



SUSTAINABILITY, CLIMATE CHANGE & WATER

The Business of Climate Change

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Presentation outline

- **Context for business**

- Climate Change – how will it impact the economy
- Governments policy agenda

- **Implication for Australian businesses**

- Reporting - National Greenhouse and Energy Reporting Act
- Emissions trading - Carbon Pollution Reduction Scheme
 - What is it?
 - How will it work?
 - Choices and opportunities for business

- **How KPMG is helping its clients**

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Key questions

Regulatory compliance and reporting

- Does my organisation have direct obligations under the new /proposed legislation?
- Are appropriate systems and processes in place?

Financial and commercial

- What are the direct and indirect costs for my organisation associated with the introduction of the CPRS?
- How will consumer behaviours change and what threats and opportunities will result from this for my organisation?

Business readiness

- Is the business ready to accurately report emissions and trade carbon permits?
- What are the accounting and tax implications?

Strategy

- How does climate change affect the strategic positioning and future of the business?
- What impacts will climate change awareness have on brands, investor relations, community affairs and other stakeholders of the business?
- Are carbon abatement strategies in place

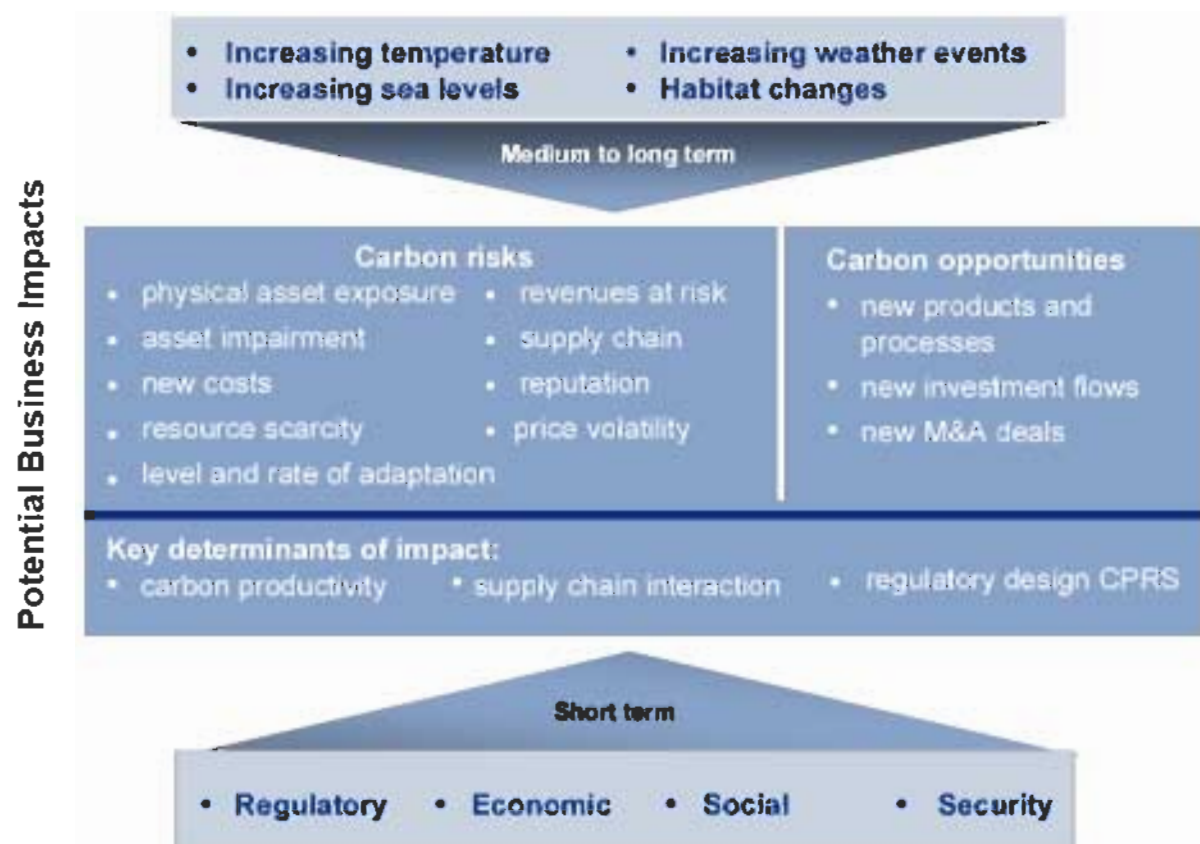


Context for business

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Climate change – why is it already a business issue?

Potential Physical Impacts of Global Warming



- Physical impacts on business model e.g. to water and cooling
- Regulatory landscape rapidly evolving, giving rise to business risks and opportunities e.g. compliance, accounting and reporting risks, and developing green products
- Hardening stakeholder expectations, requiring coordinated and coherent corporate responses
- Increasing litigation risks – challenges to new regulations by affected businesses; damages suits targeted at heavy polluters

