Centre for Energy and Environmental Markets

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THE UNIVERSITY OF NEW SOUTH WALES
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Session 3: Emissions trading & Compatibility with Future International Architectures

5th Annual Workshop on Greenhouse Gas Emissions Trading
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Presented by

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Presentation outline

- Assessment criteria
- Environmental performance:
  - Abstraction – Australian Experience
  - Physical unit
- Dynamic incentives
- Questions to conclude

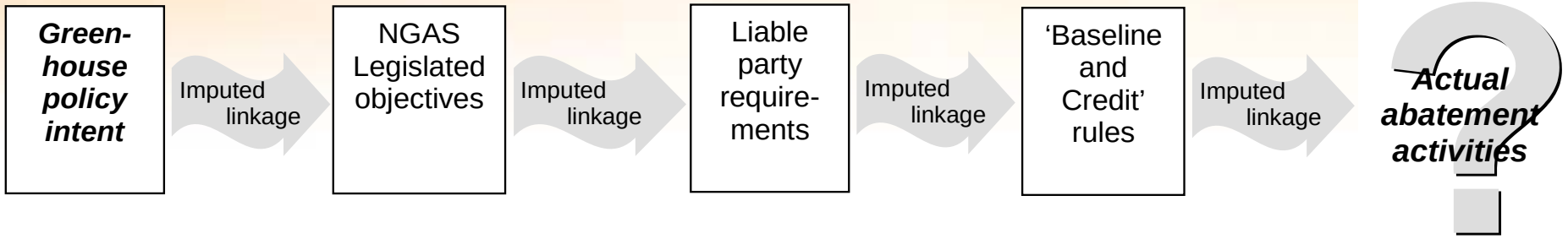
Assessment criteria

Economics textbook		**Murray Ward**
▪ Environmental performance – *objective achieved?*	≠	▪ System architecture, fungibility and market mechanism – *market commodity?*
▪ Economic efficiency – *at least cost?*	=	▪ Efficiency & Transaction Costs – *equal opp. costs?*
▪ Dynamic incentive – *in way that drives innovation?*	=	▪ System utility / efficacy – *mobilsation of investments?*
▪ Technical administration – *and is practical?*	≠	▪ Developing country engagement
▪ Equity – *while not being unfair or working against other societal objectives? Includes competitive impacts*	=	▪ System negotiability, resilience – *equity? Sustainability over time?*

Environmental performance - abstraction

- Schemes can physical caps targets (‘cap and trade’)

  …or more abstracted ones (eg. NSW GAS)

