THE IMPLICATIONS OF THE CARBON POLLUTION REDUCTION SCHEME FOR YOUR BUSINESS

RMIA Conference, November 2009

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AGENDA

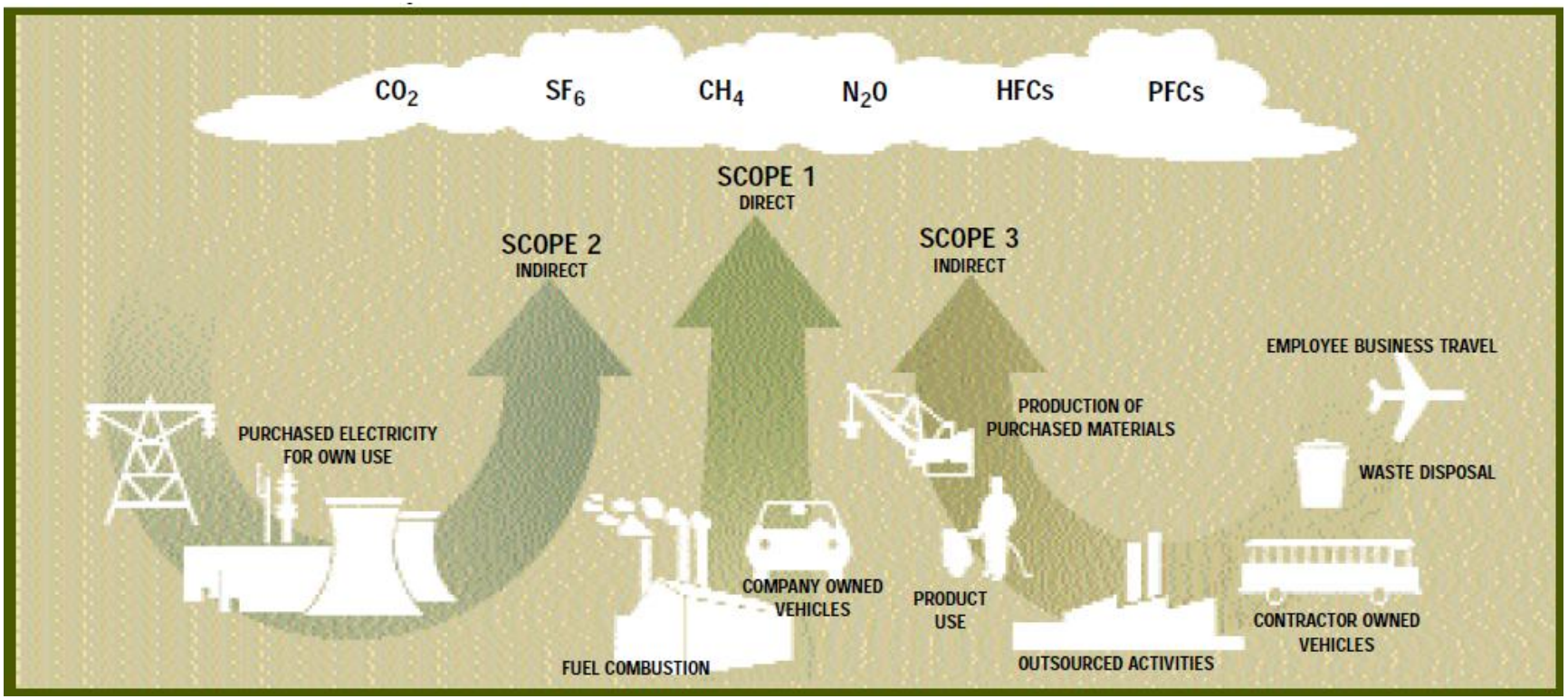
Now

- Important concepts
- Participating in the CPRS: compliance responsibilities
- Participating in the CPRS: transactional choices and risk management opportunities
- Participating in the CPRS: other management choices
- Participating in the CPRS: upstream and downstream issues

This afternoon

- Developing organisational strategies: the make or buy choice

Classification of Greenhouse Gases



Source: The Greenhouse Gas Protocol, A Corporate Accounting and Reporting Standard, World Resources Institute

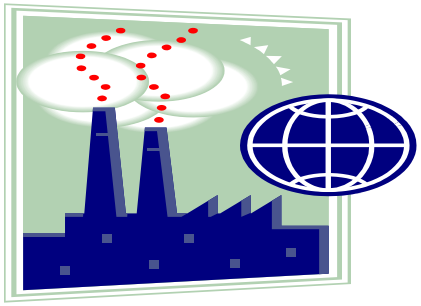
Cap and Trade Schemes: Conceptual

Government Revenue (to enable provision of Assistance)