Potential Reactionary Impacts of Emission Reduction Activity

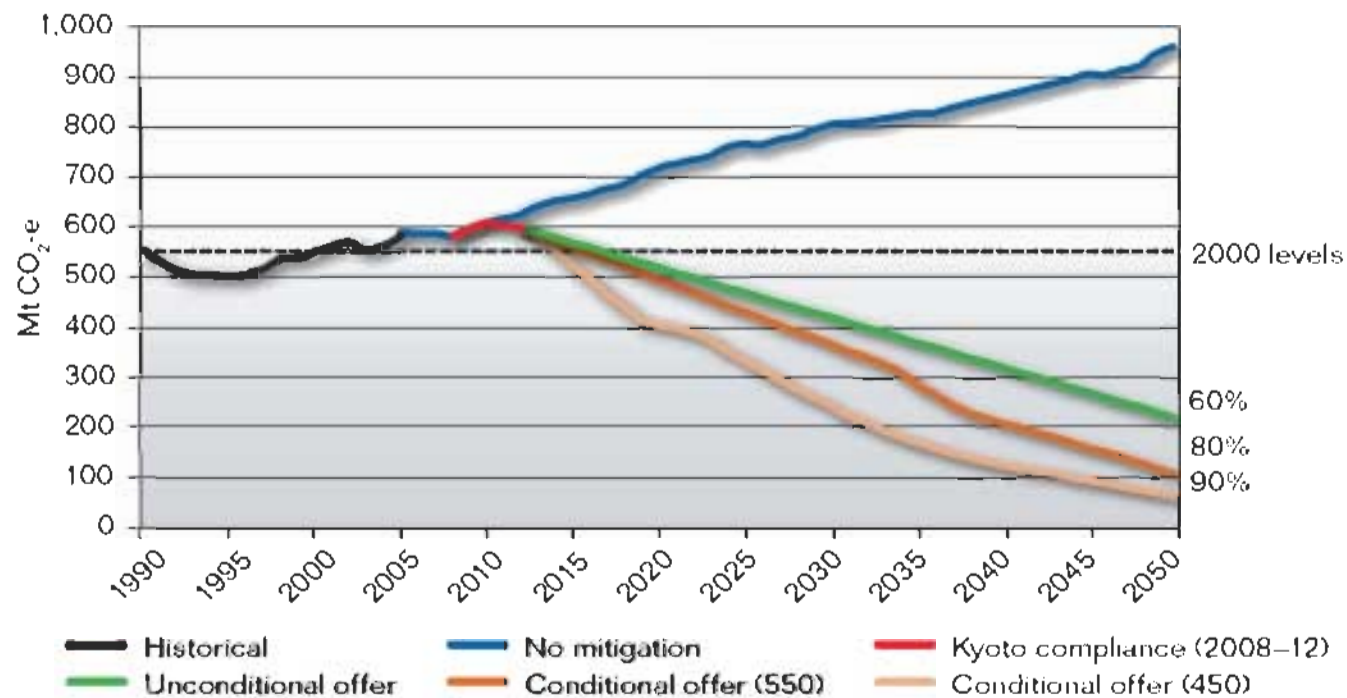
Australian government strategic response

1. **Reduce Australian Emissions**
2. **Adaptation to changed climatic conditions**
3. **Influence international policy on climate change**

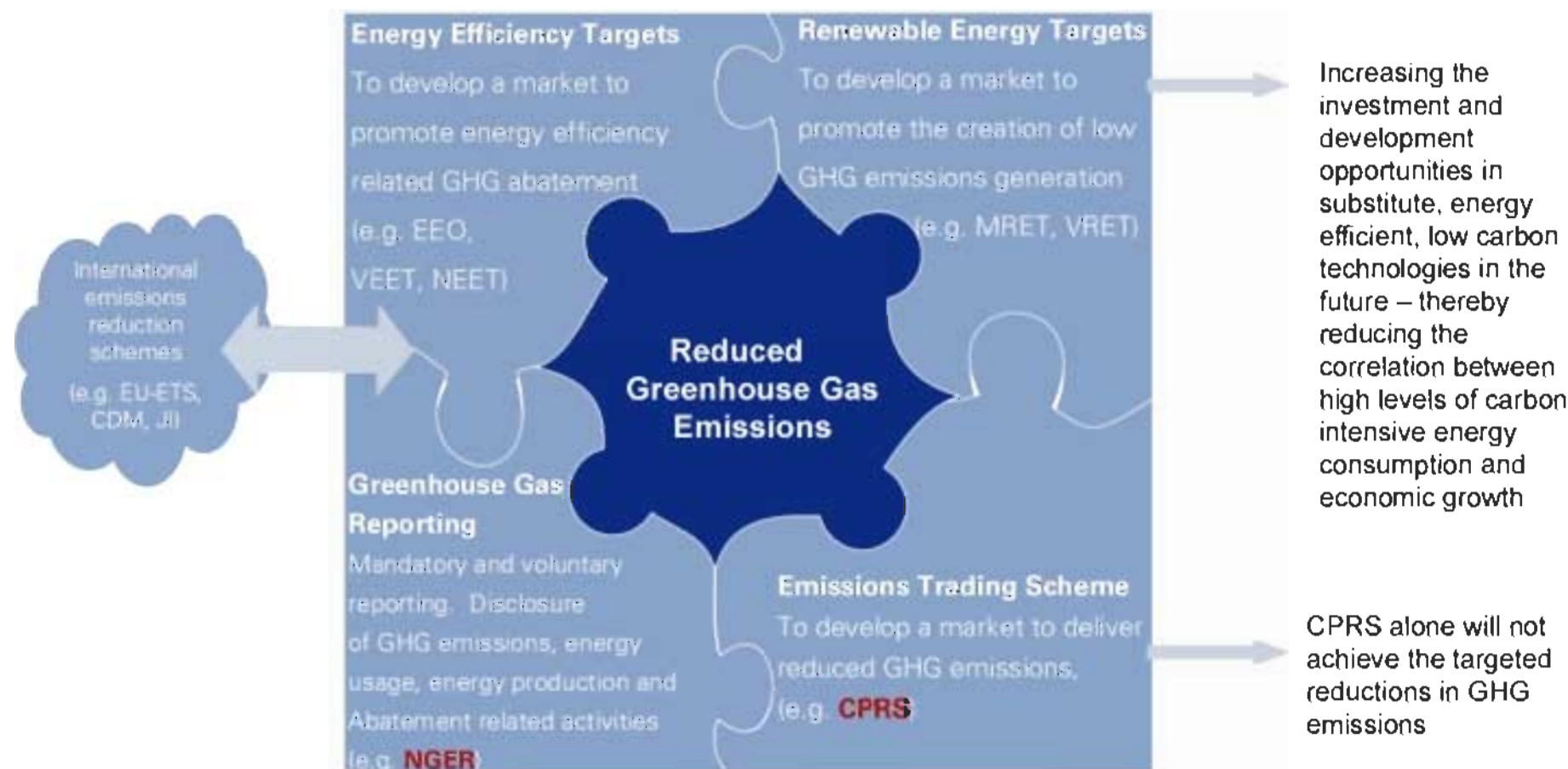
Reduction Targets

- To reduce Australia's GHG emissions to by 60% compared to 2000 levels by 2050
- To achieve this at the lowest cost possible

Figure 12.1 Australian emissions reductions trajectories to 2050 (reduction in total emissions)



