



Nicholas Howarth, Oxford University

Australia



The land of droughts and flooding rains has always been on the front line of climate crisis

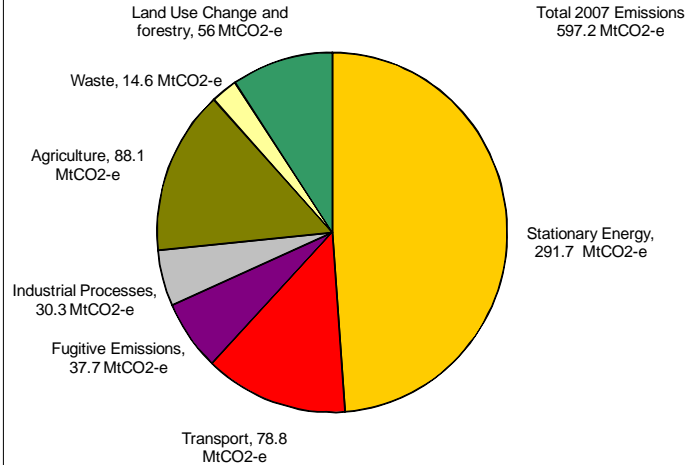


(Bushfires near Melbourne summer, 2009)

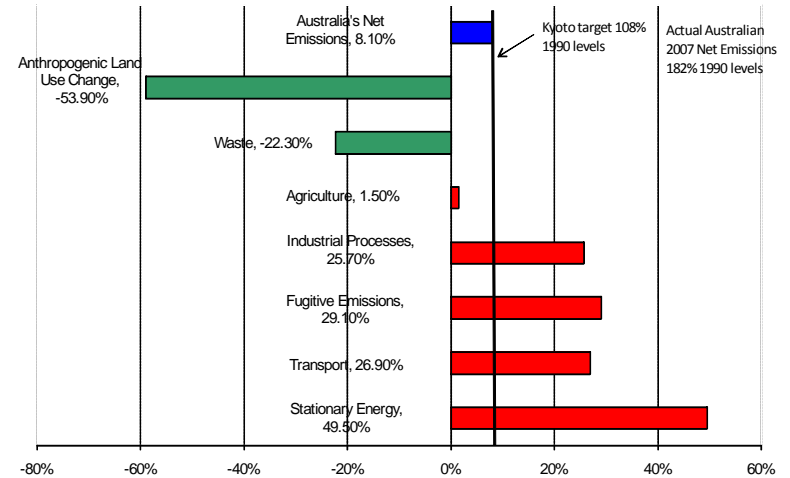
In 2007 Australia's GHG emissions were 182% above 1990 levels, driven up by non-anthropogenic emissions from land use changes

BUT, According to Kyoto accounting rules only human influenced emissions are counted, therefore Australia is 'on-track' to meet its Kyoto target....

2007 Composition of Australian Greenhouse Gas Emissions MtCO₂ (Kyoto Accounting)



Change in Australian Green House Gas Emissions 1990 - 2007 (Kyoto Accounting)





NSWGGAS – base-line and credit scheme using emissions intensity rules



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National cap-and-trade scheme = the Carbon Pollution Reduction Scheme

Start date = 1 July, 2011

Auctioning = 70% (proposed)

Scheme Cap = ?? TBA

Coverage = 75% emissions (incl. Transport)

National mid-term cap = at least 5 % of 2000 levels by 2020

.... and up to 25% if success at Copenhagen

White Paper

= 109 per cent of 2000 levels (602.6 MtCO₂-e) for 2010-11;

Indicative National

= 108 per cent of 2000 levels (597.0 MtCO₂-e) for 2011-12;

Trajectories

107 per cent of 2000 levels (591.1 MtCO₂-e) for 2012-13.

Electricity Sector

=

\$3.9 billion (to some of the most emissions

Adjustment Scheme

intensive coal-fired generators)

World's largest

=

\$A26 billion exports each year

Credible carbon policy??