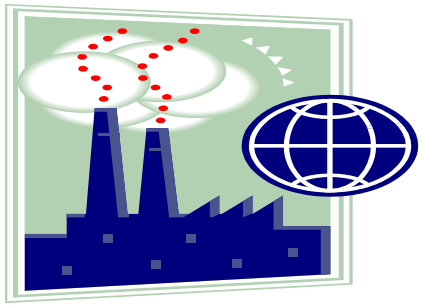
$

Carbon permit allocation

Total emission cap<BAU



Carbon permit trading



Surrender permits = Annual emissions

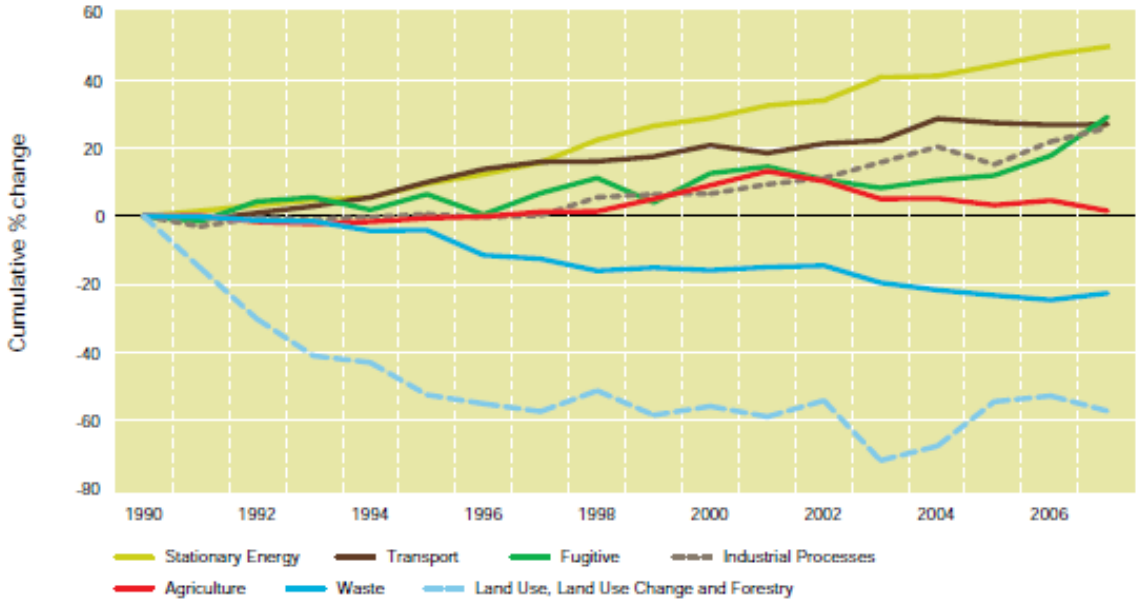
Penalty

(and make good provisions)

Note: Permits grant the right to emit CO2

Australia's Greenhouse Gas Emissions by Sector

Category	Annual emissions through to the December quarter Mt CO_2-e [a]		Per cent change in annual emissions [d]
	2007 December quarter [c]	2008 December quarter [c]	
National Inventory – Annex A sectors			
Energy – fuel combustion	374	377	1.0%
Energy – fugitive emissions	39	39	-0.3%
Industrial processes	31	32	2.3%
Waste	15	15	0.7%
Agriculture	89	91	1.7%
National Inventory total [b]	**547**	**553**	**1.1%**



Source: National Greenhouse Gas Inventory, Accounting for the Kyoto target,
Australian Government Department of Climate Change May 2009

Compliance

NGERS

- Registration
- Measurement
- Reporting & Assurance

CPRS

- Measurement
- Report & Assurance
- Surrender
- Relinquish
- Significant holdings