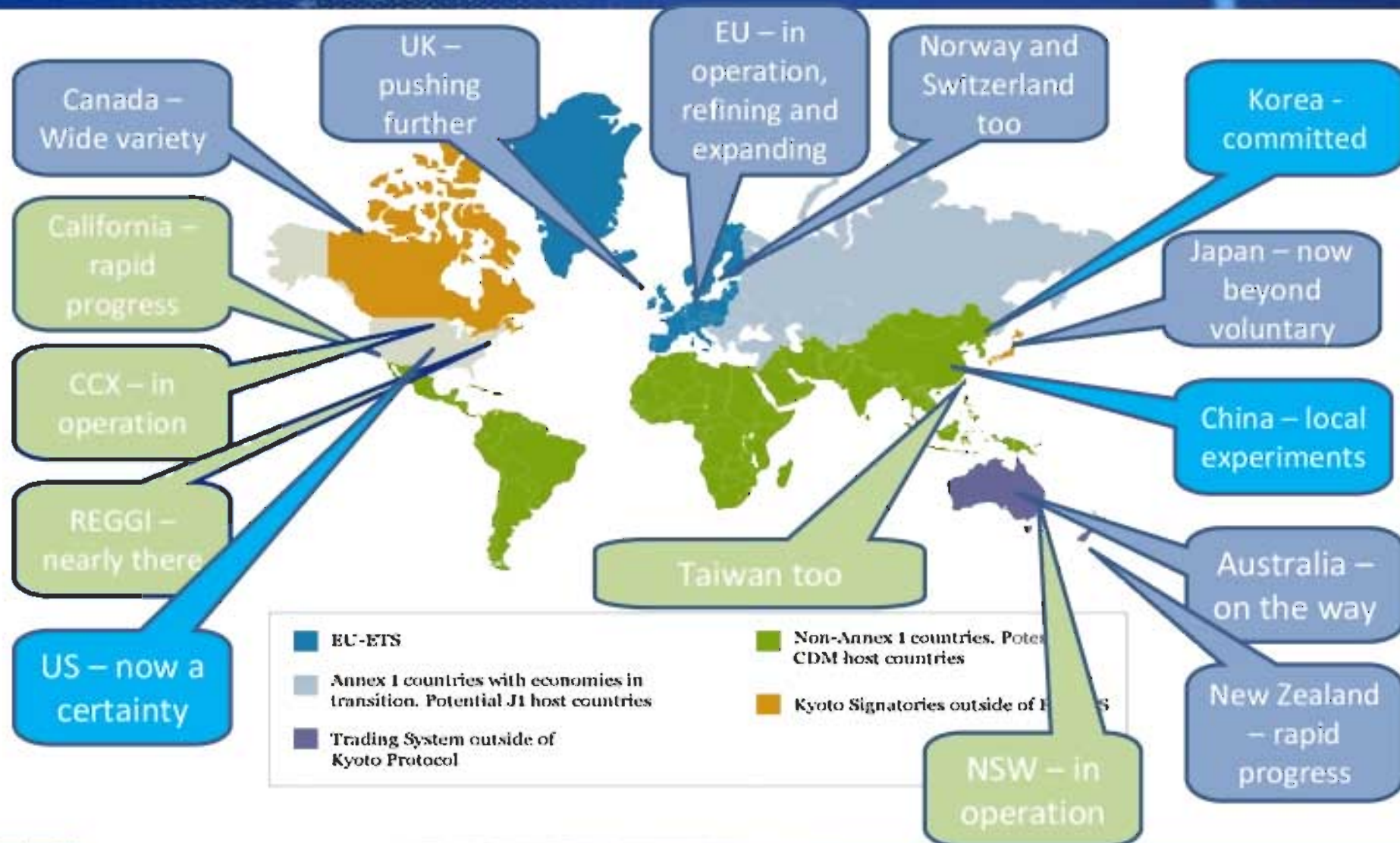
Australian governments policy response



An effective solution requires a combination of inter-related and market-related policy levers

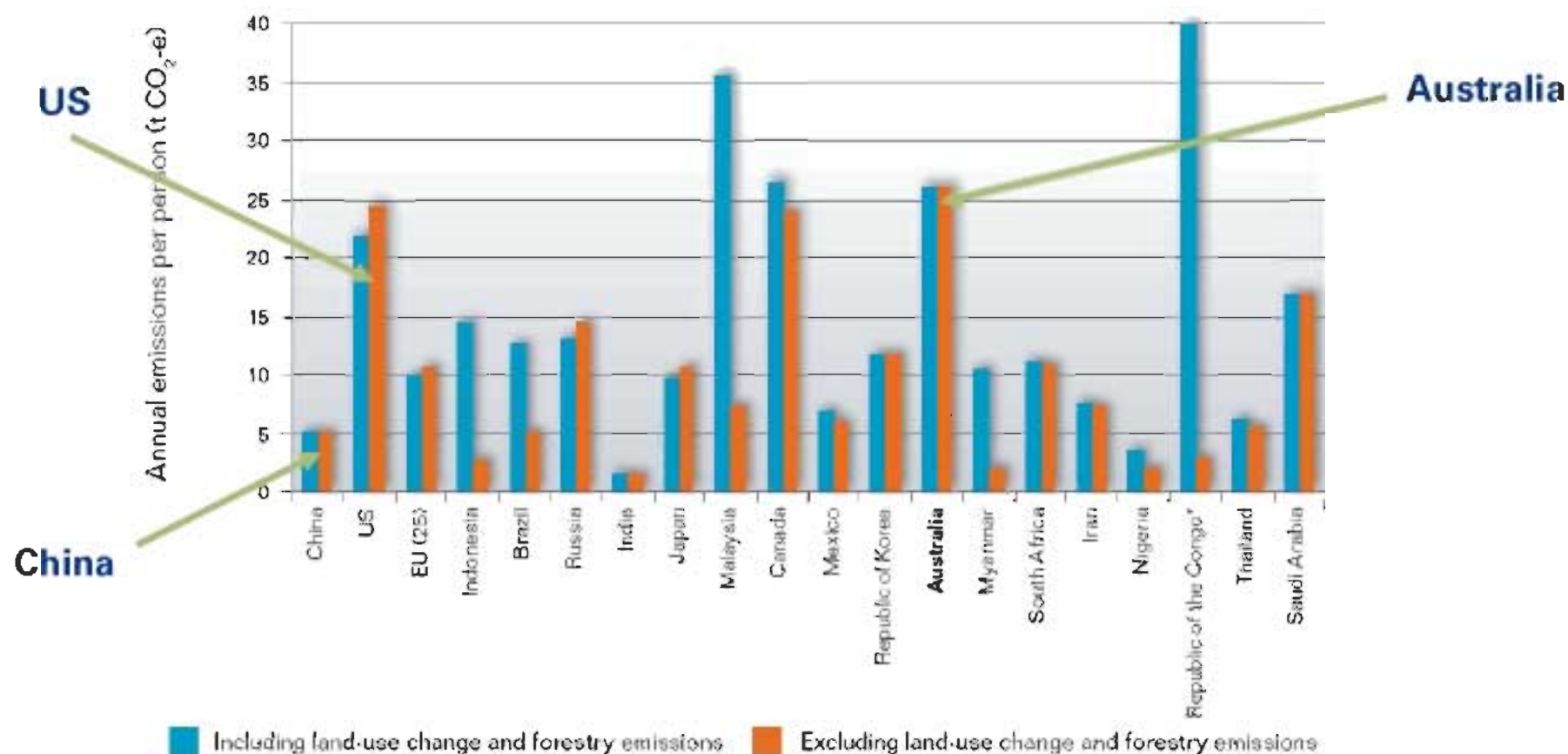
Other complementary related policy levers will be required (e.g. R&D tax concessions, government rebates and grants)

Spreading across the World – Kyoto or not



Emissions per capita – best in class!

