Electricity Market Review
Market Consultation Group briefing

21 August 2014
Ministerial introductory comments

Hon Dr Mike Nahan MLA – Treasurer; Minister for Energy; Citizenship and Multicultural Interests
The purpose of the Discussion Paper?

- To stimulate discussion and public submissions on areas of potential reform
- To show the reform options that the Steering Committee are considering (however no positions have been reached as yet)

- The Discussion Paper does not reflect Government policy
The cost of retail electricity in the SWIS, why so high?

Retail cost stack (including the TEC in the case of Synergy), 2014
The Capacity Mechanism, is it delivering the right capacity at a reasonable cost?

Cumulative new entrant capacity, demand growth and forecast demand growth.
The network: enabling a competitive and reliable wholesale market?

Network cost comparison 2013-14 (residential cost stack)
Fuel for future electricity generation

Historical global gas prices

US$/GJ

- Japan cif
- Avg German import price Union cif *
- US Henry Hub †
- WA gas ex-DMP
- Recent WA gas contract prices
Total subsidies to customers

An effective subsidy accounting for the sub optimal returns imposed on Verve Energy pre 2009 is estimated and included.
Potential Areas of Reform

Industry Structure  ➔  Market Design  ➔  Regulatory Regime

←

Electricity Market Review
How reforms are represented in the Discussion Paper

Option 1  Common Reforms  Option 2
Industry Structure and Regulation

Common Reforms

- Structural separation to encourage competition in wholesale and retail markets
- Full retail contestability

Electricity Market Review
Encourage competition in wholesale and retail markets

- Reconsider method of payment for TAP and TEC
- Introduce full retail contestability
- Structural separation of Synergy
- Other possibilities
- Multiple gentailers
- 3 gencos and 2 retailers
**Option 1: Reform of the existing “capacity + energy” market design**

### Amend the current market mechanism – retain the current market institutions and broad characteristics of the market, but attempt to reduce cost of capacity and improve transparency and relevance of the pool

<table>
<thead>
<tr>
<th>Options for changes to the RCM</th>
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<tbody>
<tr>
<td>• Move from an administratively derived capacity price to an auction mechanism</td>
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<td>• Move responsibility for procuring capacity to market participants</td>
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<table>
<thead>
<tr>
<th>Make the existing WEM more relevant and efficient</th>
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<tbody>
<tr>
<td>• Facility bidding for all participants</td>
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<tr>
<td>• One market price as close as possible to real time</td>
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<tr>
<td>• Encourage fungibility of energy contracts or tools for market participants to manage risk</td>
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<table>
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<tr>
<th>Improving the operation of market institutions</th>
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<tr>
<td>• Changes to the rule making process</td>
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<td>• Make System Management responsible to the market operator</td>
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</table>
Option 2 – move to NEM style energy market

<table>
<thead>
<tr>
<th>Real time dispatch and pricing</th>
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<tbody>
<tr>
<td>Remove marginal cost limitations on generator bidding, market prices allowed to signal new investment</td>
</tr>
<tr>
<td>No capacity mechanism, the current NEM reserve trading mechanism may be retained</td>
</tr>
<tr>
<td>Trade in risk management tools or secondary markets for electricity hedges</td>
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<tr>
<td>Regulation?</td>
</tr>
<tr>
<td>• Networks: AER</td>
</tr>
<tr>
<td>• Market rules: AEMC</td>
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<tr>
<td>• Market management: AEMO</td>
</tr>
<tr>
<td>• Tariffs, ERA until regulation can be changed to price monitoring</td>
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Move to a NEM gross pool market, WA becomes a non-connected region of the NEM. Significant changes in the underlying design of the current market arrangements
In the Discussion Paper we have described the problems in this market as we see them.

This presentation will describe how we will approach some of these problems. It does not aim to send messages about conclusions, but rather about how our thinking will be informed.

