ELECTRICITY FULL RETAIL CONTESTABILITY IN WESTERN AUSTRALIA – DETAILED REPORT

1 July 2014

REMCO

Retail Energy Market Company

Contents

EXECUTIVE SUMMARY

REMCo has analysed the likely benefits, costs, and issues associated with implementing electricity full retail contestability ("FRC") in WA. This analysis is intended to assist the WA Government and industry consider if, how, and when electricity FRC should be implemented in WA.

REMCo has successfully operated the WA gas retail market since inception, for over 10 years, and stands ready to develop, implement, and operate a fully contestable electricity retail market in the State, once the WA Government decides it wants to go down that path.

Benefits

- Electricity retail contracts have consistently been offered at discounts to regulated tariffs, so consumers that choose such a contract could achieve significant savings.
    - Discounts in the eastern States in 2012-13 ranged between 1.5% and 11%. It is reasonable to expect discounts of this magnitude from regulated electricity tariffs in WA.
- 46%-81% of customers have moved to market contracts to date in the various jurisdictions in the Eastern States. If this level of customer transfer (churn) occurs in WA, then implementing electricity FRC could result in significant savings to WA electricity consumers.
    - A 2.5% discount from cost-reflective tariffs could result in direct net benefits of about $27.8 million over a 10-year period (NPV = $4.7 million), accounting for Market and Network Operator costs.
    - With a 5.0% discount from cost-reflective tariffs, these direct net benefits could be as high as $113.7 million (NPV = $53.9 million).
- Retailers will be able to innovate and offer savings and/or value-added products to consumers (e.g. dual fuel offers, solar products, service discounts, etc.).
    - Customers dissatisfied with their current services would be able to seek service offerings from other Retailers.
- Effective electricity retail market competition will improve price signals, which will:
    - restrain the pace of price increases more directly and responsively than price regulation;
    - influence the amount and timing of electricity usage, which may lead to reduced or delayed future network augmentation costs, and potentially reduced peak demand; and
    - put pressure on wholesale energy costs because of Retailers' will mitigate risks through hedge contracts and other financial instruments.

Costs

- Market Operator costs:
    - Gas FRC implementation costs are the best indicator of the costs to implement electricity FRC in WA because the gas markets were individual markets, and delivered systems similar to what would be needed for the WA electricity market.
    - Average costs to implement gas FRC across SA, NSW, Vic and WA was $8.5 million. This suggests Market Operator costs of $10-$15 million, adjusting for inflation, and assuming no efficiency improvements in developing and implementing the systems.

- Network Operator costs:
  - Network Operators' electricity FRC implementation costs in the eastern States ranged from $12-$28 million, and operating costs from $2-$5 million.
  - Western Power will need to make significant systems changes to implement electricity FRC, particularly to its metering and market communications systems. It is reasonable to expect Western Power's costs to be within the $12-$28 million range.

- Retailers costs:
  - Retailers will enter the market if doing so is likely to generate a net benefit. Retailer costs will vary significantly depending on the basis of their market entry, and will likely be $7-$10 million, but may be as high as $20 million if market changes are significant or if Retailers' legacy systems needed to be replaced.

Government Considerations

- Market participants have indicated sovereign risk (policy and regulatory risk) is the primary concern with implementing electricity FRC; particularly with respect to treatment of Synergy and retail tariff setting. Retailers can manage all other risks, which offer the opportunity for Retailers to differentiate themselves.

- The WA Government has indicated several electricity market reform objectives which could be delivered by implementing electricity FRC as follows:
  1. Lower electricity prices:
     - Electricity FRC will put competitive pressure on all market participants, which will force them to improve efficiency, and will reduce total electricity supply costs.
     - Competing Retailers will be able to offer market contracts to consumers at prices below the regulated tariff.
  2. Lower Government exposure to energy market risk (reduce the subsidy to Synergy):
     - Electricity FRC will force Synergy to increase its efficiency and reduce costs, which by definition will reduce the amount of the subsidy to Synergy.
  3. Increase private sector investment:
     - If the private-sector is to build new generation plant, then market participants will need a means to monetise their investments. The private sector currently only has access to a small number of customers as a means to monetise their investments, and FRC will give them access to the entire market.
     - Implementing electricity FRC would require some relatively minor up-front Government investment to develop Market and Network Operator systems and procedures; but will lead to significant long-term reductions in Government expenditure due to:
       - no need to fund future generation capacity; and
       - a more efficient market leading to reduced need for network expenditure.

Timing for Implementing Electricity FRC

- Two key issues impact the timing for when electricity FRC can/should be implemented, both relating to WA Government policy:
  - what limitations are to be placed on Synergy's ability to exercise market power; and
  - how are electricity retail tariffs to be set, and subsidies provided to consumers in need?

- These impact the potential timing for implementing electricity FRC in WA as follows:

Timing for Implementing Electricity FRC		Limitations on Synergy Market Power		
		Limited steps taken	Effective Steps Taken	
			Other Mechanisms	Split/Privatise
Tariffs	Government sets tariffs and subsidises consumers via tariffs	X	Long-Term	Long-Term
	ERA sets tariffs and Government directly subsidises consumers	X	Medium-Term	Near-Term

Key Issues

- Synergy and WA energy market policy:
  - Synergy is the dominant electricity generator and retailer; so it has a significant influence on generation capacity development, wholesale and retail pricing, and market development.
  - Despite the Synergy re-merger and Synergy market dominance, the WA Government has indicated that it would like to have a competitive energy market, and would like industry to take the risk in developing future generation plant.
    - The WA Government has put arrangements in place to limit Synergy's market control; but it is unclear if these arrangements will be effective, and market participants clearly perceive that they could create a conflict of interest or distort the market.
  - It is essential that Government put effective mechanisms in place to ensure that Synergy cannot exercise its market power, and that private sector market participants have fair access to generation capacity at competitively determined prices.
    - Splitting and/or privatising Synergy is one way to accomplish this, and may be the surest method.
    - However, many other methods are available, so splitting and/or privatising Synergy is not a prerequisite for implementing electricity FRC in WA.

- Electricity retail pricing and subsidies:
  - Electricity retail tariffs are currently about 33.5% below the cost to produce and deliver electricity. As a result, the WA Government subsidises Synergy to protect its solvency, and the projected subsidy is $493.2 million for 2013/14.
  - Cost-reflective electricity retail tariffs are not a prerequisite for implementing electricity FRC.
    - It is commonly argued that electricity FRC should not be implemented until electricity retail tariffs are cost-reflective because competition will not develop while tariffs are below cost.
    - However, the key is instead giving the ERA responsibility for setting electricity retail; and Government committing to moving tariffs to cost-reflective levels while directly subsidising consumers in need.
    - Implementing electricity FRC sooner rather than later, and in the context of increasing retail tariffs over time, would allow Retailers to determine the right point of entry to suit their business model. This would allow "practical" FRC to begin when the market determines that tariffs are cost-reflective, not when a regulator determines that tariffs are cost-reflective based on imperfect information.

- Customer protection:
  - Government will need to review the customer protection arrangements to ensure end-use customers are adequately protected if electricity FRC is implemented, and to align the mechanisms in the gas and electricity markets to the greatest extent possible, including:
    - requiring Retailers to get a customer's explicit informed consent before accessing their personal data;
    - putting standard contacts in place to specify minimum service levels;
    - putting effective marketing codes in place to put obligations on Retailers with respect to issues such as customer acquisition, relationship exit activities, etc.;
    - prescribing and regulating hardship provisions;
    - putting debt management protections in place for vulnerable consumers; including provisions to manage of debt recovery when a customer churns; and
    - putting Retailer of Last Resort provisions in place to manage the rights of consumers and Retailers in in the event of a Retailer failure.

- REMCo has canvassed a number of other issues that will need to be carefully considered when electricity FRC is implemented, including:
  - Regulatory issues:
    - network access;
    - licensing; and
    - tariff subsidy policy.
  - Network issues:
    - retailer access;
    - systems and processes; and
    - metering.
  - Retail issues:
    - Synergy dominance;
    - cost of entry;
    - cherry picking; and
    - retailer viability.
  - Government impacts:
    - impact on Synergy.
  - Market issues:
    - Wholesale Electricity Market ("WEM") operation and market changes; and
    - wholesale/retail market interaction.
  - Legislative issues:
    - the prohibition on electricity FRC;
    - implementation options;
    - market operations;
    - the Gas Market Moratorium;
    - price comparator tools; and
    - standardised business-to-business and business-to-market communication rules.

Legislative Options

- Legislation to implement electricity FRC could be drafted in innumerable ways – REMCo has canvassed four:
  - Electricity Retail Market Schemes:
    - Replicate the provisions for Gas Retail Market Schemes under Part 2B of the *Energy Coordination Act 1994* and apply them to electricity.
  - New WA-based legislation:
    - Develop an entirely new set of bespoke legislation to provide for the electricity FRC requirements in WA, potentially based on the provisions of the national legislation.
  - Code-based approach
    - Establish a code or codes under section 39 of the *Electricity Industry Act 2004* to provide requirements for electricity FRC.
  - National approach:
    - Enact the *National Electricity Law* and *National Electricity Rules* in WA.

- REMCo has evaluated the above legislative options using the following criteria:
  - cross-energy consistency;
  - cross-jurisdictional consistency;
  - simplicity; and
  - structural benefits.

- Which option should be chosen depends on which criteria is determined to be the most important. Simplicity is the key criteria if a low cost and quick implementation is deemed critical, in which case the Electricity Retail Market Scheme option may be best.

Market Operator Options

- There are four main options for the WA electricity retail Market Operator:
  - REMCo:
    - REMCo operates the WA gas retail market, so this would be a simple, timely, and cost effective option to implement and would allow market participants to use existing WA retail market systems and processes. This option would also allow REMCo to gain synergies from operating both the WA gas and electricity retail markets.
  - Independent Market Operator ("IMO"):
    - The IMO operates the WEM, so this option would allow integration of the WA electricity wholesale and retail market operations.
  - New WA-based operator:
    - A Market Operator could be established for the WA electricity and gas, wholesale and retail markets – i.e. a single WA energy Market Operator that would take up the current IMO and REMCo roles, as well as electricity FRC. If implemented appropriately, this option would have all of the benefits of both the REMCo and IMO options.
  - Australian Energy Market Operator ("AEMO"):
    - AEMO operates the electricity and gas, wholesale and retail markets in all jurisdictions except WA and NT; and has the expertise and resources to implement electricity FRC in WA, and could also take up other WA market operations. This option would likely require replacing all WA-based market governance arrangements with the national arrangements, and using the national approach to legislation.

- The Market Operator option chosen will impact market implementation and operation costs. Retail market participants have indicated a strong preference for a Market Operator with:
  - a clear responsibility to industry, accounting for commercial operation of the market and meeting Government policy; and
  - a governance structure similar to REMCo or AEMO, not a statutory corporation like the IMO.

Electricity FRC Implementation

- An orderly transition to FRC is paramount the success of the market.
  - Implementation should have a lead time of about 2 years, during which time, industry should lead development of the FRC rules, guided by Government policy.
  - Industry should decide on the technology used to implement the FRC rules, based on commercial drivers. The option chosen should be implemented as a standard that is supported through the regulatory frameworks.

- Contestability thresholds:
  - There are three options for introducing greater competition into the WA electricity market:
    - make small business and household customers contestable in two or more tranches relating to consumption quantities;
    - first make all small business customers contestable, then households in one or more tranches relating to consumption quantities; or
    - go straight to FRC.
  - Going straight to FRC is the best option because:
    - costs to develop the systems required to serve any sub-set of the remaining non-contestable customers will be significant; and
    - introducing contestability to any sub-set of non-contestable customers is unlikely generate sufficient competition to benefit customers or be viable for new market entry.

- Market Operator systems and infrastructure:
  - A number of drivers will impact the necessary investment in systems and processes by the Market Operator, including:
    - the number of contestable customers;
    - the number of competing retailers;
    - the end-use customers' sophistication and knowledge of their ability to churn; and
    - the projected number of churns and acceptable churn processing time.
  - Market Operator systems need to be able to manage metrology functions to support daily
    - estimation of basic meters usage;
    - provision of data into the WEM settlement system; and
    - provision of data to Retailers for billing and reconciliation.

