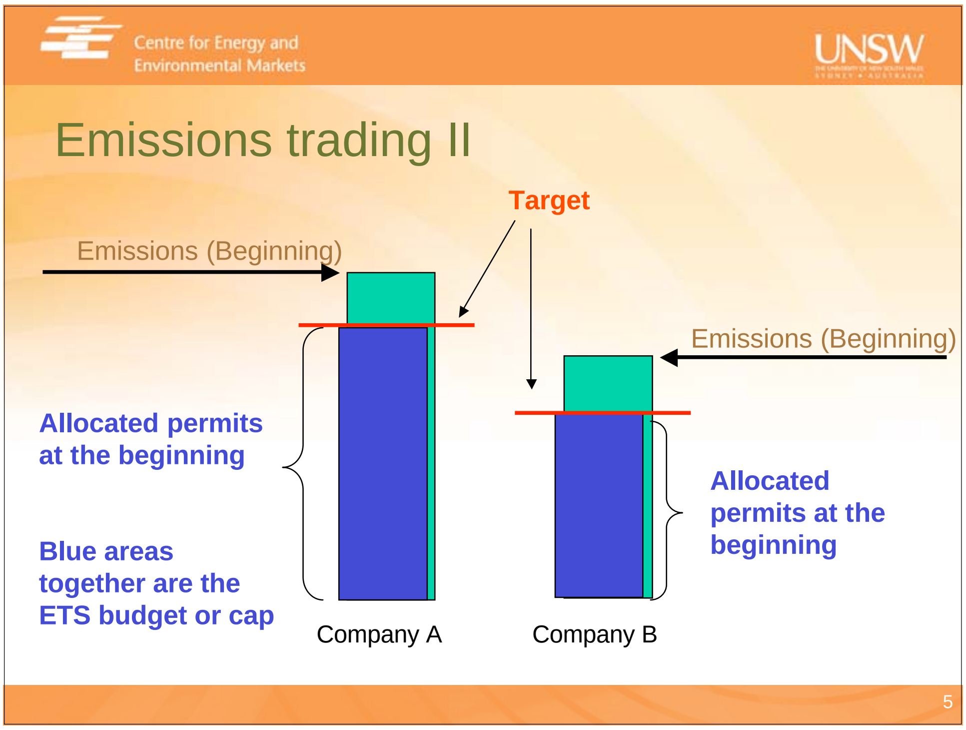
How does emissions trading work?

- Government establishes a target (total ET-budget/cap) -> allocates permits via auction or for free
- For all Greenhouse Gas Emissions regulated companies need to surrender permits otherwise a penalty has to be paid
- Each company monitors it's emissions and assesses it's emissions reduction costs
- Trading occurs until reduction target is achieved at least costs and market price will be determined by aggregated reduction costs and total permit supply

Emissions trading I

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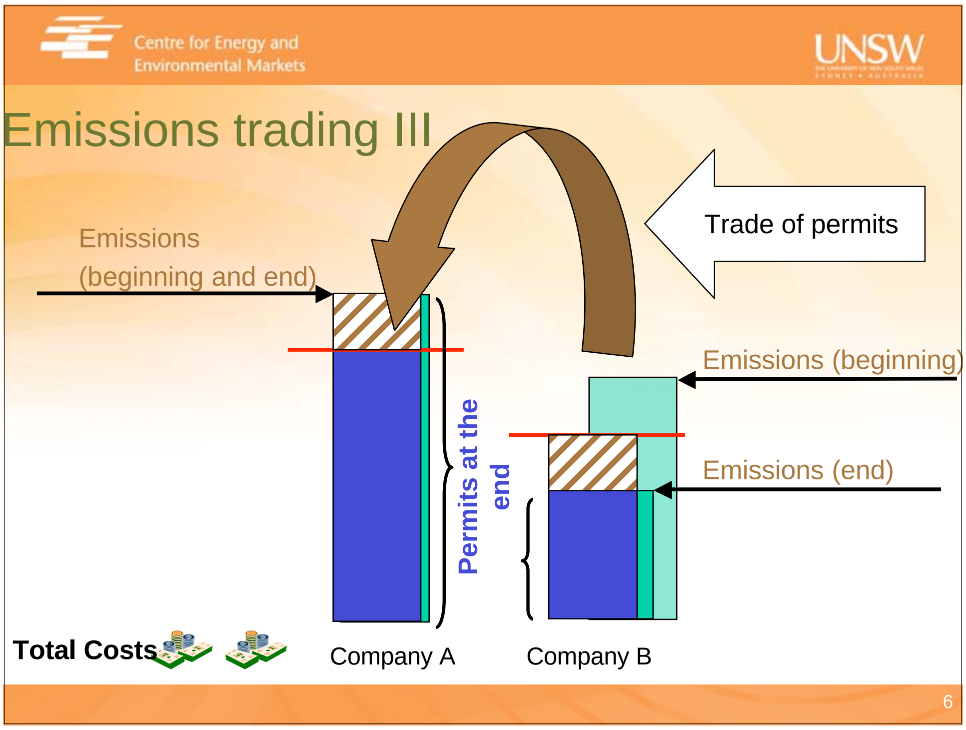
Emissions trading II
Target
Emissions (Beginning)
Emissions (Beginning)
Allocated permits at the beginning
Blue areas together are the ETS budget or cap
Allocated permits at the beginning
Company A
Company B
5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Emissions trading III
Trade of permits
Emissions (beginning and end)
Emissions (beginning)
Emissions (end)
Permits at the end
Total Costs
Company A
Company B
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Current Status of Carbon Pollution Reduction Scheme (CPRS)

