

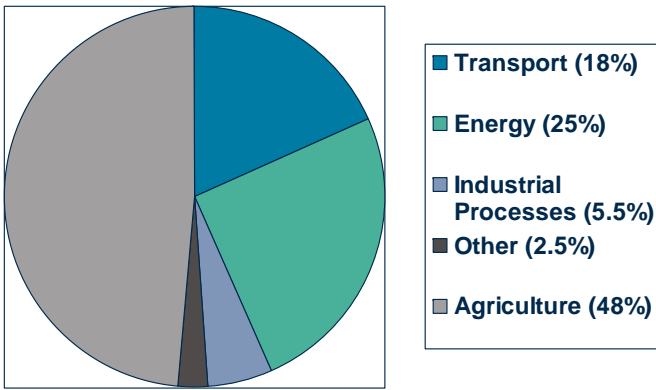
# Carbon Capture and Storage

## Summary of CCS in New Zealand

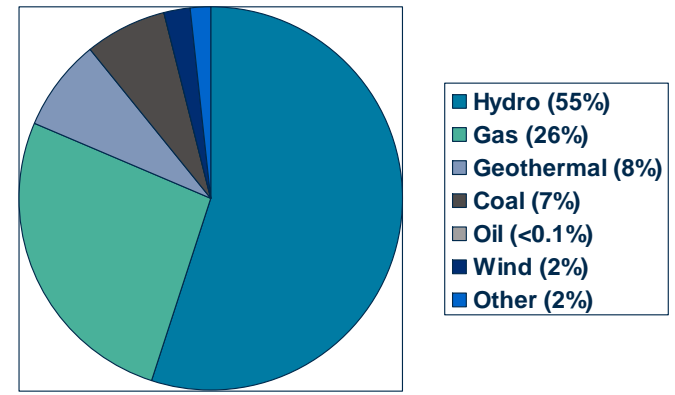
April 2009

# Current context: does NZ need CCS?

NZ GHG emissions (2005)



Electricity Generation (2007)



# The Government Approach: the long-term view

- The government's long term goal is to keep all energy options open for NZ
- Future energy options with CCS could include:
  - Gas?
  - Geothermal?
  - Coal for electricity production?
  - Coal to liquid plant using lignite?
- ~ And perhaps also potentially non-energy CO<sub>2</sub> emitters (eg steel/concrete/pulp and paper...)?



# First priorities for CCS

- To enable CCS from a regulatory and legal perspective
- To understand NZ's capacity to store CO<sub>2</sub>
- To support global uptake of CCS



# Current NZ CCS Activities

Two working groups are in place to enable CCS in NZ:

## **CCS Research Steering Group (RSG)**

The RSG is an Industry-Government partnership, overseeing research and technical CCS aspects

## **NZ CCS Policy Group**

The Policy Group consists of a range of Government agencies and is responsible for designing the legal framework for CCS, as well as for planning comprehensive engagement on CCS.



# Analysing Existing Legislation

Current New Zealand Statutes	Capture of CO <sub>2</sub>	Transport of CO <sub>2</sub>	Injection of CO <sub>2</sub>	Pre Closure Phase	Post Closure Phase	Long Term
Resource Management Act	✓	✓	✓	?	?	?
Crown Minerals Act	✗	✗	?	?	✗	✗
Gas Act	✗	✗	✗	✗	✗	✗
Oceans Legislation	?	✓	?	?	?	?



# Capture of CO<sub>2</sub>

- The RMA already applies to all environmental effects of any activity

BUT

- The CMA and Gas Act currently do not apply for CO<sub>2</sub> or CCS



# Transport of CO<sub>2</sub>

- The RMA governs environmental effects (onshore and offshore to 12nm)
  - Oceans legislation will apply outside 12nm
  - The RMA covers pipeline construction standards
- issues include purity of CO<sub>2</sub> and moisture content
- But Gas Act regulations covering the transport of gases do not apply as CO<sub>2</sub> currently doesn't meet the definition of a gas



# Injection of CO<sub>2</sub>

- The RMA continues to govern environmental effects (including accidental discharges)
  - Oceans Legislation –applies outside 12nm
  - The CMA is about extraction →or maybe injection too?
- The CCS policy group is investigating whether the CMA covers allocation of geological storage spaces



# Pre Closure Phase

= End of injection to site sign-off

- The Resource Management Act applies – potentially up to a 35 year period
- Oceans legislation outside 12nm applies



# Post Closure Phase

= Establishing the CO<sub>2</sub> is behaving as predicted

- It is not clear whether any existing legislation applies
- The Resource Management Act begins to reach the end of its existing relevance
- Effective monitoring of the behaviour of the stored CO<sub>2</sub> will be crucial.



# Long term storage

Any existing legal precedent for liability is not designed with the long-term timescales required by CCS. Specifically:

- Monitoring and verification will be required indefinitely
- The total emissions sequestered will need to be confirmed and accounted for (UNFCCC/ETS will need to take this into account)
- A central data repository will be required
- We are looking to international precedents, and will be an active member of international fora to ensure access to best-practice



We're interested in your views...

See MED's CCS web material at  
[www.med.govt.nz/ccs](http://www.med.govt.nz/ccs)

Or email us at [ccs@med.govt.nz](mailto:ccs@med.govt.nz)



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