- Retailer Systems:
  - Retailer costs to implement electricity FRC will depend on the market structure chosen, particularly the type of communication infrastructure – i.e. use of the "FRC Hub" or the NEM-based "Hokey Pokey".
    - The FRC Hub is the used by the WA gas retail market, so most (if not all) of the existing active WA-based retailers would be able to leverage off their existing market communications infrastructure.
    - Western Power uses the Hokey Pokey for the WA electricity retail market, so current electricity Retailers will have some Hokey Pokey systems capability. However, Western Power uses an old and outdated version of the facility, so it would need a substantial upgraded to cope with FRC.
  - Retailers commencing operation in a new WA electricity FRC environment would need at least the following infrastructures and business processes to operate:
    - CIS/customer billing systems;
    - communications infrastructure;
    - network billing reconciliation modules;
    - WEM portfolio forecasting, trading and settlement facilities;
    - customer transfer initiation, tracking, and CIS interface;
    - credit risk management processes;
    - marketing infrastructure;
    - connection/disconnection policy management processes; and
    - regulatory compliance processes.

- Western Power systems:
  - Western Power will need to make significant enhancements to their existing systems and business processes to implement electricity FRC, including to:
    - interval meter reading management systems to enable more rapid validation and delivery of interval meter data;
    - network billing systems to cater for the impact of daily customer transfers;
    - communications infrastructure and interfaces with back-end systems to cater for an increased number of interactions;
    - National Meter Identifier ("NMI") discovery support; and
    - asset system information maintenance to cater for significantly increased traffic as a result of customer transfers.

ELECTRICITY FULL RETAIL CONTESTABILITY IN WESTERN AUSTRALIA – DETAILED REPORT

1. Background

Retail Energy Market Company Limited ("REMCo") is the gas retail Market Operator for Western Australia ("WA"). The gas retail market allows all gas consumers to buy natural gas from their retailer of choice. REMCo administers the business processes between the WA gas market participants to allow retailers to cost-effectively compete for the supply of gas to end-use customers. REMCo's four primary business processes are:

- Delivery Point Management – managing the transfer of end-use customers between retailers;
- Balancing, Allocation and Reconciliation Management – managing the daily allocation of gas usage to retailers to enable settlement of gas supply and gas transmission contracts;
- Rule Change Management – managing further development and improvement of the Retail Market Rules; and
- Compliance Management – managing and enforcing compliance with the Retail Market Rules.

REMCo was established to operate the WA gas market in May 2004, with the intent that it would also implement electricity full retail contestability ("FRC") shortly thereafter. This is reflected in REMCo's name (Retail Energy Market Company) and in clause 2.4 of the REMCo Constitution, which states:

> 2.4 Future Aims
>
> The Company may consider providing similar services to the retail energy market at which time it will obtain Member approval… and any other regulatory approvals that may be required.

Section 55 of the *Electricity Corporations Act 2005* requires the Minister for Energy to review the restriction that allows only the Electricity Generation and Retail Corporation (trading as "Synergy") to supply electricity to small-use customers (those that consume <50MWh/a). This review is to be completed as soon as practicable after 13 October 2008.

However, the WA Government has been focused on other areas of energy market reform since 2008; and so it has not been practicable for the Minister to commence the review under section 55 of the *Electricity Corporations Act 2005*.

On 6 March 2014, the Hon. Dr Michael Nahan, Minister for Energy, launched the WA Government's Electricity Market Review. The Term of Reference for the Electricity Market Review indicate that the review will cover, amongst other things, the retail electricity market, including:

- retail contestability thresholds; and
- the regulatory framework applying to the electricity retail market, such as:
  - metering;
  - customer transfer arrangements; and
  - customer protection.

Appendix A provides an overview of the WA electricity sector, including a summary of the Terms of Reference for the Electricity Market Review.

As a result, REMCo has conducted a review of the prospects for implementing electricity FRC in WA, with the aims of:

- fulfilling REMCo's objectives;
- assisting the WA Government with its Electricity Market Review; and
- assisting WA energy market participants and electricity consumers with market development.

This report presents the details of REMCo's analysis of the prospects for implementing electricity in WA, and is titled *Electricity Full Retail Contestability in Western Australia – Detailed Report* (the "Detailed Report"). A summary of the Detailed Report is provided in a companion report titled *Electricity Full Retail Contestability in Western Australia* (the "Overview Report").

REMCo's analysis of the costs, benefits, and issues associated with implementing electricity FRC is intended to assist the WA Government and industry consider if, how, and when electricity FRC should be implemented in WA. REMCo has successfully operated the WA gas retail market for over 10 years, and stands ready to develop and implement a fully contestable electricity retail market in the State, once the WA Government decides it wants to go down that path.

2. The WA Energy Sector

Information on the WA electricity and gas sectors that is relevant to any consideration of the implementation of electricity FRC in WA is provided as follows:

- Appendix A covers the WA electricity sector, including:
  - independent regulation of the sector by the Economic Regulation Authority ("ERA");
  - electricity retail pricing, including recent electricity tariff increases, the need for further tariff increases, and the Government's Uniform Tariff Policy;
  - electricity licencing requirements;
  - electricity generation, including the dominant Government-owned generator – Synergy;
  - electricity networks, including operation of the South West Interconnected System ("SWIS") by Western Power;
  - the electricity retail market, including the distinction between contestable vs. non-contestable customers, and the dominant Government-owned retailer – Synergy;
  - the WA Government-owned electricity corporations, and the impact of the 1 January 2014 merger of Synergy and Verve Energy into a dominant Government-owned generator and retailer ("gentailer");
  - the operation of the Wholesale Electricity Market ("WEM") by the Independent Market Operator ("IMO"); and
  - the Electricity Market Review being conducted by the Minister for Energy in 2014.
- Appendix B covers the WA gas sector including:
  - independent regulation by the ERA;
  - gas retail pricing;
  - gas licencing requirements;
  - gas supply;
  - gas transmission;
  - gas distribution and storage;
  - the gas retail market, including retail market schemes; and
  - the provision gas information services.

2.1. Preliminary Consultation

REMCo has undertaken some preliminary consultation to help compile the Detailed Report, and met in late May 2014 with:

- Alinta Sales Pty Ltd ("Alinta");
- Kleenheat Gas Pty Ltd ("Kleenheat")
- Perth Energy Pty Ltd ("Perth Energy");
- Synergy; and
- Electricity Networks Corporation (trading as "Western Power").

The content of the Detailed Report was informed by this consultation, but does not express the views of any of the parties consulted, individually or in common.

3. The Business Case for Electricity FRC in WA

Electricity retail tariffs in WA are currently below the cost of supply, and so Government is effectively providing a subsidy to electricity consumers – see Section 7.2. As a general premise, a market will find and remove cross-subsidies – this is how markets operate. The impact of a sudden removal of a subsidy can be quite dramatic, but the "pain" can be eased by managing any pricing transition to protect vulnerable consumers in the community. This is the key role of policy makers in determining the path to a full implementation of an electricity retail market.

Given this, the business case for the introduction of FRC in the WA under Section 3 is made on the premise that the WA government will have policy settings that will protect the vulnerable customers during a transition phase towards cost-reflective tariffs; noting that how, and over what timeframe is yet to be determined.

FRC is a highly information intensive activity, and retailers require extensive information and communications systems to participate. WA has an advantage over other FRC implementations in Australia – WA can learn from the experiences from other jurisdictions, use the market operation history to better understand the implementation issues, and model the likely outcomes once FRC is operational.

3.1. Benefits from Electricity FRC

Consultation with existing WA energy stakeholders identified a number of headline benefits from implementing electricity FRC in WA:

- FRC will improve consumer price signals, and therefore influence the amount and timing of electricity usage. This may lead to reduced or delayed future network augmentation costs, and potentially reduced peak demand.
- Once FRC implementation costs have been recovered in the medium-term, competition will restrain the pace of price increases more directly and responsively than price regulation.
    - Competitive markets are able to respond quickly to change; while regulation is less flexible (being restricted to periodic reviews, policy, and price setting processes), and regulators are limited to imperfect and asymmetric information in setting tariffs.
- Retailers will be able to innovate and combine different services, and will be able to offer savings and/or added value products, such dual fuel, solar products, and other service discounts.
- Market contracts in the other electricity markets in Australia have consistently been offered at a discount to regulated tariff or the non-regulated standing offers, so customers who choose a market contract could achieve significant savings.
- Customers dissatisfied with current services have the option to seek service offerings from competitors.
- Effective retail market competition will put pressure on wholesale energy costs because of retailers' need to mitigate risks through hedge contracts and other financial instruments.
- Western Power may face lower compliance costs from the removal of the requirement to quarantine contestable vs non-contestable operations in relation to customer sites.

3.2. Preliminary Assessment of Electricity FRC in WA

3.2.1. Potential Price Discounts

The Essential Services Commission of South Australia ("ESCOSA") and the Australian Energy Regulator ("AER") conducted separate reviews of contract electricity prices in the eastern States in 2013. These reviews indicated that prices for market-based contracts in the eastern States are consistently below the level available in regulated tariffs or standing offer contracts. The average discount off of regulated tariffs or standing offers are shown in Table 1.[1]

Table 1 – Average Discount off of Regulated Tariffs or Standing Offers		
	2012	2013
New South Wales ("NSW")	5-6%	<4%
Queensland ("Qld")	5-6%	5-6%
South Australia ("SA")	5-6%	1.5%
Victoria ("Vic")	8-9%	7-11%

If this experience were to be replicated over the long-term in WA, even at a lower level of discount, it would mitigate any transition from the current regulated retail tariffs to what is deemed to be cost-reflective tariffs. This is because the competitive contract prices are likely to be lower than the cost-reflective level determined via regulatory review, since regulated prices, by their nature, would be based on imperfect cost information and generalised retail business models.

3.2.2. Potential Customer Churn Rates

A significant proportion of customers have entered into market contracts in the eastern States as those energy markets have matured. The number of customers on market contracts in the eastern States are: [1]

- 60% in NSW;
- 46% in Qld (this is lower, primarily due to the existence of regional cross-subsidies, where 70% of customers are on market contracts in the concentrated population area of South East Qld);
- 81% in SA; and
- 75% in Vic.

If this level of market activity was to be replicated in WA, then even on a conservative assessment, it could result in significant overall savings to WA consumers' cost of electricity.

3.2.3. Potential Implementation Costs

The estimated costs of implementing the Market Operator's and Network Operator's systems are treated separately from those of market participants. This is because retailers' costs will vary significantly depending on the basis on which the retailers enter the market, and retailers will only enter the market if doing so is likely to generate a net benefit.

The Market Operator and Network Operator costs will be key to the introduction of FRC, as they represent the precursor expenses. Potential entrants will determine their level of participation based on the Market Operator and Network Operator expenses, as well as their own costs to serve.

The costs set out in Table 3 (see Section 4) can be used as a guide for the costs to implement the Market Operator's and Network Operator's systems.

- The National Energy Market ("NEM") cost estimate is not an appropriate indicator for the likely electricity FRC costs in WA, as the NEM retail systems were updated and integrated with the NEM wholesale market operations and with FRC activities across multiple jurisdictional/regional markets.
- The costs of each of the gas market FRC implementations are a more appropriate indicator of the likely electricity FRC costs in WA, as these were individual markets, and delivered similar system requirements to that which would be required for the WA electricity market. The average cost across SA, NSW, Vic and WA was $8.5 million. Roughly adjusting these costs for inflation, and conservatively assuming no efficiency improvements in developing and implementing the systems, suggests Market Operator costs from $10-15 million.

As the Network Operator, Western Power will need to make extensive changes to its systems and procedures – see Section 11.5 for more information. An estimate of Western Power's costs can be made by reference to the Access Arrangement resets sought by the gas Network Operators in their jurisdictional implementations of FRC.