Figure 3.2 The 20 largest greenhouse gas emitters: per capita emissions including and excluding emissions from land-use change and forestry, c. 2004



What is a greenhouse gas?

GHG's	Potential sources of emissions	GWP*
Carbon dioxide, CO₂	<ul style="list-style-type: none"> •Fuel combustion, coal, oil, gas •Industrial processes, cement clinker, iron and steel •Combustion of biomass* 	1
Methane, CH₄	<ul style="list-style-type: none"> •Fugitive leaks from gas supply systems, coal mines •Biogenic (natural) sources farming and waste disposal 	21
Nitrous oxide, N₂O	<ul style="list-style-type: none"> •Fuel combustion, chemical production (huge) •Biogenic (natural) sources farming and waste disposal 	310
Hydrofluorocarbons (HFC)	<ul style="list-style-type: none"> •Refrigerants, fire retardants, inert atmospheres 	140 – 11,700
Perfluorocarbons (PFC)	<ul style="list-style-type: none"> •Aluminium production 	6,500 – 9,200
Sulphur hexafluoride, SF₆	<ul style="list-style-type: none"> •Engineering, metal casting and MV electrical switchgear 	23,900

*Global Warming Potential



Reporting

National Greenhouse and Energy Reporting Act

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NGER Act – What is it?

Under the NGERS Act corporations are required to report all:

- GHG Emissions [Direct emissions from combustion of fuel and imported electricity]
- Energy consumption [Energy in the form of coal, diesel, gas and electricity]
- Energy production [e.g., generation of electricity, production of diesel]

From the operation of **facilities** under the **operational control** of the registered **corporate group**

Civil and Criminal penalties available under the Act, including CEO fine of up to \$220,000

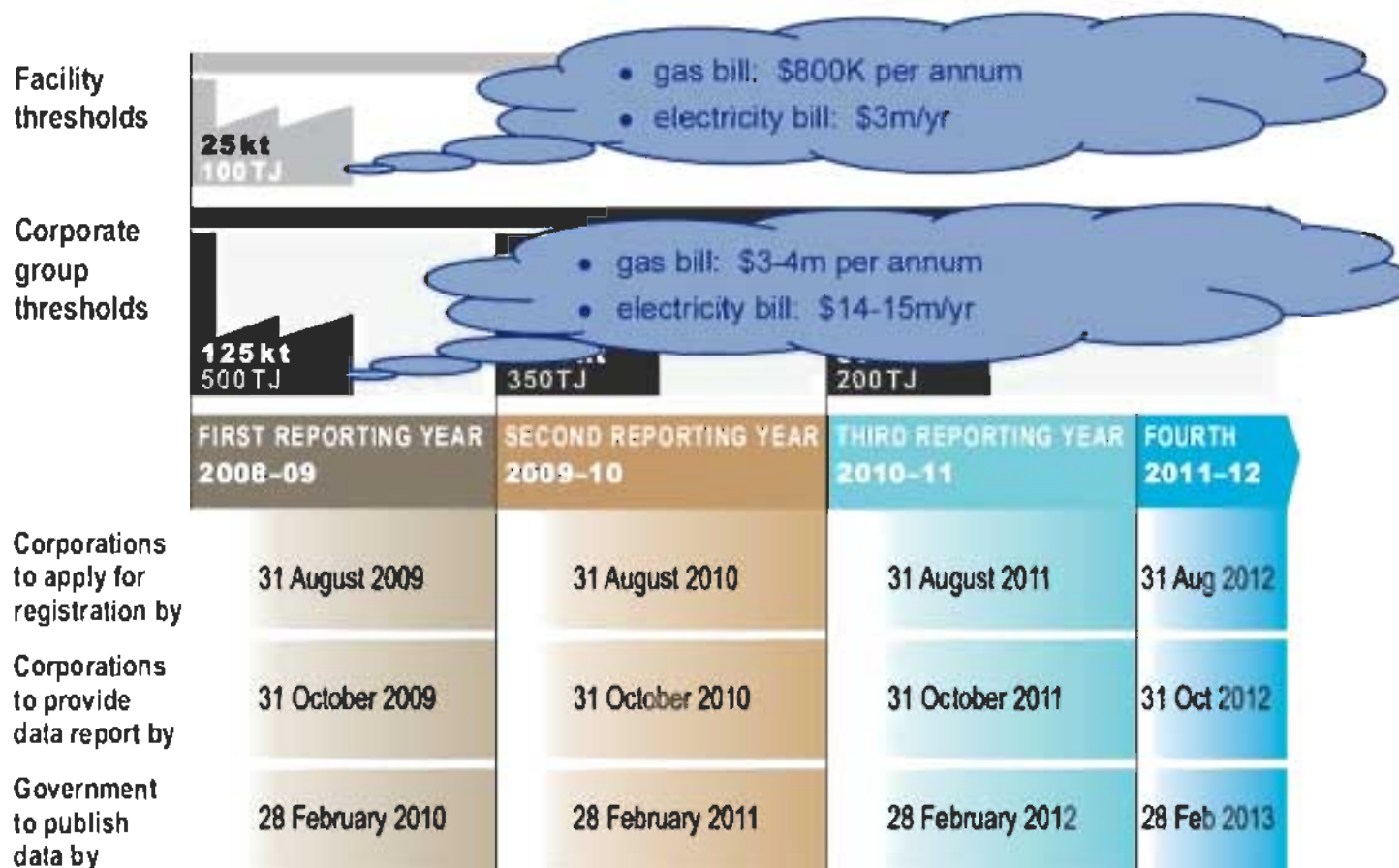
Will underpin the Emissions Trading Scheme (CPRS)

Tonnes CO2



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NGER Act - thresholds and timeline



Notes: TJ = terajoule (10^{12} joules) of energy consumed or produced; kt = kilotonne (10^3 kilograms) CO_2 -e equivalent of greenhouse gases emitted. Conversion factors: Energy—1 terajoule = 1000 gigajoules, 1 gigajoule = 1000 megajoules, 1 megajoule = 1000 kilojoules, 1 kilojoule = 1000 joules, CO_2 -e emissions—1 kilotonne = 1000 tonnes, 1 tonne = 1000 kilograms.