Transactional

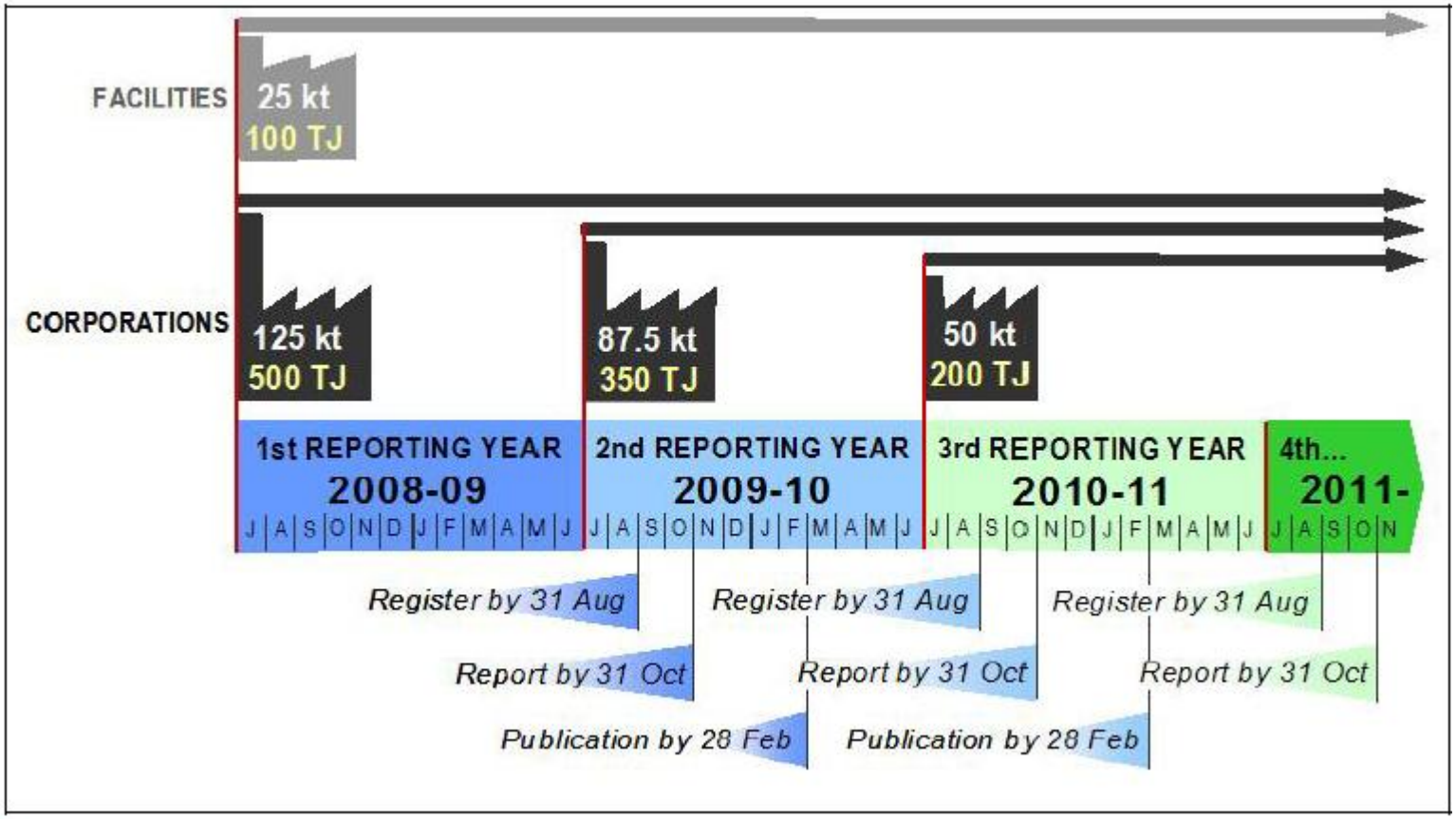
Purchasing strategy

- Auction participation
- Secondary market
- International Market

Management approach

- Business unit/head entity: Liability Transfer Certificates
- Up/down stream: Obligation Transfer Number Requirements

NGERS Scheme Timeline



Source: :Australian Government Department of Climate Change

NGERS: Key Features

- National Greenhouse and Energy Reporting Act (NGER Act) came into effect September 2007 to develop a national consistent greenhouse gas (GHG) emissions, abatement actions and energy consumption and production reporting framework
- Establish an inventory of emissions, energy produced and energy consumed within Australia that will eventually underpin emissions trading scheme activity (CPRS) activity
- Reporting of Scope 1 and Scope 2 emissions will be mandatory for entities exceeding defined thresholds for energy production, energy consumption or GHG emission thresholds. Scope 3 reporting will be voluntary
- NGERS is expected to cover around 700 medium-sized and large facilities, of which an initial 300 – 400 reported for the first time in 2008/09

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CPRS: Key Features

Who and what is covered?

- Six greenhouse gases included under the Kyoto Protocol
- Facilities that emit > 25,000 Tonnes CO2-e per annum included
- Stationary energy, industrial processes, transport, fugitive emissions, waste, forestry (opt-in)
- Agriculture excluded but may be included from 2016 subject to a review in 2013
- Approximately 75% of Australia's emissions included

How will permits be allocated?

- Through a combination of auctioning and free allocation to Emission Intensive Trade Exposed (EITE) and Coal Fired Electricity Generation.

What is the point of obligation?

- Points of obligation are dependent upon the operations or composition of the industry and are either direct (at point of physical production of emissions), e.g. Stationary energy or indirect (applied at a point in the supply chain), e.g. transport

CPRS: Key Features

How is the Scheme linked internationally?

- Reductions from overseas Kyoto compliant projects Clean Development Mechanism (CDM) or Joint Implementation (JI) and permits bought from other schemes (e.g. EU ETS) are tradeable within the Australian CPRS.
- Australian Emission Units (AEU) are not tradeable in international carbon markets

What price protection will be implemented?

- Initial price of $10 / Tonne CO2-e for first year
- A $40 / Tonne CO2-e price cap increasing by CPI + 5% for 5 years

What assistance is available?

- Electricity Sector Adjustment Scheme – free allocation of permits (approx $3.7billion)
- Free allocation of permits to certain industries (EITE)
  - 90% free permits if emissions intensity > 2,000 tonnes C02-e / $m revenue or >6,000 tonnes CO2-e / $m value added
  - 60% free permits if emissions intensity between 1,000 – 1,999 tonnes C02-e / $m revenue or 3,000 – 5,999 tonnes CO2-e / $m value added
  - 8 eligible activities announced - production of carbon black, container glass, flat glass, methanol, newsprint, silicon, white titanium dioxide pigment and zinc
- Direct and indirect assistance to low and middle income households
- Fuel excise reduction

CPRS: Key Features

What grants and other funding is available for industry?

- Climate Change Action Fund for industries not entitled to free permit allocation (at corporate or individual level)

What are the tax and accounting implications?

- Seeking fiscal neutrality and simple tax rules
- Mandatory assurance for large emitters

How will the scheme be governed?

- An independent statutory regulator (Australian Climate Change Regulatory Authority) will be established to administer, oversee and regulate the scheme
- Parliament will set scheme caps and gateways

CPRS - Compliance Obligations

- Register for NGER (mandatory or voluntary)
- Calculate annual emissions number
- Submit emissions reports
- Surrender emissions units
- Relinquish units (if required)
- Notify significant holdings
- Keep records
- Audit

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Carbon Risk: Key Questions for Consideration

What is our business as usual emission projection?

- How far can this be reduced to minimise exposure in the future?

What measurement and management techniques do we develop?

What is our marginal cost of abatement?

- Can we justify investing in low carbon technologies?

What policy changes should we consider to manage our future exposure to carbon markets?