Probably not



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New Zealand

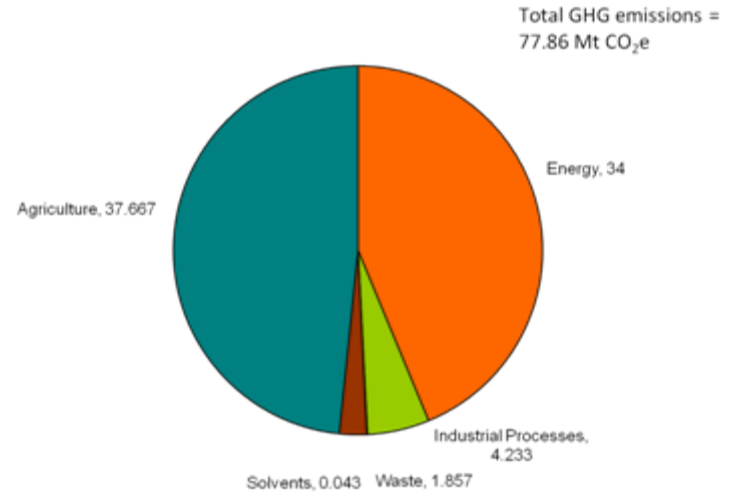


0.2% world emissions

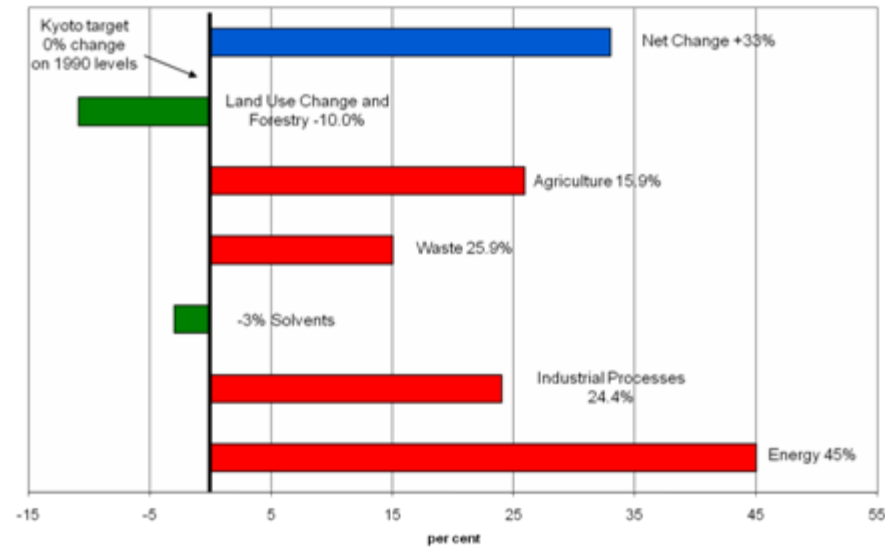
Electricity generation = 66% renewables

Will not meet Kyoto target
Must buy international credits

2006 Composition of New Zealand greenhouse gas emissions (MtCO₂-e)



Percentage change in New Zealand greenhouse gas emissions 1990-2006





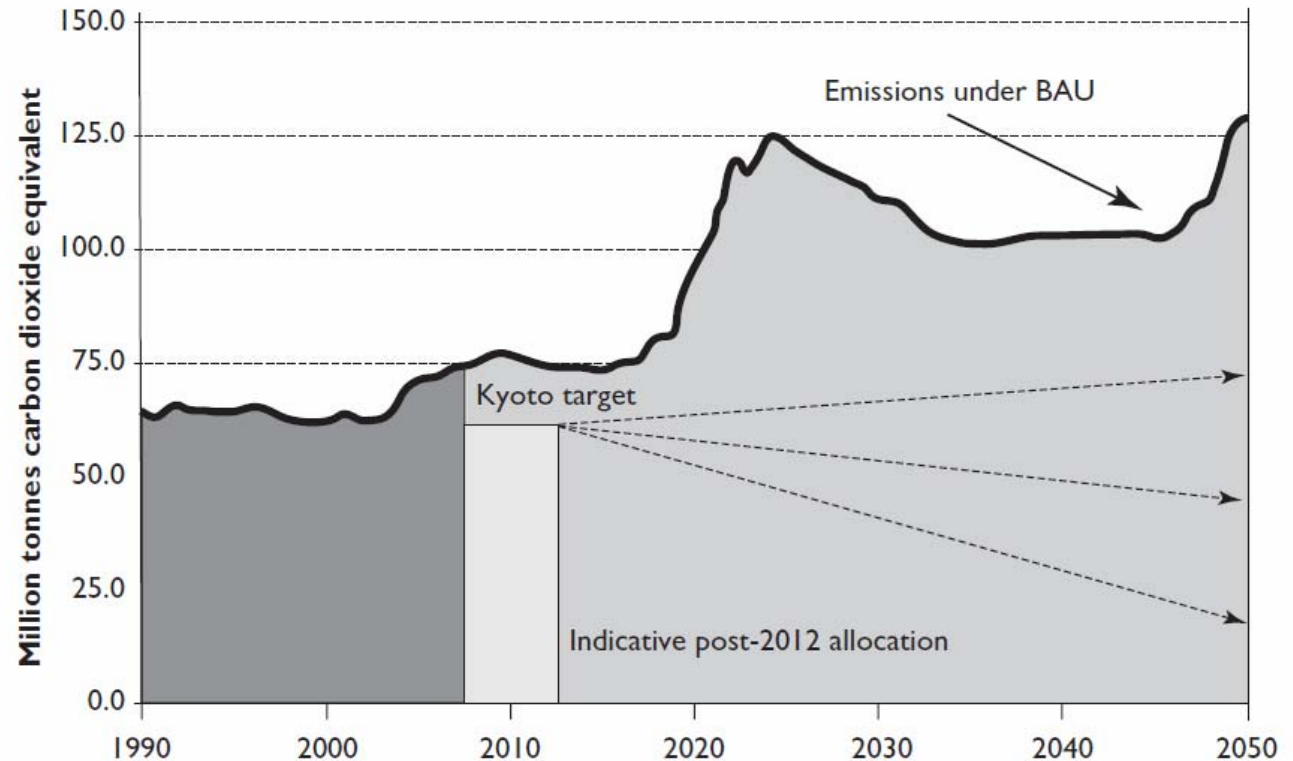
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New Zealand



