



Economics of pricing carbon

**Montmorency Community Group
August 2011**

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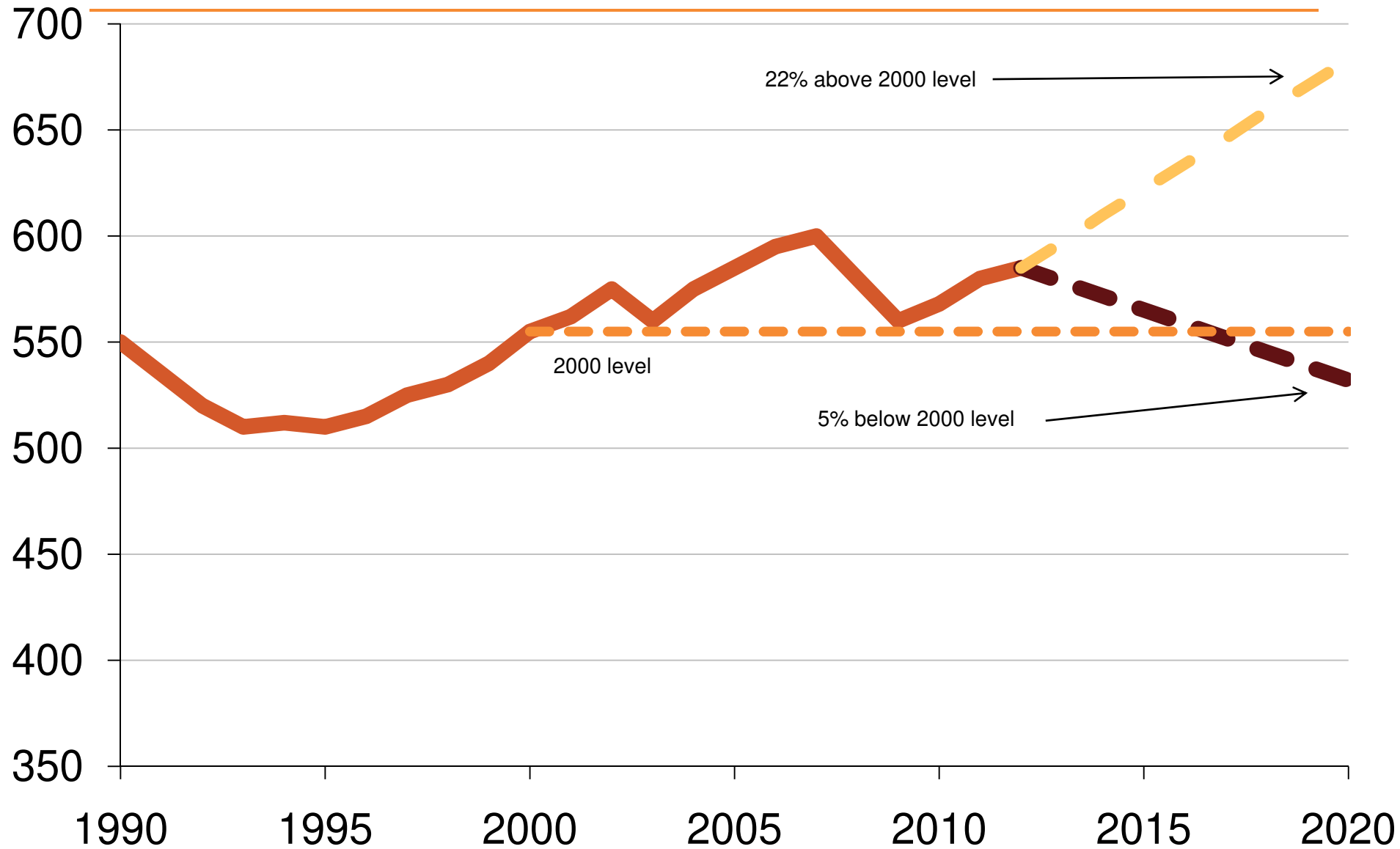
Outline