We will cover Structural Separation (Paul Breslin), our approach to recommending the most appropriate market mechanism for the SWIS (Ray Challen) and the sequencing of recommendations and options (Nicky Cusworth).
Structural Separation
Why is this a significant issue

- Electricity Generated
  - Synergy: 47%
  - Contracted to Synergy: 35%
  - Independent: 18%
# Retail market shares compared

<table>
<thead>
<tr>
<th>Retailer</th>
<th>NSW</th>
<th>QLD</th>
<th>VIC</th>
<th>SA</th>
<th>TAS</th>
<th>WA</th>
</tr>
</thead>
<tbody>
<tr>
<td>Synergy</td>
<td>65.2</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Origin Energy</td>
<td>29.2</td>
<td>13.9</td>
<td>20.7</td>
<td>16.1</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Energy Australia</td>
<td>24.8</td>
<td>9.5</td>
<td>17.4</td>
<td>9.0</td>
<td></td>
<td></td>
</tr>
<tr>
<td>AGL</td>
<td>16.7</td>
<td>8.8</td>
<td>17.4</td>
<td>50.5</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Aurora Energy</td>
<td></td>
<td>0.8</td>
<td></td>
<td></td>
<td>94</td>
<td></td>
</tr>
<tr>
<td>CS Energy</td>
<td></td>
<td></td>
<td>19.2</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Ergon Energy</td>
<td></td>
<td></td>
<td>15.7</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>SECV</td>
<td></td>
<td></td>
<td></td>
<td>13.9</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Macquarie Generation</td>
<td>10.5</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Other</td>
<td>18.9</td>
<td>32.9</td>
<td>29.6</td>
<td>24.4</td>
<td>6</td>
<td>33.9</td>
</tr>
</tbody>
</table>
Why is addressing market concentration so important?

- Market concentration impedes competitive market outcomes.
- It entrenches the role of government in the market and dissuades private sector risk taking investment.
- It creates an environment whereby government will always end up financing or underwriting the capital requirement of the industry.
Current industry structure will always require intervention and control

- In a heavily concentrated market such as the WEM, price caps and limits on bids are required to prevent the exercise of market power
- This neutralises the market’s ability to provide an incentive for new investment
- In such a market some form of central planning will always be required to ensure investment in new capacity
- Customers will continue to bear most of the risk of new investment
Assessing options for structural reform

- The Steering Committee will be considering how many independent generators and retailers the SWIS can sustain.
- Market simulation modelling being undertaken will assist in the consideration of alternative industry structures.
- We will also be discussing the conditions required for a competitive market with the ACCC and current market participants.
Savings from the recent merger of Verve and Synergy will not be lost

- The Verve/Synergy merger has produced contract savings in the optimisation of generation costs from third party contracts and Synergy’s own generation assets
- Further efficiencies would be expected from a greater level of competition in both wholesale and retail markets
What are some options for structural reform?

- Asset bundling – generation assets centred around a base load power station. Could be packaged in some cases with a retailer.

- Horizontal separation, splitting Synergy assets in say two gentailers (base load generator portfolio with a retailer) plus another independent generator.

- Ownership options. Government to decide on ownership in the future.
Full Retail Contestability is also important

- FRC can encourage a more competitive wholesale market and can ensure savings are passed through to consumers.
- Opening the gas market to allow dual retailing of both gas and electricity could also allow retail economies to be passed on to consumers.
- The Steering Committee is considering options for the treatment of subsidies under FRC.
Market Design
Assessment criteria

What should a wholesale electricity market achieve?
- Price signals for efficient investment in, and retirement of, generation capacity
- Efficient utilisation of generation capacity
- Mechanisms for participants to manage their risk exposures
What are the problems with the current market design?

