

Greenhouse: From Talk to Action

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Where is the climate issue positioned?

- Biggest surge of concern, globally and locally, since lead up to Kyoto :
 - Hurricane Katrina, Cyclone Larry, drought, fires
 - IPCC and Stern reports - Gore's *Inconvenient Truth*
- Australia's response influenced by:
 - Global developments
 - Local politics - particularly this year's election

International Negotiations: UN

- Agreement to start negotiations for post-Kyoto not likely at Bali Conference of Parties (Dec 07)
- Effective agreement needs all the top 14
- China and EU will not do a deal with US before next Presidential elections - in spite of Bush initiative

National and sub-national action

- Unilateral EU commitment to -20% by 2020
 - Propose developed countries agree to -30% by 2020
 - UK commitment to -60% by 2050
- Californian commitment to -20% by 2020
- NE US States ETS moving slowly
- Ten bills before Congress proposing cap and trade systems with range of emission reductions down to -70% by 2050
- EU negotiating with California to join EU ETS

Implications: Global Emissions Trading

- Early agreement unlikely on genuinely global cap and trade - any plausible deal will see China, India, Brazil etc with incentives not targets until 2020's-30
 - Cooperation will be “bought” with credits/tech transfer
- Significant growth in trade in CDM credits - over \$2bn - mainly China and India
- Global scheme might emerge from overlapping national and regional schemes rather than Kyoto style UN negotiation.

Implications for Australia: Politics

- Tipping point has passed - both parties will:
 - Offer enhanced climate policies – including adaptation and technology support
 - Outline emissions trading schemes
 - Endorse expanded uranium mining
- Coalition will commit to changing regulations to allow, but not require, nuclear power and enrichment, join GNEP, and push regional agreements to recognise CCS, nuclear and fuel switching
- Labor will ratify Kyoto and emphasise renewables

Key characteristics: hybrid ETS

- Both parties will support ETS :
 - Unilateral scheme which can be linked with other regional or global schemes through emissions credits
 - Hybrid scheme with emissions caps subject to a maximum permit price/penalty
 - Emission permits as tradeable property rights with a futures capacity
 - WTO compliant exemptions for trade exposed sectors
 - Most permits auctioned - some as compensation
- Question is what emissions target to underpin ETS?

What target?

1

- Rudd has announced a “-60%” target for 2050
 - With Garnaut to offer advice after the election on medium term (unilateral targets)
 - Expect Garnaut to suggest caveats on the 2050 target
- Howard will not nominate long term target before election
 - Has commenced review of a long term “aspirational target” with Treasury costing options
 - Will continue to attack Rudd on unilateral commitment to -60% without understanding cost
- Neither party will announce critical medium term target before election.

What target?

2

- Plausible planning expectation for either party:
 - Unilateral emissions target around year 2000 (+/-) levels for 2020 with long run “fudgeable” target of -50/60% by 2050
 - Stabilization by 2020 preserves options for deep cuts by 2050 as CCS, nuclear, advanced renewables become available underpinned by global agreement
 - carbon prices in 2020 around \$A25 to \$30 per tonne (approx 17-25% increase in wholesale electricity costs but modest overall GDP impacts) *Source: ACG “Deep Cuts in Greenhouse Emissions” for Business Roundtable on Climate Change 2006*
 - carbon prices in 2050 around \$A100*-190 (up to 55% increase in electricity prices) for a target around 60% below year 2000 levels *Source: ACG 2006*
- Risk of deeper cuts and higher prices by 2020 if US/China do a deal to push harder
 - * With global emissions trading

What target?: the international view

IPCC 4th Assessment Report

- None of the mitigation scenarios studied stabilized temperatures at less than a 2C increase even though all assumed global action commenced in 2010
- 2.4 - 2.8C requires global emissions to peak by 2020, then be cut to 30 to 60% below 2000 levels by 2050
- 2.8 - 3.2C requires peak emissions before 2030 and be cut to <30% below 2000 levels by 2050
- 3.2 - 4.0C peak emissions between 2020-60 with emissions 10-60% higher than 2000 levels by 2050

What targets?: negotiating realities

- Implausible to believe that:
 - Global action (ie targets for China, US, India, Russia, Brazil) will commence by 2010 or that
 - Global emissions will peak and then begin to decline before 2020
 - Since 2000 global emissions growth at the top of the projected range and carbon intensity reductions have stalled (impact of China, India, Brazil)
 - simply too much inertia built into global diplomatic and socio-economic systems and investment plans to expect reversal in next 10-13 years.

