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Market Power & its mitigation in the Australian National Electricity Market

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IEEE PEG GM June 2007

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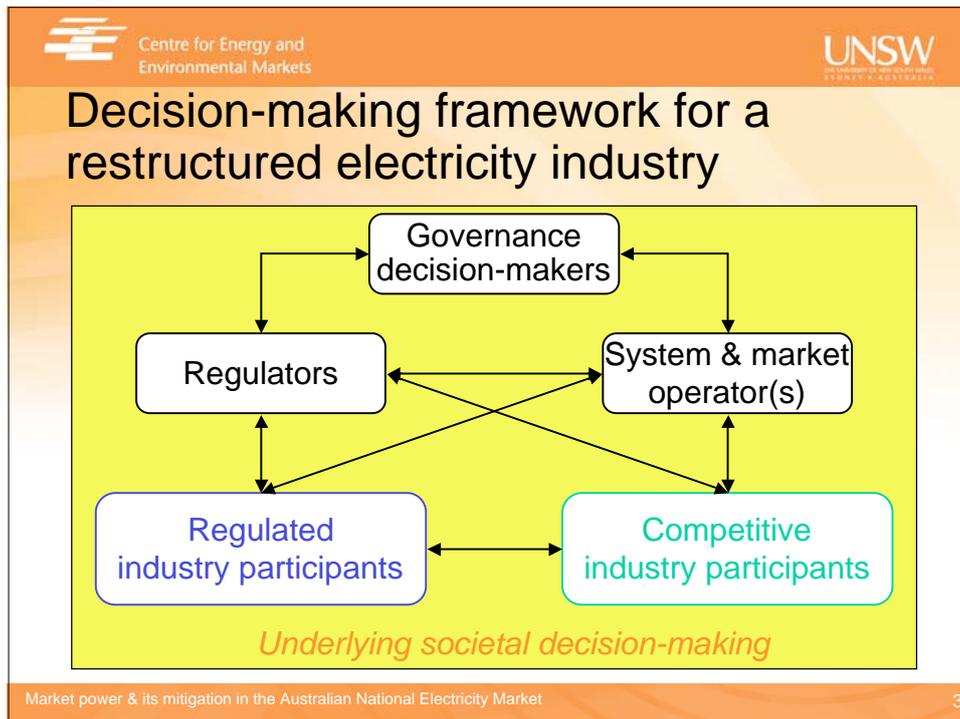
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Decision-making framework for a restructured electricity industry

Governance regime	<ul style="list-style-type: none"> Formal institutions, legislation & policies <i>Informal social context including politics</i>
Security regime	<ul style="list-style-type: none"> Responsible for core integrity on local or industry-wide basis, with power to override
Technical regime	<ul style="list-style-type: none"> To allow connected industry components to function as industry-wide machine
Commercial regime	<ul style="list-style-type: none"> To coordinate decentralised decision-making according to commercial criteria Includes formally designed markets

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- ## Definition of market power for this talk
- Market power will be defined to mean:
 - The ability to bias electricity industry decision-making outcomes in favour of one or more industry participants:
 - Generator, network service provider, retailer, end-user
 - Market power can exist in any of the regimes in an electricity industry decision-making framework:
 - *Governance*, eg bias towards a particular energy resource
 - *Commercial*, eg ability to influence price
 - *Security*, eg “must-run” status; load-shedding priority
 - *Technical*, eg technical code create barriers to entry
 - Ex-post & cost-based assessments may be flawed
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National Electricity Law: *Overall objective for the National Electricity Market (NEM)*

- *NEL Section 7:*
 - *The national electricity market objective is to promote efficient investment in, and efficient use of, electricity services for the long term interests of consumers of electricity with respect to price, quality, reliability and security of supply of electricity and the reliability, safety and security of the national electricity system*
- **Issues with this objective as stated:**
 - Ambiguity of the wording with respect to interpretation of meaning & trade-offs between sub-objectives

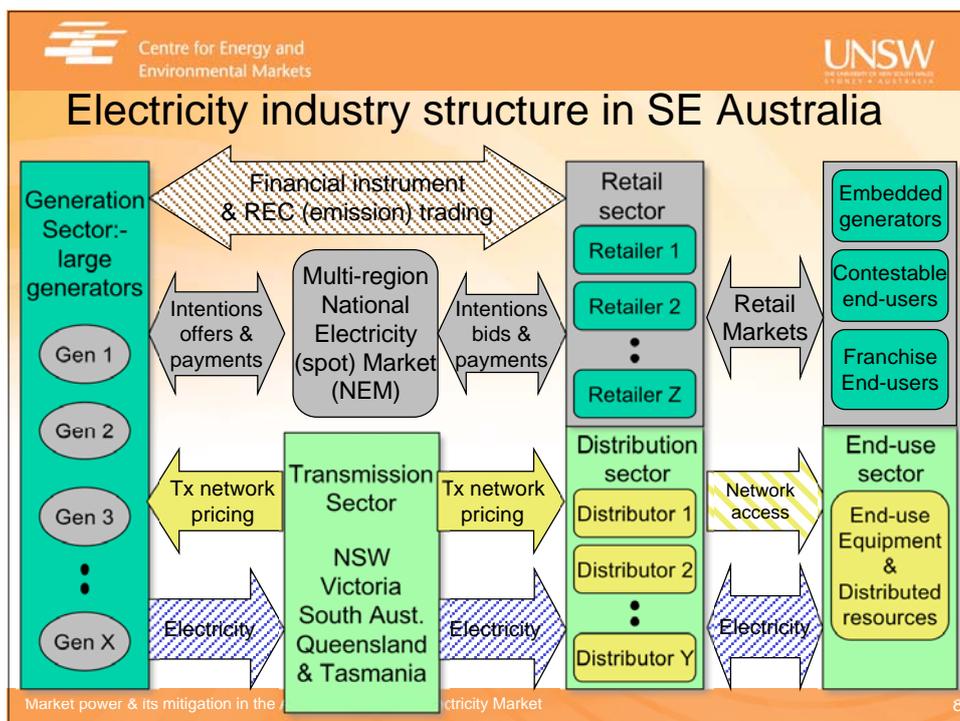
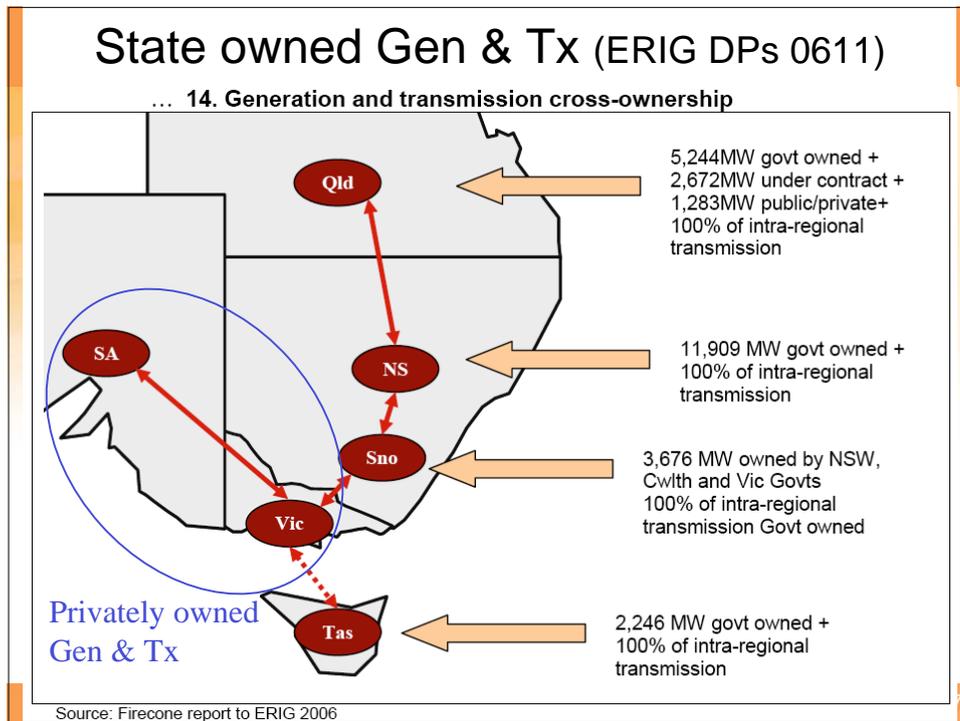