November 2009	Reintroduction of CPRS Legislation in the Senate and possible passage
13 August 2009	Senate voted on CPRS legislation
14 May 2009	CPRS legislation introduced to Parliament
15 December 2008	White Paper released
30 September 2008	The Garnaut Climate Change Review presented final report
16 July 2008	Green Paper released

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Timing

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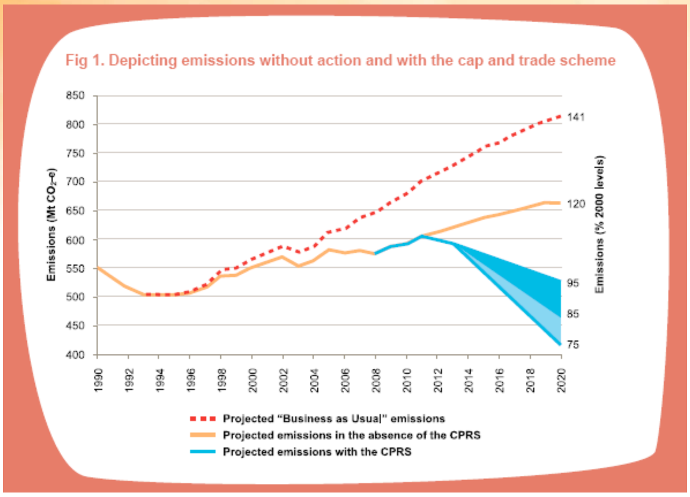
Australia's International Target



DCC: Australia's Action on climate Change

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Scheme coverage

Scheme Coverage	Description
Greenhouse gases targeted by the scheme	▪ Carbon dioxide (CO2), ▪ Methane (CH4) ▪ Nitrous oxide (N2O) ▪ Sulphur hexafluoride (SF6) ▪ Hydrofluorocarbons (HFCs) ▪ Perfluorocarbons (PFCs).
Emissions sources included in the scheme	▪ Stationary energy (ie electricity) ▪ Transport ▪ Industrial processes including waste disposal ▪ Fugitive emissions from oil and gas production. ▪ A final decision on coverage of agriculture emissions will be made in 2013, with the earliest inclusion date of 2015.
Businesses required to reduce emissions	▪ All entities that emit > 25,000 CO2 (around 1,000 entities) will be given emission caps. ▪ Total coverage to be around 75 per cent of Australia's emissions.

