CEEM Specialised Training Program
EI Restructuring in Australia

EI governance and regulation

Iain MacGill and Hugh Outhred
Centre for Energy and Environmental Markets
School of Electrical Engineering and Telecommunications
The University of New South Wales
i.macgill@unsw.edu.au
www.ceem.unsw.edu.au
Issues in governance

• Shared nature of the electricity industry:
  – Network services not readily separable from generation or demand-side services
  – Integrated nature of the National Electricity Grid
  – Mix of competitive & cooperative decision making

• Need for consistency & coherence:
  – Federation government structure in Australia:
    • Differing priorities at federal & state levels
  – COAG-based governance structure?
Traditional approach to infrastructure

- Regarded as natural monopolies & run by:
  - State-owned enterprises (eg Australia, UK)
  - Private monopolies (eg some in USA)
- In either case, once industry had matured:
  - Often exhibited poor productivity, low rates of return, over-staffing or large calls on public funds
  - Often proved difficult to regulate due to asymmetry of information & inappropriate incentives
  - Often slow to innovate
A US perspective on regulatory options for the electricity industry:
(“Regulating Regional Power Systems”, CJ Andrews (Ed), 1995, p87)

<table>
<thead>
<tr>
<th>Advantages</th>
<th>Traditional regulation</th>
<th>Integrated resource planning</th>
<th>Markets &amp; incentives</th>
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<tbody>
<tr>
<td></td>
<td></td>
<td>•Well-understood with predictable outcomes</td>
<td>•Increased public participation, better social &amp; environmental outcomes</td>
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<table>
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<tr>
<th>Dis-advantages</th>
<th>Traditional regulation</th>
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<tr>
<td>•Poor incentives to minimise cost</td>
<td>•Cumbersome •Poor incentives to minimise cost •Subjective values •Incompatible with markets?</td>
<td>•Unproven model subject to gaming •Uncertain outcomes •Worse social &amp; environmental outcomes?</td>
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Issues & choices in regulation

- **Desirable characteristics for regulation:**
  - Independent, unbiased, knowledgeable, consistent, accountable
  - Incorporate externalities
  - Support competitive processes, not act as a central planner:
    - Monitor, advise, reward, threaten rather than directly intervene
  - *Align participant & social interests:*
    - *Incentives preferable to penalties*
Choices in regulatory arrangements

• Industry-specific or generic?
  – Industry-specific more knowledgeable, but:
    • More likely to suffer ‘regulatory capture’
    • More likely to engage in heavy-handed intervention

• Narrow or broad regulatory objectives?
  – Narrow focus on financial regulation:
    • Simpler to implement, but ignores important issues
  – Achieving other regulatory objectives:
    • ‘Monetarise’ (e.g. taxes or tradeable permits)
    • Licence regime (e.g. customer service, QOS)
Choices in regulatory arrangements

• Single regulatory body or multiple bodies sharing regulatory responsibility?
  – Shared responsibility:
    • promotes innovation & robustness
    • requires good communication & cooperation

• Single regulator or multi-member tribunal?
  – Tribunal members must negotiate but share responsibility

• External regulation or self-regulation?
  – Self-regulation can be more flexible & subtle if all stakeholders are adequately represented
Australian electricity reform process
National Electricity Law (NEL)

• Supports the operation of the NEC and NEM:
  – Creates NECA & NEMMCO
  – Only NEMMCO may operate a wholesale market
  – Generators & Network service providers must register with NEMMCO
  – Retailers & customers may only purchase wholesale from NEMMCO

• Passed by participating jurisdictions:
  – Proclaimed December 1998
  – Changes require jurisdictions’ unanimous approval
National Electricity Code (NEC)

- Defines National Electricity Market (NEM):
  - Terms of participation
  - Rules for market operation
  - Security arrangements
  - Network regulation and access arrangements:
    - Network pricing, metering, connection requirements
  - Code administration & enforcement
  - Dispute resolution, rule change, derogations
Jurisdiction-level laws & regulation

- Determine retail market arrangements:
  - Determine customer eligibility for wholesale market access and retail contestability:
    - Set retail prices for franchise customers
  - Distribution network access regime:
    - To the extent derogated from NEC
  - Issue distribution and retail licences:
    - Regulatory requirements in licence conditions:
      - e.g. reliability of supply, customer service
      - Enforce safety and environmental standards
      - Penalties rather than incentives
Federal regulatory bodies

- **Australian Competition and Consumer Commission (ACCC):**
  - May authorise the NEC & proposed changes
  - Regulates network access regime:
    - In conjunction with state bodies & unless derogated
  - Supervises market conduct through the TPA:
    - Abuse of market power & product quality

- **Australian Securities & Investments Commission (ASIC):**
  - May make an exempt futures market declaration
Regulatory bodies set up by NEL

- **National Electricity Code Administrator Ltd:**
  - Owned by the participating jurisdictions
  - Responsible for:
    - Monitoring Code compliance
    - Reporting breaches of the Code
    - Managing changes to the Code
    - Providing dispute resolution procedures

- **National Electricity Market Management Co:**
  - Owned by the participating jurisdictions
  - Implements much of the NEC
Other bodies set up by NEL, NEC

- **NEL: National Electricity Tribunal (NET):**
  - Review any decisions by NEMMCO & NECA that are identified in the Code as reviewable
  - Hear applications alleging Code breaches
- **NEC: Reliability Panel (RP):**
  - Monitor, review & report on reliability in NEM
  - Determine reserve plant margins
  - Determine guidelines for NEMMCO’s power to intervene in NEM for reliability reasons
- **NEC: Code Change Panel (CCP):**
  - Recommend changes to the NEC
Legal & regulatory basis for restructured EI