Calculating and reporting emissions

	Scope 1	Scope 2	Scope 3
Emission types	<u>Direct</u>	<u>Indirect</u>	<u>Embodied</u>
	Emissions from within the organization	Emissions from purchased electricity	Emissions embedded in inputs
Examples	<ul style="list-style-type: none"> • Electricity generation • Industrial processes • Fuel usage for transporting inputs • Fugitive emissions • On site waste 	<ul style="list-style-type: none"> • Electricity consumption 	<ul style="list-style-type: none"> • Waste disposal • Purchased materials • Business travel • Fuel usage for transporting outputs • Outsourced activities
Supply Chain	Covered	Covered	Covered
Mandatory Reporting (NGERS)	Covered	Covered	Voluntary



Emissions trading

Carbon Pollution Reduction Scheme (CPRS)

The CPRS

Introduction in July 2010

Sets a price on carbon by:

- Setting a cap on the amount of emissions which can occur
- That cap goes down gradually
- Certain industries (covered by a threshold) must purchase a permit from an auction
- They can trade those permits
- Market will set the price
- Emissions Intensive Trade Exposed Sector will get some free permits
- Strongly affected industries – (stationary generators) will get compensation and other forms e.g. free permits
- Forestry is in but voluntary (offsets)
- Agriculture out until 2015

Current status of development of CPRS

- Green Paper outlines the Carbon Pollution Reduction Scheme which is Australia's emissions trading scheme for Greenhouse Gases
 - Excludes the proposed trajectory and hence does not provide estimates of likely initial price
- Treasury modelling of the proposal has now been released
- White paper due on the 15 December 2008

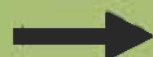
Why a cap and trade system?

Alternatives for the Government are to set:

- Regulation
- Price and see what emissions are discharged (Tax)
- Carbon emissions objectives and market sets price (cap and trade)

A cap and trade policy approach has been selected

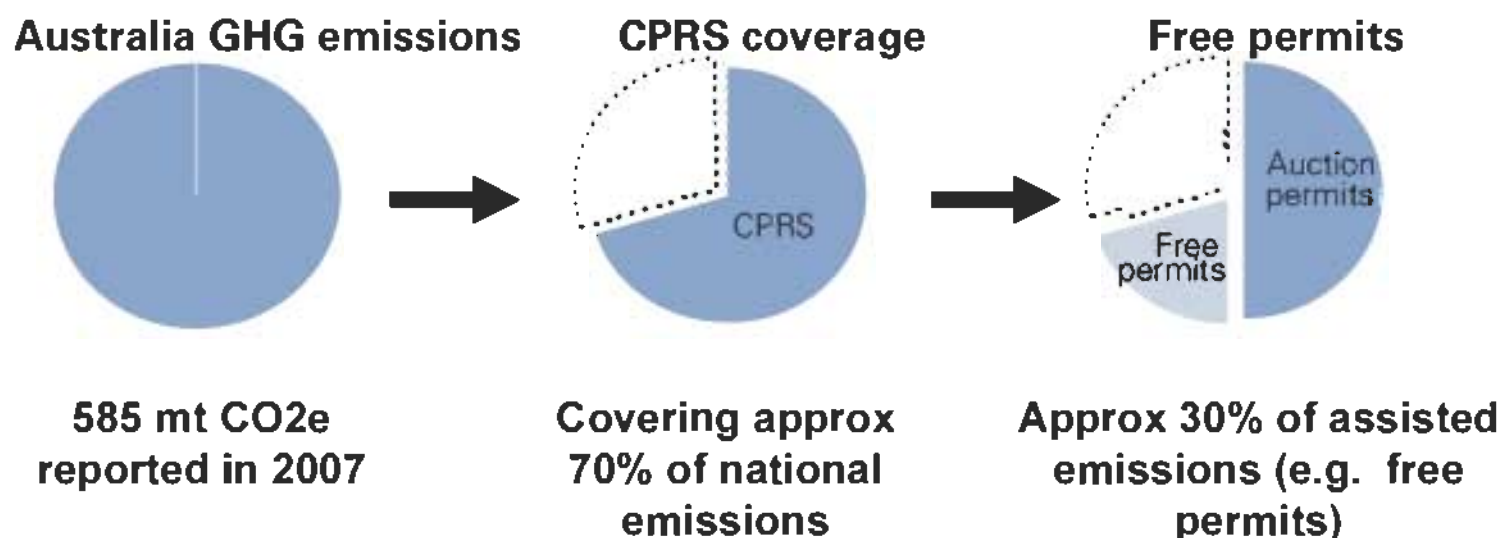
Why?