- **The economic case for taking action now**
- **How did we get from avoiding dangerous climate change to pricing carbon?**
- **How does the proposed carbon pricing system actually work?**
 - What happens next?
 - What will consumers see?
 - What will small business see?
- **What does this all mean for electricity?**
- **What do some of the publicly debated issues actually mean?**
- **How does this compare with the Opposition's proposed approach?**
- **Will it work?**

The economic case for acting now

- **Australia is likely to be impacted more than most regions of the world, and Victoria more than most regions of Australia.**
- **“Treasury analysis shows that stabilising greenhouse gas concentration levels at around 450 parts per million would come at a cost equivalent to reducing growth in global living standards by 0.1 per cent a year. This is a small insurance premium”.**
- **The longer we wait, the more expensive it gets as emissions accumulate in the atmosphere.**

Australia's emissions (Mt)

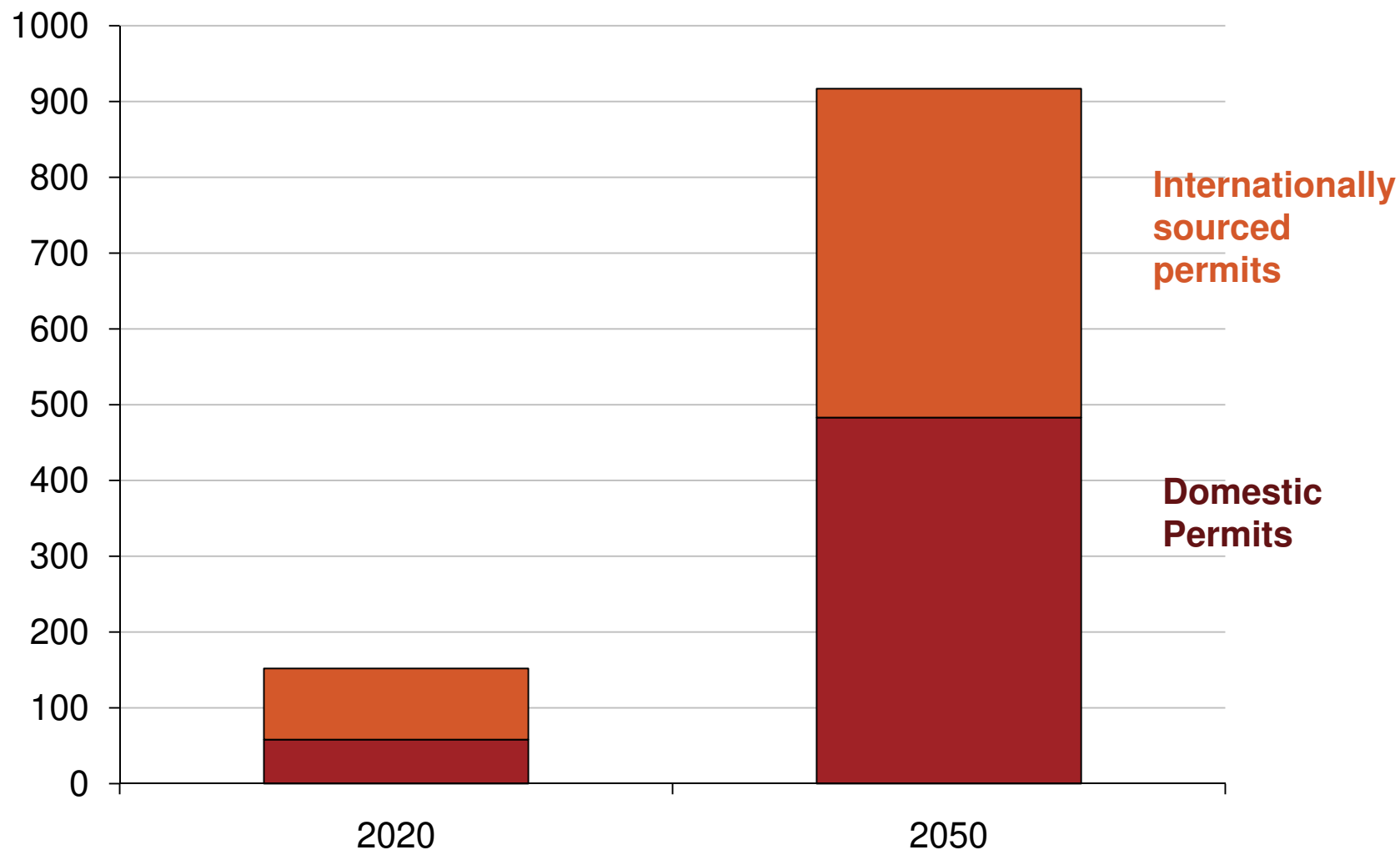


Why is pricing carbon the best way to act?

- The objective is to reduce global greenhouse gas emissions
 - There has to be a global solution and that is why this is a “diabolical” problem
 - It does not matter environmentally where the reductions occur, provided they do occur
 - Australia should do its fair share
 - We have committed to a minimum of 5% below 2000 levels by 2020. The Government has proposed that this commitment would increase as the rest of the world commits. Its long term target is 80% by 2050.
- Our objective should then be to do our fair share at lowest cost to our economy
- There are several basic approaches:
 - Regulate
 - Carbon tax
 - Market-based system such as the proposed “cap-and-trade” scheme
- The market-based approach is generally accepted as being the lowest cost

International trading counts

Australia's abatement target



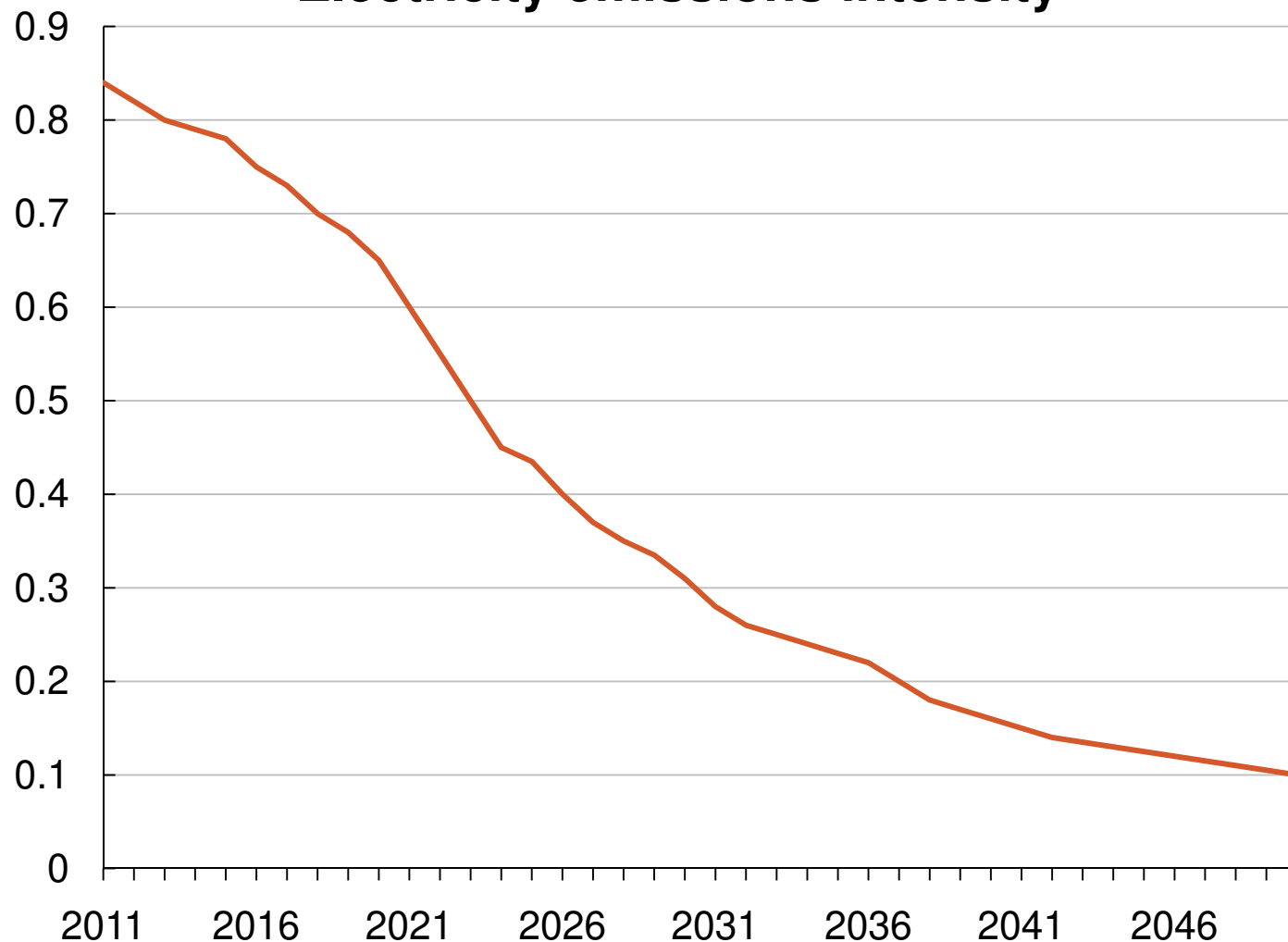
How will it work?