Two emissions trends:

- agriculture, transport and non-transport energy = 1% p.a.
- forestry: plantation cycle due to be harvested in 2020s



Source: Based on Brash, D. 'The NZ ETS: An Overview', 30 October 2008



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New Zealand



National target = min 10% cut by 2020 relative to 1990 levels; and up to 20% if there is success at Copenhagen

Emissions trading “to be the primary instrument to achieve this”
Nick Smith, Minister for the Environment

NZ ETS start date has been delayed until after Copenhagen but forestry entered the scheme on 1 January, 2009

Recent transaction of 520,000 forestry AAUs from NZ ETS to a European buyer



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Japan



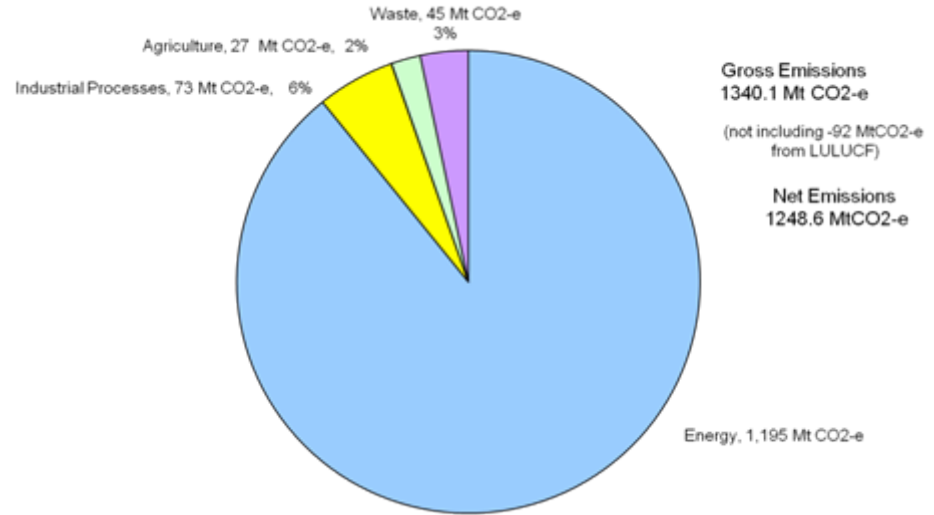
World's third largest economy but only 5th largest GHG polluter

Probably the most energy efficient economy

Japan's emissions have risen by around 6% relative to 1990 levels; Japan has committed to a 6% reduction under Kyoto