How is our existing portfolio risk profile changed?

How do we provide our shareholders with reassurance that the risk to return on their investment is minimised?

CPRS: Transactional Choices

Auction participation and settlement

- How many certificates?
- At what price?
- How far into the future?
- Buy or sell?

Secondary market participation

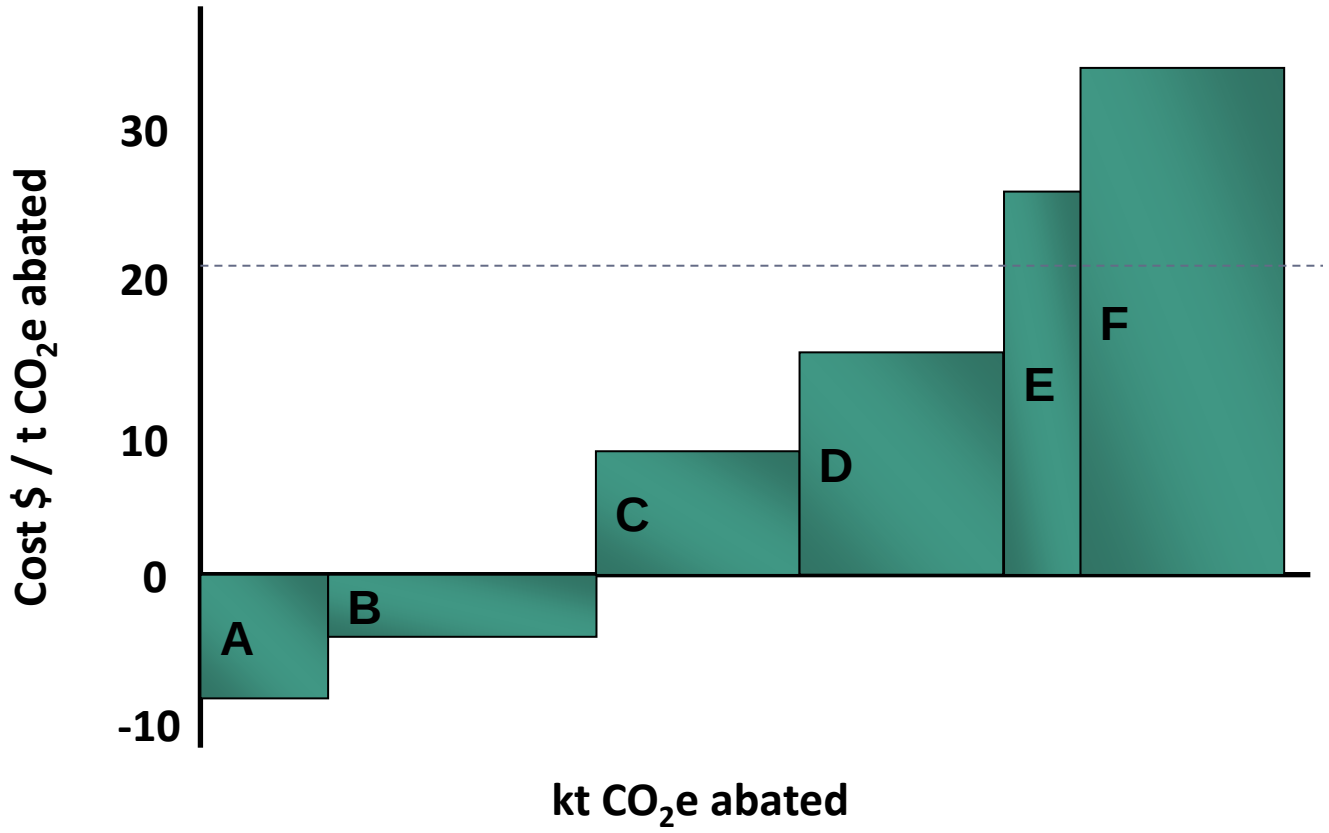
- How many certificates?
- At what price?
- How far into the future?
- What choices are available to manage the risks?

International market participation

- Buy or sell?
- What kind of certificate?
- How many certificates?
- At what price?
- How far into the future?
- What choices are available to manage the risks?

Marginal Abatement Cost Curve - Generic

The fundamental question is do you buy permits or reduce emissions?