- **A cap is applied on emissions covering most of the largest emitters**
 - Emitters have to purchase permits from the fixed cap, so the market sets the price
 - Changes occur to keep emissions below the cap (less coal and more gas, energy efficiency in industry and business). Permits can be traded, so that the market finds the lowest cost solutions.
 - The revenue is used to support households and certain industries
- **What happens next?**
 - We start with a fixed price of \$23/t in 2012
 - Move to a market-based system from 2015 with caps set for five years
- **What will consumers see?**
 - There is no direct obligation; assistance through tax cuts
- **What will small business see?**
 - No direct obligation, but no compensation

The electricity sector must be decarbonised

tT CO₂-e/MWh

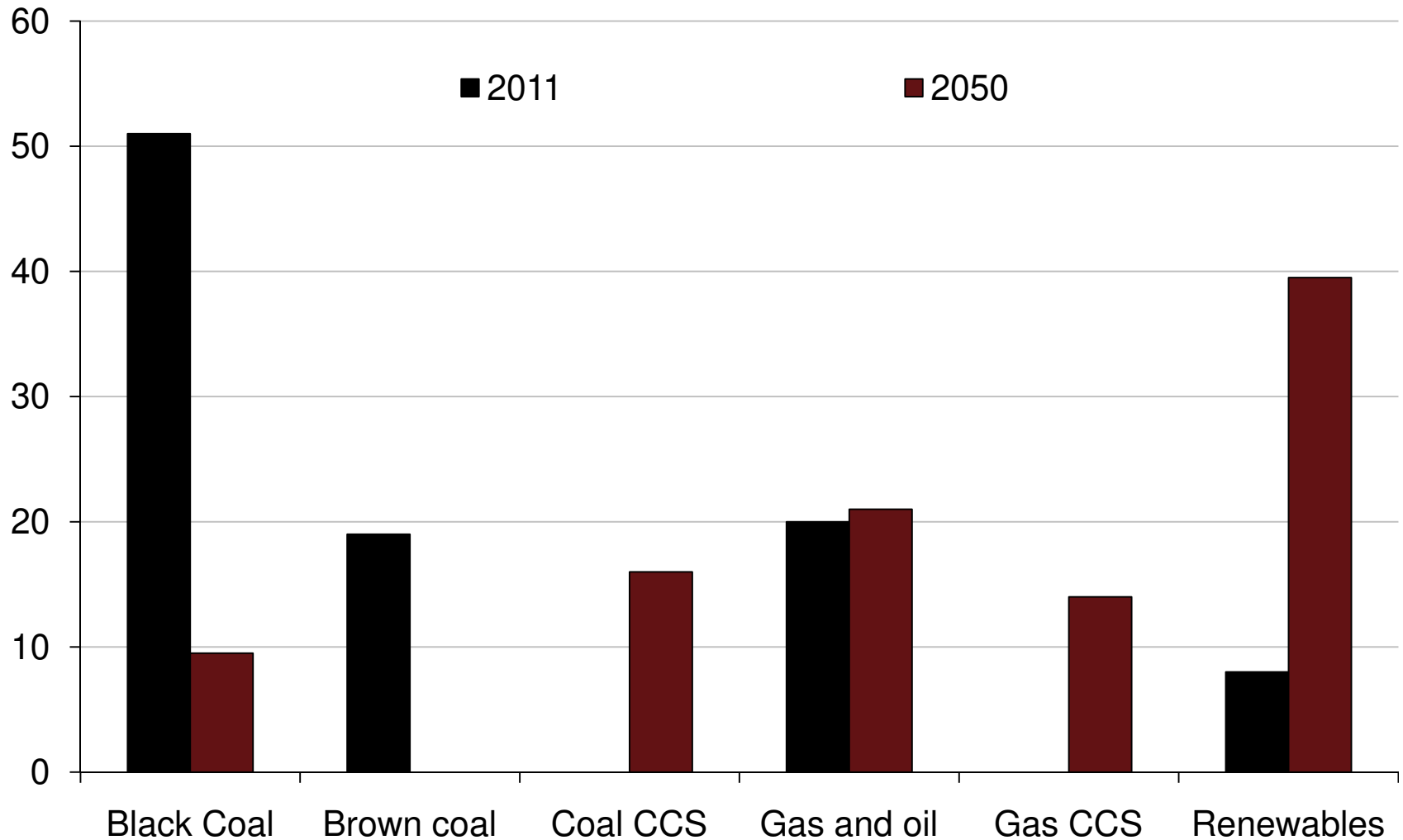
Electricity emissions intensity



Source: Australian Government Treasury: Strong Growth, Low Pollution

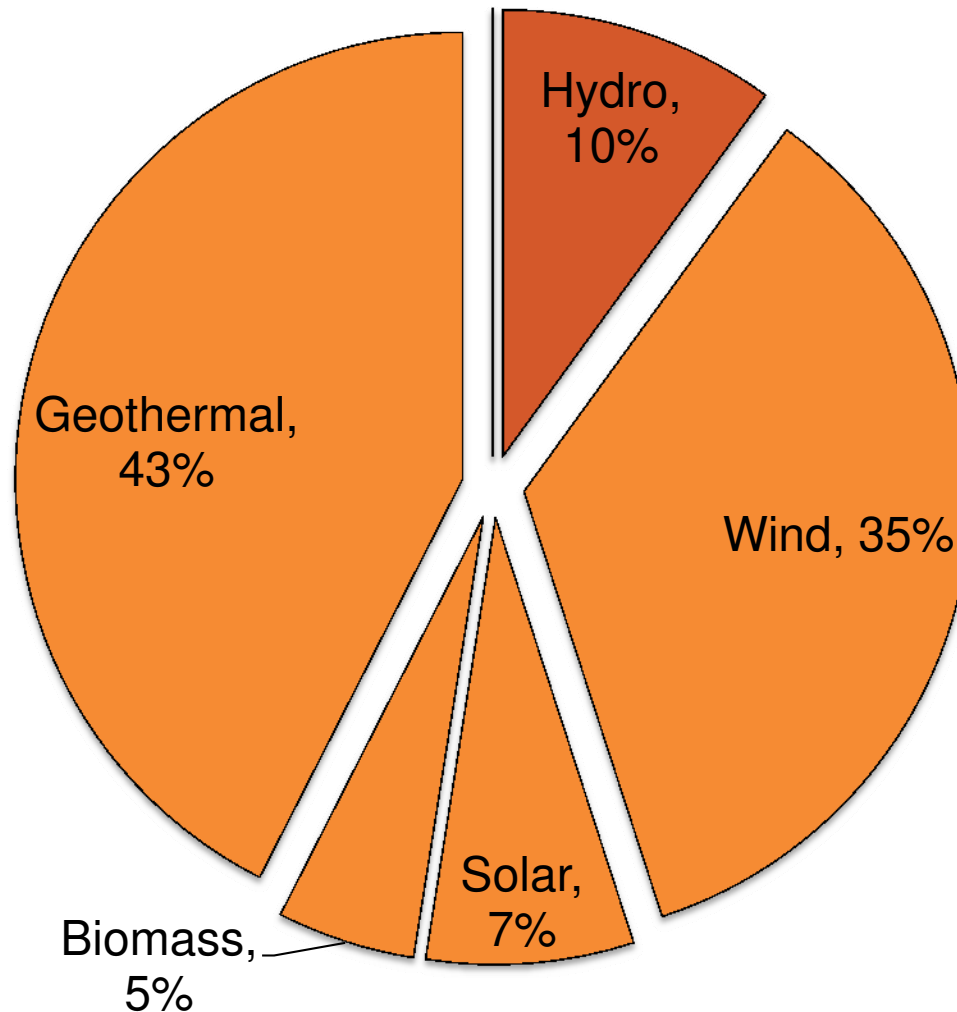
What could electricity look like?

Electricity mix must change – the portfolio