- ESCOSA accepted capital costs of $28 million and operating costs of about $18 million over five years (total cost of about $46 million over five years) for Envestra's implementation of gas FRC in SA in 2004.[2] This data in informative for estimating Western Power's costs, even though it relates to the gas industry in SA, because:
  - both Western Power and Envestra are sole Network Operators implementing FRC for a single energy commodity, in a single jurisdiction implementation; and
  - there are commonalities between gas and electricity in terms of supporting FRC, and so the activities and the size of each task for a Network Operator to implement FRC will be very similar for gas and electricity.
- Aurora Energy Network in Tasmania ("Tas") is currently in the process of implementing FRC in the NEM framework. From publicly available documentation, Aurora has a $12 million budget to implement FRC in 2012/13.

Western Power's costs to implementing FRC are likely to be somewhere in between the above two examples.

3.2.4. Potential Net Benefits

REMCo has constructed a simple model compare the direct costs for the Market Operator and Network Operator against the benefits to consumers from implementing electricity FRC in WA, as retail tariffs approach cost-reflective levels.

This simplified model indicates total direct net benefits from implementing electricity FRC in WA of about $27.8 million over 10 years, once tariffs are cost-reflective, and accounting for Market Operator and Network Operator costs (not retailer costs). This equates to a net benefit NPV = $4.7 million for the 10-year period, at an 8.0% discount rate.

This is based on a conservative assumption that retailers would offer a 2.5% discount from the cost-reflective A1 Tariff. If the discount was as high as 5.0%, the net benefits would be as high as $113.7 million, and the NPV = $53.9 million.

The simplified model is based the following highly conservative assumptions, noting that many of the variables remain uncertain, so it is very difficult at this stage to make more accurate estimates:

- The WA Government makes a policy decision to implement electricity FRC in 2014/15, which allows work on implementation to commence in 2015/16.

- Implementation takes 2 years, so FRC commences in 2017/18.
- There are 1.2 million electricity consumers on the South West Interconnected System ("SWIS") when FRC commences in 2017/18,[3] and this grows by 2.0%/year.
- Implementation costs of $6.0 million/year for the Market Operator for 2015/15 and 2016/17.
  - This is a total of $12.0 million, which is consistent the FRC implementation costs indicated in Section 3.2.3.
- Implementation costs of $10.0 million/year for Western Power for 2015/16 and 2016/17.
  - This is a total of $20.0 million, which is between the FRC implementation costs indicated for Envestra and Aurora Energy Network (see Section 3.2.3), and is roughly consistent with ballpark estimates provided in discussion with Western Power.
- Operating costs of $1.0 million/year for the Market Operator, and $2.0 million/year for Western Power, commencing in 2017/18, and escalating by CPI = 2.5%/year.
- The WA Government increases electricity retail tariffs to cost-reflective levels in time for FRC by 2017/18.
  - The cost of electricity for the average household was $1,515.19/annum in 2011/12, based on consumption of 5,801 kWh/a.[4]
  - The cost of electricity for the average household is then $2,150.31/annum when FRC commences in 2017/18. This accounts for:
    - a 3.5% increase to the A1 Tariff in 2012/13;
    - a 4.0% increase to the A1 Tariff in 2013/14, plus imposition of a 2.3683 ¢/day charge for carbon;
    - a 33.5% increase in the A1 Tariff to make it cost-reflective (see Section 7.2); and
    - A1 Tariff increases by inflation of CPI = 2.5%/annum in all other years.
- For simplicity, it is assumed that:
  - all customers are on the A1 Tariff for residences, noting that the L1 Tariff for small businesses is also a large customer group; and
  - there are no changes to the average annual consumption.
- Competition commences in 2017/18, coincident with tariffs becoming cost-reflective.
  - Retailers offer an average 2.5% discount from the A1 Tariff.
  - Customer churn is 8.0% in 2017/18, growing by 2.0%/annum (i.e. 10.0% in 2018/19, etc.).

3.3. Considerations for the WA Government

Preliminary consultation has indicated that sovereign risk (policy and regulatory risk) is industry's primary concern with implementing electricity FRC; particularly with respect to treatment of the Government-owned dominant gentailer (Synergy), and retail tariff setting (see Section 7).

Market participants have indicated that they can manage all other risks, and that the other risks offer the opportunity for market participants to differentiate themselves (i.e. they create the opportunity to establish a competitive advantage).

The WA Government has indicated three objectives for the Electricity Market Review – Table 2 presents a summary of these objectives and a discussion of how implementing electricity FRC in WA will help meet these objectives:

Table 2 – Impact of Electricity FRC on Government Electricity Reform Objectives	
Objective	**Impact of Electricity FRC**
1. Lower electricity prices • Reducing electricity production and supply costs, without compromising safe and reliable supply.	• Implementing electricity FRC will place competitive pressure on all market participants. • Increased competitive pressure will in turn force all market participants to improve efficiency (particularly Synergy on both its retail and generation functions), which will reduce the total costs to supply electricity. • Competing retailers will be able to offer market contracts to consumers at prices below the regulated tariff.
2. Reduce Government subsidy to Synergy • Reducing Government exposure to energy market risks. • Private sector to build future generation without Government investment, underwriting, or other financial support.	• Implementing electricity FRC will force Synergy to increase its efficiency to reduce costs, which will, by definition, reduce the amount of the subsidy to Synergy.
3. Increase private sector investment • Attracting private-sector participants to the electricity market by participants with sufficient scale to facilitate long-term stability.	• If the private-sector is to provide investment in the electricity sector, particularly building any new generation plant, then market participants will need a means to monetise their investments. The private sector currently only has access to a small number of customers as a means to monetise their investments (see Section 5.1), and FRC will give them access to the entire market. • Implementing electricity FRC would require some relatively minor up-front Government investment to provide for Market Operator and Network Operator systems and procedures. However, this will lead to significant long-term reductions in the need for Government expenditure in the electricity sector: ○ Government would not need to fund future generation capacity; and ○ A more efficient market would lead to reduced need for expenditure on network infrastructure (see Section 3.1).

4. Market Comparison – FRC and Market Sizes

FRC has been implemented in the electricity and gas markets in the various Australian jurisdictions at differing times.

Table 3 indicates the timing and the costs to the Market Operator associated with developing and implementing the electricity and gas FRC market systems and processes in the various Australian jurisdictions.

Table 3 – FRC Timing and Cost in Australia

Jurisdiction	Electricity		Gas	
	Timing	Cost	Timing	Cost
Vic	2002	$46 million shared across SA,NSW,ACT and Vic[5]	2002	$13 million[6]
NSW	2002	$46 million shared across SA,NSW, ACT and Vic[5]	2002	$9.5 million (estimate) shared across NSW and ACT[6]
Australian Capital Territory ("ACT")	2003	$46 million shared across SA,NSW, ACT and Vic[5]	2002	$9.5 million (estimate) shared across NSW and ACT[6]
SA	2003	$46 Million shared across SA,NSW, ACT and Vic[5]	2004	$4.59 million[7]
Qld	2007	Proportionate share of the remaining outstanding FRC recoveries	2007	$600,000/year[6]
Tas	Expected 2014	To be operated using existing Australian Energy Market Operator ("AEMO") infrastructure at no extra cost	2005	N/A
Northern Territory ("NT")	N/A	N/A	N/A	N/A
WA	N/A	N/A	2004	$6.89 million[7]

Table 3 does not include the costs incurred by the retailers or the Network Operators in establishing or operating in each of the markets.

Preliminary discussions with retailers have suggested that the cost to implement FRC for an incumbent retailer in WA needing to modify existing systems would be in the order of $7-$10 million in a "medium complexity" scenario. However, the cost could go as high as $20 million if market changes are significant or if legacy systems needed to be replaced via a "forklift" rather than modification of the existing system.

The energy retail markets across Australia have varying sizes and varying numbers of competitors. Table 4 indicates the number of customers in the various electricity and gas markets across Australia, and the number of retailers competing in each market, as of 1 October 2013.

Table 4 – Energy Retail Market Size and Number of Licensed Retailers					
Jurisdiction	Total Market	Electricity		Gas	
		Market Size	Retailers	Market Size	Retailers
Vic	4.5 million	2.6 million	16	1.9 million	7
NSW	5 million	3.8 million	11	1.2 million	6
ACT	186,000	169,000	2	17,000	2
SA	1.2 million	820,000	12	400,000	4
Qld	2.17 million	2 million	11	170,000	3
Tas	280,000	275.000	1	small	2
WA	2 million	1.3 million	14	680,000	5

It should be noted that there were significantly fewer retailers operating in each of the markets at the commencement of FRC in each market. There are now a significant number of retailers who operate across multiple jurisdictions and across both commodities.

5. Market Definition

5.1. Retail Electricity Market

The WA electricity market is defined by a number of discrete networks, including the SWIS operated by Western Power; and Horizon Power's various networks – the North West Interconnected System ("NWIS") and its smaller networks in regional areas (see Section A.5). As these networks are not interconnected, each network is effectively a separate market.

Energy in the SWIS wholesale market has been procured on a competitive basis since the implementation of the WEM in September 2006.

There is no retail competition in the SWIS for small-use customers (those who consume <50MWh/a, or about $12,600/year of electricity). Legislative restrictions allow only Synergy to sell electricity to small-use customers (see Section 9). The ERA reports that only 0.2% of residential and 10.5% of non-residential customers are currently contestable.

This review of the potential for electricity FRC in WA is restricted to the SWIS because the SWIS is likely the only network able to support a contestable electricity market,[8] and because the Electricity Market Review is also restricted to the SWIS.

It is estimated that there was 8-10 active electricity market participants in WA at the beginning of 2013; and the ERA website advises that there are currently 14 licensed electricity retailers, of which only 6 appear able to offer contracts for supply.

The SWIS is supplied mainly by three retailers – Synergy, Alinta, and Perth Energy; accounting for 96.3% of residential and 91.8% of non-residential customers in the State. The remaining customers are located in the regional areas supplied by Horizon Power and Rottnest Island Authority ("RIA").

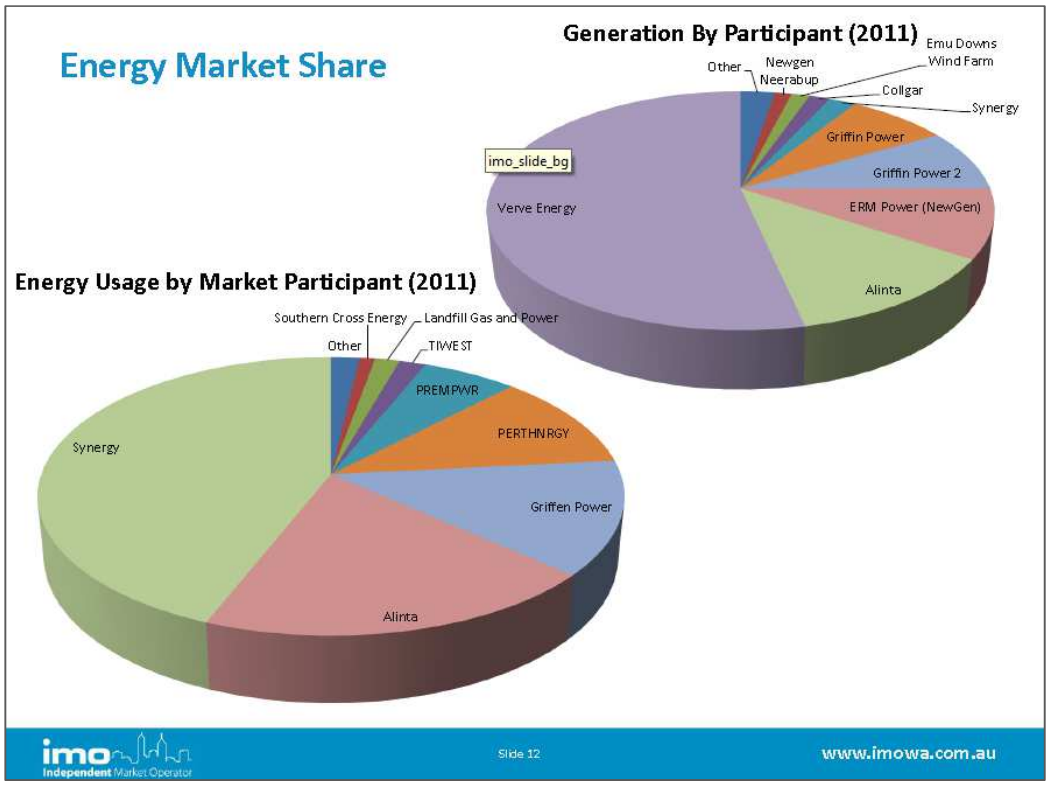
While Synergy is the only retailer who supplies residential customers in the SWIS, there is competition in the non-residential market, although Synergy is still the dominant retailer, supplying 83.8% of non-residential customers.