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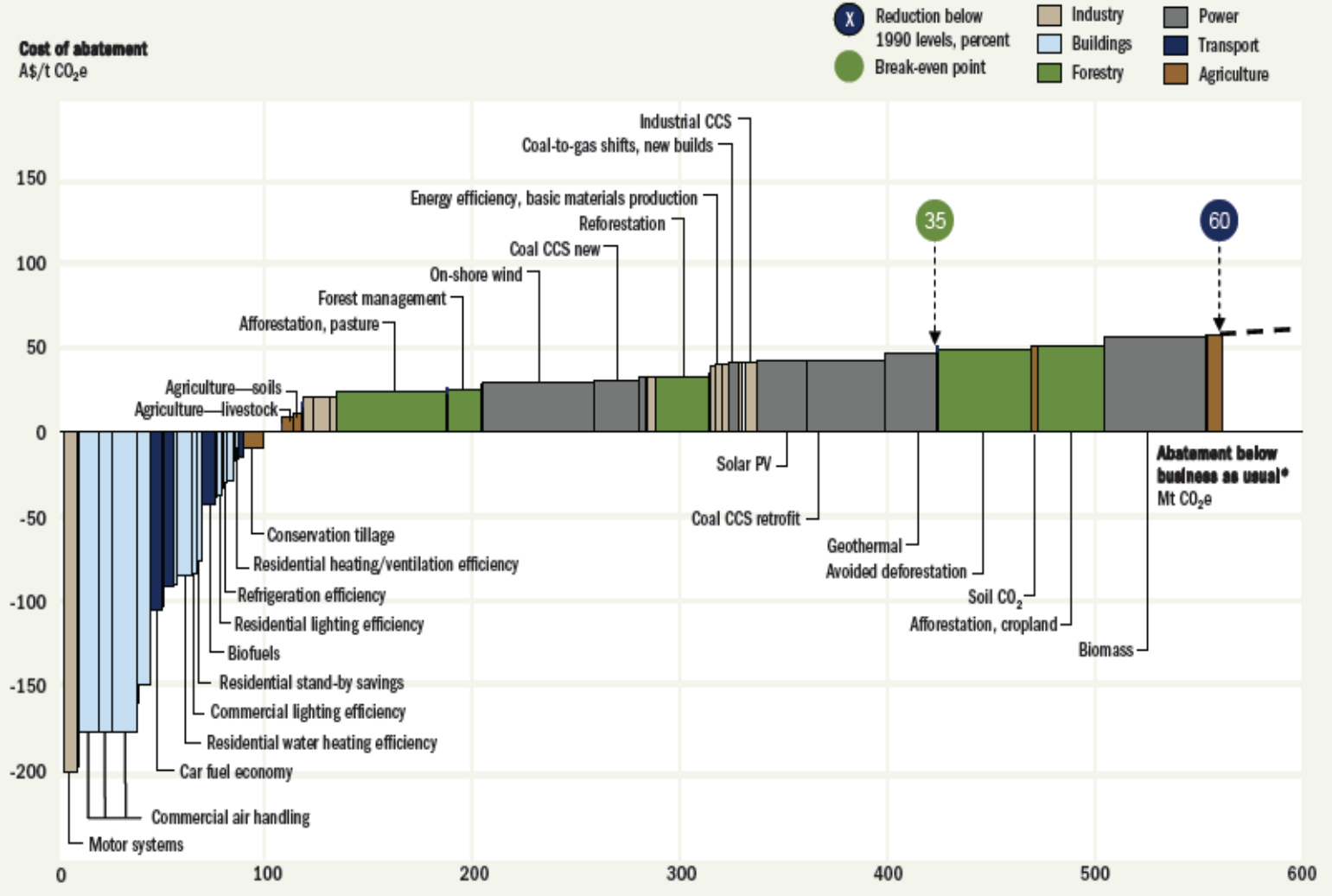
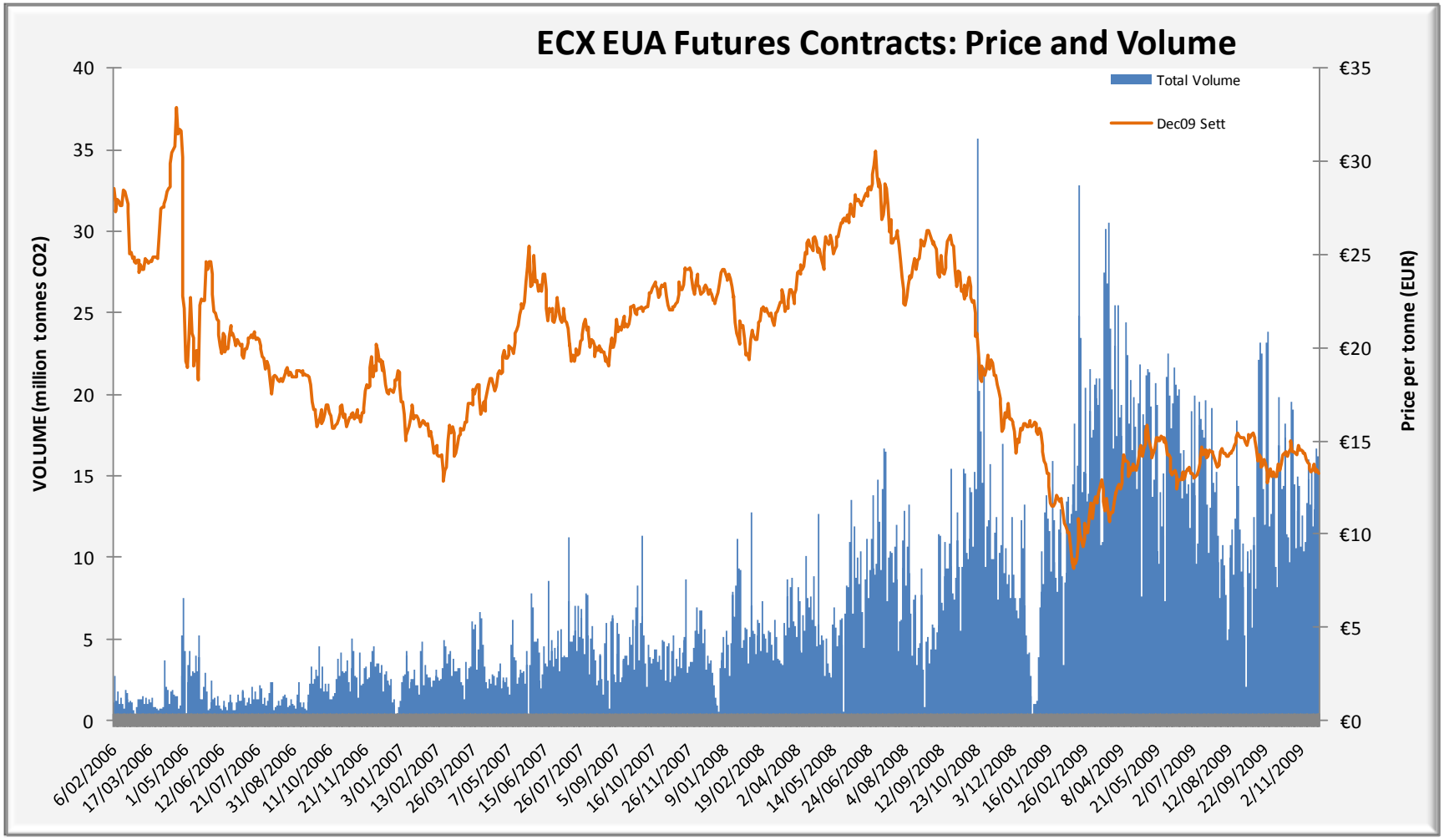
Marginal Abatement Cost Curve - Australia



