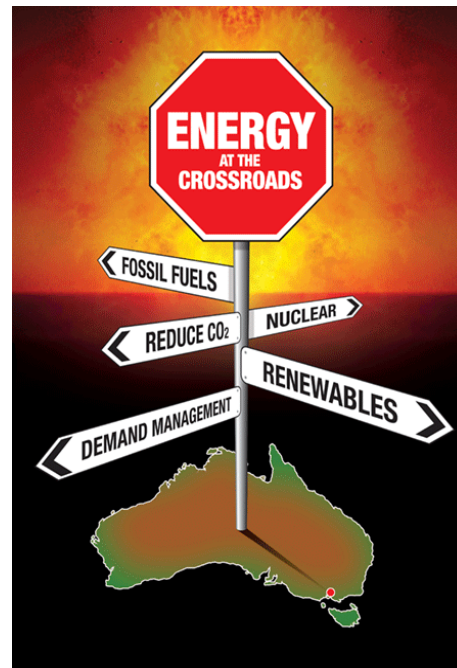


# Alternative Energy: regional realities and adaptation implications

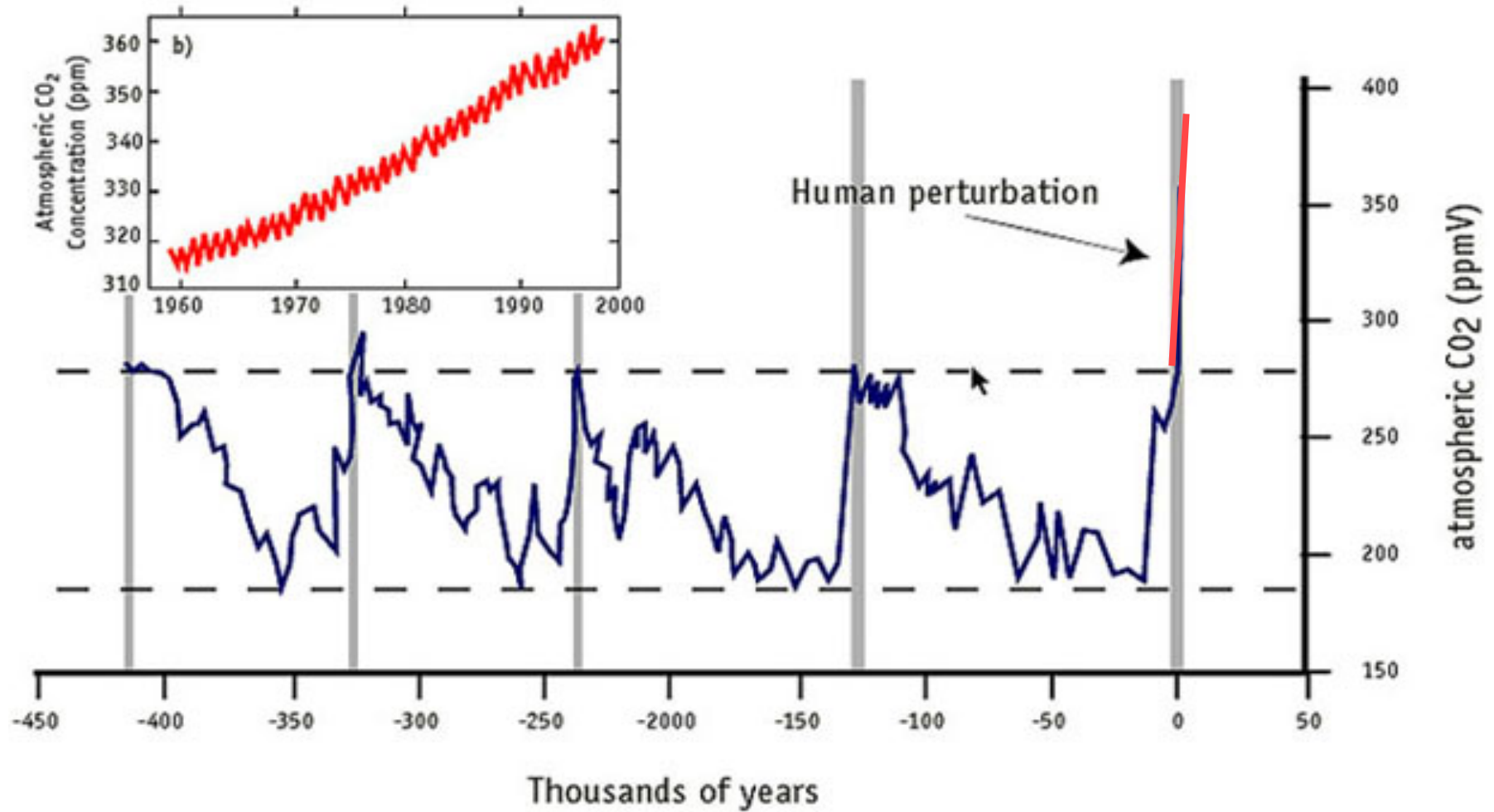
Gerry Morvell  
SEGRA Oct 2009



# Science and