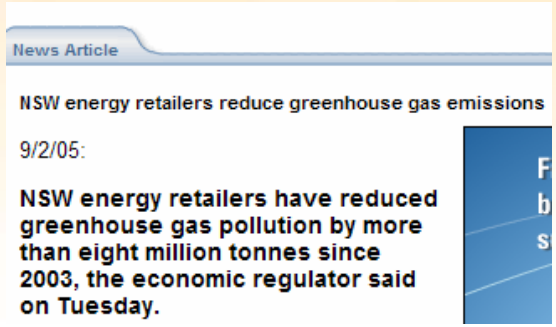


Environmental performance – physical unit

- *Greenhouse tonnes ain't greenhouse tonnes*

≠

≠



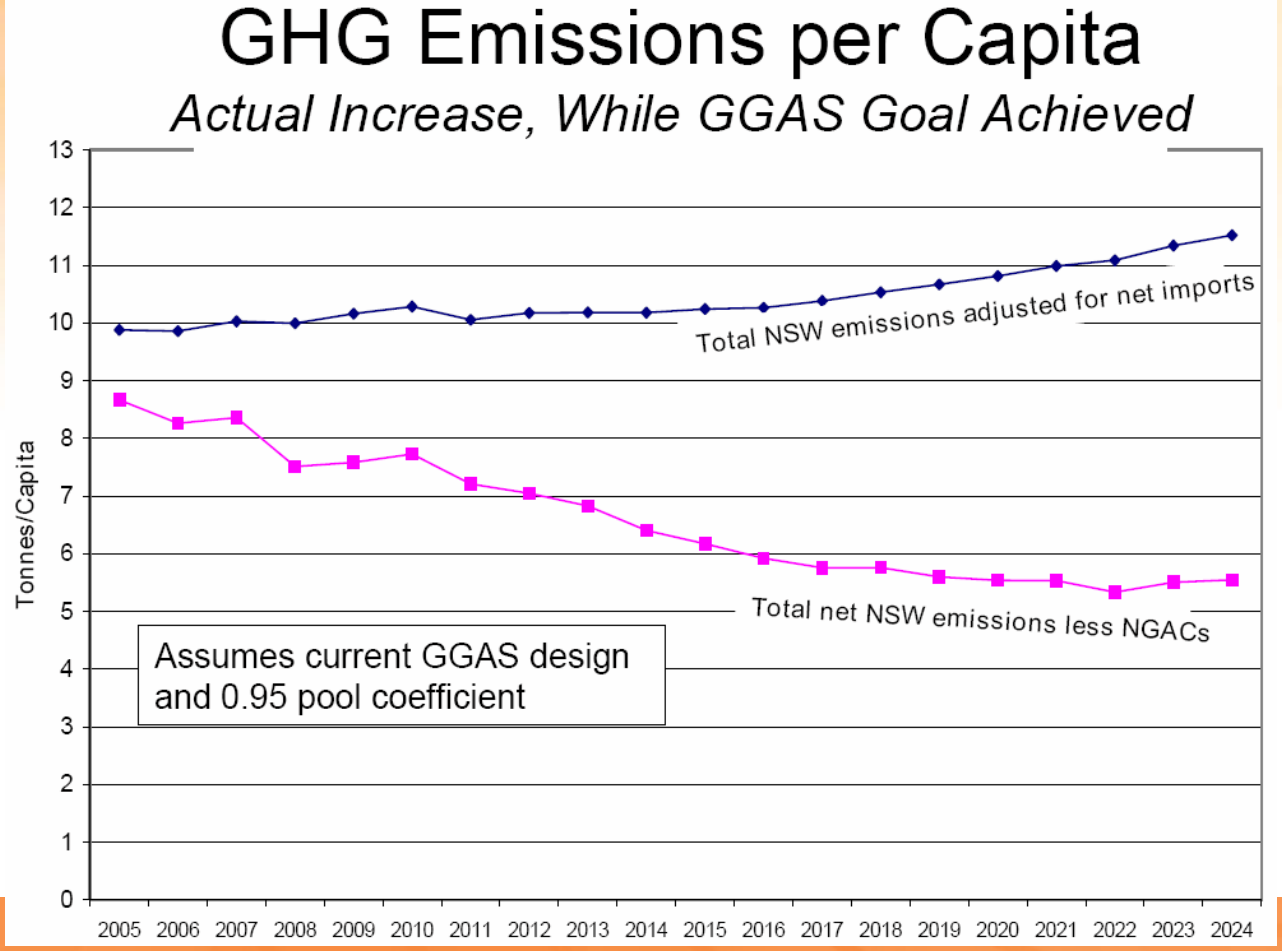
Physical, measurable emissions from fossil-fuel consumption

Estimated net CO_2 fluxes from select ecosystems

Hypothetical estimates of emission reductions from counter-factual BAU baselines

Environmental performance?

- Example: A scenario of NSW GAS performance to 2025 (Nemtzow, NSW Power and Gas Conference, 2005)



Dynamic incentives

- To combat climate change we need different (investment) decisions regarding energy production and fuel consumption
- However, not all emissions trading schemes will enhance investment in mitigation technologies – this depends on scheme design, e.g. EU ETS design is only creating limited incentives since (see paper):
  - Size of ET-budget -> low prices:
    - Low effects on ET-sector -> generous allocation
    - High effects on non-ET-sector (households, transport)
  - Little auctioning – low effects since 99.8 % for free
  - New entrant rules
    - Mainly: Best available technology -> little effect
    - Benchmark for homogeneous group -> higher effect
  - Closure rules – low effects -> transfer rules positive effect
  - Uncertainty about future allocation rules – low effects
- Voluntary ‘credits’ tend to attract those doing something anyway

Some questions to conclude

- How well do different options perform regarding environmental integrity and performance?
- How abstract are the approaches?
  How directly do they focus on the physical unit?
- How should environmental integrity criteria be weighted against market functioning criteria?
- How can innovation incentives be ensured under the various options?
  -> Which design options are to be favoured?

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Thank you… and *questions*

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