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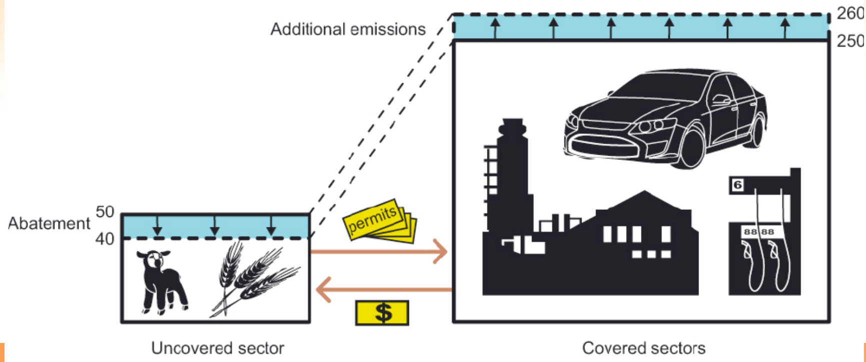
Offsets

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



Permit allocation

Permit allocation (free allocation/auctioning)	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.

Design feature	White Paper final position
Assistance to strongly affected industries	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. Assistance to workers and regions to be delivered through the Climate Change Action Fund (CCAF). Assistance for the development and deployment of carbon capture and storage technologies to be delivered through existing programs.

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Allocation Energy Intensive Trade Exposed Industry (EITE)

Year	60% category	60% category + Global Recession Buffer	90% category	90% category + Global Recession Buffer
2011–12	60.0%	66.0%	90.0%	94.5%
2012–13	59.2%	65.1%	88.8%	93.2%
2013–14	58.5%	64.4%	87.7%	92.1%
2014–15	57.7%	63.5%	86.5%	90.8%
2015–16	56.9%	62.6%	85.4%	89.7%
2016–17	56.2%	–	84.3%	–
2017–18	55.5%	–	83.2%	–
2018–19	54.8%	–	82.1%	–
2019–20	54.0%	–	81.1%	–
2020–21	53.3%	–	80.0%	–

CHANGE: Global Recession Buffer: +5%

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

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_2/\$m revenue or 3000t CO_2/\$m value added.
	There are two assistance rates — 90% and 60% — ...h the most emissions intensive activities, over 2000t CO_2/\$m revenue, receiving a 90% assistance rate and those with an emissions intensity above 1000t CO_2/\$m revenue receiving a 60% assistance rate.
	...ance will be provided to new and existing entities at the same rates on the same basis. Allocative 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.

Maximum Assistance	Moderate Assistance
▪ Aluminium smelting ▪ Cement clinker production ▪ Lime production ▪ Silicon production ▪ Integrated iron and steel manufacturing.	▪ Alumina refining ▪ Petroleum refining ▪ LNG production

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Other assistance

Design feature	White Paper final position
Climate Change Action Fund	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.

A \$200 million tranche of the Climate Change Action Fund for 2009-10 will include:

1. \$20 million for a business information package to provide advice to businesses on how the CPRS will work and what impacts and opportunities may arise
2. up to \$100 million for Early Action Energy Efficiency Strategies for Business, including energy audits, investment and information programs
3. \$80 million for capital investment grants for businesses and community organisations.

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CPRS market arrangements

CHANGE:
2010 start of scheme postponed
2011-12: 10$/tCO2e fixed price

Design feature	White Paper final position
Price cap	The scheme will have a transitional price cap for the period 2010–11 to 2014–15. The level of the price cap will be set at $40 commencing in 2010-11. The level of the price cap will rise in real terms by 5% per year.
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

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Penalty or price cap?

Figure 3.3 Price cap set above market clearing price

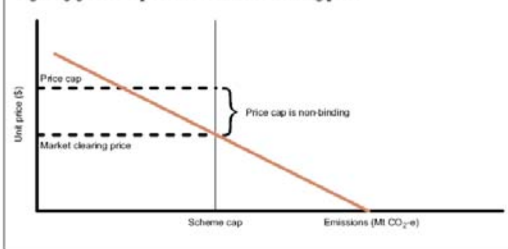
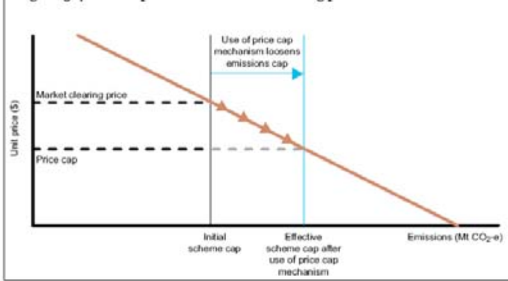


Figure 3.4 Price cap set below market clearing price



Source: Green paper

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Proposed changes by opposition (Coalition)