observation

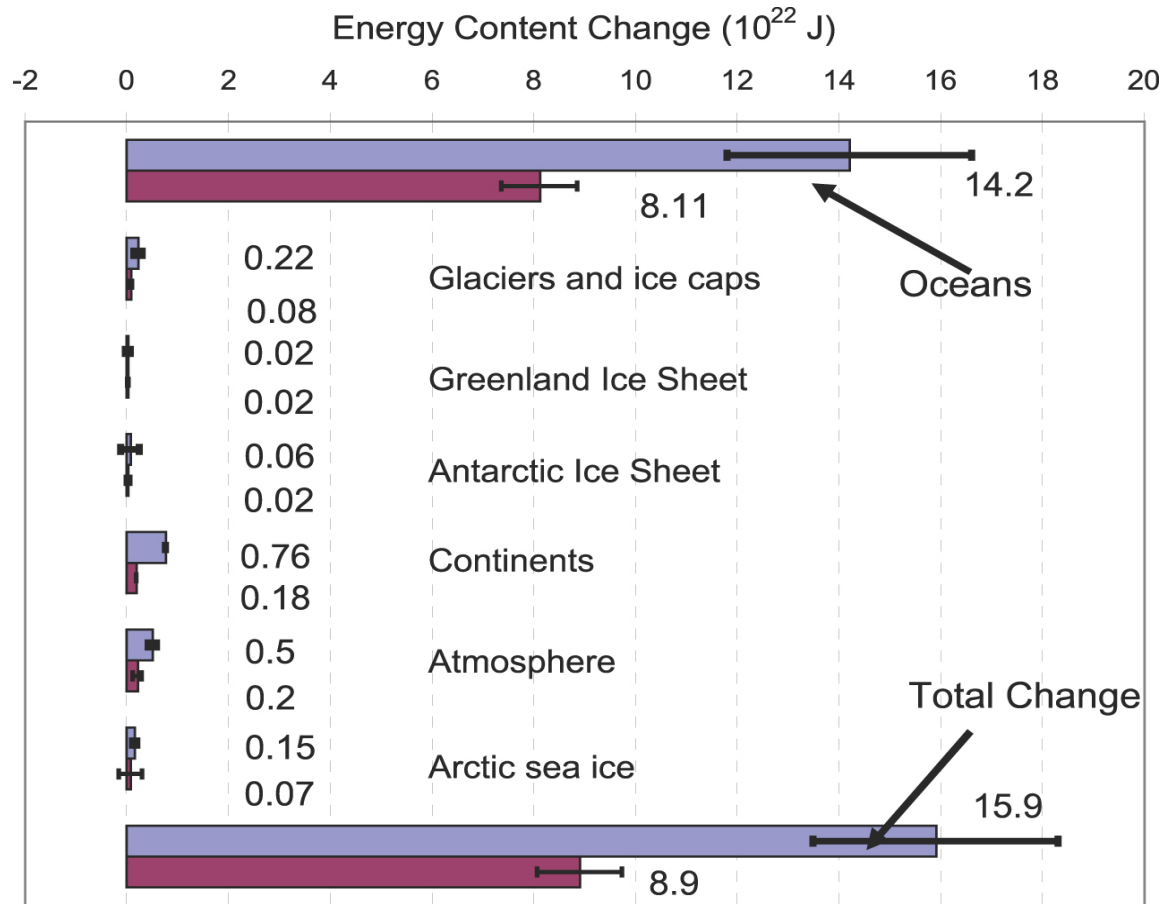


# Atmospheric Carbon Dioxide



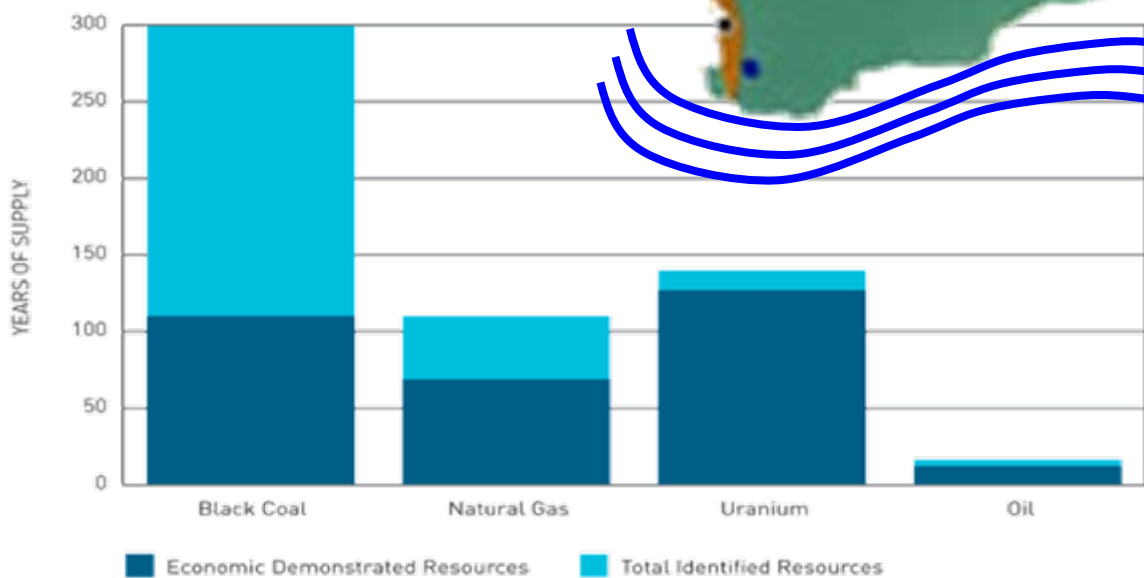