Wind and geothermal dominate this scenario

Australia's renewables mix, 2050



Source: Australian Government Treasury: Strong Growth, Low Pollution

The political balance

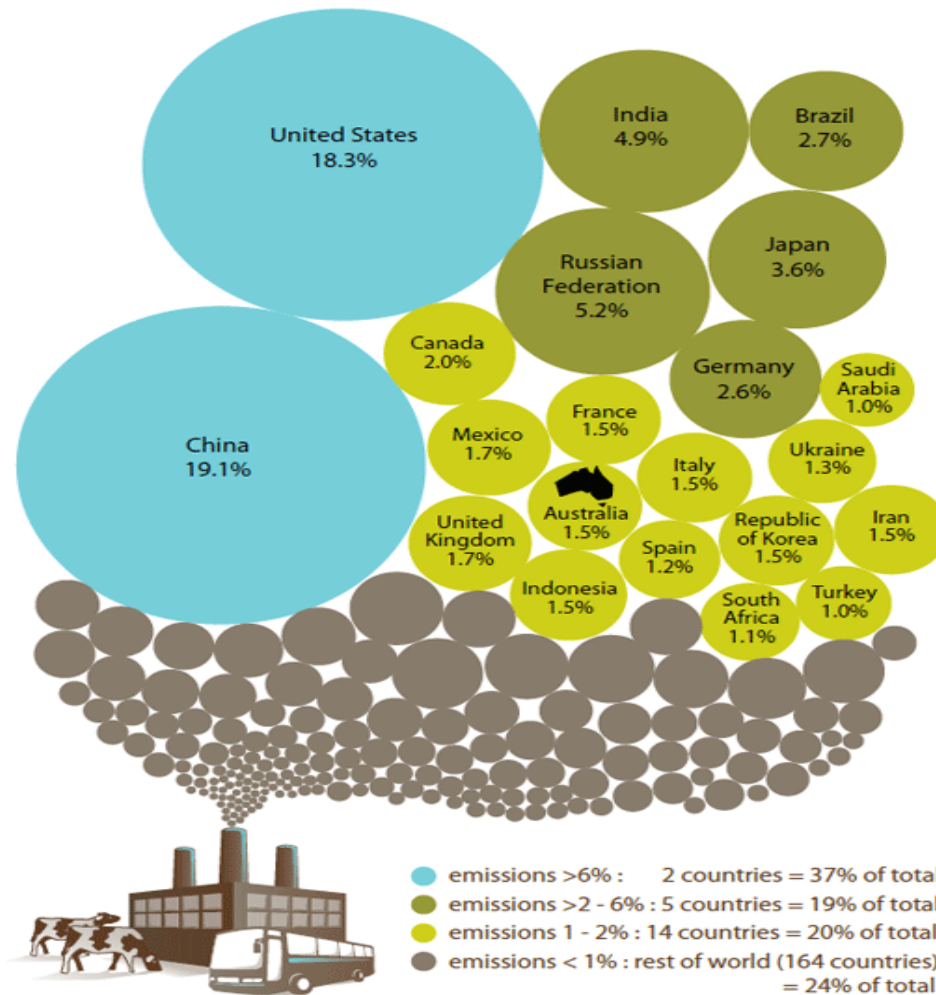
- **There is a bipartisan commitment to the 2020 target**
- **The Opposition currently is advocating a direct action approach**
- **Regulation or other action was always an alternative. Canada is adopting a cap-and-pay approach**
- **The current proposal would trigger cost effective actions of the sort envisaged by the Opposition**