- Lower and only one threshold for Energy Intensive Trade Exposed Industry and more free permits
- Permanently exclude agricultural emissions from the CPRS and instead allow for offsets
- Exclude coal mine fugitive emissions from the CPRS and instead use regulation
- Intensity-based approach for electricity generators to reduce electricity price impact
- Increase compensation to electricity generators (triple free allocation)
- Introduce a "white certificate" scheme for energy efficiency
- Ensure emissions reductions from voluntary action

http://www.liberal.org.au/news.php?Id=3975

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Direct Impact on companies

Around 1,000 entities will be directly liable and will have to

-Surrender permits for compliance

-Monitor, report and verify (if ≥125 000 t CO_2e p.a.) emissions

-May engage in carbon market

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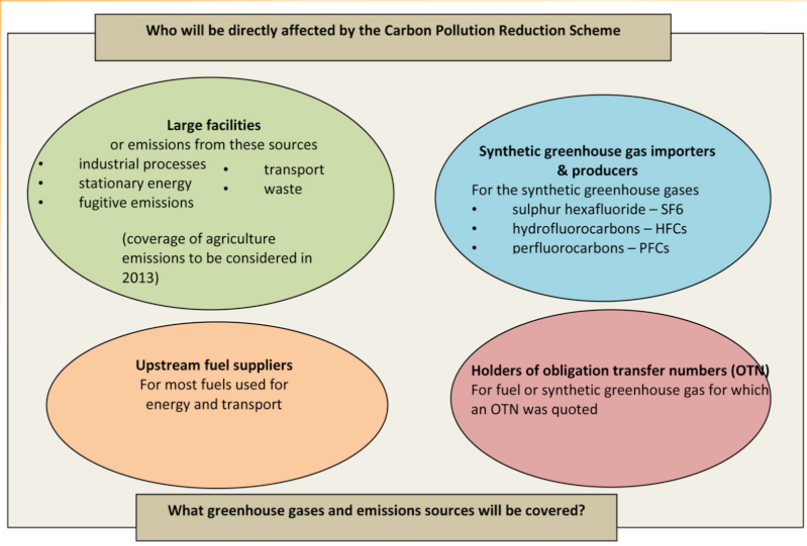

http://www.climatechange.gov.au/government/initiatives/cprs/who-affected/directly-affected.aspx

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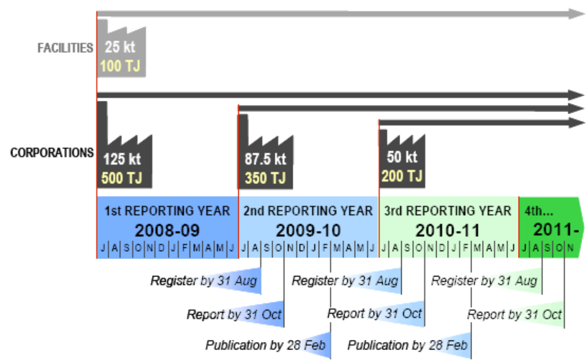
Timeline for reporting under NGER

Figure 4: **Thresholds and timeline for the National Greenhouse and Energy Reporting System.** A corporation or facility must report when it emits greenhouse gases, or produces or consumes energy, at or above the specified quantity per financial year.



kt = kilotonnes (10^6 kilograms) carbon dioxide equivalent of greenhouse gases emitted
TJ = terajoules (10^{12} joules) of energy consumed or produced

Regulations Policy Paper

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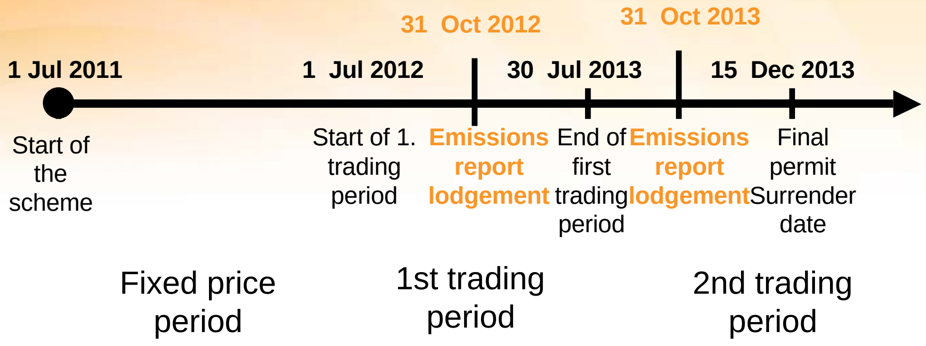
Timing for reporting under CPRS/NGER