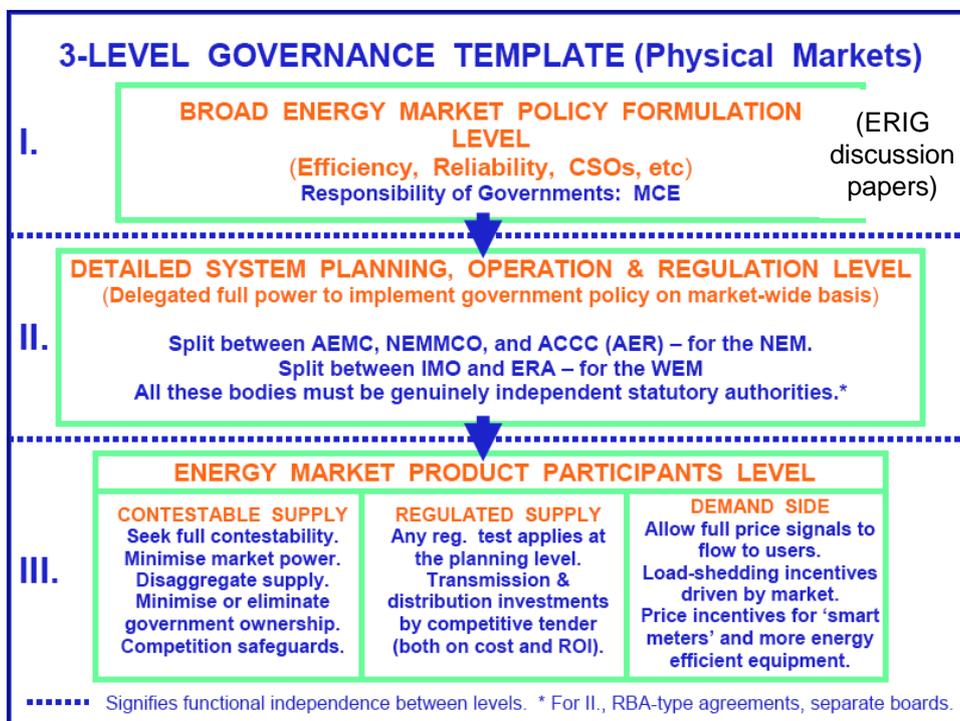
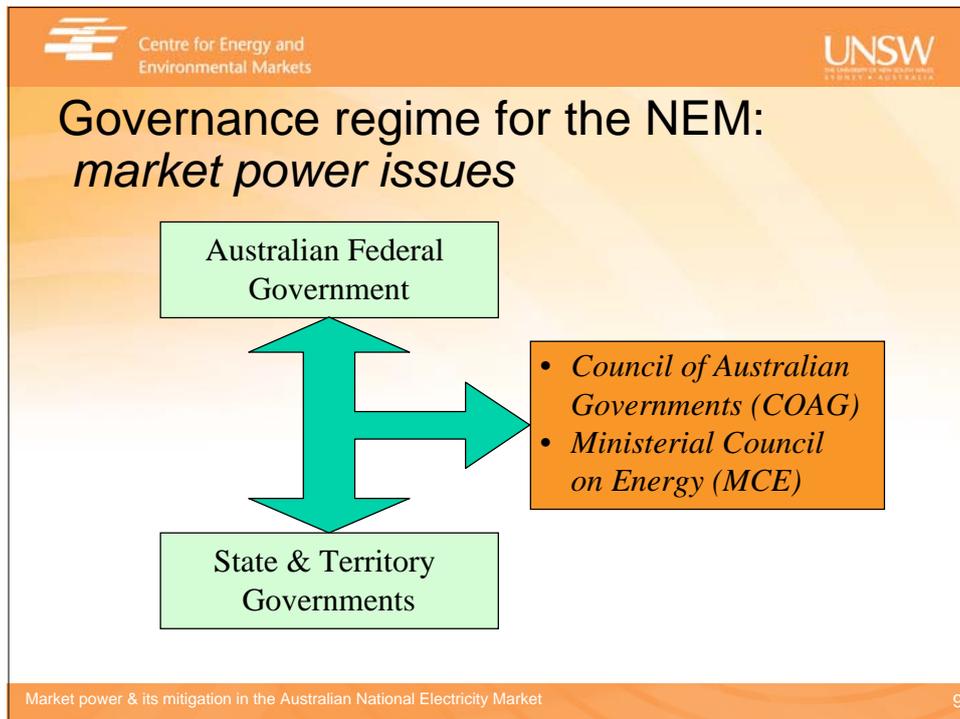
Australia's National Electricity Market

(NEMMCO SOO, 2006)