Source: An Australian Cost Curve for Greenhouse Gas Reduction, McKinsey, February 2008.

European Carbon Futures Prices: Prices and Volumes



Source: :European Climate Exchange

Australian Renewable Energy Certificates: Spot Prices

Source: ASX Environmental Product Briefing, 16 October 2009

Global Carbon Market Comparison, 2007 v 2008

	2007		2008	
	Volume ($MtCO_2e$)	Value (MUS$)	Volume ($MtCO_2e$)	Value (MUS$)
Project-based Transactions				
Primary CDM	552	7,433	389	6,519
JI	41	499	20	294
Voluntary market	43	263	54	397
Sub total	**636**	**8,195**	**463**	**7,210**
Secondary CDM				
Sub total	**240**	**5,451**	**1,072**	**26,277**
Allowances Markets				
EU ETS	2,060	49,065	3,093	91,910
New South Wales	25	224	31	183
Chicago Climate Exchange	23	72	69	309
RGGI	na	na	65	246
AAUs	na	na	18	211
Sub total	**2,108**	**49,361**	**3,276**	**92,859**
TOTAL	**2,984**	**63,007**	**4,811**	**126,345**

Source: World Bank

CPRS: The Valuation Task for Assessing Carbon Reduction Activities

Economic Life	Market Years	Active, liquid markets exist Dynamic and active hedging is possible
	Non-market Years	Time beyond market years until the end of economic life
Valuation and Risk Metrics	Market Years	Mark-to-market (MTM) combined with gross operating margins at risk applied over suitable holding periods
	Non-market Years	Value beyond the market year using fundamental factors employing planning models using structural and systemic inputs (not liquidation value)
Stress Tests	Risk analysis to examine the sensitivity of the value of the assets to user-defined changes to inputs	

Source: Committee of Chief Risk Officers

Carbon Risk: Calculating the net gain or loss

Category	Negative	Positive
Indirect carbon costs	Mainly electricity and fuel	Pass cost increases through to consumers
Direct carbon costs	Permit acquisition, voluntary offset acquisition, Penalties	Sales of excess permits Sales of abatement credits
Operating costs	Carbon management costs Carbon derivative losses	Carbon derivative gains
Mitigation/Adaptation expenditure	Operating costs Capital and R&D costs	Cost reductions
Net shareholder value	Disproportionate loss in asset value Carbon cost flow-through	Free allocation of permits