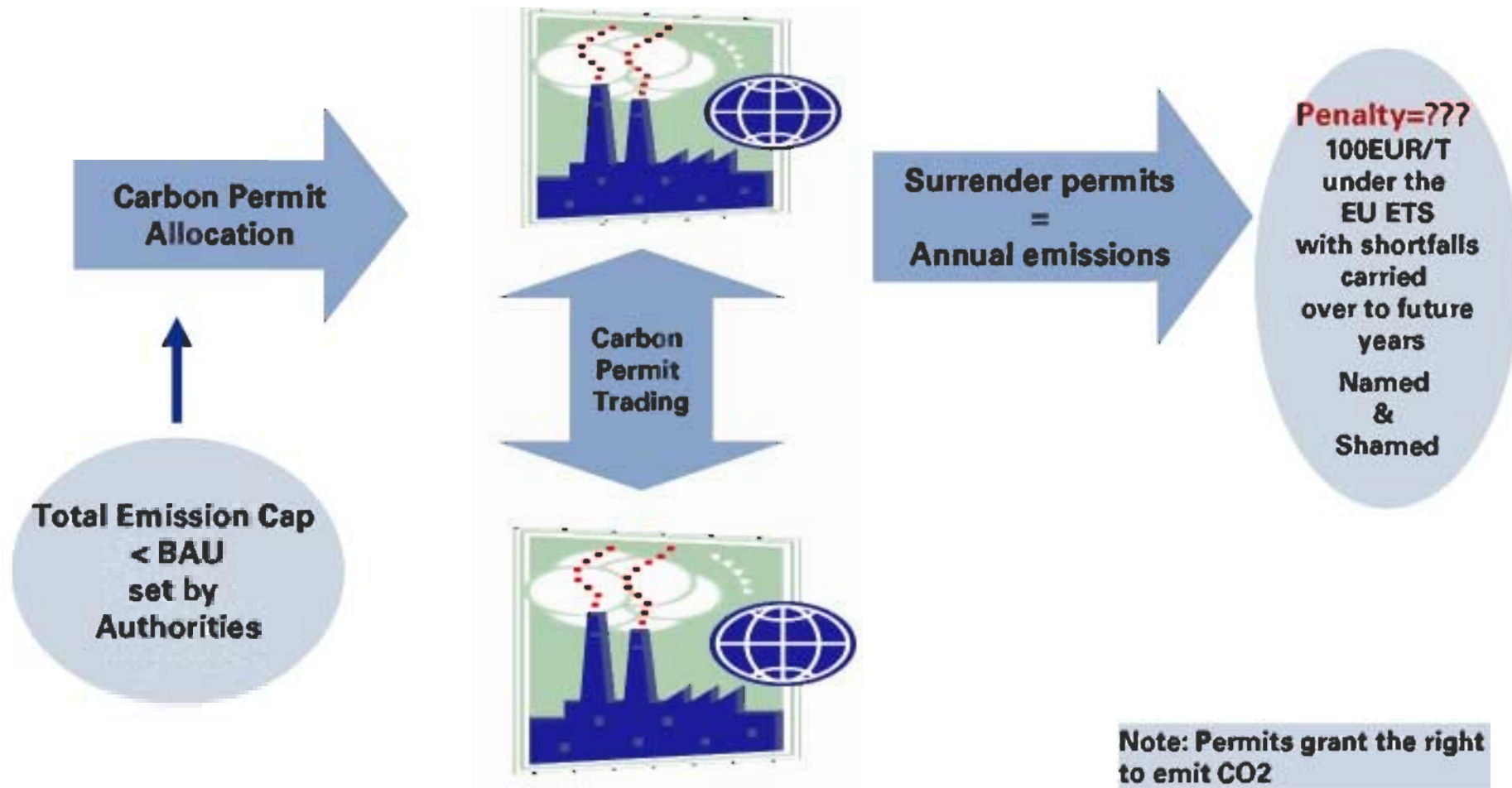
- The cap & trade approach secures the environmental objective (control over the emission limit) and let the market decide at what cost the emission reduction should take place.

Scope of scheme

- Aim is to cover as many sectors as practical given constraints of ability to estimate emissions and associated compliance costs (e.g. agricultural emissions)
- Includes all six Kyoto gases
- Direct point of obligation as a rule, and some indirect when more relevant (e.g. transport through upstream fuel suppliers)



Carbon trading in practise



What happens to proceeds of Auction?

- At \$20 carbon price \$8Billion maybe generated (depending upon the number of free permits issued) – GST was \$40B
- All revenue will be used to help business and households adjust to the scheme
- Government to establish a Climate Change Action Fund for those companies not receiving free permits but still need assistance
 - Capital investment for new low emissions processes
 - Industrial energy efficiency projects with long payback periods
 - Dissemination of best practice
- Significant assistance is proposed for households.
 - KPMG in conjunction with ECOS and the Brotherhood of St Laurence have developed a business case for the retrofitting of homes for low-income households

Assistance to Business - EITE

- 'Carbon leakage' is a significant policy challenge
- Relevant measure is the 'emissions per unit revenue' – considerable debate on whether this is the right measure
- Activities above 2000 (tonnes/\$M revenue) will get 90% of historical industry baseline
- Activities between 1500 and 2000 will get 60%
- 20-30% of permits will be allocated free
- Share of free permits not to increase
- Assistance would end if international agreements are made

Strongly Affected Industries

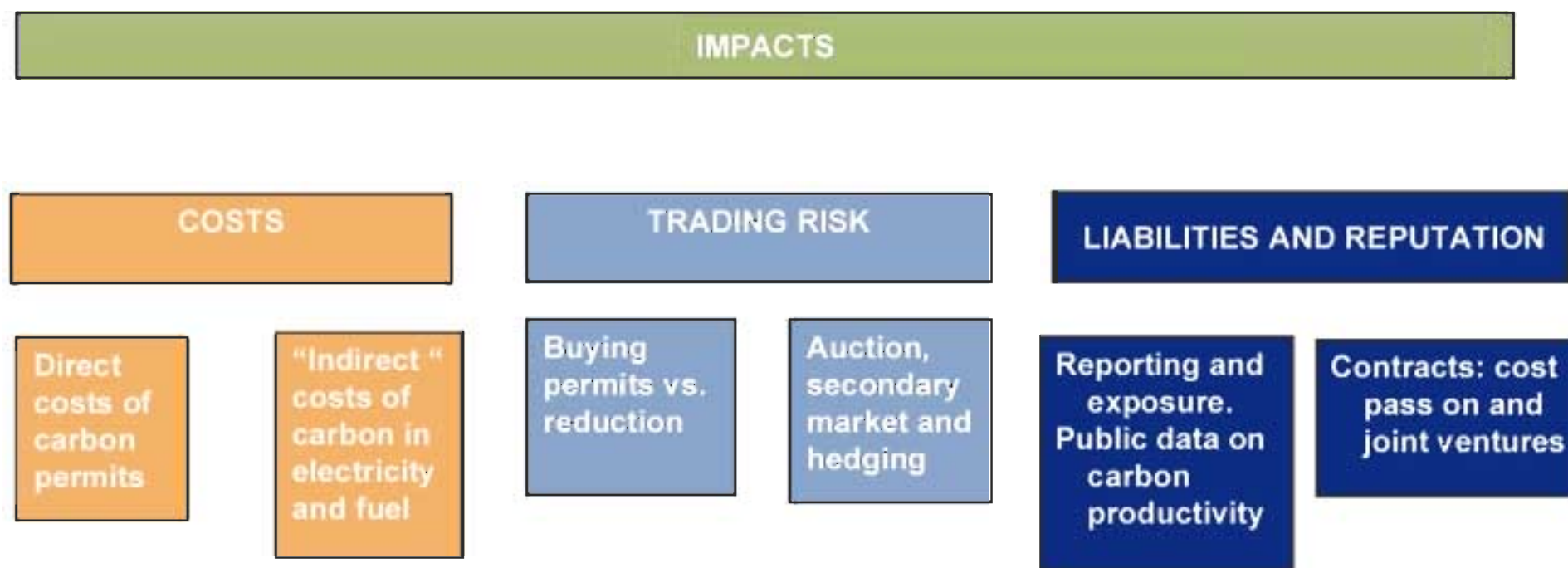
- SAI characteristics
 - Not trade exposed
 - Emissions intensive as defined by EITE
 - Very large sunk capital
 - Ability to pass on costs is constrained by domestic competitors that face no increases
- Proposed that assistance to generators will be 'once-and-for-all'
- Investment in Carbon Capture & Storage technologies
- Details of packages to be determined