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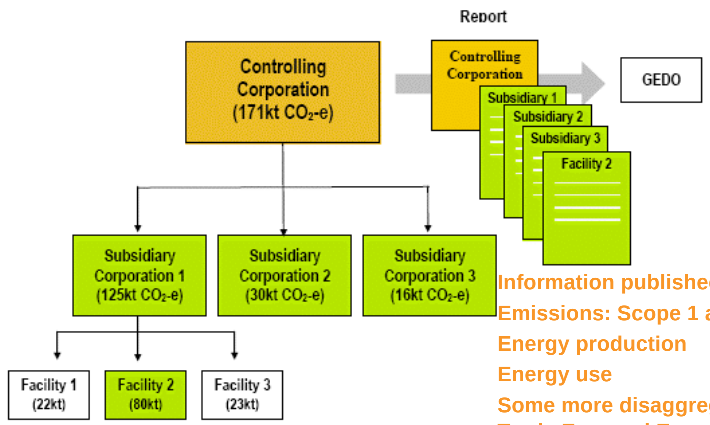
Reporting requirements

Figure 2: Example of a corporate group's obligations to report[27]



Information published separately:
Emissions: Scope 1 and Scope 2
Energy production
Energy use
Some more disaggregated reporting for Trade Exposed Energy Intensive Industry
Materiality Thresholds for reporting on small facilities

Regulations Policy Paper

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Permit auctions timing

2011-12

2012-13

2013-14

Box 9.9: Possible ti ng of auctions and proport n of permits available at ach auction in 2009-0 to 2011-12

	Financial years																							
	2009-10						2010-11												2011-12					
Vintage	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
2010-11				1/16	1/16	1/16	1/16	1/16	1/16	1/16	1/16	1/16	1/16	1/16	1/16	1/16	1/16	1/16						1/16
2011-12					1/16	1/16	1/16												1/16	1/16	1/16	1/16	1/16	1/16
2012-13						1/16	1/16												1/16					
2013-14			Transition				1/16												1/16					
2014-15																			1/16					

Note: Entries represent the fractions of permits from each vintage year cap excluding administrative allocations.

Deferred payment is under consideration

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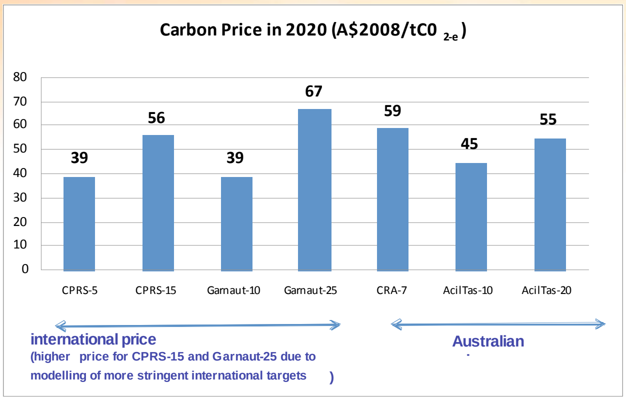
What will permits costs?

Price will depend on national emission trajectory, scheme coverage and international linking, and the costs of emission reduction opportunities.



Source: Own graph based on several studies

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Indirect impact of CPRS on Business

Increases in:

- energy prices (e.g. electricity and gas)
- prices of inputs and products that are energy or emissions-intensive to produce
- transport costs
- prices of waste disposal.