Trade Practices Act & other federal legislation

National Electricity Code
- National Electricity Market Design & Regulation
- Network Technical Regulation
- Network Economic Regulation
- Environmental externalities

Jurisdiction-specific laws
- Retail Electricity Market Design & Regulation
- Supply Authority Restructuring
NEM Regulation

- National Electricity Law
- NECA
- National Electricity Code
- NEMMCO
- NEM participants:
  * Generators
  * Retailers
  * Direct customers
  * Network service providers

- National Electricity Tribunal
- RP & CCP
- ACCC
- Dispute resolution
- ASIC
- State Regulation

in Australia
State governments + the NEM

### Overview of Political/Regulatory Organisations Interested in the Electricity Market

<table>
<thead>
<tr>
<th>Australian Competition &amp; Consumer Commission</th>
<th>National Competition Council</th>
<th>Council of Australian Government</th>
<th>National Standards Commission</th>
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<tbody>
<tr>
<td>South Australia</td>
<td>Victoria</td>
<td>New South Wales</td>
<td>Australia Capital Territory</td>
</tr>
<tr>
<td>• SA State Treasury</td>
<td>• Vic State Treasury</td>
<td>• NSW State Treasury</td>
<td>• Independent Competition &amp; Regulatory Commission</td>
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<tr>
<td>• Office of Technical</td>
<td>• Essential Services Commission</td>
<td>• Independent Pricing &amp; Regulatory Tribunal</td>
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<tr>
<td>• South Australian Independent Industry Regulator</td>
<td>• Ministry of Energy &amp; Utilities</td>
<td>• Department of Urban Services</td>
<td>• Qld State Treasury</td>
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<td></td>
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<td>• Qld Competition</td>
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Different governments will have different interests depending on whether they:

- View energy as a state investment differentiator or not
- Have committed to FRC or not
- Want to invest in the industry themselves or not
- Own or have sold assets
- Have an over or under supply of generation or transmission capacity
Independent Pricing and Regulatory Tribunal of NSW (IPART)

- IPART regulates:
  - Distribution wires charges under NEC rules
  - Retail prices for franchise customers
  - Distributor & retailer licence regime (from 2000)
- Required to consider:
  - consumer protection, economic efficiency, financial stability, environmental and other standards
- Uses incentives, benchmarking & negotiation
Other NSW regulatory bodies

• Dept of Energy, Utilities & Sustainability:
  – Administers residual aspects of licence regime:
    • Network security & safety
• Energy & Water Industry Ombudsman NSW (EWION):
  – Investigates customer complaints
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NSW regulatory framework

Electricity Supply Act of NSW

IPART & ACCC:
* Economic regulation of distributors
* Revenue cap, benchmarking, negotiation
* Required to consider social & other factors

EWION

Retail market participants (self regulation via codes):
* Retailers, Distributors
* Final customers
* Distributed resources

Licence regime, IPART/DEUS:
* Retailers (including GH red’n targets)
* Distributors (including QOS, LCP)

NSW Minister for Energy
Concerns about joint distributor/retailers

• Potential barriers to entry:
  – Discriminatory charges or requirements
  – Network data, metering & control equipment
  – Ownership of customer data, customer inertia
  – Economies of scale & cross-subsidies

• Ring-fencing options for distribution & retail:
  – Legal, accounting or operations separation:
    • Legal separation clearly the strongest requirement

• Metrology issues paper 2003:
  – Meters to be owned by the distributor?
Energy Industry Ombudsman Schemes

- Similar arrangements in most states:
  - Funded by electricity distributor/retailers
- Deal with consumer complaints:
  - mainly residential, some commercial & industrial
- Most frequent categories of issues raised:
  - Billing
  - Customer service
  - Provision of supply
Processes for self-regulation

• National electricity market:
  – NEMMCO and NECA both have committees involving market participants:
    • Contribute to market operation & enhancement:
      – Changes in the NEM code
      – Projections of system adequacy, network planning
  – NECA implements & oversees dispute resolution procedures
Processes for self-regulation

• Retail markets:
  – The states have established industry working groups to develop codes of practice in important areas, e.g:
    • Quality of supply standards, customer services
• Arbitration & appeal mechanisms at state & federal levels:
  – To ACCC or state regulatory bodies
Ownership in the NEM – public/private

<table>
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<th>State And Private Asset Ownership In The National Electricity Market</th>
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<td>Energy Providers</td>
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<tr>
<td>------------------</td>
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<tr>
<td>% State owned</td>
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<tr>
<td>Value of Assets</td>
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<tr>
<td>% Private Owned</td>
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State Owned Enterprises = $31b (69%)
Private = $14b (31%)
Electricity industry ownership issues

• Some concerns about private ownership:
  – Market power abuse, particularly of small end users
  – Foreign domination of a key sector of the economy
  – Vertical & horizontal concentration of ownership
  – Lack of support for innovation, sustainability & workforce development

• Some concerns about public ownership:
  – Focussed on conserving the traditional paradigm
  – Confusion of roles: equity holder vs regulator
  – Not an option for distributed resources
Comparison of ownership options

• It would be a mistake:
  – To retain public ownership merely to protect the status quo
  – To privatise an electricity industry just for the proceeds from asset sales

• In either case require:
  – An effective, independent regulatory regime
  – Protection against concentration of ownership
  – Enhanced demand side participation
  – Measures to improve sustainability & to address equity concerns ("essential good")