Table 5 presents information on the number of customers held by each electricity retailer. [9]

Table 5 – Electricity Customers by Retailer (as at 30 June)

Retailer	Residential			Non-Residential			Total		
	2011	2012	Change	2011	2012	Change	2011	2012	Change
Alinta	0	0	0%	1,447	1,449	0.1%	1,447	1,449	0.1%
Horizon Power	30,371	34,037	12.1%	7,159	7,939	10.9%	37,530	41,976	11.8%
Perth Energy	0	0	0%	32	68	112.5%	32	68	112.5%
RIA	95	0	-100%	90	25	-72.2%	175	25	-85.7%
Synergy	890,918	894,804	4.4%	91,763	87,650	-4.5%	982,681	982,454	-0.2%
Total	**921,374**	**928,841**	**0.8%**	**100,491**	**97,131**	**-3.3%**	**1,021,865**	**1,025,972**	**0.4%**

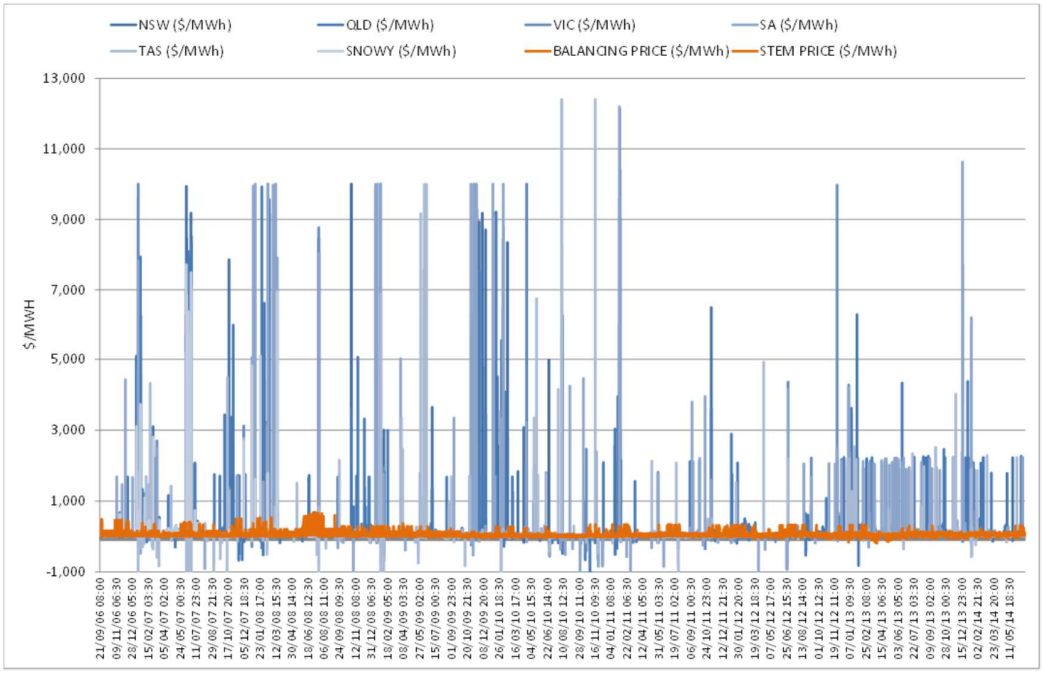
The chart below shows the energy allocations in the WEM. [10] This is an indicator of relative market share in the retail market, noting that although there is a correlation between wholesale energy and share of customers, it is not a direct one-to-one relationship.



5.2. Wholesale Electricity Markets

The graph below shows a high-level comparison of wholesale electricity prices in:

- the WEM, represented by the Short Term Energy Market ("STEM") price and the balancing market price; vs
- the NEM, represented by pricing in NSW, Qld, SA, Snowy, Tas, and Vic.[11]



It is difficult to directly compare the costs per MWh in each market, as the markets have very different price caps, levels of volatility, and risk mitigation structures. However, at a high-level, the above graph shows that both markets exhibit significant volatility that must be managed by retailers when structuring their market products.

Note that the above graph may be a little misleading with respect to volatility, as the WEM results reflect the extreme market event caused by the Varanus Island gas processing plant explosion in 2008. It is understood that the NEM price can demonstrate greater volatility than the WEM price. However this volatility is thought to be largely mitigated by the availability of a relatively liquid hedge contract market in the NEM.

The WEM structure is outlined in Appendix A. While the WEM has exhibited a number of issues that are being addressed via the Electricity Market Review, it has clearly provided a mechanism for retailers to get access to generation capacity at competitively determined prices. The biggest issue with the efficiency of the WEM is the market power of the WA Government owned gentailer – Synergy (see Section 7.1).

5.3. Gas Market

Wholesale gas competition has occurred in WA at the upstream hubs, and for large customers along the pipelines (sees Section B.5). Competition has been restricted historically due to availability of:

- gas supply, which has been impacted by competition for gas with liquefied natural gas ("LNG") export and by joint marketing arrangements employed by gas producers; and
- gas transmission capacity, which has faced complications stemming from the sale of the Dampier to Bunbury Natural Gas Pipeline ("DBNGP") and establishment of the Access Arrangement for that pipeline.

However, current indications are that availability of gas supply and gas transmission capacity are now less of an issue, with new domestic supply becoming available, but noting that there remains concern with long term supply (see the Gas Statement of Opportunities published by the IMO). There are also clear indications that the DBNGP is able to expand to meet the needs of the market.

There has been a high level of gas retail competition for large customers over the last decade, and more recently, competition has commenced for small-use customers (see Section B.7.2).

5.4. Dual Fuel Market

The SWIS and the major gas distribution system – the Mid-West/South-West Gas Distribution System (the "MWGDS") geographically overlap one another, although the SWIS covers a wider range. As a result:

- over 680,000 (66%) of customers have access to both electricity on the SWIS and gas on the MWGDS; but
- about 354,000 of the 1,034,000 customers on the SWIS have access only to electricity.

There has been some competition for dual fuel offerings in WA to date in the large customer segments of the electricity and gas markets, but restrictions on electricity retail market competition are preventing a more liquid and innovative market in dual fuel offerings in general.

6. AEMC Criteria for Retail Competition and the WA Electricity Market

The Australian Energy Market Commission ("AEMC") has undertaken a number of reviews into the effectiveness of retail competition in the eastern States' energy markets since late 2007. Appendix G provides a summary of the AEMC reviews of the NSW, ACT, SA, and Vic energy retail markets.

The AEMC's most recent energy retail market review was of the NSW electricity and gas retail markets, and was based on the following criteria:

(a) are customers active in the market?

(b) are there are any barriers to retailers entering, expanding, or exiting the market?

(c) is there independent rivalry, such that retailers are competing strongly with each other to attract and retain customers?

(d) are customers satisfied with outcomes in the market?

(e) are retailers making profit margins that are consistent with a competitive market?

The following is a high-level assessment of the WA retail energy markets against the AEMC criteria:

(a)	Are customers active in the market?	The number of active retailers in the WA gas market has increased in in recent years. There is evidence that in the past year of a significant acceleration in the number of customers choosing a market contract over the traditional gas supplier. A new entrant in the WA gas retail market (Kleenheat) has initiated an aggressive marketing campaign, and there is evidence that there has been a significant take-up of the market offers. The contestable segment of the WA electricity market is small (100,491 customers in 2011), and there is little evidence of liquidity in that segment of the market. The overall number of contestable customers declined by 3,360 between 2011 and 2012, and Alinta and Perth Energy were the only retailers that registered an increase (38) of new non-residential customers.
(b)	Are there are any barriers to retailers entering, expanding, or exiting the market?	WA has a structure in place to help provide for effective competition for the supply of electricity through the WEM, which is a mixed market combining bilateral contracts, the reserve capacity mechanism, the STEM, and the balancing mechanism. The WEM structure has allowed retailers to get access to competitively priced generation capacity, and is compatible with a competitive retail market. The current apparent excess in generating capacity in the WEM could also be said to offer an opportunity for new entrant retailers to negotiate supply contracts and/or hedging support for retail products that may assist market entry. However, current electricity retail tariffs are likely a barrier to new entry, as the tariffs are below the cost to supply customers (see Section 7.2). The extent of this mismatch may prevent potential new entrants from offering competitive products that provide a reasonable rate of return for their investment, at least until the WA Government takes steps to increase tariffs while mitigating the impact of the tariff increases on consumers at risk.

(c)	Is there independent rivalry, such that retailers are competing strongly with each other to attract and retain customers?	There has been an increase in the number of active retailers in the WA gas market in the last 2 years. As a result, there is evidence that there has been an acceleration in the number of customers choosing a market contract over the traditional supplier of gas, particularly in the past 10-12 months. There is little evidence of the same occurring in the electricity retail market given the small number of customers available for offers. The churn rate amongst the contestable customers in WA is very low, averaging just 156 customers/month in 2012/13.[12] In comparison, contestable energy markets in the eastern States regularly report churn rates between 10%-20%.
(d)	Are customers satisfied with outcomes in the market?	There has been evidence through views presented at various recent industry conferences that a number of retailers are keen for electricity FRC to be implemented in WA. Consumer advocate groups representing non-residential customers have also expressed the view that the current arrangements are not necessarily delivering the best outcome for end-use customers.
(e)	Are retailers making profit margins that are consistent with a competitive market?	Regulator reviews in the eastern state markets have estimated retail margins between 3%-5%. The current cost to serve customers in the WA electricity market is reported to be above the current tariff level, so it may be difficult to obtain margins in the current environment sufficient to encourage entry into the market. The comparison between the Vic vs WA consumer energy costs in Section 7.2.1 seems to support this view.

7. Issues to Consider in Implementing Electricity FRC in WA

7.1. Synergy and Energy Market Policy

On 1 April 2006, the WA Government established four statutory electricity corporations – Western Power and Horizon Power; plus Synergy (as an electricity retailer) and Verve Energy (as an electricity generator). However, on 1 January 2014, the WA Government re-merged Synergy and Verve Energy to create a government owned gentailer (continuing to trade as Synergy).

Synergy has significant control of the WA electricity generation and retail sectors, and therefore has a significant influence on the development of generation capacity, wholesale and retail pricing, and the direction of market development in general. Synergy's market dominance is illustrated as follows:

- On the generation side, Synergy has a dominant market share in the WEM capacity market – it had about 89% of the capacity market when the WEM commenced, although this is projected to decline to about 52% in 2014/15.[13]
    - However, Synergy has control of a larger portion of the generation capacity when consideration is given to the amount of generation plant it has under contract.
- Synergy has a dominant market share in the electricity retail market, with 65% of the entire retail market and 42% of the contestable market (measured by energy consumed).[14]

The WA Government's stated rationale for the merger is to drive operational synergies and remove costs from the State-owned gentailer. The business case demonstrating how the cost savings and benefits are to be achieved has never been tested publically, and the approach seems to be at odds with the approach taken in other energy markets at a similar stage of development, where competition reform is typically encouraged.