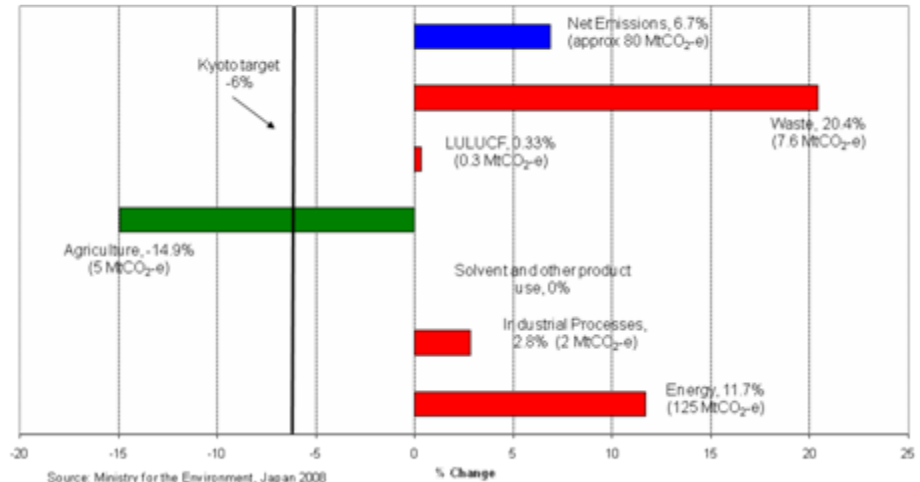
Forced to meet the gap by buying international emissions permits from Eastern Europe and developing countries

2006 Japanese Sectoral Emissions (MtCO₂-e)



Source: Ministry of Environment, Japan 2008

Change in Japanese Green House Gas Emissions 1990 -2006



Source: Ministry for the Environment, Japan 2008



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Japan



Keidanren voluntary action plan

Goal: 'to reduce CO₂ emissions in fiscal year 2010 to below the level of fiscal year 1990'

In operation since 1997

Coverage = 44% of total emissions
83% industrial and energy conversion sector

Provides subsidies for energy efficiency projects if firms commit to emission reduction targets

If they miss the target, participants can buy permits on the carbon market, otherwise they must hand back the subsidy money

Results?

Keidanren self assessment suggests emissions will have been stabilised in the covered sector in 2010 at 1990 levels

Credible carbon policy? Probably not....

Japan



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The Japanese Voluntary Emissions Trading Scheme (JVETS)

- 150 participants from paper and steel, ceramics, glass and chemical industries
- Co.'s set cap and get subsidies for clean energy projects
- Rigorous carbon accounting

The integrated or unified market for emissions trading

- Aims to bring together JVETS and Keidanren Plan
- 1052 companies joined a 'Trail Emissions Trading Conference'
- Covers all energy consumption of participants

The Tokyo cap-and-trade scheme

- Modelled on the EUETS set to be implemented on 1 April 2010
- Covers approx 5% total Japanese emissions
- Industrial sector to cut emissions by 6% relative to a baseline taken from last three years' average



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Reduced Emissions from Deforestation and Degradation (REDD)

If we aim to stabilise the global average temperature rise at +2°C (relative to 1850)

We must hold under 500ppm CO₂e through to 2100

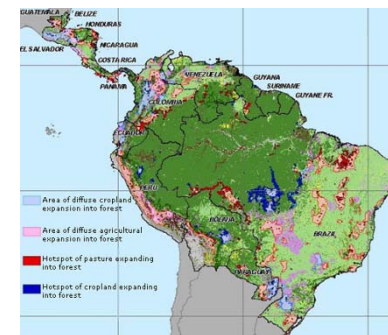
And try to reduce from there

Currently at 430ppm and increasing about 2.5ppm each year i.e. 750ppm by 2100 at this rate and 5°C warmer (relative to 1850)

Stabilisation will almost certainly be impossible to do unless emissions from deforestation and degradation of forests is reduced

Difficult to know for sure but possibly around 20% of total world emissions

A potentially cheap source of emissions credits, relative to decarbonising energy networks





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Reduced Emissions from Deforestation and Degradation (REDD)

A question of measurement?

How strict do we want to be about physical emissions?

Governance a key issue... Brazil, Congo, Indonesia.....

Who do you pay for credits?

- National government?
 - Land holders?
- What if there is no legal land tenure?
- both?

A question of risk and insurance:

- can't stop forest fires, but can stop human interference

Some promising initiatives:

- Nature Conservancy, Mato Grosso, Brazil
- Juma project, Amazonas, Brazil
- Costa Rica, ecosystem services
- Prince of Wales Rainforest Project
- Developments in the US Climate Bill