2000 km





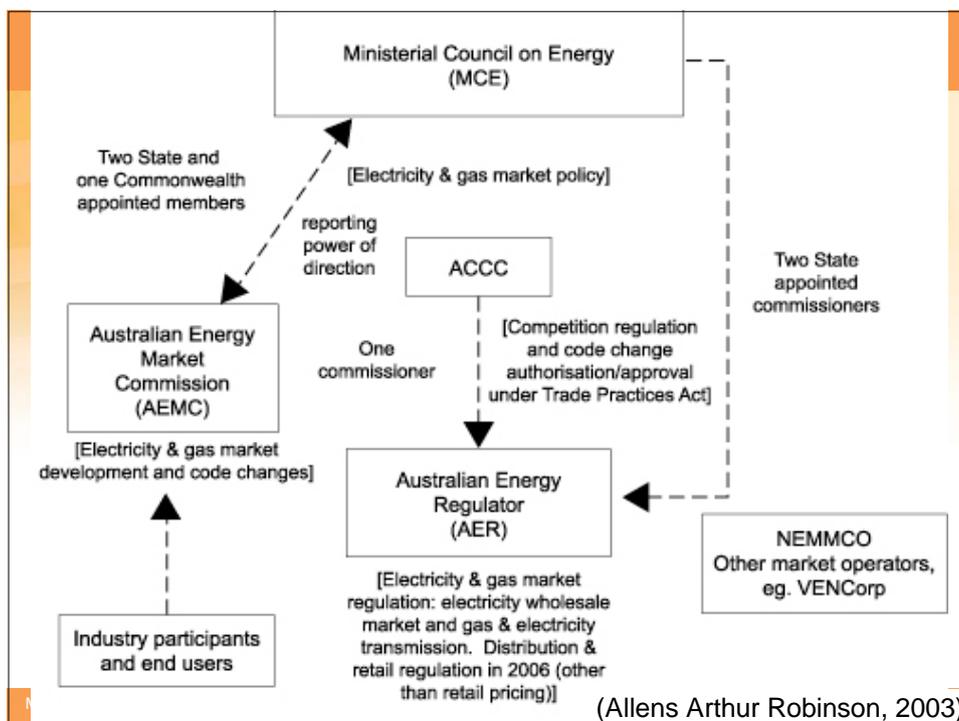




Energy regulatory task allocation

ACCC (Federal TPA)	AER (Federal TPA)	AEMC (State law)
<ul style="list-style-type: none"> ▪ Anti-competitive conduct ▪ Mergers & acquisitions ▪ Consumer protection 	<ul style="list-style-type: none"> ▪ Transmission econ. regulation ▪ Distribution econ. regulation (1/1/07) ▪ Licence regime? 	<ul style="list-style-type: none"> ▪ NEM rule making & development ▪ Gas market rule making & devel. ▪ Complying with MCE directives

TPA: Trade Practices Act (generic anti-trust legislation)