The WA Government has indicated that, despite merging Synergy and Verve Energy, it would still like to have a competitive energy market, and would like industry to take mercantile risk in developing future generation plant in the State. As a result, the WA Government has put in place arrangements to limit Synergy's ability to control the market. These arrangements are in the *Electricity Corporations Act 2005* and the *Electricity Corporations (Electricity Generation and Retail Corporation) Regulations 2013*, and are summarised as follows:

- "Segregation Arrangements" as follows:
    - Synergy is organised in four ring-fenced units:
        - a shared services unit;
        - a retail unit: focuses on electricity and gas retail operations;
        - a generation unit: focuses on operating the Synergy generation plant; and
        - a wholesale unit: negotiates Synergy's fuel supply contracts, determines transfer pricing for electricity between the retail and generation units, offers electricity to other market participants at the same transfer price, and negotiates the purchase of electricity from third party generators.
    - Synergy must have a written electricity wholesale supply arrangement from its generation unit to its retail unit to allow the retail unit to supply retail customers:
        - for existing retail customers, the arrangement must state that a "foundation transfer price" applies; and
        - for new retail customers, the arrangement must set out a mechanism for determining the transfer price.

- Synergy must prepare an instrument that sets out how the foundation transfer price is determined, which is to be in force until 30 June 2017. Synergy can amend the foundation transfer price by providing a new instrument to the Minster.
- Some of the information in Synergy's hands is deemed "restricted", and this information must be kept confidential within each unit.
- Each unit must have separate access to information, separate work areas, and separate management roles.
- The Minister is to approve the segregation arrangements and table them in Parliament.

- "Wholesale Acquisition or Supply of Electricity Arrangements" as follows:
  - Wholesale supply to the retail unit cannot be on terms more favourable than are offered to third party retailers or generators.
  - Synergy must have a written policy setting out a standard processes for offering supply to the retail unit, third party retailers, and third party generators.
    - This policy must set out how to asses third parties' ability to pay, and how to set terms and conditions for supply given this ability to pay. This policy is to be published, excluding any confidential information.
    - Synergy must keep records of how this policy is applied for each application for supply from the retail unit, third party retailer, or generator.
  - The Minister is to approve wholesale supply arrangements, and must publish the arrangements in the *Gazette* and table them before Parliament.
    - The Minister can amend or repeal these arrangements, and must publish the amendments in the *Gazette* and table them before Parliament.
- The Auditor General is to do an annual audit of Synergy's compliance with the Segregation Arrangements, and is to table its report before Parliament.
- The ERA is to investigate any breaches of the regulatory arrangements by Synergy, and civil penalties may apply.
- The ERA is to review the effectiveness of the regulatory arrangements on an annual basis and its report is to be tabled in Parliament.

It is unclear how these arrangements will impact the WEM at this stage, but there is a clear perception amongst industry participants that the arrangements may create a conflict of interest, or could distort the market, because:

- Synergy will determine the transfer price with limited competitive pressure, and this price will be the wholesale price that it will offer to itself and to the market; and
- the Minister for Energy will determine whether the transfer price is appropriate, but it is unclear how, and from whom, the Minister will seek advice as to the appropriateness of the price in a competitive market.

These arrangements have a potential to significantly distort the market, including:

- the transfer price may become a de-facto regulatory price, driven by the cost structures of a protected entity; not a market-determined price; and will likely have all of the impacts of any regulatory price determination (asymmetric information, non-responsiveness, etc.);
- the Minister for Energy will effectively become the regulator for the transfer price, and the WA Government owns Synergy, there will be a potential conflict of interest in this dual role; and
- the transfer price may become a floor price in the wholesale market for any power not already under long-term contracts.

The WA Government has also indicated that Synergy will supply small-use electricity customers using its existing generation plant, and there is to be competition for the non-franchise market. This policy has significant implications on the potential for electricity FRC in WA, at least until the WA Government determines its future energy policy direction.

The Synergy re-merger and the new regulatory constraints placed on Synergy create uncertainty regarding the broader industry cost structures, and therefore put at risk the potential to facilitate electricity wholesale and retail market development in the longer-term, including FRC.

It is essential that Government put effective mechanisms in place to ensure that Synergy cannot exercise its market power in the generation and retail sectors, and that private sector market participants have fair access to generation capacity at competitively determined prices. Splitting and/or privatising Synergy is one way to accomplish this, and may be the surest method. However, there are many other methods available, and so splitting and/or privatising Synergy is not a prerequisite for implementing electricity FRC.

In addition, the broader WA energy policy remains unclear, as many detailed energy policy issues are still to be considered, such as:

- the determination of, and path to, cost-reflective electricity retail tariffs and other tariff reforms;
- application of the 3,000 MW generation cap and retirement of current Synergy plant;
- application of other market power mitigation measures; and
- market structure and governance.

The Minster for Energy has indicated that some of these issues will be covered under the Electricity Market Review (see Section A.9).

7.2. Electricity Costs and Retail Pricing

Electricity retail tariffs in WA are currently below cost-reflective levels. According to Synergy, the current A1 Tariff for residential customers (see Section A.2) would need to be increased by 33.5% in 2013/14 to be cost reflective (excluding carbon costs). [15]

Since retail tariffs are below the cost of supply, the WA Government subsidises Synergy to protect the solvency of the State-owned Corporation. Synergy's current projected subsidy for 2013/14 is $493.2 million. [16]

The amount by which tariffs will be below cost in the future will depend on the WA Government's tariff decisions. The WA Government has not made a decision on retail tariff increases for 2014/15, and the 33.5% gap will grow if the tariff increases are not greater than inflation.

The lack of cost-reflective electricity retail tariffs is a significant issue when considering implementing electricity FRC. The WA Government has not yet articulated its electricity retail tariff policy, including:

- who is to set the electricity retail tariffs going forward;
- are tariffs to be made cost-reflective, and if so, what is the transition arrangement/timing;
- how best to determine what a "cost reflective" tariff is; and
- what is the social policy for subsidy to consumers in need and to regional consumers?

It is commonly argued that it is not sensible to implement electricity FRC until electricity retail tariffs are cost-reflective because competition will not develop while tariffs are below cost. However, in assessing costs, it is important to measure "cost-reflective tariffs" using benchmark retailer costs, not the costs of the incumbent dominant retailer (Synergy).

Government has analysed the level of cost-reflective tariffs several times, and has developed various "cost stacks" with:

- generation costs based on either Synergy's costs, or an estimate of the long-run marginal cost of generation;
- network costs based on Western Power's costs;
- retail costs based on either Synergy's costs, or a benchmark analysis of the costs of other retailers; and
- other costs based on actual costs (market administration costs, etc.).

Thought needs to be given to who should determine when the tariffs are cost-reflective. Regulators generally have imperfect information, so regulated prices will either be too low (deterring investment and innovation) or too high (detrimental to customers).

Consideration should instead be given to introducing FRC as a mechanism to identify cost-reflective tariffs over-time. New entrants may establish operations in WA using new structures and streamlined operations, drawing on economies of scale from cross-jurisdictional operations or dual fuel offers, and using lean start-up structures to undercut incumbent organisations.

Implementing electricity FRC sooner rather than later, and in the context of the WA Government increasing retail tariffs over time, would assist potential entrants in determining the right point of entry to suit their business model. This would allow "practical FRC" to begin once the market determines that tariffs have reached efficient cost-reflective levels, not when a regulator determines that tariffs are cost-reflective based on imperfect information. Some electricity retailers have indicated that they would be willing to make electricity supply offers to some non-contestable customers at the current tariff levels.

Cost-reflective electricity retail tariffs are not a prerequisite for implementing electricity FRC. Instead, the key is handing responsibility for setting electricity retail tariffs to the ERA; and Government committing to moving tariffs to cost-reflective levels, while providing subsidies directly to consumers (rather than holding tariffs artificially low).

7.2.1. Electricity Price and Cost Comparison

To help understand the potential for electricity prices and costs to limit the effectiveness of electricity competition in WA, consider the following high-level comparison between Vic and WA electricity prices and costs. The comparison is of the prices and costs for energy products between Vic customers, who arguably reside in the most liquid retail energy market in Australia, and potentially in the world, vs. the prices and costs that a similar consumer is exposed to in WA.

The Vic electricity prices and costs were sourced from the Vic Government Comparator website to determine a range of charges and estimated costs for a "model consumer" defined as a medium energy-use consumer with the following characteristics:

- a household of up to 3 people;
- up to 3 TVs and computers;
- a town house or house as the property type;
- central gas heating and an electric hot water system; and
- an estimated daily energy use of 1,308 kWh (peak), billed quarterly.

Table 6 shows a range of electricity prices available in Vic, drawn from publicly available published data; and presented as average prices (based on the list of available offers from multiple retailers), and the minimum and maximum comparisons.

Table 6 – Sample Vic Electricity Charges		
	Energy ($/kWh)	Supply Charge ($/day)
Average	0.25962	0.98299
Minimum	0.20867	0.73832
Maximum	0.28776	1.28997

Table 7 presents the quarterly estimated electricity costs for the "model consumer" based on the prices presented in Table 6.

Table 7 – Quarterly Estimated Cost of Sample Vic Market Contracts (based on 91 days at 14.37kWh/day)			
	Energy	Supply Charge	Total Charge
Average	$339.58	$89.45	$429.03
Minimum	$272.94	$67.19	$340.13
Maximum	$376.39	$117.39	$493.78

If a Vic consumer moves into a house and does not execute a market contract, then the retailer must supply electricity based on a published standing contract. If a Vic consumer is still living in the same house since 2001 and has never executed a market contract, then they will remain on the original standing contract with its most recent published rates. Table 8 shows the average, minimum, and maximum prices from the published set of standing contract offers from listed Vic retailers.[17]

Table 8 – Vic Electricity Charges for Standing Contract Offers		
	Energy ($/kWh)	Supply Charge ($/Day)
Average	0.27663	0.96138
Minimum	0.26950	0.86900
Maximum	0.29711	1.01167

Table 9 shows the quarterly estimate costs for the "model consumer" on the standing contract.

Table 9 – Quarterly Estimated Cost For Sample Vic Standing Contracts (based on 91 days at 14.37kWh/day)			
	Energy	Supply Charge	Total
Average	$361.83	$87.49	$449.31
Minimum	$352.51	$79.08	$431.59
Maximum	$388.62	$92.06	$480.68

In comparison, small-use customers in WA are charged a regulated tariff – the A1 Tariff, as follows (see Appendix C for more information on the regulated tariffs):

- Energy 25.9052¢/kWh; and
- Supply Charge: $0.432072/day.

The estimated quarterly bills that the "model consumer" would face in WA under the A1 Tariff are:

- Energy: $338.84
- Supply Charge: $39.32
- Total: $378.16

From this simple comparison, it appears that there is an 18%-26% difference in the quarterly costs for a "model consumer" in the contestable market in Vic vs a customer supplied in WA under the A1 Tariff, noting that the A1 Tariff is about 33.5% below cost.

It should be noted that this is a very simple comparison, and different classes of customers may have very different outcomes in both Vic and WA. A range of discounts are available in the contestable market in Vic that can and do change the final outcome; such as discounts for automatic bill payments, dual fuel offers, flexible pricing through multi-tier tariffs, etc.

While the retail cost structures in WA are quite different to the Vic contestable market, this model comparison shows there may be room for efficient discount retail operators to compete in WA, particularly where dual fuel products can be factored into the market.

It should also be noted that a major component of the difference in retail cost outcomes is the significant difference in the standing charges levied in each jurisdiction. The Vic daily charge are around 40% higher than in WA, whereas the market contract energy charge per kWh appears to be only marginally different.

7.3. Customer Protection

Measures will need to be put in place to protect the interests of end-use customers if electricity FRC is implemented. Many of these arrangements have been put in place for both the gas and electricity sectors in WA, and via the National Energy Customer Framework ("NECF") in the eastern States.

If electricity FRC is implemented in WA, then the Public Utilities Office ("PUO") and the ERA will need to review the customer protection arrangements for both electricity and gas to ensure end-use customers are adequately protected, and to align the two markets to the greatest extent possible.