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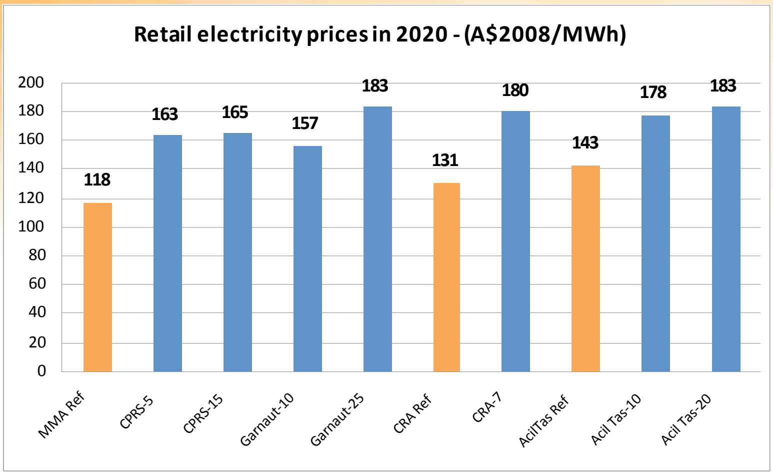
Impact on Retail prices



Source: Own graph based on several studies

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Carbon Markets today *(PWC/IETA, 2007)*

Scheme	Emissions covered	Geographical reach	Emission sources targeted	Number of sources	Absolute or relative targets?	Start
EU ETS	CO_2	European Union	Large industrial and energy-intensive installations	~10,000 units	Absolute targets	2005
NSW GGAS	CO_2, CH_4, N_2O, PFCs, HFCs, SF_6	New South Wales (Australia)	Power generation, energy efficiency, industrial processes and carbon sequestration in forests	>160 projects so far and 32 benchmark participants	Relative targets	2003 (NSW) & 2005 (ACT)
JVETS	CO_2	Japan	Direct emissions from combustion of fuels and waste materials; direct emissions from processing chemicals and materials; and indirect emissions (e.g. use of grid-electricity)	90 entities	Absolute targets	2006/2007 (participant-dependent)
RGGI	CO_2	A group of Northeast and Mid-Atlantic US states	Electricity generating units that have a nameplate capacity equal to or larger than 25 MW and burn more than 50 per cent fossil fuels	Between a few and a few hundred units per state	Absolute targets	Compliance starts in 2009
CCX	CO_2, CH_4, N_2O, PFCs, HFCs, SF_6	US, Canada, Mexico, Brazil	Sources in the electric power sector and fossil fuel combustion and process emissions in the manufacturing sectors	43 entities ("Members")	Absolute targets	2003
CDM & JI	CO_2, CH_4, N_2O, PFCs, HFCs, SF_6	Global involvement	A wide range of activities	467 registered CDM projects, >100 JI projects in the pipeline	No targets	2005 (CDM) & 2008 (JI)

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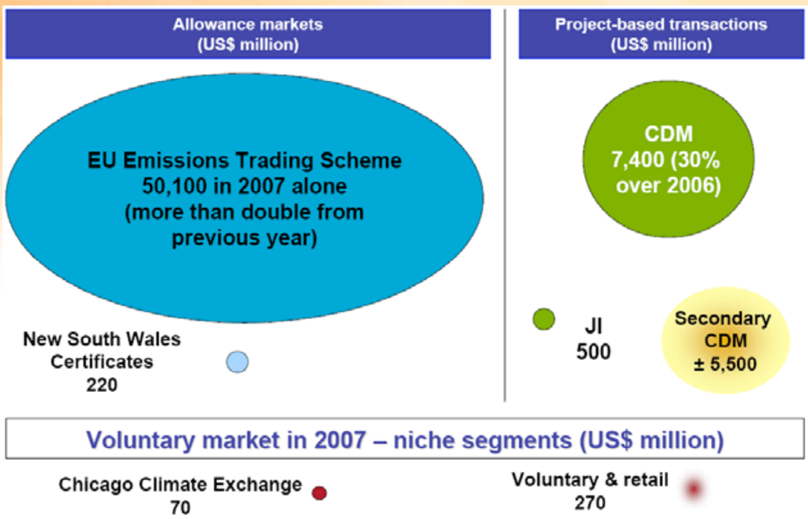
International carbon markets



(World Bank, Carbon Markets Report, 2008)

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Conclusions

- CPRS legislation is in the process to be reintroduced
- It will impact everybody indirectly and around 1000 companies in Australia directly
- Assess impacts of CPRS on your own company
  - Direct impacts:
    - Surrendering permits
    - Monitoring, reporting and verification requirements
  - Indirect impact:
    - Increase in costs
- Assess the impact of CPRS and risk for companies you engage with commercially (nationally but also internationally)

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