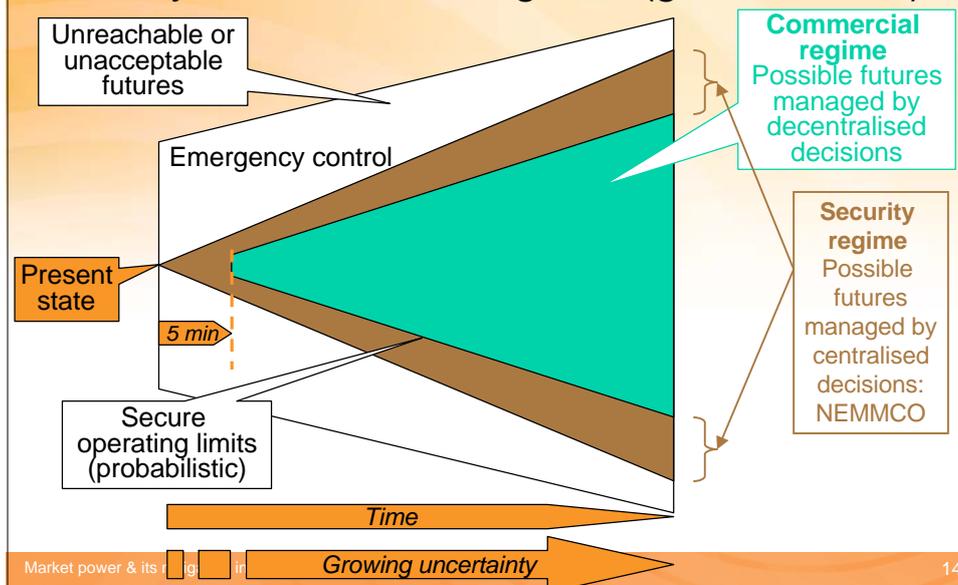


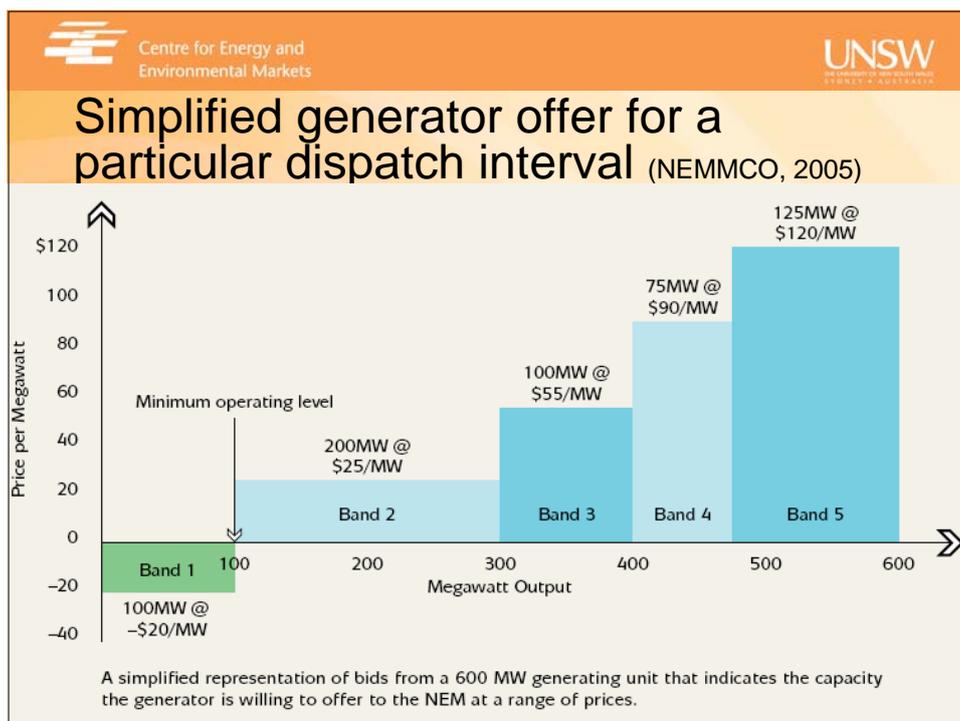
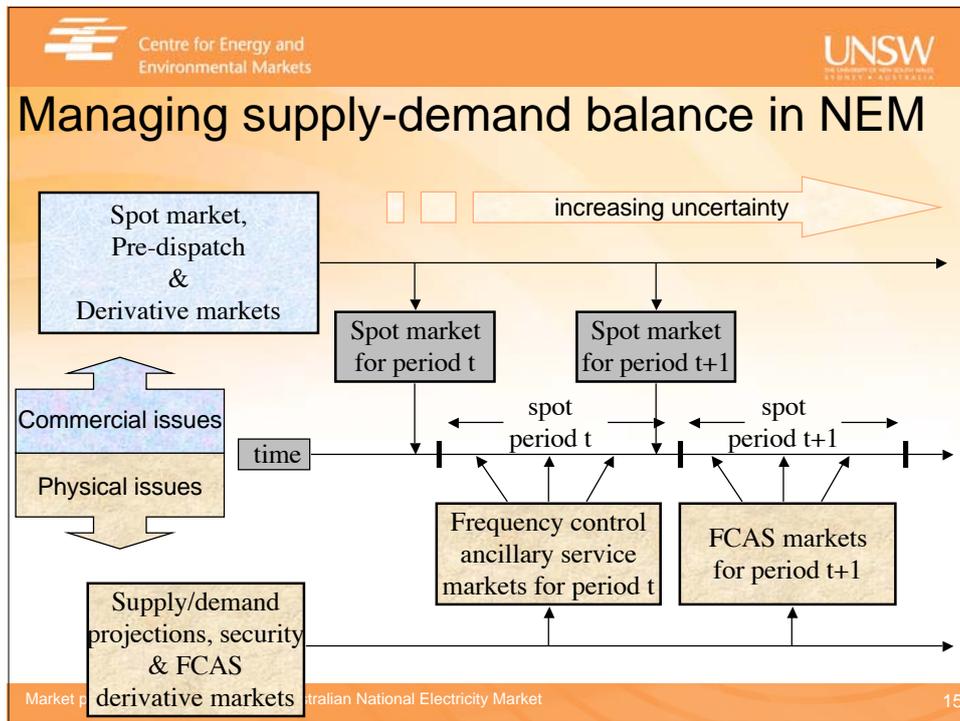
Security & commercial regimes: *market power issues*

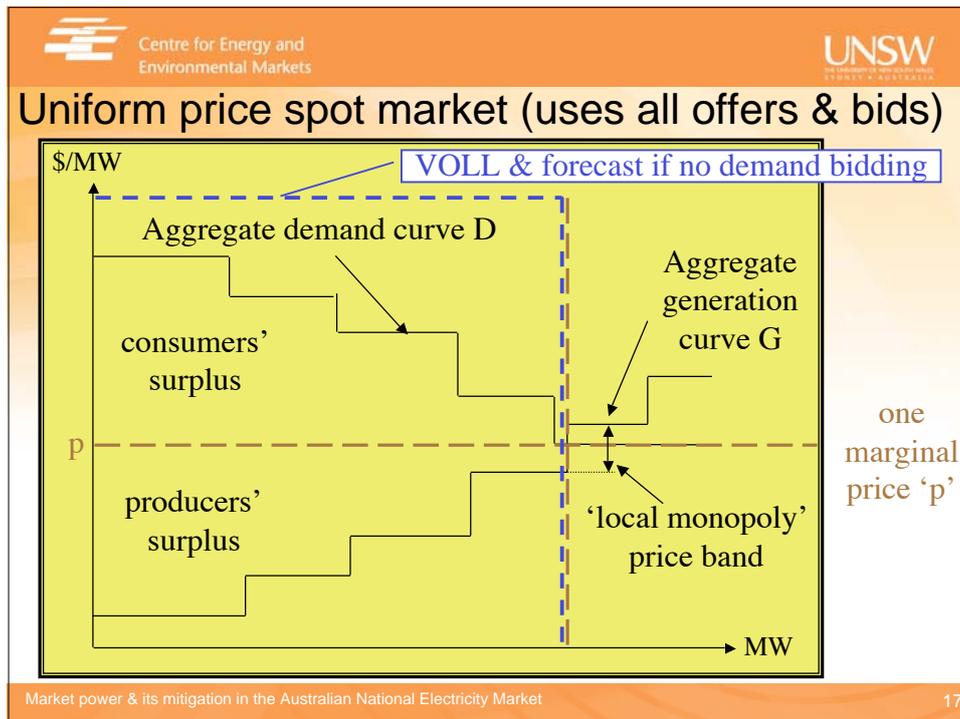
- Spot energy & ancillary service markets & security all managed by NEMMCO:
 - NEMMCO owned by participating jurisdictions, independent of industry participants, overseen by AER
 - Uniform price, energy-only market & derivatives help control market power
- Spot energy & ancillary service markets solve a security-constrained dispatch:
 - Consistent security & commercial regimes for spot energy & derivative markets
 - Reduces barriers to entry for new generation



Security & commercial regimes (global & local)