The NECF reforms have implemented significant changes to the customer protection framework in the eastern States. The NECF reforms may inform the WA jurisdiction as what needs attention during a FRC implementation. Some of the issues that will need to be considered include:

EIC:

- It is important to protect consumers' rights by ensuring that customer transfers (churn) only occurs with the Explicit Informed Consent ("EIC") of the customer. This was a significant issue for in the implementation of gas and electricity FRC in the eastern states, and for gas FRC in WA.
- Electricity FRC in WA will create a need to place clear obligations on retailers to ensure they obtain appropriate evidence that customers have given EIC prior to initiating a churn. This obligation should carry sufficient penalties for non-compliance to ensure retailers invest in appropriate systems, and to be able to effectively respond to audits of their operations.

Marketing Codes:	• Another important customer protection measure is ensuring that effective marketing rules/codes are in place to ensure that retailers are aware of their obligations during customer acquisition, maintenance of service, and relationship exit activities. This requirement was highlighted in the eastern states by the issues that arose from door-to-door sales programs and billing dispute activities. • There was (as it turns out a justified) fear in the east coast electricity retail markets that there was a high risk of inappropriate churn occurring because of poor operational controls in retailers' marketing campaigns; the consequences of which is increased disputes between retailers and customers, and involvement by the relevant jurisdictional ombudsman. • The growth in door-to-door marketing programs created issues for a time early in both the gas and electricity markets operation, and remains an area where industry controls need constant vigilance. • In addition, a need was recognised to prescribe provisions to ensure retailers provide information on customers' bills that consistent at least in basic data, so that the customers can make judgements and decisions on choice of retailer.
Hardship Provisions:	• Hardship provisions need to be prescribed and regulated. The introduction of FRC raises the potential for hardship customers to be treated differently, and potentially more harshly, by competing retailers. Initially, jurisdictional regulators, and subsequently the NECF reforms, recognised that there should be minimum standards that should apply where customers are faced with difficulties in obtaining essential services such as energy. • The Hardship Utilities Grant Scheme ("HUGS") will need to be restructured to allow consumer subsidies to be managed in an environment where competing retailers are delivering energy products.
Standard Contracts:	• Implementation of FRC allows a number of retailers to compete in the market, and since electricity is an essential service, a "standard contact" may be required to specify minimum service levels.
Debt Management:	• When the jurisdictional regulators and the Standing Council on Energy and Resources ("SCER") initiated the NECF processes, they were keen to ensure that debt management protections were put in place for vulnerable consumers. The aim was to minimise inappropriate disconnection, and to balance the need to protect the retailer from customers avoiding debt through rapid and multiple transfers. These protections may need to be built into either retail licences or the standard contracts. • There is also a need for provisions to manage terms of debt recovery for under/over-charging, especially for when a customer has moved to another retailer. This is to protect both customers and retailers, and there may be a need to limit periods around which the adjustments can be pursued.
ROLR provisions:	• Retailer of Last Resort ("ROLR") provisions are needed to manage the rights of consumers and retailers in in the event of a retailer failure. The eastern markets have avoided large retailer failures to date, but there has been one small retailer failure.[19]

- ROLR issues are complex and require significant coordination across multiple organisations, with potentially complex legal consequences. The ROLR process needs to be well documented and have legal heads of power in place prior to any event to ensure minimal disruption and provide a clear understanding of each party's obligations and risks.

Customer support:

- Information regarding customer support issues, such as life support, will need to be maintained, and appropriate compliance regimes put in place to ensure such customers are protected.

7.4. Other Issues Impacting Electricity FRC Implementation in WA

7.4.1. Regulatory Issues

Network access

- Network access regulation of the SWIS will impact on electricity retailing, including timing for getting access, terms for access, and cost for access.
- Access regulation of the SWIS is stable, and independently managed by the ERA (see Section A.1). The stability of the regulatory system and consistency of terms is likely to aid, rather than be a barrier to a competitive electricity retail market.
- Western Power's current Access Arrangement expires in 2017.
  - Western Power and the ERA will need adequate information on the likely timing of, and cost to implement electricity FRC that will need to be recovered in the subsequent Access Arrangement period.
  - If timing for FRC development does not allow adequate information to be available at the time of the regulatory reset, then consideration should be given to:
    - re-opening the Access Arrangement for FRC-specific adjustments; or
    - putting a pass-through arrangement in place to deal with FRC-driven changes to the Access Arrangement cost recovery parameters.

Licensing

- Electricity licensing will impact on electricity retailing, including the onerousness and clarity of license terms, and cost of licenses.
- The ERA independently manages licensing by (see Section A.3). The stability of the system and consistency of terms is likely to aid competition, and is unlikely to be a barrier to a competitive electricity market. Electricity license fees are listed in Table A.3 – these fees are relatively low, and are unlikely to be a barrier to competition.

Tariff subsidy policy

- The WA Government currently subsidises vulnerable electricity customers by holding tariffs below cost (see Section 7.2). This is a very inefficient way to meet social policy requirements because it:
  - provides a subsidy to all consumers, not just those in need, and the level of the subsidy provided by the WA Government to hold tariffs below cost is a significant issue for Government finances; and
  - significantly distorts the price signals seen by electricity consumers, which incentivises over-consumption, particularly during peak periods.

- Consideration could be given to implementing electricity FRC sooner rather than later if the WA Government were to provide assistance to consumers in need by direct subsidy rather than by holding electricity retail tariffs below cost. This would allow tariffs to be set to cost-reflective levels relatively quickly, and would allow retailers to compete for any customers without distortion from subsidies.

7.4.2. Network Issues

Retailer access

- Implementing electricity FRC could impact Western Power's costs, and therefore could impact network tariffs; and the scale of this impact could impact the costs of, and timing to implement retail competition. Retailers may be able to pass through network tariff increases, but this could impact consumer perceptions about electricity FRC.
- Western Power is required to negotiate network access contracts with new entrants. Western Power may face increased costs to manage the increased number of new contracts under electricity FRC, and will need to deal with the related additional financial and technical scrutiny.
- Western Power's "Use of System Agreement" sets out performance standards for network access (timing for meter data availability, timing for service orders, etc.) that will need to be adjusted if electricity FRC is implemented.
- Western Power's operations will need to be more closely regulated to ensure its operational performance does not hinder the development of a vibrant retail market. The regulatory oversight will need to balance the competing need to:
  - ensure that Western Power's costs are efficient; vs.
  - provide effective services to retailers so that they can meet their customers' needs and support competitive retail product development.

Systems and processes

- Western Power's service levels will need to be altered to support the new customer billing requirements that will arise in a competitive market.
- Western Power's legacy systems can manage the current level of competition, but are unlikely to be easily modified to be able to support FRC.
- Western Power will need to make significant systems changes to be able to handle:
  - a significantly larger amount of metering data and more frequent use of that data; and
  - a significant increases in the number of business-to-business ("B2B") interactions and reporting obligations.
- Western Power's existing B2B facilities are based on an early version of the communication infrastructure used in the NEM, and would need to be extended and updated for Western Power and all participants. Alternatively, Western Power may need to replace its communications systems entirely if the FRC Hub is used (see Section 11.3).

Meters

- Western Power may need to install interval meters on a number of larger customers to allow FRC to be implemented. If the WA Government wants to avoid Western Power needing to incur these costs, then consideration could be given to making metering contestable, although such a step should not impact a decision in timing for implementing electricity FRC.

7.4.3. Retail Issues

Synergy dominance

- Synergy's is a Government-owned dominant gentailer, and this is likely to be seen as a barrier to entry. There is a perception that Government has a conflict of interest under this arrangement, and that Synergy could operate in an anti-competitive manner.
- Synergy's merged structure could limit the development and availability of competitive hedge contracts to mitigate wholesale price volatility.
- Arrangements must be established to prevent Synergy from using withholding tactics for access to network and generation capacity.
- Synergy's contract terms and conditions may need to be reviewed to ensure none of the conditions inappropriately constrain choice.
- The current 8¢/kWh solar rebate will need to be amended, or else existing solar connected premises will likely remain with Synergy (i.e. it could discourage customer acquisition).

Cost of entry

- Design of the WA electricity market will need to account for the following factors, including the impact of these factors on the costs for retailer market entry :
  - legislative and regulatory arrangements (see Section 9);
  - Market Operator arrangements (see Section 10); and
  - market arrangements (metrology, profiling, infrastructure, systems, etc. – see Section 11).

Cherry Picking

- It has been argued that electricity FRC should not be introduced because it would allow industry to "cherry pick" from Synergy – that is, to target Synergy's high-value customers (with high load factors), which would leave Synergy with a low-value customer base (with low load factors).
- However, there are two problems with this argument:
  - The cherry picking argument is based on a misunderstanding about how competition works in the mass-market.
    - Retailers typically need to initially make a standing offer to the market to obtain and maintain a market share sufficient to cover costs (supply, billing, metering, etc.). Retailers would not be able to keep a sufficient market share if they turn away low-value customers, and the market would quickly learn about this behaviour, and would stop accepting the offer, as has occurred in the NEM.
    - Evidence in the WA gas retail market is that the cherry picking is not prevalent – Kleenheat recently entered the WA small-use gas retail market by making a standing offer to all gas customers and is not turning away customers that accept their offer.[18]

- The cherry picking argument assumes that high-load factor customers should cross-subsidise low-load factor customers, but there is no objective reason for such a subsidy:
  - Such a cross-subsidy may drive increased system peakiness by holding down costs for low load factor customers.
  - The social policy implications of this cross-subsidy need to be considered – if low-income consumers are predominantly the high load factor customers, then this would imply that low-income consumers are cross-subsidising high-income consumers.
  - In a truly competitive market, Synergy would need to operate in an efficient manner to keep its costs and products competitive. Therefore, "protecting" Synergy from cherry picking would be a disservice to the end-use customers, as it would support ongoing inefficiencies and inflated costs.

Retailer viability

- For FRC to be successful, the retail market must be structured to allow new entrants to enter and operate. However, there remains a risk that a new entrant will fail and leave its customers at risk.
- The NEM has seen only one retailer fail in its 12 years of operation. This retailer failure was not attributed to any aspect of the market design, and its impact was managed through the regulated facilities, so that there was minimal impact on the end-use customers.[19]

7.4.4. Government Impacts

Impact on Synergy

- Synergy will inevitably lose market share if electricity FRC is implemented, which will impact Synergy financially, and will therefore impact State finances. This raises the issues of the conflict of interest in having the WA Government own market participants and set energy policy.
- Synergy's risk of loss of market share would also drive it to operate more efficiently over time.

7.4.5. Market Issues

WEM operation and market changes

- The WA Government is conducting the Electricity Market Review (see Section A.9) to, amongst other things, consider changes to address the perceived issues with the WEM; which could:
  - drive "evolutionary" changes to the current WEM rules and/or structure to improve its operations, or
  - result in a large-scale change to the WEM, perhaps transitioning from an energy and capacity market to a NEM-style energy-only market.
- Despite the WEM's issues, market participants have indicated that it:
  - is compatible with a fully contestable retail market;
  - gives retailers access to liquid wholesale electricity supply, at competitive prices, and with terms that match the needs of their customers; and
  - gives generators access to supply contracts on terms that will allow them to bank their generation plant.

- When deciding what, if any, changes are to be made to the WEM via the Electricity Market Review, the WA Government will need to ensure that the resulting market continues to exhibit these features.

WEM/retail market interaction

- Interaction of the WEM and the retail market will depend on how the electricity FRC market is implemented – see Section 11.
- Significant changes are likely required to what and how metrology data Western Power provides to the Market Operator, and in what timeframe. Access to interval meter data will be required on a daily basis (rather than the current monthly delivery) for the determination of the daily Net System Load ("NSL") calculations required for profiling and for allocating wholesale energy associated with sites on accumulation meters.