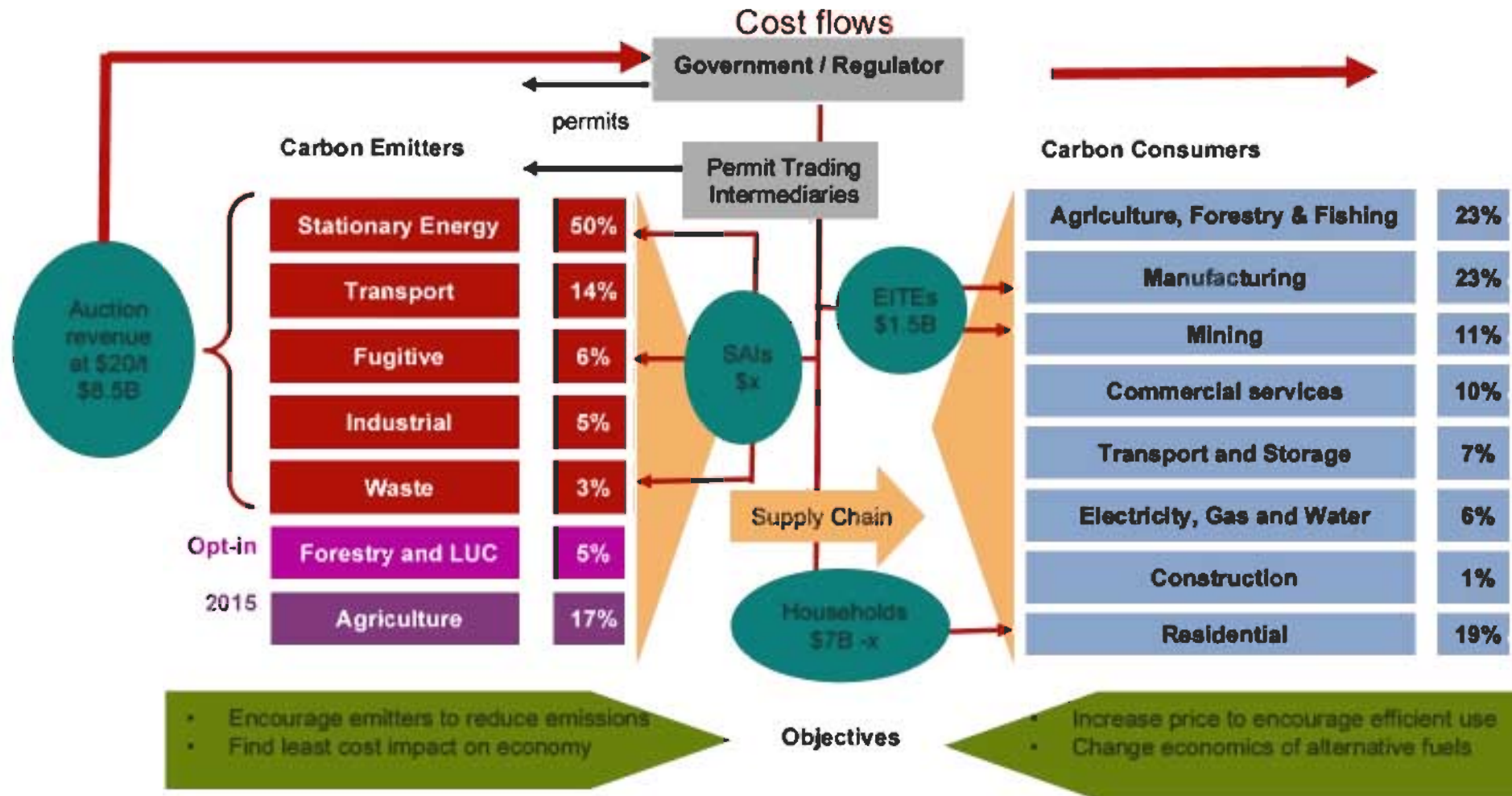
Impacts on Business

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Impacts on business



Costs – Macro picture - detail



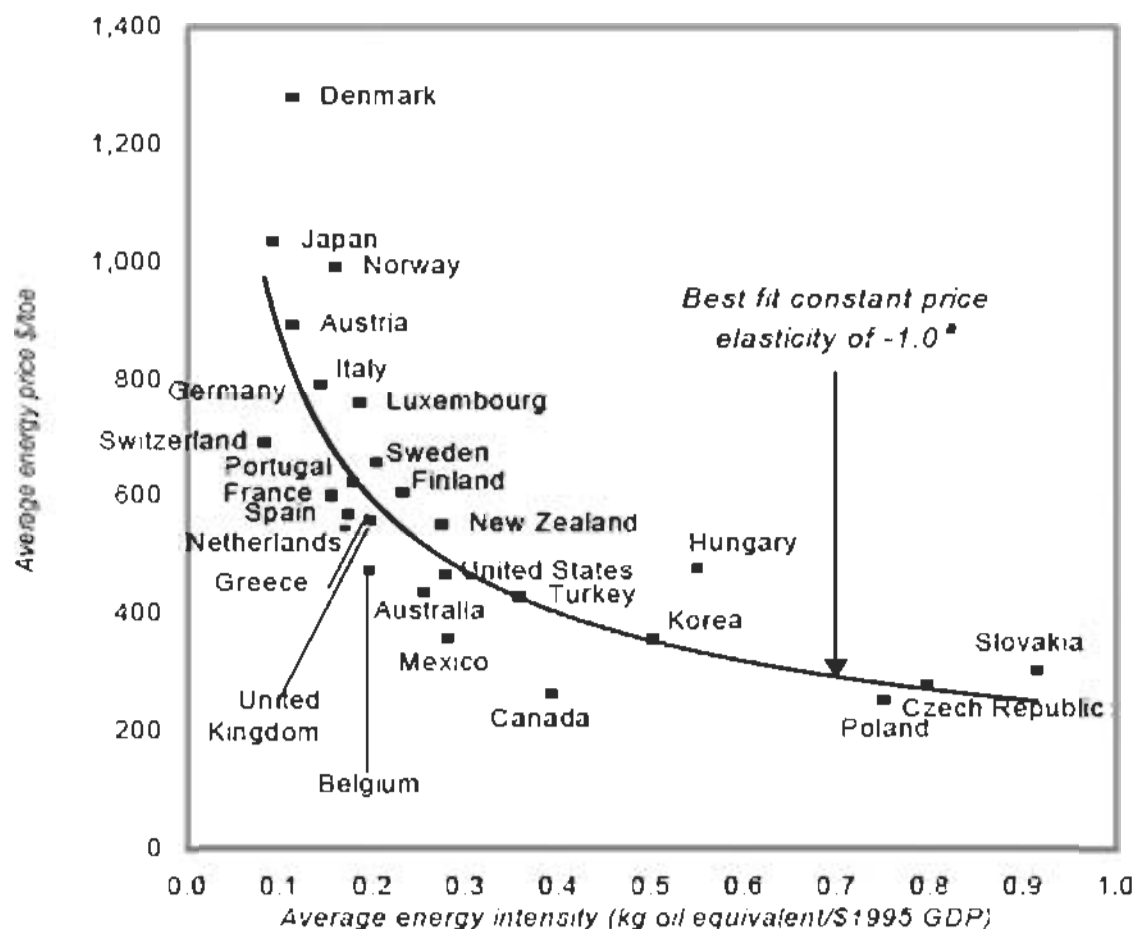
Illustrations for domestic electricity prices

Low income households will be adversely impacted in a disproportionate way

Income Group (see below for explanation)	Increase in expenditure due to the CPRS p/a			
	\$20/t CO2-e	\$30/t CO2-e	\$40/t CO2-e	\$60/t CO2-e
Very low-income/ high energy consumption	\$494.00	\$624.00	\$764.40	\$910.00