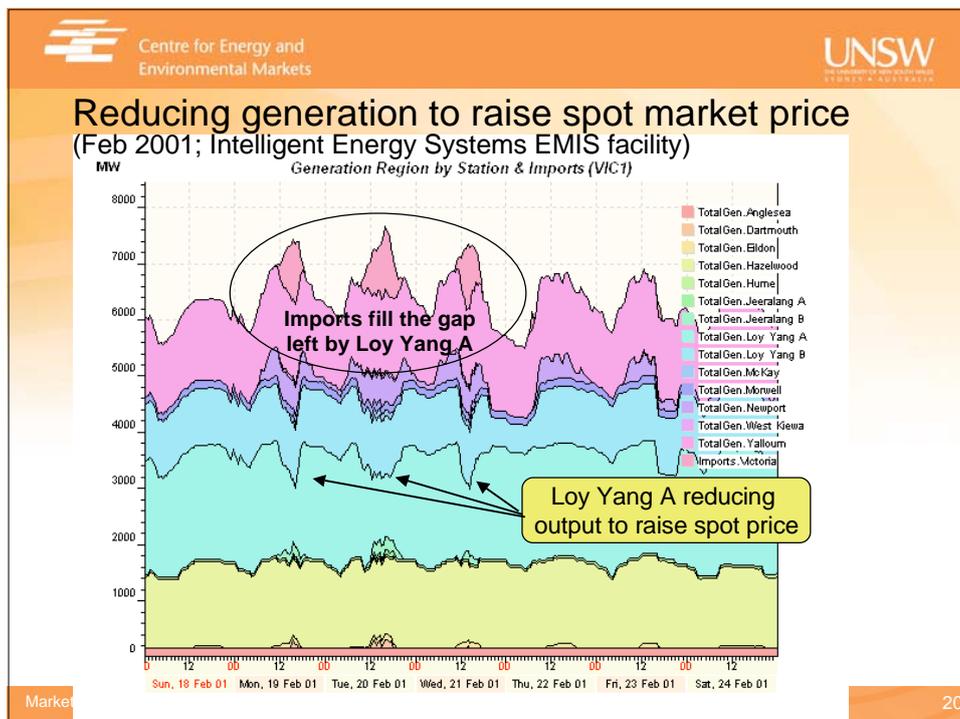
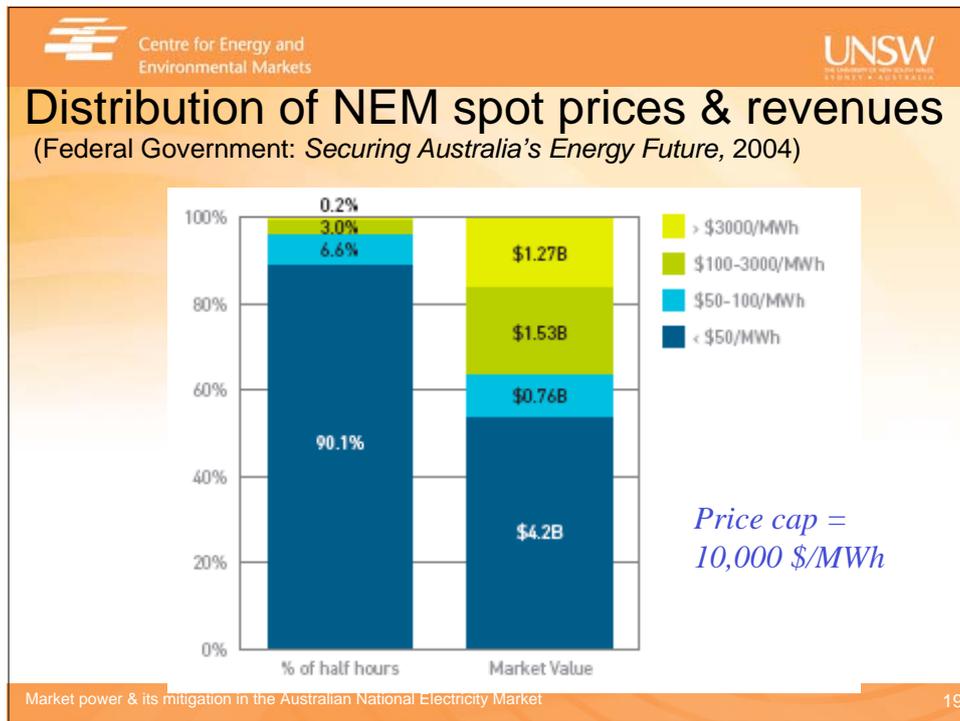


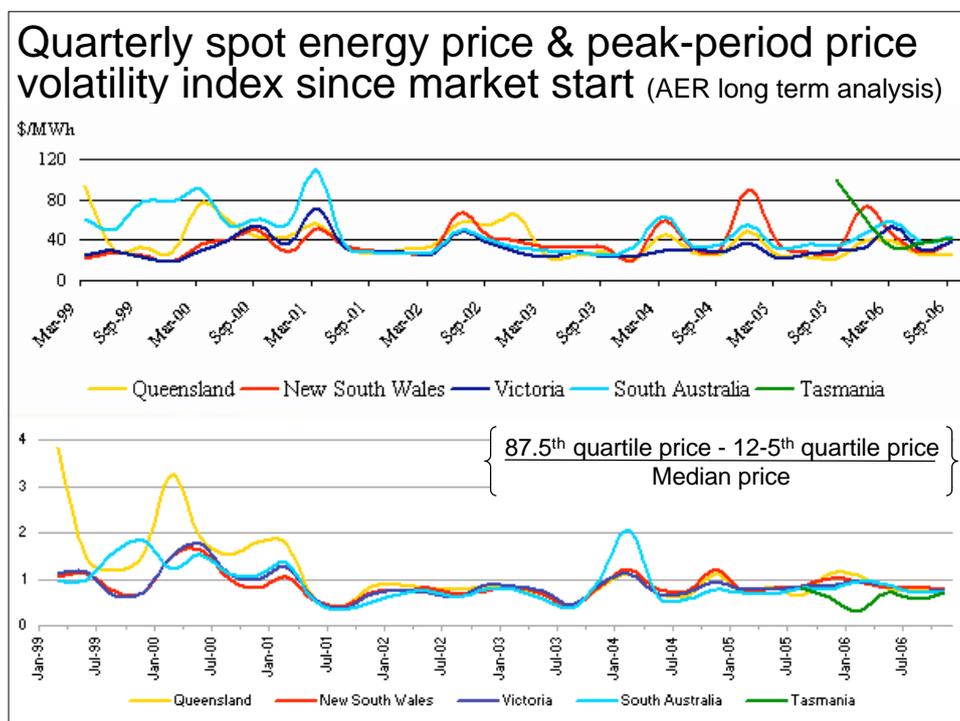
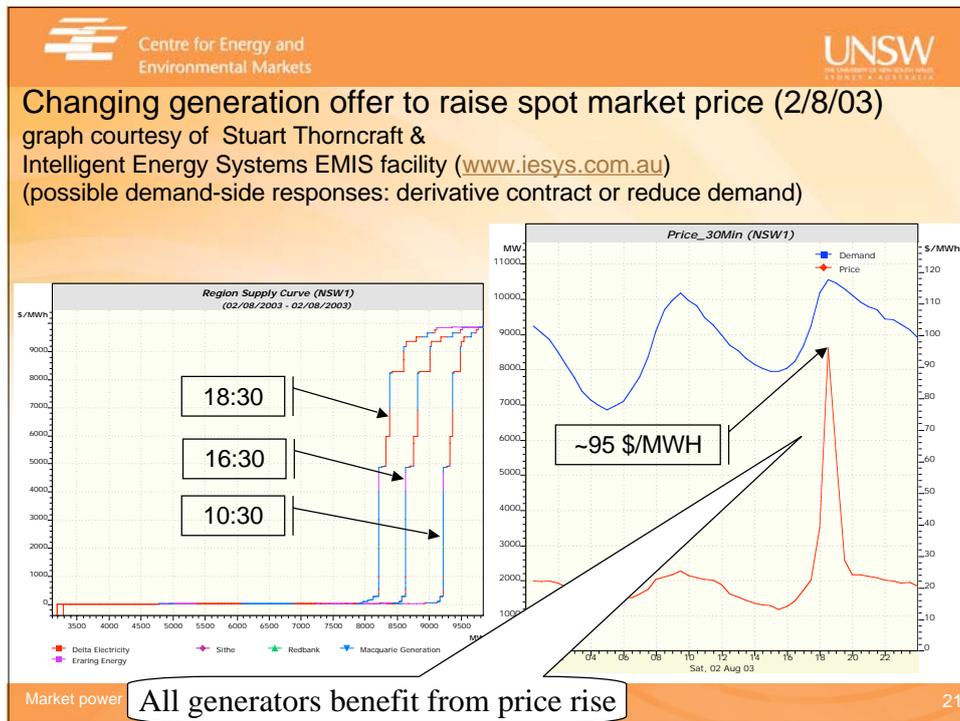