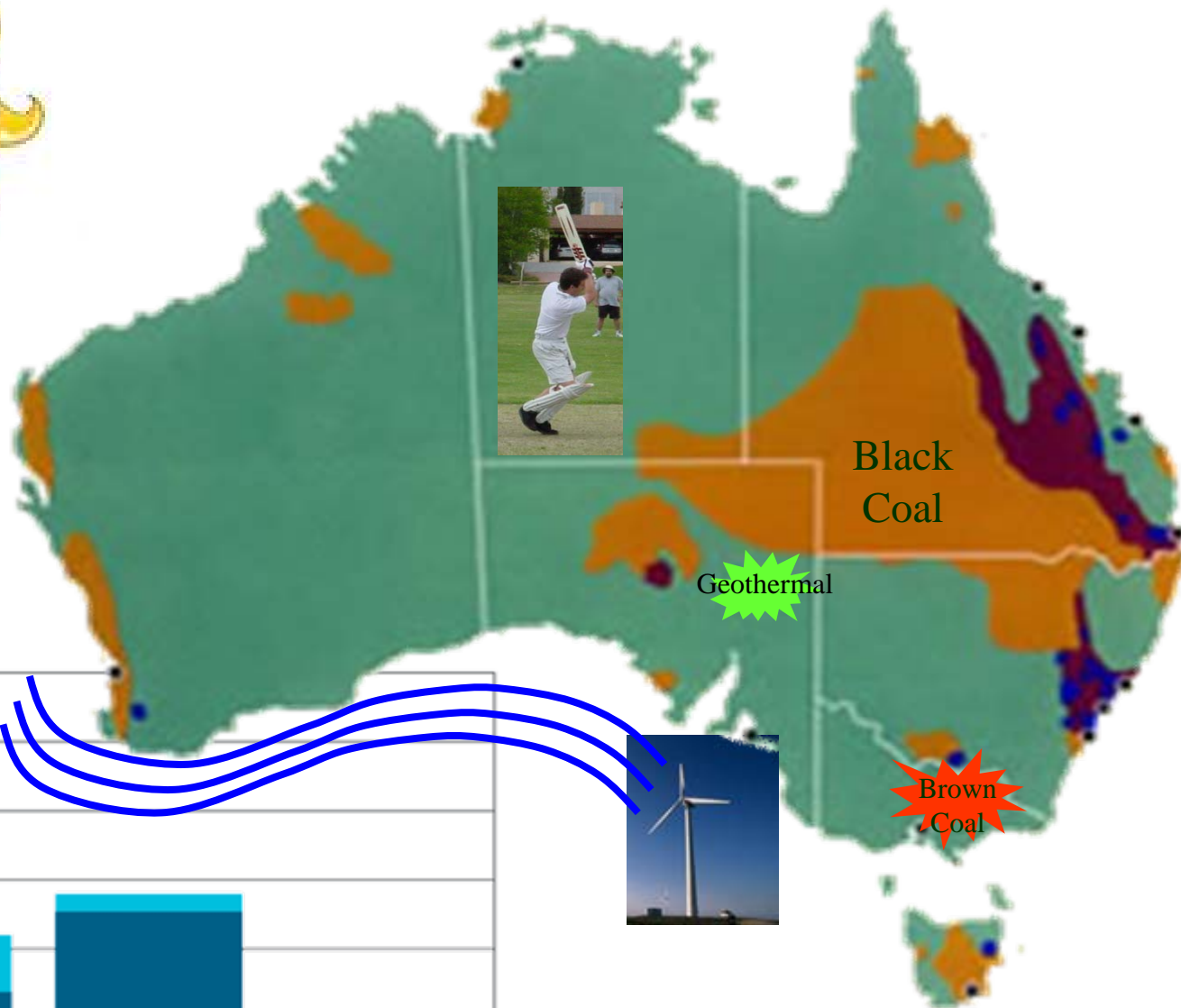
Petit et al. 1999; Keeling and Whorf 2000