High profile issues

- **Why should Australia move ahead of other countries?**
- **Compensation for households – how does it work?**
- **Compensation for industry**
 - Domestic
 - Trade-exposed
- **Paying to close brown coal generators**
- **What about nuclear energy?**
- **Buying overseas permits**
- **The role of complementary policies**
 - Renewable energy targets

Why should Australia move?

Global share of major emitters



Many industries are most unhappy

“Surely there never was such fragile china-ware as that of which the millers of Coketown were made... They were ruined, when they were required to send labouring children to school; they were ruined, when inspectors were appointed to look into their works; they were ruined, when such inspectors considered it doubtful whether they were quite justified in chopping people up with their machinery; they were utterly undone, when it was hinted that perhaps they need not always make quite so much smoke.”...

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*“Whenever a Coketowner felt he was ill-used - that is to say, whenever he was not left entirely alone, and it was proposed to hold him accountable for the consequences of any of his acts - he was sure to come out with the awful menace, that he would ‘sooner pitch his property into the Atlantic.’ This had terrified the Home Secretary within an inch of his life, on several occasions. **However, the Coketowners were so patriotic after all, that they never had pitched their property into the Atlantic yet, but, on the contrary, had been kind enough to take mighty good care of it.**”*

Charles Dickens, 1853, “Hard Times”

Nuclear Outlook post Fukushima – the positive

Nett Nuclear Capacity (GW)

	2010	2015	2020
USA	101	104	109
France	63	65	66
Japan	47	45	45
Russia	23	30	41
Germany	21	12	9
South Korea	19	24	28
Ukraine	13	13	16
Canada	13	13	15
UK	11	10	13
China	10	37	63
TOTAL	320	351	405

Source: *The Economist*, 2011

Nuclear Outlook - challenges

- Absence of low-emission demand drivers (policies to price emissions)
- Financing is more challenging than likely energy costs
- There is, as yet, no long term waste storage
- Resource constraints may emerge
- Safety and security has been heightened post-Fukushima
- Supply chain and people availability

- Risk exposures are difficult to manage for the private sector
 - The economics say not in the West
 - Governments take control
 - Successful projects, on time and on budget, will address construction and operational risks
 - Governments take the price risk

Ref: Citigroup, 2009; Pew Center 2011

Will it work and how much will it cost?

- The first priority of any journey is to begin
- The next issue will be the integrity of the emissions cap
- We will need to avoid a plethora of “complementary policies”



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