Very low-income/ medium energy consumption	\$390.00	\$564.20	\$657.80	\$780.00
Low-income/ high energy consumption	\$478.40	\$592.80	\$715.00	\$865.00

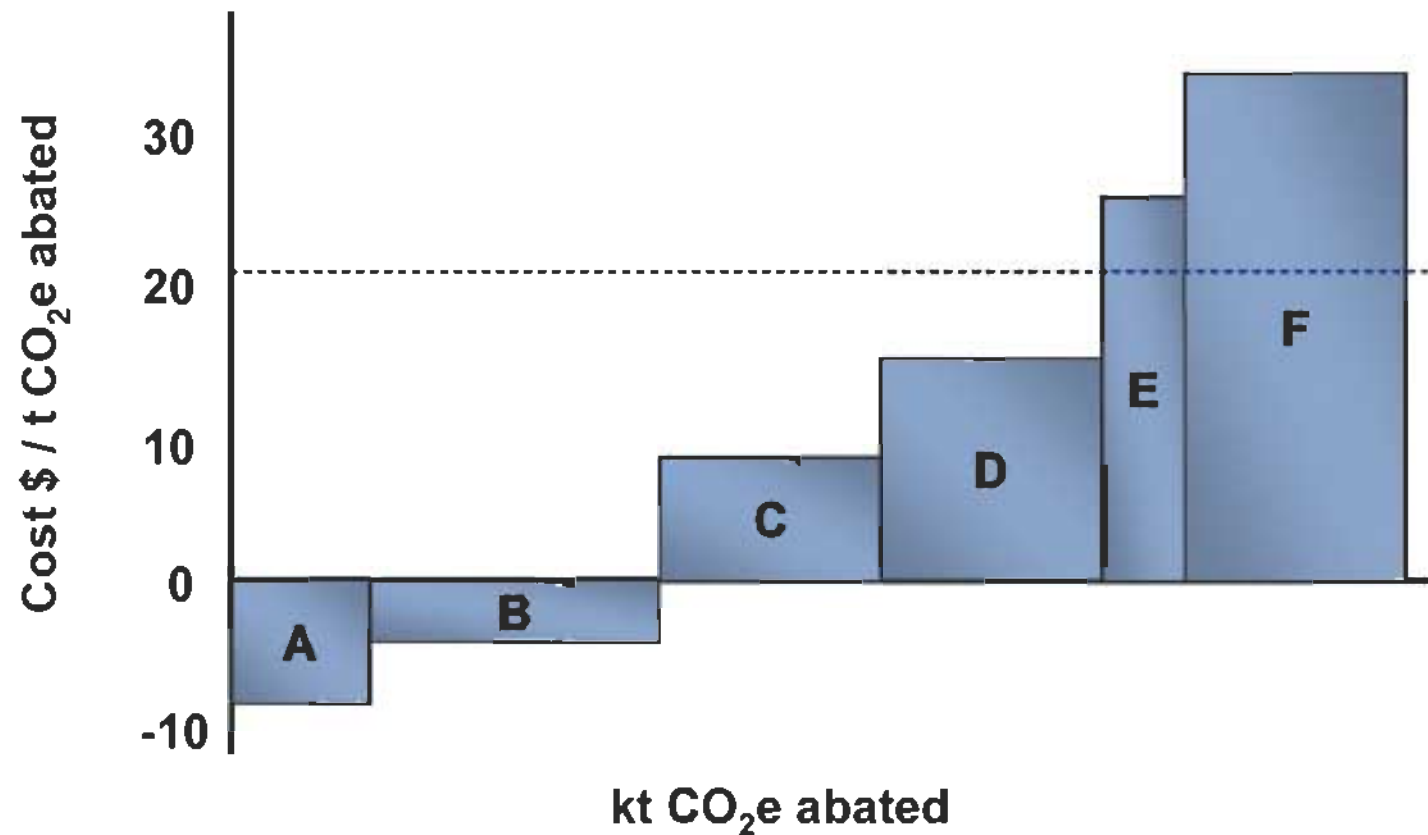
- In NPV terms (over the period 2010/11 – 2021/22) the impact of the
- CPRS is approx. \$16.7 billion on low-income households

Consumers do respond to higher electricity prices



Marginal Abatement Cost Curves

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





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'Test drive' your emissions trading auction strategies

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