# Sinks for the excess energy at the Earth's surface

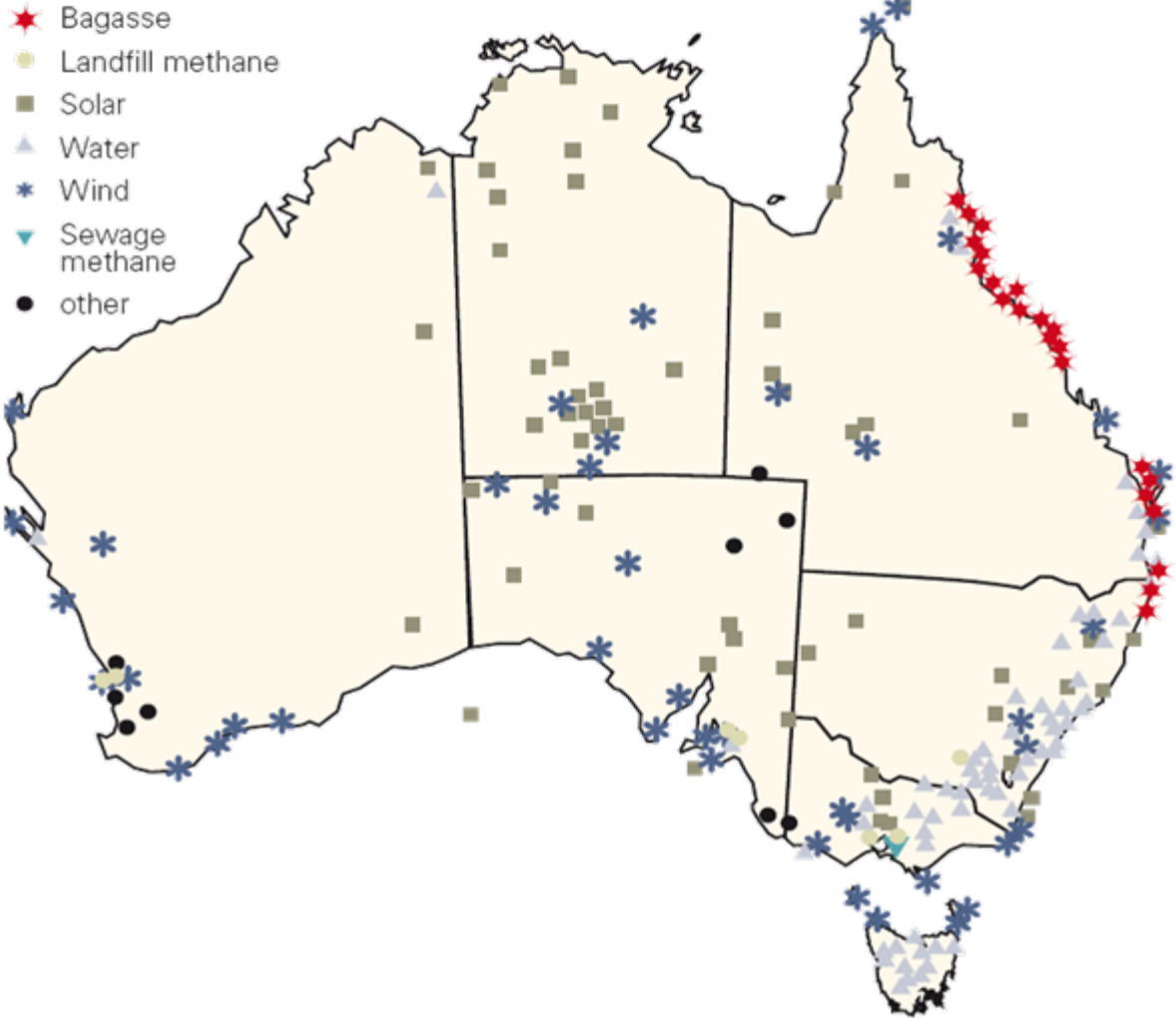


Blue bars: 1961-2003 period  
 Purple bars: 1993-2003 period

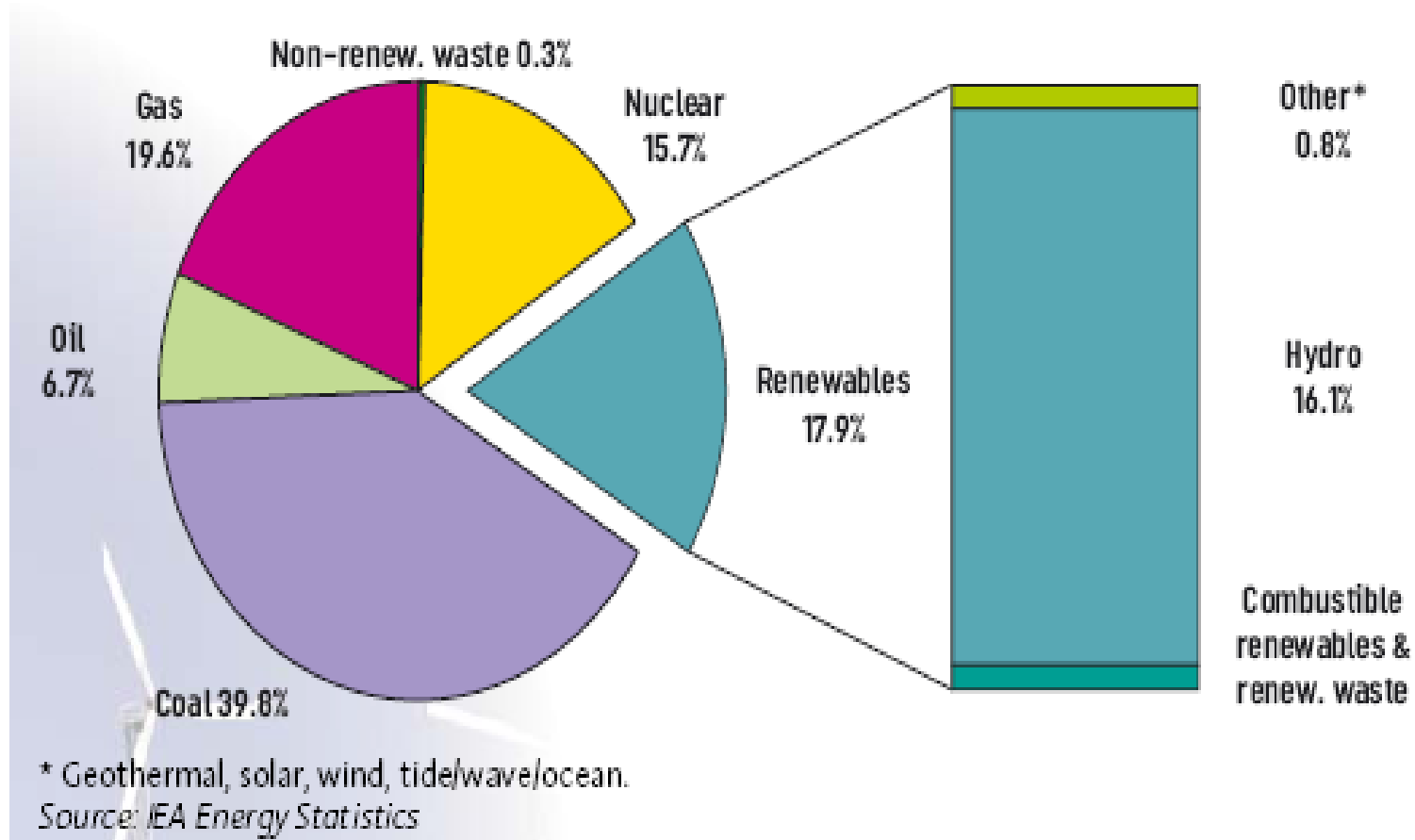
Source: IPCC AR4



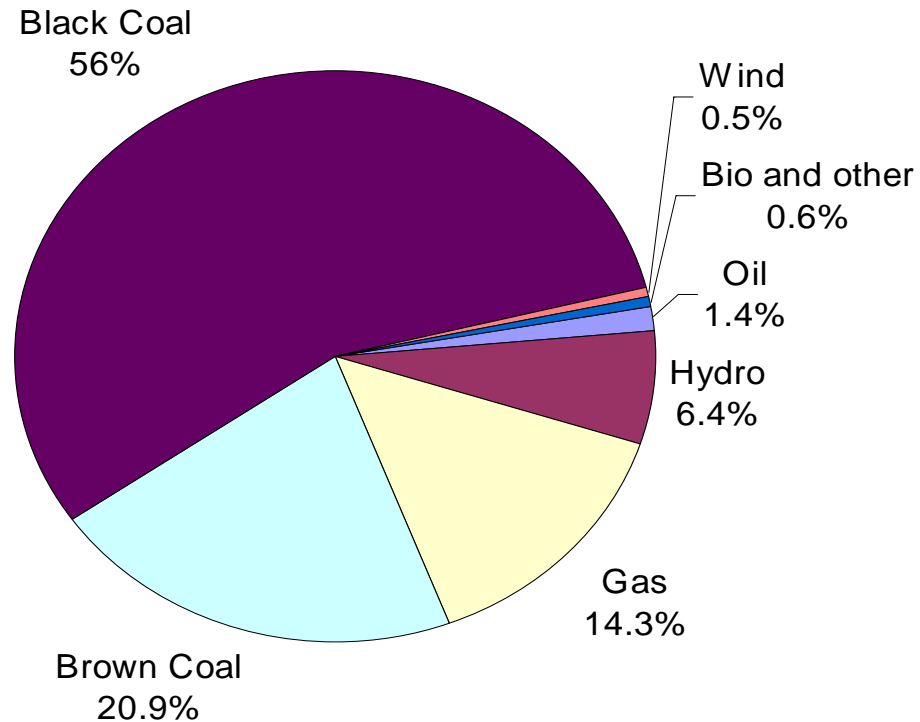
# Renewable Energy in Australia



# Electricity Generation -global

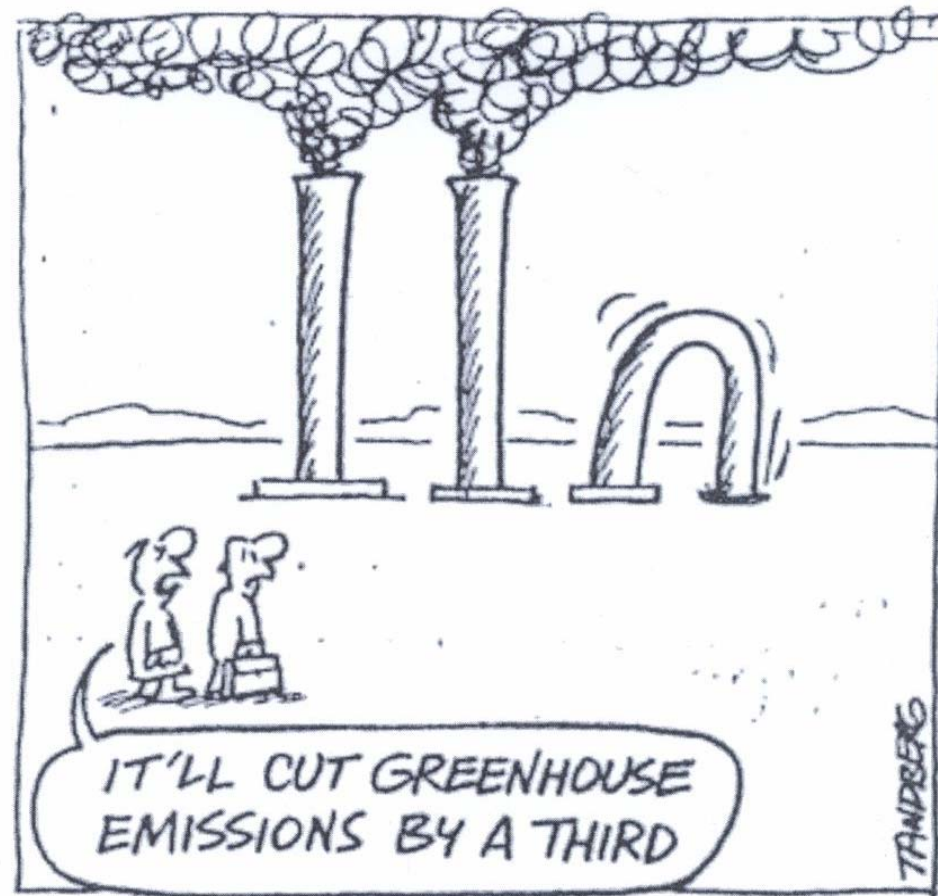