7.4.6. Legislative Issues

Current Prohibition on Electricity FRC

- Section 54(2) of the *Electricity Corporations Act 2005* establishes the franchise arrangements for Synergy by providing that Western Power cannot transport electricity to small-use customers for retailers other than Synergy. Section 54(2) stipulates:

  > *A distribution license does not authorise… [Western Power]… to supply services for the purpose of the supply of electricity to a prescribed customer by a person other than… [Synergy].*

- The *Electricity Corporations (Prescribed Customers) Order 2007* define a "prescribed customer" as one that consumes ≤50 MWh/a at each exit point. This Order will need to be revoked if electricity FRC is implemented.

Market operations

- Legislation will need to be developed to ensure the Market Operator has appropriate heads of power, and that a compliance regime is in place.
- There are a number of options for who could operate the WA electricity retail market – REMCo, IMO, a new company, or AMEO. These options will impact how electricity FRC can be implemented – see section 10.

Gas Market Moratorium

- There is one exception to gas FRC in WA – the "Gas Market Moratorium" applies to Synergy and restricts it from competing for customers that consume ≤0.18 TJ/annum.
  - This Moratorium was put in place to prevent Synergy from fully competing in the gas retail market and obtaining a competitive advantage from being able to make dual fuel offers (electricity and gas) while other market participants are prevented from retailing electricity to small customers.
  - The threshold in this Moratorium is equivalent to the contestability threshold in electricity (50 MWh/annum) on an energy basis.
- The Moratorium is to be repealed when practical electricity FRC is established, and the PUO will need to consider the definition for when "practical" electricity FRC has been accomplished.
  - Early removal of the Gas Market Moratorium on Synergy will give it a significant advantage, as it would have access to customer information for all existing gas customers in the SWIS, while the electricity retailers will only have access to customer information for 66% of the available electricity customers in the SWIS through their existing gas customer relationships.

Price Comparator Tools	• Price comparator tools are now available for consumers in the eastern States to maximise the availability of independent information to consumers, and to enhance the performance of competition. • The early stages of FRC were characterised by a lack of available consistent information to customers to help make informed choices. Retailers will naturally attempt to differentiate themselves from each other, so their offerings will most likely be hard to compare. The AER's "Energy Made Easy" website provides customers with the ability to more easily compare available retail product offers.
Implementation options	• Electricity FRC could be implemented under a number of legislative options. These options are summarised under section 9.2, and will impact how electricity FRC can be implemented.
Standardised B2B and B2M Rules	• Implementing electricity FRC creates a clear need for standardised operational rules covering the B2B and business-to-market ("B2M") communications processes to manage connections and disconnections. Each retailer and their customers should have the same minimum level of service from the Network Operator regardless of the retailer's size or commercial relationship with the Network Operator. This will ensure that there is a level playing field for retailers, especially during the connection phase of the customer relationship.

8. Prerequisites and Timing for Implementing Electricity FRC

The two key issues from Section 7 that will impact timing for when electricity FRC can/should be implemented are:

- The impact of the Government-owned gentailer – Synergy:

  It is essential that Government ensure that effective mechanisms are put in place to ensure that Synergy cannot exercise its market power in the generation and retail sectors, and that private sector market participants have fair access to generation capacity at competitively determined prices. Splitting and/or privatising Synergy is likely the surest way to accomplish this, but there are many other methods available, and so splitting and/or privatising Synergy is not a prerequisite for implementing electricity FRC. Some other steps that can be taken to limit Synergy's market power, include:

  - transparency regarding planned plant shut-downs;
  - access to generation capacity contracts for market entrants;
  - asset sales; and
  - capital recycling.

- Electricity retail tariffs:

  Cost-reflective electricity retail tariffs are not a prerequisite for implementing electricity FRC. Instead, the key is handing responsibility for setting electricity retail tariffs to an independent regulatory authority – likely the ERA; and Government committing to allowing the ERA to move tariffs to cost-reflective levels, while separating out its social policy responsibilities (i.e. providing subsidies directly to consumers, rather than holding tariffs artificially low).

Figure 1 indicates the impact of these two issues on the potential timing for implementing electricity FRC in WA.

Figure 1: Timing for Implementing Electricity FRC		Limitations on Synergy Market Power		
		Limited steps taken	Effective Steps Taken	
			Other Mechanisms	Split/Privatise
Tariffs	Government sets tariffs/subsidises consumer via tariffs	X	Long-Term	Long-Term
	ERA set tariffs and Government directly subsidises consumers	X	Medium-Term	Near-Term

9. Legislative Review

9.1. Current Legislative Arrangements

The WA electricity retail sector is currently governed by the *Electricity Industry Metering Code 2012* (the "Metering Code") and the *Electricity Industry Customer Transfer Code 2004* (the "Customer Transfer Code").

These Codes govern matters that are typically covered by the Retail Market Rules once FRC has been implemented. A review will need to be undertaken of these Codes to determine which parts of the Codes can be moved to the Electricity Retail Market Rules, and which parts can be repealed and/or transferred to other legislation. As a guide for this review, REMCo has conducted a gap analysis between the content of REMCo's Gas Retail Market Rules vs. the Metering Code and the Customer Transfer Code – see Appendix H.

9.2. Legislative Options

There are innumerable ways that legislation could be drafted to provide for electricity FRC implementation in WA. However, four options that could be explored are based on the legislative approaches currently in use across Australia:

Electricity Retail Market Schemes:

Existing legislation could be amended, or new legislation drafted to establish *Electricity Retail Market Schemes*.

The concept is to essentially replicate the provisions for Gas Retail Market Schemes under Part 2B of the *Energy Coordination Act 1994* and apply them to electricity. Electricity Retail Market Schemes would be required for all electricity networks in WA where there is more than one retailer selling electricity. The legislation would set out the requirements for an Electricity Retail Market Scheme,[20] and the detail on market operations would be inserted into a set of *Electricity Retail Market Rules*.

New legislation could be drafted or existing legislation could be amended, including:

- amending Part 2B of the *Energy Coordination Act 1994* so that it deals with electricity as well as gas; or
- amending the *Electricity Industry Act 2004* to insert a Part 2B-type scheme.

New WA-Based Legislation

An entirely new set of bespoke legislation could be developed to provide for the electricity FRC requirements in WA.

If electricity retail market schemes are not to be used, then the provisions of the National Electricity Law ("NEL") and National Electricity Rules ("NER") could be used to form the basis of a legislative package specifically tailored to the jurisdictional requirements of WA. It may be possible to use specific linkages between the jurisdictional instruments and the national provisions, where appropriate, in the interests of eventual national consistency. This may assist with market development in WA, as eastern state participants may be reluctant to enter a market that was too different from their current operations in the NEM. Regulatory consistency would assist participants in managing their regulatory risk and compliance regimes, and therefore keep down the costs of entering the WA market.

Code Based Approach

One approach to this option would be to establish a code or codes under section 39 of the *Electricity Industry Act 2004* to provide requirements for electricity FRC.

National Approach

The NEL and NER provide AEMO's legislative arrangement is as follows:

- the NEL prescribes the AEMO's functions;
- the NER prescribes requirements for power system security, network connection and access, pricing for network services in the NEM, and national transmission planning; and
- the "procedures" set out the processes for market operations (the equivalent of REMCo's Retail Market Rules and the IMO's Wholesale Market Rules).

It would likely be very difficult to directly implement the NEL/NRL in WA, as many of the NEL/NER provisions would need to be exempted, and jurisdictional provisions included to manage the differences between the WEM and the NEM. Such legislative changes would be complicated and would need to be resolved via COAG agreement, and legislative processes in SA (as the lead legislator) and WA (as the mirror legislator).

The WA Government has indicated that one option to consider in the Electricity Market Review is to move the State electricity wholesale market from the WEM into the NEM, and transitioning market operations from the IMO to the AEMO. The National Option would be viable if such changes are made, and if paired with the AEMO option for the Market Operator (see Section 10.1.4); as amendments would need to be made to the NEL/NGL in any event. Since such a change is speculative at this stage, the National Approach is not considered further in this paper.

In addition, the National Electricity Retail Law ("NERL") is currently being contemplated for the NEM states. While the NERL does not implement electricity FRC, it seeks to facilitate contestability by focusing on retail fundamentals like licensing, contracting, and customer protection. Implementing the NERL in WA may assist with market development by providing further regulatory consistency. The NERL could be implemented in WA under any of the above three options in two ways:

Full NERL

The NERL could be fully implemented in WA, handing over regulatory control to the AER.

Partial NERL

The NERL could be partially implemented in WA, keeping regulatory control with the ERA.

9.3. Legislative Evaluation

REMCo engaged Jackson McDonald to help assess the legislative and regulatory options for implementing electricity FRC in WA. The analysis was conducted on three options:

- Electricity Retail Market Schemes;
- New WA-Based Legislation; and
- Code Based Approach.

The analysis was also conducted on the two options for implementing the NERL.

The analysis used the following four criteria:

Cross-energy consistency	Is the option's structure consistent with the structure used for gas FRC in WA, and if not, what changed would be needed for alignment? This criterion is important to aid dual fuel offering, which will help with market development, and may help reduce costs to develop and administer gas and electricity retail markets.
Cross-jurisdictional consistency	Is the option's structure consistent with the structure used in the NEM? This criterion is important because regulatory consistency with the NEM will reduce barriers to entry for NEM-based market participants, which will aid market development.
Simplicity	Simplicity is always a worthwhile regulatory objective to reduce costs to develop and operate the market for both Market Operators and participants; and incorporates simplicity of: • structure; • implementation; and • administration. A simple legislative arrangement is critical to driving low-cost and timely market implementation and operation.
Structural benefits	Does the option's underlying structure afford benefits compared to other structures?

REMCo's summary of the legislative analysis is provided in Appendix I.

10. Market Operator

10.1. Market Operator Options

There are four main options for which organisation could operate the fully contestable electricity retail market in WA. The option chosen for the Market Operator will impact the costs and timing to implement and operate the electricity retail market, and are expanded upon in Section 11.

10.1.1. REMCo Option

REMCo operates the WA gas retail market, and could also take on WA electricity retail market operations. Rationale for this option incudes:

- REMCo has energy retail market operations expertise, including the administrative processes and the necessary rule development and compliance processes;
- REMCo could integrate the operation of the WA gas and electricity retail markets;
- REMCo has the capacity to expand operations;
- REMCo uses the same hub for B2B and B2M communications as AEMO uses for communications for the eastern States' gas markets – the "FRC Hub"; and
- existing WA energy market participants already have interfaces with REMCo systems.

The REMCo option would be legislatively simple to implement, and could be implemented with no legislative changes other than those discussed under Section 9. Advantages of the REMCo Option include:

Existing Infrastructure

REMCo has an existing infrastructure for the movement of critical business process documents that is used by key market participants (Alinta, Synergy).

Experience in the eastern states implementation of FRC demonstrated that a large investment in systems and processes is needed to support the interactions between retail market participants in a contestable market. The key components involve the reliable delivery of, and response to transactions between participants (retailers, Network Operators, and the Market Operator).

The REMCo infrastructure could be used to facilitate the same types of transactions in WA electricity retail market. Western Power would need to build new facilities and create new processes to interact with this system; while all other market participants would only need to augment existing processes. This approach would leverage use of the FRC Hub.

Although the implementation costs to setting up the gateway infrastructure to interact with the FRC Hub is higher than establishing a link with the type of service used for market communications in the NEM (the "Hokey Pokey"); market participants operating in both the NEM and the eastern gas markets have advised that the FRC Hub has lower cost in the long-term because of a significantly lower need for manual interventions in transactions.

It should also be noted that Western Power's current B2B facilities, used to support of the current electricity retail market in WA, is based on an early version of the Hokey Pokey. Significant upgrades would be required to Western Power's and existing WEM participants' facilities if the full NEM B2B facility were to be adopted. Any current gas-only retailer would need to build entirely new facilities. See Section 11 for more information on systems impacts.

Administrative Processes

REMCo's existing administrative and compliance facilities, and market management processes are readily adaptable to providing the required electricity retail market support. There would be little need for costly additional industry consultative structures if the WA government selects the same regulatory model, as the existing arrangements could be adapted to cater for both commodities.