Consequences: Global outcomes

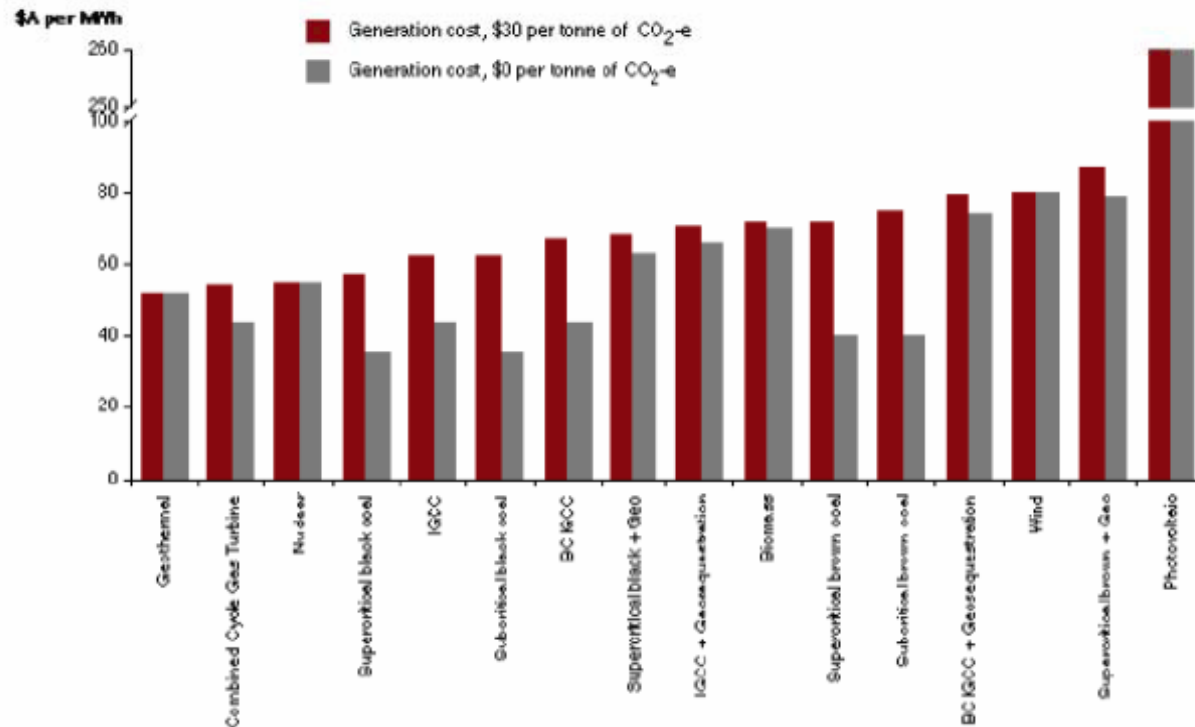
- Pessimistic but plausible planning expectation:
 - Global mean temperature increase 2.8 - 3.2C
 - Global emissions by 2050 up to 30% below 2000 levels
 - Global carbon prices in 2030 around \$US45 (\$A55) - with 2050 range from \$US30 - 155.
- *Source: category B scenarios IPCC 4 AR*
- Caveat: greater and faster emissions reductions are possible if US and China work together to drive global agreement.

Consequences: Australian Winners and losers \$30 carbon price (2030)

- **Winners:**
 - Renewable generation (up 350 - 420%)
 - Forestry (carbon sequestration) (up 12 - 20%)
 - Gas (domestic power production) (up 21 - 29%)
- **Losers:**
 - Coal powered generation (down 27%)
 - Electricity retail and distribution (down 4%)
 - Coal mining (down 3%)
- Energy intensive trade exposed industry stable (compensation)
- **Caveat:** if nuclear power then less renewables
- *Source: ACG Impacts of a National Trading Scheme 2006*

ACG: generating costs with \$30 C-price

COMPARING INDICATIVE GENERATION COSTS (LRAC) UNDER A \$30 PER TONNE CO₂-E PRICE AND A ZERO CARBON PRICE



Source: MMA; The Allen Consulting Group; and The Australian Government 2004, *Securing Australia's Energy Future* (White Paper).

Note: based on assumed cost of geosequestration of \$50 per tonne of CO₂-e. Key: BCIGCC = Brown Coal Integrated Gasified Combined Cycle; IGCC = Integrated Gasified Combined Cycle.

Consequences: Australian climate

- Plausible planning expectations:
 - Temperature relative to 1990 (*up to 400k from coast*) 2020: up to 1.0, 2050: up to 2.7; 2080: up to 5.4; *400-800k*: 2020: up to 1.3; 2050: up to 3.4; 2080: up to 6.7 *Central Australia*: 2080: up to 8C
 - Rainfall relative to 1990 within 400km of west and southern coasts: 2020: up to -15%; 2050: up to -40%; 2080: up to -80%
 - Significant impacts on reefs, coastal wetlands, alpine and montaine rainforest regions
 - For east coast 22% increase in severe cyclones by 2050
 - Frequency of very high and extreme fire danger days is likely to rise 4-25% by 2020 and 15-70% by 2050
- Annual streamflow in the M-D Basin likely to fall 10-25% by 2050 and 16-48% by 2100 Source: IPCC 4 AR

Implications for Governments:

- Adaptation is likely to be a critical issue:
 - Build resilience through the right incentives (eg water markets)
 - Prevent future vulnerabilities
 - Deepen emergency response capabilities for region.
 - Build climate risks into strategic and defence planning

Implications for business:

➤ Three key areas to think through:

➤ Reputation

➤ Bottom line exposure to carbon prices

➤ Adapting to climate change.

Regulation and Reputation

- Does your company have a climate change policy? Would your customers and investors expect you to have one? Do governments know your views?
 - Empower customers to act? Voluntary actions by company and/or employees? Pricing carbon in new investments?
 - Stakeholder engagement, involvement in public debate, influence policy - still much critical detail to be settled for Emissions Trading and targets.
 - But internal company action must reflect public position or lead to cynicism

Bottom Line Issues

- What are your carbon exposures - eg direct emissions? through purchased power or transport? in your investment and debt portfolio?
 - Can you manage them readily at feasible carbon prices and timescales?
 - Opportunities to hedge or manage risks?
 - Have you got a robust means to factor carbon costs into future investments?
 - Can you gain if carbon prices increase?

Adaptation Issues

- What is your dependence on climate variables?
 - Production - temperature impacts, increased risk of drought and price of water? Severe weather? Storm surge, flooding? Bushfire?
 - Demand - impact of climate on your customers? Demand patterns and peaks? Impact of increases in power and transport costs?
- Can you adapt? High exposure/low adaptation potential = vulnerable.