# Electricity Generation - Australia





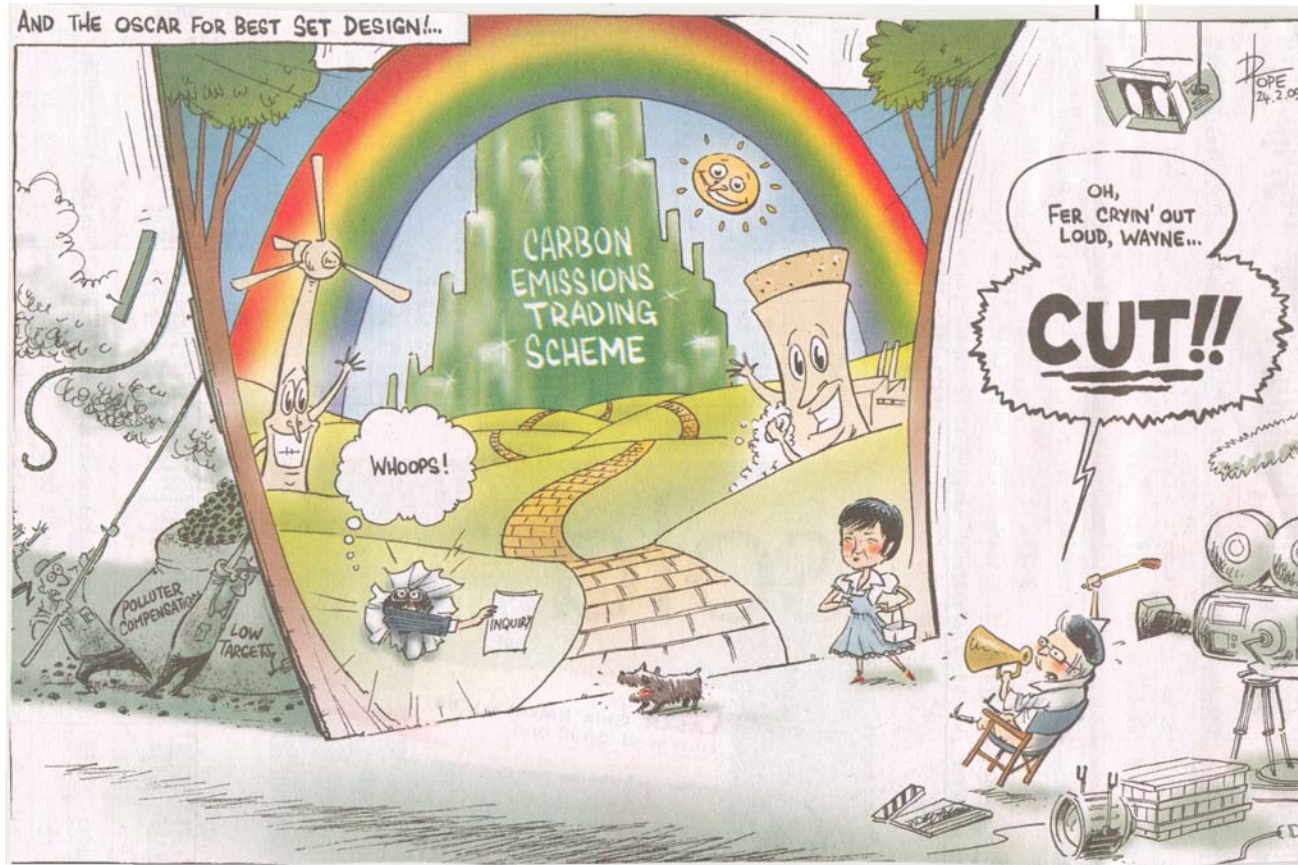
# Carbon capture and storage - (geosequestration)



# A green future?



# Is CPRS the silver bullet – emissions grow until 2033!!



# What does it all mean?

“..the introduction of an ETS, also called a CPRS, is needed before COP15, because the UNFCCC and the IPCC want action. But bringing down CO<sub>2</sub> to a respectable PPM must be done without harming EITEs. Perhaps CCS is the solution?”

» Canberra Times 18 Oct

# A portfolio of energy sources

- Coal - loser or new beginning?
- Gas - world parity pricing
- Nuclear – the answer to climate change?
- Solar Thermal - lots of promise (hybrids!)
- Solar PV - niche to grow
- Wind - constrained growth
- Geothermal - back to the drawing board!
- Tidal/wave - more research
- Biomass - niche to grow

# Implications for Regional Australia

- Infrastructure Investment
  - Electricity grid, gas pipeline, CO2 pipelines,
  - New power stations and low C industries
- Offset measures (trees, rocks and soil)
- Employment
- Innovation – leadership (social, ag, mining etc)
- Consultation – the voice of regional Australia
  - Clarify the goal(s)