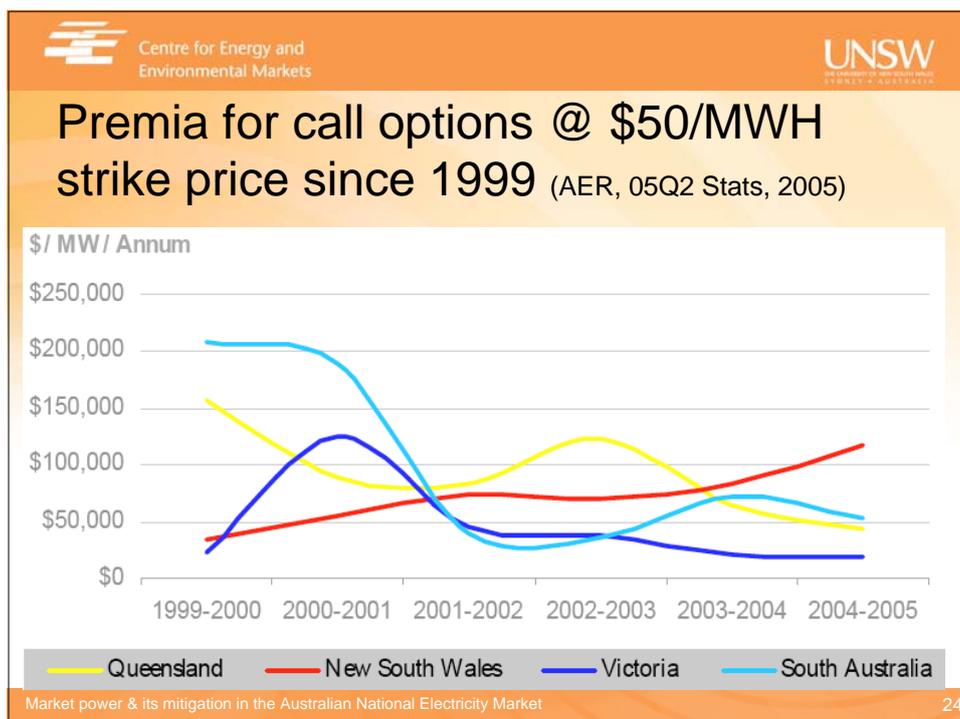
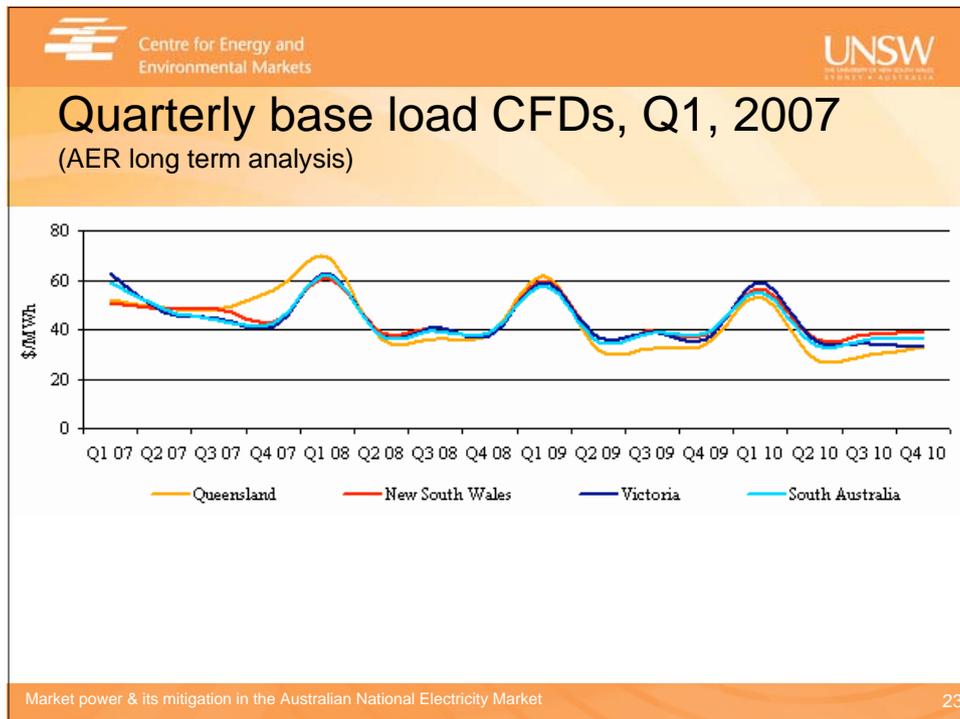