- Inefficient investment and retirement decisions
  - “Surplus” and “excess” capacity
  - Inefficient capacity mix
- Non-competitive behaviours and inefficient dispatch
- Illiquid markets for energy trading
- Limited development of financial instruments for risk management
Option 1: Reform of the existing “capacity + energy” market design

- Limits on the quantity of capacity accredited
- Determine a price for capacity through an auction rather than an administered process
  - How many auctions should occur (1, 2 or 3 years ahead)?
  - Should the auction be technology agnostic?
  - Should the auction have a price cap?
  - What should the associated energy price limits be?
- Impose the obligation for capacity procurement on market participants
  - Ex ante or ex post?
- Trading of capacity between market participants to meet obligations in the face of realised demand and customer churn
Option 1: Reform of the existing “capacity + energy” market design

- What roles/functions should the IMO have?
  - A certifier of capacity?
  - Determining the reliability standard and related capacity requirement for the market?
  - A reserve trader function akin to AEMO?
Option 1: Reform of the existing “capacity + energy” market design

- How are we examining the merits of a reformed capacity mechanism?
  - Case studies of capacity mechanism designs in other jurisdictions
  - Market modelling to test outcomes arising from a reformed capacity mechanism.
    - Capacity and energy price outcomes
    - New entrant and plant retirement profiles
    - Generation plant utilisation and gross margins
Option 2: NEM style energy market

Two sets of questions

- Can the pre-requisite conditions be established and maintained for an energy-only market to function?
  - Market size and the number of competing participants
  - Competing portfolios of generation
  - Financial derivatives market
  - Last-resort mechanisms for maintaining security of supply that are consistent with incentives to investing
- What are the potential efficiency gains (cost reductions) under a practical specification of an energy-only market?
Option 2: NEM style energy market

- How are we answering these questions?
  - Pre-requisite conditions
    - Case studies of other small, non-connected markets
  - Market outcomes
    - Market modelling of the WEM as an non-connected region of the NEM (NEM design, institutions and rules)
    - The market modelling is based on ACIL’s integrated linear optimisation program model framework
Questions
Packaging Reform – the Road Map
Reform timeline

<table>
<thead>
<tr>
<th>Date</th>
<th>Event</th>
</tr>
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<tbody>
<tr>
<td>July 1975</td>
<td>SECWA formed.</td>
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<td>January 1995</td>
<td>Disaggregation of SECWA into AlintaGas and Western Power Corporation.</td>
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<tr>
<td>August 2001</td>
<td>Electricity Reform Task Force (ERTF) formed</td>
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<tr>
<td>January 2005</td>
<td>Reserve Capacity Mechanism established</td>
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<tr>
<td>April 2006</td>
<td>Disaggregation of Western Power</td>
</tr>
<tr>
<td>August 2009</td>
<td>Verve Energy Review</td>
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<tr>
<td>January 2014</td>
<td>Verve Energy/Synergy merger took effect</td>
</tr>
<tr>
<td>March 2014</td>
<td>The Electricity Market Review was launched</td>
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Sequencing and packaging reform

- Packaging – some reforms will only work in concert with other reforms, and some options are incompatible.
- Sequencing – some reforms will not be possible until other reforms are implemented.
- Transition – market participants may need time to adjust to new arrangements, and some interim provisions may be needed.
- One-offs – some reforms may be a good idea regardless of what else is done.
- Threshold issues – some changes may be unavoidable if the Review’s objectives are to be achieved.
Sequencing and packaging examples

- Packaging: transition to the NEM is unlikely to be workable without financial instruments that help to manage risk.
- Sequencing: industry restructuring should not be implemented until market design has been determined.
- Transition: if option 2 is adopted, fully integrating Western Australia into the NEM could take several years.
- Incompatibility: it will not be possible to retain a capacity market and transition to the NEM.
- One off: full retail contestability could deliver benefits under most reform options.
- Threshold issue: Synergy’s market share
Sequencing and packaging issues

Most of the Review’s objectives require reform in market structure, market design and the regulatory regime

- Reducing costs of production and supply of electricity
- Reducing government exposure to energy market risks
- Attracting to the electricity market private sector participants

Stakeholders are asked to consider in their submissions:

- what packages and sequences of reforms are needed to achieve the review’s objectives?
- Which options under consideration are not compatible with stakeholders’ preferred reforms?
Questions
Other important matters the EMR is considering

- The network code, the continuation of unconstrained connection, transmission and distribution regulation, contestability of network services
- Regulation and governance in the WEM, the rule change process, retail price regulation and monitoring under FRC
- Fuel for electricity generation, the adequacy of resources for domestic use in Western Australia