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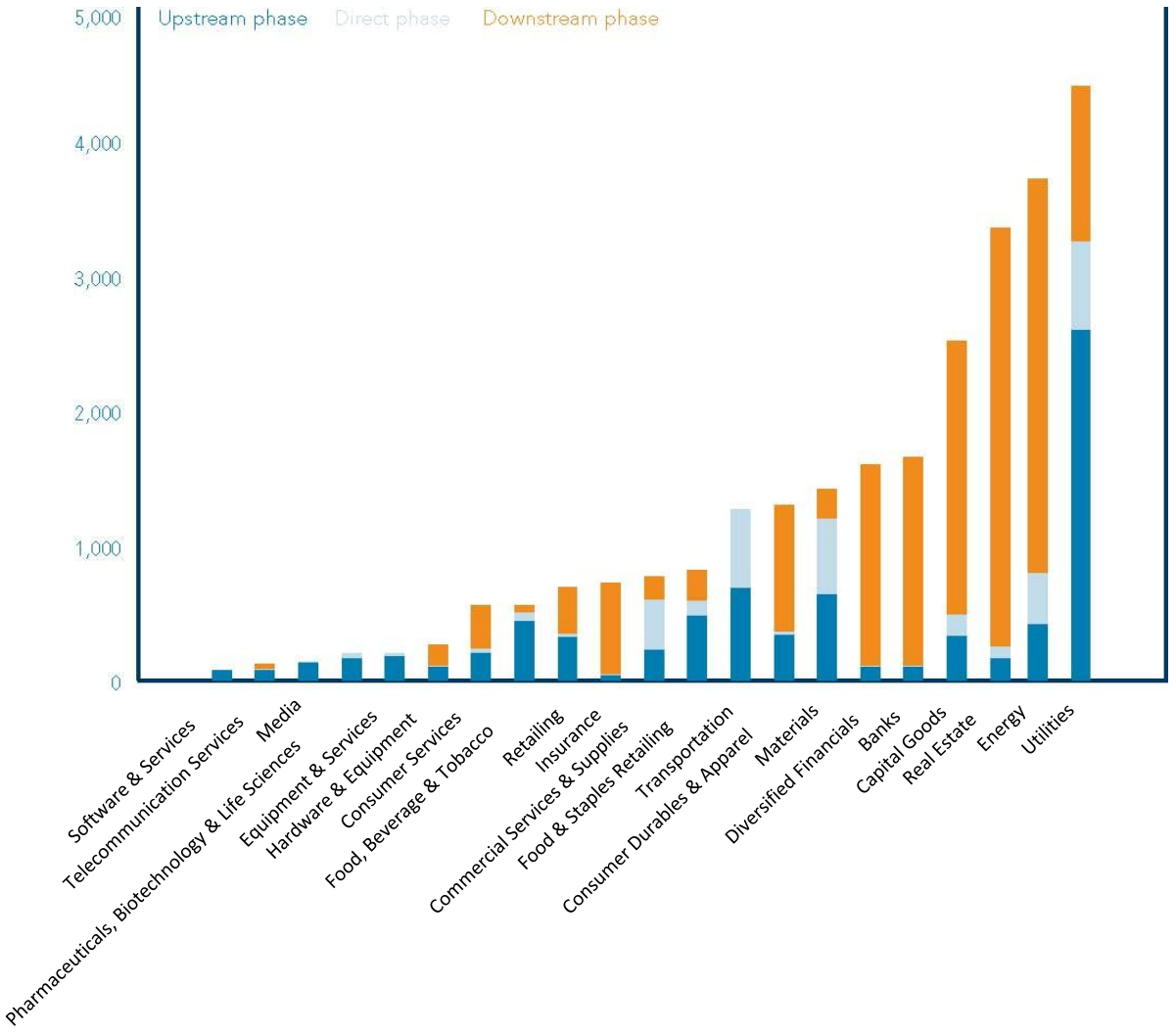
ASX 200 – Carbon Intensity (tonnes CO2e / $m)