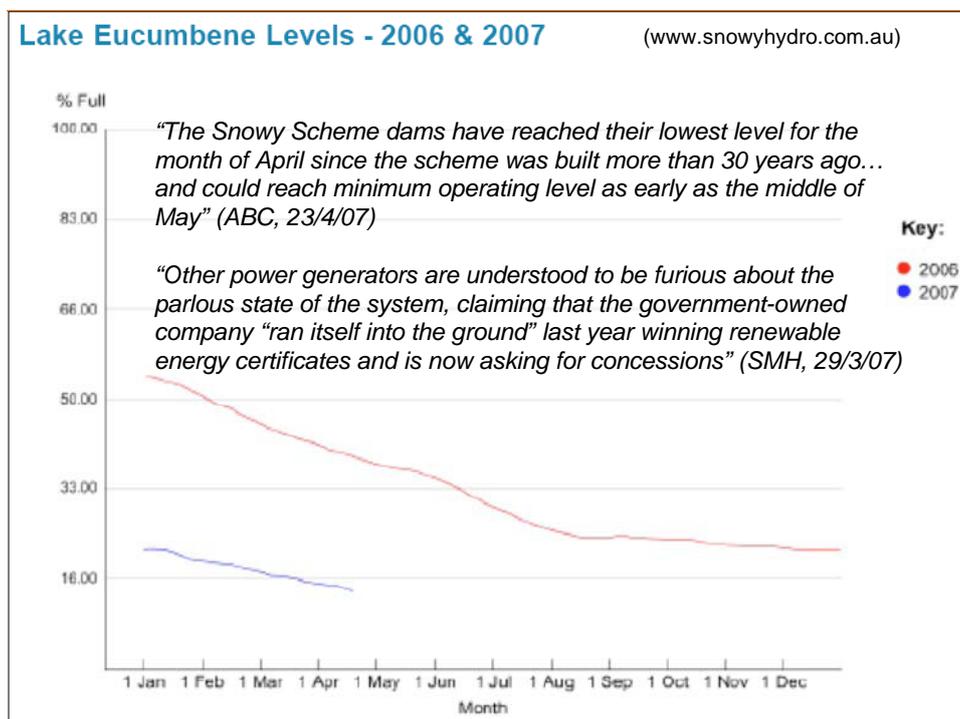
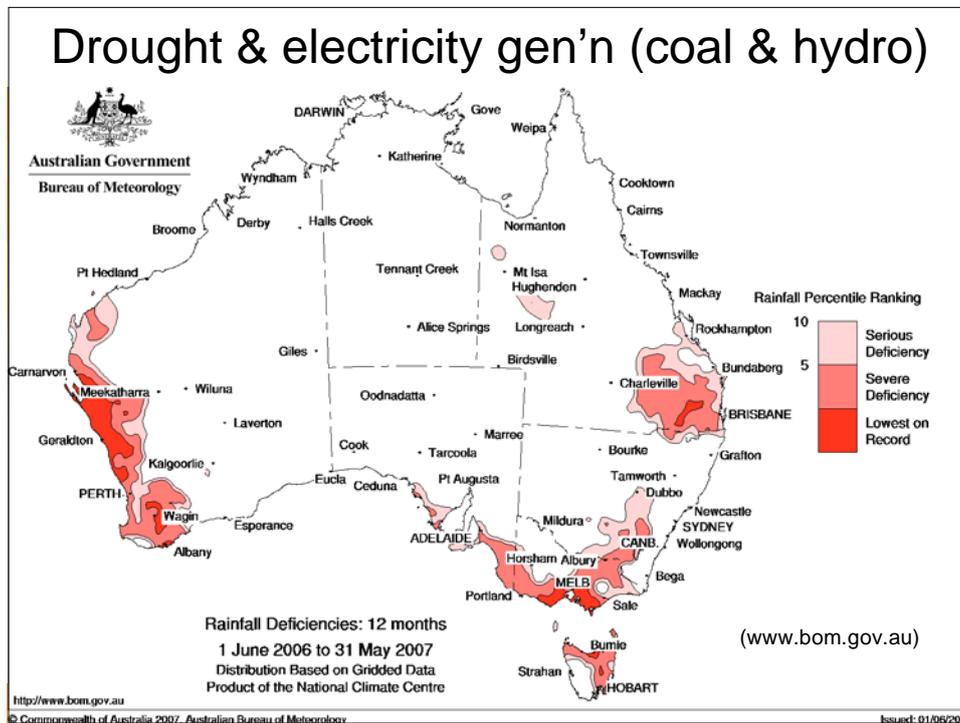
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- ### Spot price formation - central dispatch
- Maximise value of spot market trading, subject to:
 - Dispatch offers & bids; ancillary service offers
 - Constraints due to availability & commitment
 - Non-scheduled load requirements in each region
 - Power system security requirements
 - Intra-regional network constraints & losses
 - Inter-regional network constraints & losses
 - Constraints consistent with registered bid & offer data
 - Current levels of dispatch
 - Ancillary service requirements
 - Pro-rata loading of tied bid and/or offer data
 - Minimising the impact of a direction or reserve contract dispatch
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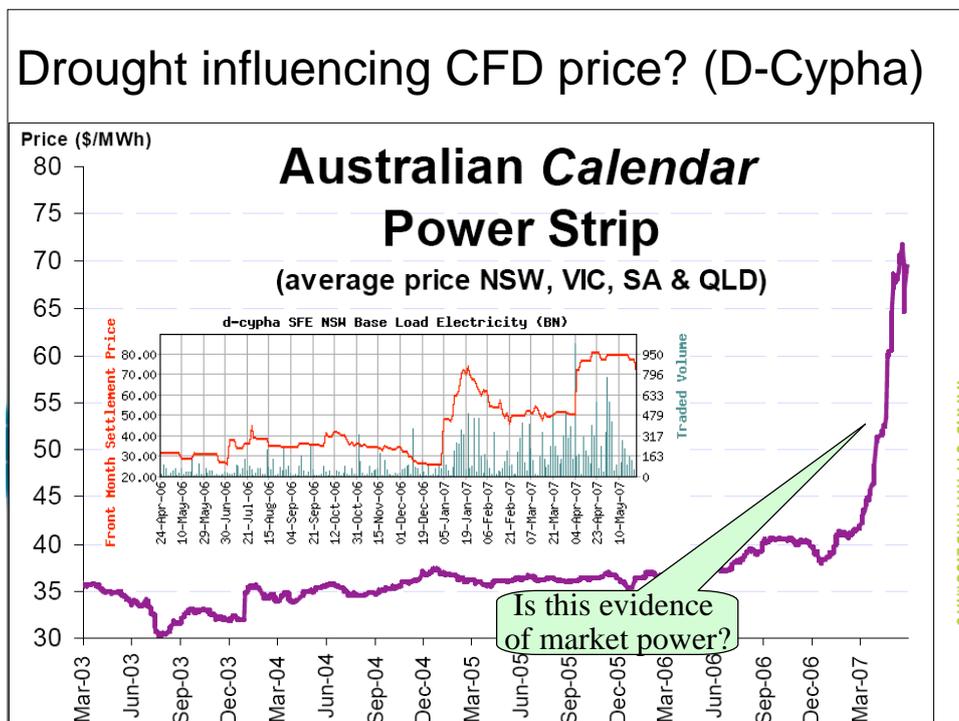
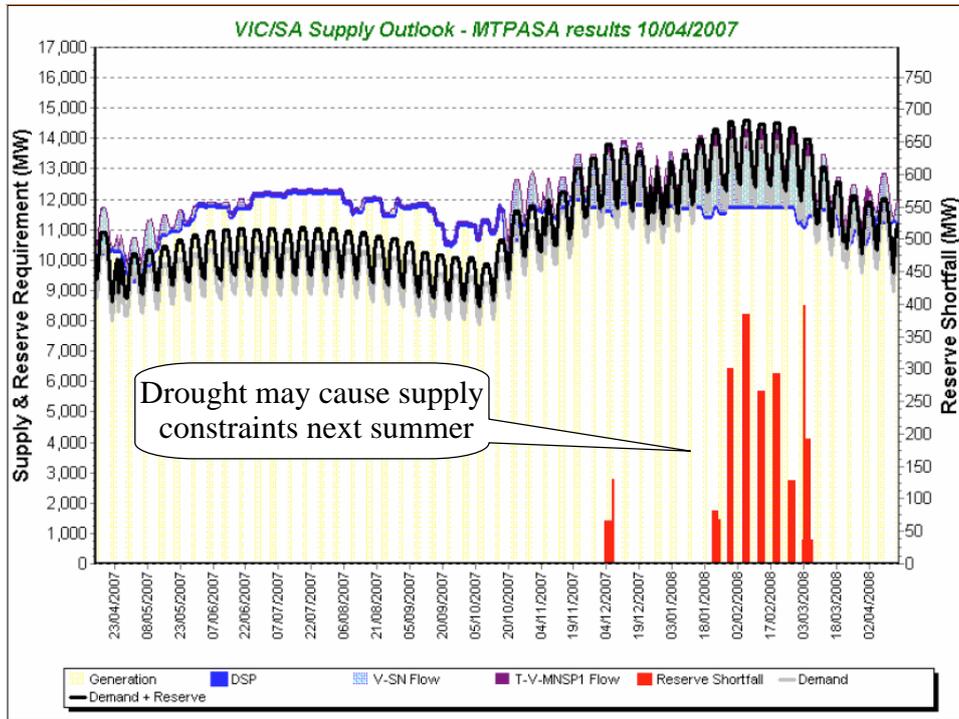


