



UNSW Research Showcase

Climate change and environmental sustainability program

Research at the Centre for Energy and Environmental Markets (CEEM)

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Growing Energy and Environmental Challenges

Complex, multi-dimensional & interacting drivers

Possible Conflicts

eg. Coal vs. Gas?

Equitable supply

Energy Security

- Oil, gas & coal prices increasing & more volatile, emerging stresses on energy industries worldwide
- Australia: 'energy rich' yet emerging challenges

Climate Change

- Growing global emissions and climate change concerns yet little evidence of an effective international or national policy response to date
- Australia: High & growing per-capita emissions, significant market-based policies (CPRS, MRET) coming yet coherent & comprehensive?

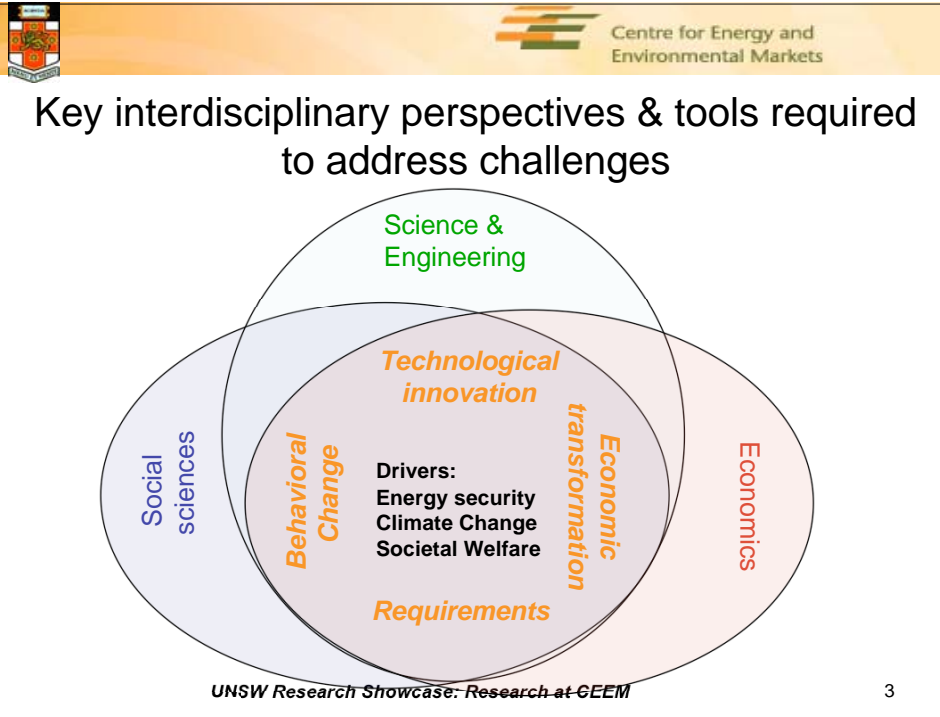
Societal welfare

- Unsustainable energy use & emissions in industrialised world, unsustainable growth in emerging economies & unsustainable lack of energy services in developing countries

Possible Synergies

Renewable Energy

Cost-effective Energy Efficiency



- Centre for Energy and Environmental Markets
- ## CEEM established ...
- *to formalise* growing shared research interests + interactions between UNSW researchers
 - Faculties of Engineering, Business (Economics and Management), Arts and Social Sciences, Science (Institute for Environmental Studies), Law
 - *through UNSW Centre* aiming to provide Australian research leadership in interdisciplinary analysis and design of energy and environmental markets
 - *focussing in the areas of*
 - Energy markets – spot, ancillary and derivatives – within restructured electricity industries
 - Related environmental markets – emissions trading, renewable obligations, Greenpower, energy efficiency certificate trading...
 - *Wider policy frameworks and instruments for achieving overall energy and environmental objectives*
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Some current CEEM research efforts

- Facilitating the integration of intermittent renewables in the NEM
- Renewable energy policy support options in restructured industries
- Better understanding participant behaviour in electricity markets
- Emissions Trading Schemes and options for Australia
- Technology assessment for sustainable energy policy frameworks
- Economic modelling of Distributed Energy
- Energy efficiency policy – regulation, financial mechanisms
- Policy frameworks for technology innovation and the long term
- Sustainable energy service delivery in developing countries
- *What’s required for an assured effective mitigation response to climate change in the energy sector that also achieves other community objectives of societal welfare, economic progress and energy security*

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Centre for Energy and Environmental Markets

Researchers associated with CEEM programs and projects ... and the CEEM Intergenerational Equity Reference Committee

