



Centre for Energy and
Environmental Markets

UNSW
THE UNIVERSITY OF NEW SOUTH WALES
SYDNEY • AUSTRALIA



Climate Change research at UNSW's Centre for Energy & Environmental Markets

UNSW Forum on Climate Change, 31 July 2008

Regina Betz and Iain MacGill

www.ceem.unsw.edu.au



Centre for Energy and
Environmental Markets

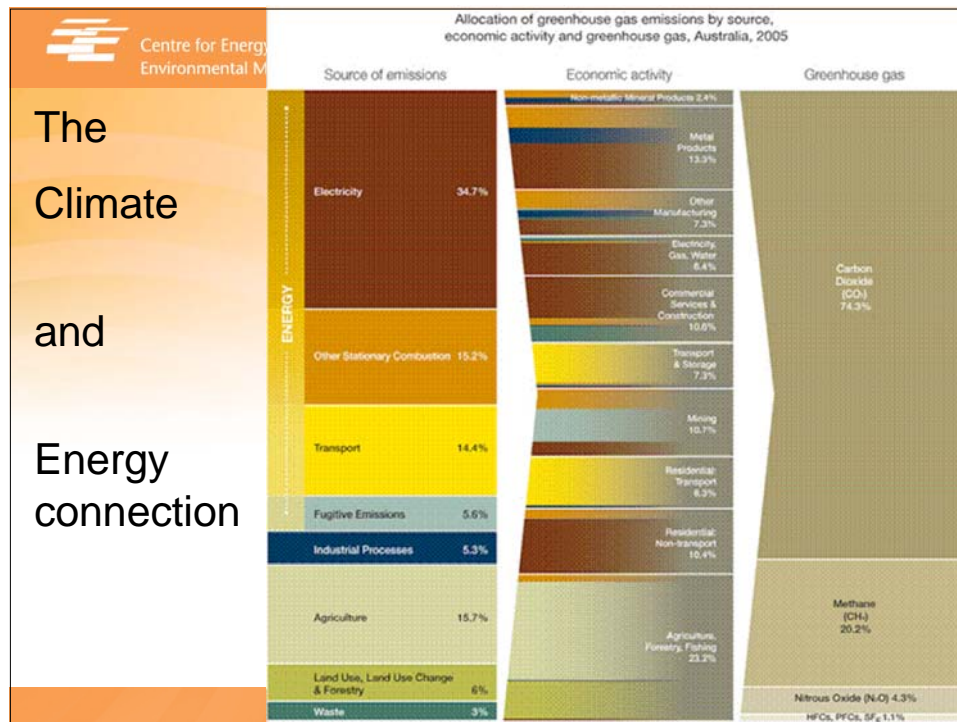
UNSW
THE UNIVERSITY OF NEW SOUTH WALES
SYDNEY • AUSTRALIA

A university's responsibilities in a dangerously warming world...

- All universities have an important role in problem-solving to bequeath a sustainable world to future generations. Through their research, universities are expected to provide timely solutions to these problems and to closely coordinate with policy-makers if these solutions are to be promptly and appropriately implemented. ... **universities, being neutral and objective**, are best situated to inform political and social change toward a sustainable society.
- Collaboration with a range of stakeholders including civil society and the private sector is also important to ensure such solutions are practically applicable and appropriate to build a sustainable society. Universities must work together in the areas of sustainability research and policy analysis toward this end. At the same time, the academic objectivity of universities is a key strength which should not be sacrificed.
 - *Declaration from the G8 Universities Summit, July 2008*

2





Centre for Energy and Environmental Markets

UNSW
THE UNIVERSITY OF NEW SOUTH WALES
SYDNEY • AUSTRALIA

CEEM established ...

- *to formalise* growing interest + interactions between UNSW researchers in Engineering, Business, Social Sciences, Environmental Sciences...
- *through UNSW Centre* providing Australian research leadership in interdisciplinary design, analysis + performance monitoring of energy + environmental markets, associated policy frameworks
- *in the areas of*
 - Energy markets
 - spot, ancillary services and derivative markets, retail markets
 - *Primary focus on the Australian NEM*
 - Energy related environmental markets
 - Eg. National Emissions Trading, MRET, Energy Efficiency Certificate Trading, Renewable energy subsidies...
 - Broader policy frameworks and instruments to achieve desired societal energy and environmental outcomes

4





Management structure



CEEM Intergenerational equity reference committee

5



Federal Government policy development

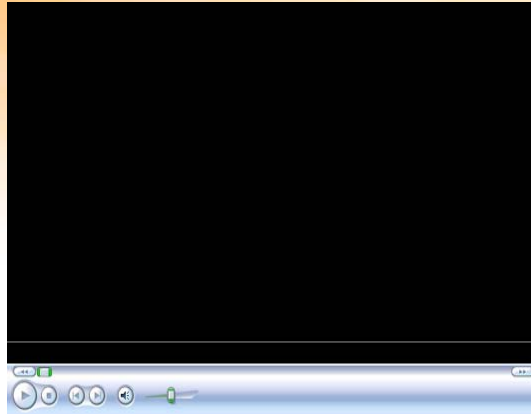
- **Emission Trading System by 2010.** Detailed design finalised by end 2008.
- **Mandatory Renewables Target** of 20% by 2020, 45,000GWh. Scheme design finalised end 2008
- **Demonstration and commercialisation funding**
 - \$500M **Renewable Energy Fund** intended to develop, commercialise and deploy renewable energy.
 - \$500M under **National Clean Coal Fund** to finance deployment of clean coal technologies
- **A wide range of Energy Efficiency policies and measures**
 - Equipment and building energy and emission performance measuring, information and regulation
- **Ongoing NEM restructuring**
- *numerous diverse State Government policy efforts*

6





A possible role for UNSW in this area...



John Clarke, ABC 7:30 Report, 17 July 2008

7



CEEM Research program areas

- Environmental market design - emissions trading
- Distributed Energy – Load management, energy efficiency and distributed generation
- Facilitating the integration of renewable energy into the National Electricity Market
- Electricity industry restructuring
- Technology Assessments for our sustainable energy options

8





A key focus: Emissions trading research

- Evaluating the European Emissions trading scheme
- Allocation methods
- Auction design
- Linking of emissions trading schemes
- Compliance regime design
- Interaction of electricity market and Emissions trading scheme

Methodologies:

Econometrics

Experimental Economics

Modelling

9



Current activities

- 12 active research members (including 4 post doctoral fellows) from 5 different disciplines/institutions supervising
- 10 PhD students
- 10 Honour students
- Current Grants:
 - Commonwealth Environment Research Facilities (CERF)/Environmental Economics Research Hub: Climate Change - Testing emissions trading design experimentally
 - ARC: Understanding Interaction of Electricity Markets and Emissions trading
 - CSIRO: Economics modelling of distributed Energy
 - AGO: Wind energy integration

10





Centre for Energy and
Environmental Markets

UNSW
THE UNIVERSITY OF NEW SOUTH WALES
SYDNEY • AUSTRALIA

Thank you... *and questions*

Many of our publications are available at:

www.ceem.unsw.edu.au

www.ceem.unsw.edu.au