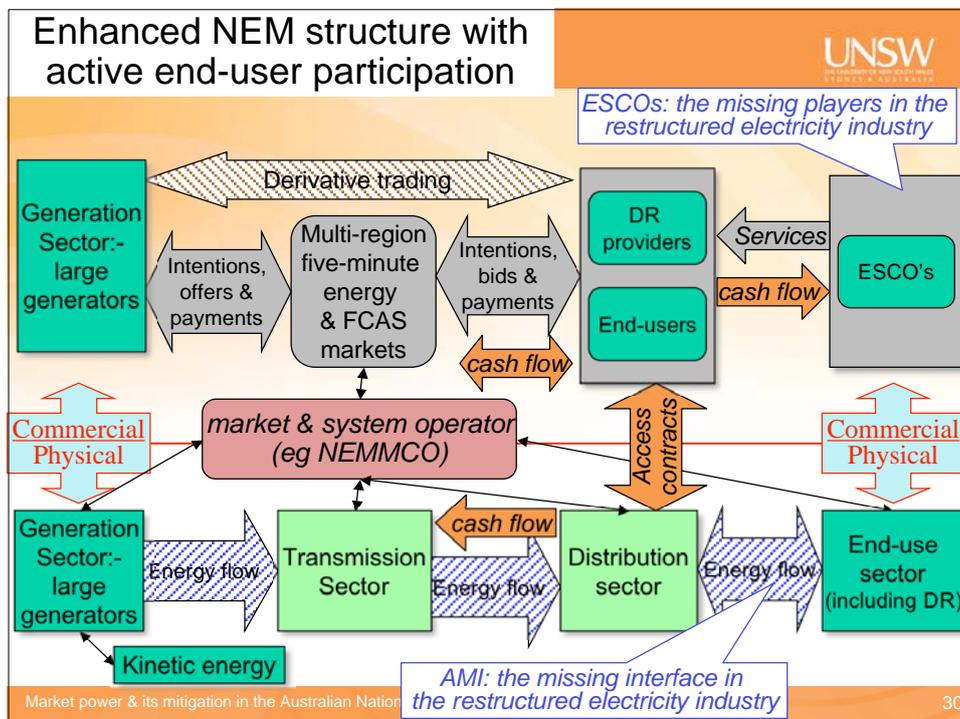
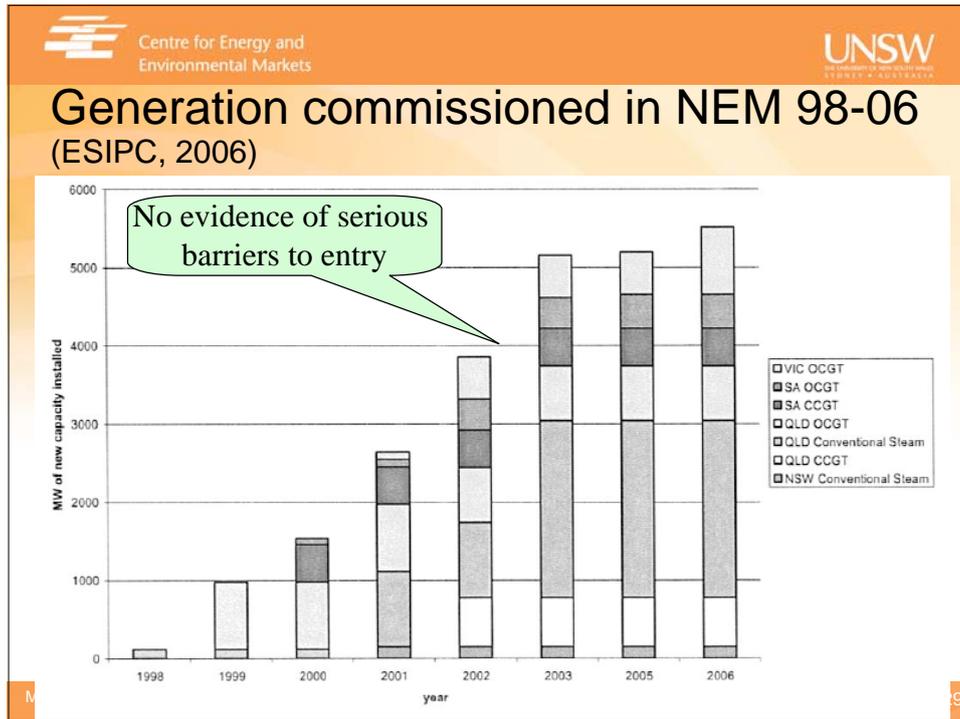














Conclusions

- Protect all parts of decision-making framework:
 - Governance, security, technical & commercial regimes
- Strengths of the Australian NEM approach:
 - Federation governance structure
 - Simple, uniform price energy & ancillary service markets
 - Technology-neutral technical regime
- Weaknesses of the Australian NEM approach:
 - Government-owned businesses create moral hazard
 - Derivative markets still developing
 - End-users still not participating fully
 - Network investment remains contentious
- Weaknesses can be addressed



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