Source: RepuTex , 2008

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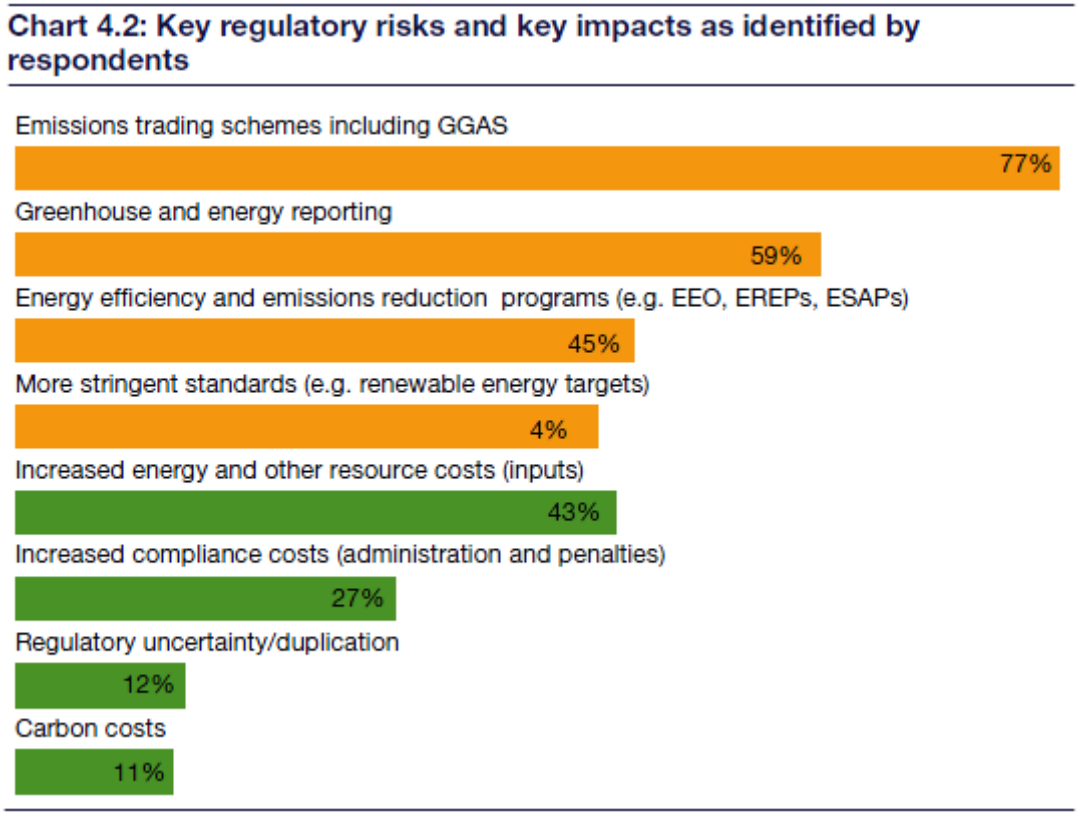
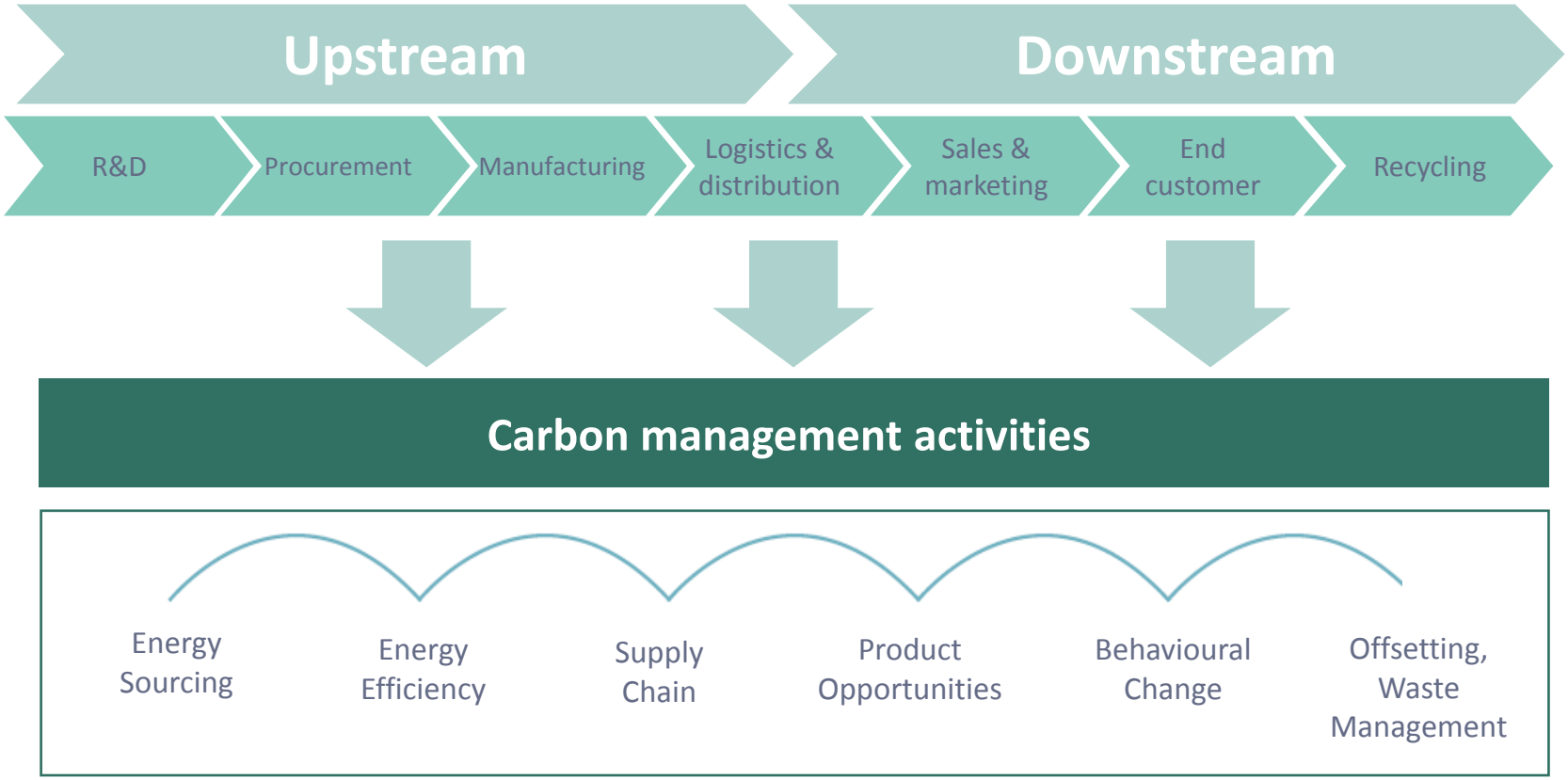
CDP 6 - Key Risks Identified



Source: Carbon Disclosure Project Report 2008 Australia and New Zealand , Carbon Disclosure Project

Business Response Framework: Carbon Management Activities



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Overall economic and cost impacts

Assuming a permit price of $25 / Tonne CO2-e:

- Anticipated inflationary impact
  - one off 1 – 1.5% increase in CPI
- Impact on electricity prices (pre allowance for assistance)
  - 18 % average increase
  - $4 - $5 / week impact on household
- Impact on gas prices (pre allowance for assistance)
  - 12% average increase
  - $2 / week impact on households (impact includes other gas and other fuels)

Carbon risk: Key Impact Points

Capital Expenditure

- Emissions reductions technology (energy efficiency, fuel switch, investments etc)
- Location change
- Compliance costs

Market Elements

- Market risk (beta)
- Reputation & brand

Balance Sheet

- Physical weather exposure
- Asset base depreciation, underperformance
- M&A activity, transactions
- Litigation risk

Operating Expenditure

- Permit costs
- Supply chain costs (electricity), fuel costs
- Abatement costs or savings
- Compliance costs (monitoring, verification, disclosure)
- Foreign exchange (via CER's)

Revenue

- Sale of excess credits
- Consumer preferences
- CDM pipeline, portfolio, assets
- Foreign exchange (via CER's)

Business Impact Drivers

Driver	Key factors
Emissions profile	Emissions level, emissions intensity, energy intensity Abatement costs and potential Relative competitiveness
Transitional assistance	Level Duration Eligibility criteria
Cap and permit allocation basis	Emissions cap and trajectory levels Permit price caps International linkages
Complementary measures	Tax rebates / grants / concessions Renewable energy targets Energy efficiency targets
Market characteristics	Pricing and volume impacts on major inputs and outputs
Strategy adopted	Relative position - from adaptation and mitigation, through to trading

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