This approach of combining the market development functions for both gas and electricity is being taken by AEMO in the eastern States to achieve synergies in market processes.

Systems Upgrades

REMCo's gas systems are outsourced to CGI, and are approaching the end of their effective life. REMCo's gas systems will need to be redeveloped over the next 2-4 years, with hardware and applications software that can be supported over the following 10 years. If REMCo or a related entity is to implement electricity FRC, then it could be advantageous to align the update of the gas systems with the integration of capability to manage electricity FRC. This would provide the opportunity to share costs across the commodities and maximise synergies that could exist between the two retail markets. Common customer transfer systems and centralised data storage of core customer/site information are just two of the potential areas that would offer savings across both commodities.

10.1.2. IMO Option

IMO operates the WEM, and could also take on operation of the retail portion of the WA electricity market. Rationale for this option includes that IMO:

- has wholesale electricity market operation expertise; and
- has access to WEM information and processes that would be useful in operating the WA electricity retail market.

In addition to the legislative changes discussed under Section 9, changes would need to be made to the *Electricity Industry Act 2004* and/or the *Electricity Industry (Independent Market Operator) Regulations 2004* to give the IMO authority to operate the WA electricity retail market. Advantages of the IMO Option include:

WEM Integration

The IMO would be able to integrate the data requirements of the WEM with the key input data sourced from the competitive retail market. Introduction electricity FRC in WA may have implications for how and from whom the IMO obtains the data required for WEM market calculations and settlement. There may be benefits in terms of minimal data handling if the IMO were to manage electricity retail market settlement, alongside the WEM settlement processes.

10.1.3. New WA-Based Operator Option

An energy Market Operator could be established to operate the WA electricity and gas, wholesale and retail markets. This Market Operator would take up the roles currently provided by IMO and REMCo, as well as electricity FRC, and would result in a single energy Market Operator for WA, similar to AEMO in the eastern States.[21]

In addition to the legislative changes discussed under Section 9, legislation would need to be drafted to allow the IMO's current functions to be transferred to the new Market Operator. Advantages of the New WA-Based Market Operator Option include:

Benefits of Other Options

If implemented appropriately, this option would have all of the benefits of both the REMCo and IMO options.

Rationalisation of Processes

If the New WA-Based Operator was to assume the functions of both REMCo and the IMO, the move to an integrated service provision could be managed on a transitional basis, not dissimilar to the process used in creating AEMO, which was created out of an amalgamation of six different jurisdictional Market Operators.[22] During the amalgamation AEMO assumed all the contracts for supply of outsourced IT services and the management of a number of in-house IT systems. These contracts, systems, and process are being rationalised over time to add value and minimise disruption to the markets and market participants.

10.1.4. AMEO Option

AEMO is the electricity and gas, wholesale and retail Market Operator in all Australian jurisdictions other than WA and NT. As such, AEMO has the expertise and resources necessary to implement electricity FRC in WA, and could also take up other market operations in WA.[23]

Implementing the AEMO option would depend on the approach taken by the AEMO Board to providing services to WA.

- If the AEMO's view is that the services must have a national statutory head of power under the NEL, then this option would face some potentially significant legislative complications that would need to be resolved via COAG agreement, and legislative processes in SA (as the lead legislator) and WA (as the mirror legislator). These issues are touched on under the "National Approach under Section 9.1.
- However, if AEMO took the approach of expanding its current service delivery of market services in WA, similar to how it provides services to REMCo in the WA gas market, it could be managed under similar heads of power discussed in Section 8 for the REMCo option.

Advantages of the AEMO Option include:

Ease of Implementation

AEMO already has the systems and processes that are capable of incorporating both the WA gas and electricity retail functions (MSATS for electricity, and the use of an outsourced relationship with CGI that provides AEMO with almost the same service for SA as REMCo receives for WA). As a result, it is possible that the speed of implementation and cost of providing these services through the existing AEMO facilities could be lower than a greenfield implementation.

10.2. Preliminary Consultation on the Market Operator Options

Preliminary consultation with retail market participants has indicated a strong preference that the Market Operator should have a governance structure with clear responsibility to industry, accounting for commercial operation of the market and meeting Government policy. Retail market participants have a strong preference for that the Market Operator have a governance structure similar to REMCo or the AEMO; not a Statutory Corporation, like the IMO.

11. Electricity FRC Implementation

Preliminary consultation on the approach to implementing electricity FRC has indicated that an orderly transition to FRC is paramount. Implementation should have a lead time of about 2 years, during which time the FRC rules and systems should be developed, with industry leading that development, guided by Government policy.

11.1. Contestability Thresholds

There are three apparent options for how greater contestability can be introduced into the WA electricity market:

- make customers (small business and households) contestable in two or more tranches relating to consumption quantities;
- first make all small business customers contestable, then households in one or more tranches relating to consumption quantities; or
- go straight to FRC.

The eastern States introduced competition in multiple staged tranches for large customers, and then jumped to FRC for the residential and small business customers. This was a viable approach in the eastern States because:

- the electricity market was of sufficient size; and
- the number of customers in each tranche was such that retailers could enter the market and generate viable competition.

The threshold for competition in the WA electricity market has been reduced over time so that competition is already open for medium to large customers. Table 10 provides information on the number of customers on some of the regulated tariffs, and their average consumption.[24]

Table 10 – Customer Numbers an Average Consumption by Tariff Class

Tariff	Customer Numbers	Average Consumption
A1 (residential)	800,000	5,200 kWh/a
L1 (small business)	80,000	15,000 kWh/a
K1 (residential/small business combined)	13,000	10,000 kWh/a
C1 (charitable organisations)	2,000	15,000 kWh/a
D1 (charitable organisations)	100	115,000 kWh/a

Table 10 lists only the A1, L1, K1, C1, and D1 tariffs; as the customer on these tariffs are generally small-use customers. Customers on the other tariffs are generally already contestable. The data in Table 10 is somewhat dated (2009), but the proportion of customers on each tariff, and the average consumption for customers on each tariff are unlikely to have significantly changed.

Based on Table 10, it is likely that there is now more 800,000 residential small-use customers, and more than 100,000 non-residential small-use customers. Table 10 also shows that:

- there is a difference between the consumption volumes for residential vs. small business customers; and
- consumption volumes for residential customers is relatively low, so there is unlikely to be a significant variability in consumption volumes within this customer class.

As a result, the most realistic options for changes to the contestability thresholds are to:

- first make all small business customers contestable, then all residential customers; or
- go straight to FRC.

However, given the likely costs to develop the necessary systems to service 100,000 customers, it is unlikely that introducing contestability first to small business customers will generate the level of competition that would provide sufficient benefit to the customers or be viable for new entrants into the market. As a result, the best option for lowering the electricity contestability threshold in WA is to remove the threshold completely and move to FRC.

Nevertheless, it is possible that some of the larger small business customers could be made contestable without the need to incur significant systems development costs. As a result, a further reduction in the contestability threshold should not be ruled out until a more detailed analysis can be conducted on Synergy's aggregate customer data.

During REMCo's preliminary consultations with WA industry participants, all retailers supported any reduction in the contestability threshold, but indicated a strong preference that FRC should be implemented in one step (except Synergy did not offer an opinion). Western Power indicated it had no preference, but indicated that care would need to be taken to ensure that the systems and processes are reliably managed and delivered.

11.2. Metrology

The Market Operator's system need to be able to manage metrology functions in support of:

- daily estimation of Type 6 accumulation meters (i.e. basic meters) using a profiling process;
- provision of metering data into the WEM settlements system; and
- data reporting to market participants for billing and reconciliation processes.

The market system will require a Metering Data Management ("MDM") database to receive, validate, store, and aggregate metering data required for:

- provision of a Profile Preparation Service ("PPS");
- provision of Basic Meter Profiling ("BMP") functionality;
- storage and/or generation of profile shapes; and
- provision of aggregated and non-aggregated data for market settlement, retail billing, and reconciliation and validation activities.

The MDM function will need to receive non-aggregated data for all metering types; and will aggregate and provide the wholesale load and customer data required for settlement purposes. If a global settlement is used instead of settlement by difference, the MDM function will require all non-aggregated meter data. Settlement by difference and global settlements is discussed further below.

11.2.1. Inputs required by MDM Service

The MDM will need to receive and store all wholesale energy data. This may include generator and transmission node energy data, if the service is integrated with the WEM settlement function. The MDM will require access to interval data and accumulated consumption data for every connected load. The interval data, profiled data, deemed data, and wholesale data will need to be delivered in a standard form if multiple parties are to be able to compete for the role of meter data providers ("MDP").

MDPs could be required to submit a full trading week's metering data that covers, at a minimum, or alternatively provide smaller amounts of data and revisions that build up to a trading week of data. One day of metering data is the minimum requirement to be delivered to the market system.

MDPs should be required to submit data to the market system in a standard form of a csv-wrapped aseXML file, as used in the NEM. This will ensure that the MDP role will benefit from existing competitive markets in the role.

The MDM must store data against every connection point for settlement purposes. The data is required for PPS/BMP processes and potentially generator data, interconnector data and wholesale load data reporting.

11.2.2. Profiling

The WEM is settled in half-hourly intervals. Many contestable customers and some small-use customers have "interval meters" installed at their connection point. Interval meters automatically record the consumption of energy for a given interval (e.g. half-hour).

The metering data recorded is then read manually on site or read remotely using a communications network. The MDP is then responsible for loading the collected metering data into the market system.

Electricity consumption for most connection points in the domestic market is monitored using "basic meters" (Type 6 electricity meters). These meters record the accumulated quantity of electricity flowing through a power conductor. It is therefore impossible to accurately capture the pattern of electricity consumption across any given trading day or interval. MDPs manually read basic meters on a regular cycle (1-3 months) and then load the total reads into the market system.

To settle the WEEM, the basic meter readings need to be broken down into the same half hourly units that the market is settled on. Profiling is used to apportion the energy accumulated between readings into half-hourly units.

Profiling applies typical trading interval usage shapes to loads that are not metered against the trading interval. For example, residential customers may be expected to consume larger amounts of electricity in the mornings and evenings and less during the midday hours. Retailers can settle their electricity purchases at the wholesale level by overlaying a profile on the flat consumption read, as recorded by the basic meters.

11.3. FRC Systems and Infrastructure

There are a number of drivers that impact the investment in systems and processes by the Market Operator when implementing electricity FRC, including:

Number of contestable customers	The number of contestable customers will drive the retailers in terms of the effort involved vs. the potential returns that can be gained from winning a proportion of the customer base. If the number of contestable customers is small; but with large volumes, good predictable load factors, and reasonable margins; then there will be active competition for their custom. However, this will not itself drive the need for systems investment to manage the capture and ongoing support of these customers; as existing systems can likely be used, augmented by manual exception processing to accommodate the relatively small number of customer churn.

There will be increasing pressure from a number of factors to put efficient systems and procedures in place as the contestability threshold is reduced:

- retailers and the Market Operator will need customer support systems and processes to manage increased churn;
- retailers will need to ensure that an increasing number of customers are billed correctly and on time (both customers won and lost);
- retailers and the Network Operator will need to ensure that network billing is aligned with the customers currently in each retailer's portfolio;
- increased need for effective wholesale forecasting capabilities to manage retail obligations, which will change on a daily basis with changes in retailers' customer portfolio numbers; and
- increased compliance management and reporting requirements to meet retail market rule obligations, customer issues, and dispute management.

Number of competing retailers

The number of active retailers and potential new entrant retailers will influence the level of investment required to support FRC, particularly the systems operated by the Market and Network Operators.

With more retailers entering the market, the Market and Network Operators will need systems and processes that can support an increased level of interaction between the businesses (B2B); and in a timeframe that allows the retailers to efficiently conduct their business and manage risks.

Customer knowledge and sophistication

The knowledge and sophistication of the end-use customers will impact on the systems and process requirements for customer churn and support.

Effective education of the customer base at the time that FRC is introduced will likely lead to a larger initial spike in transfers than if normal customer apathy prevails. In normal populations that are given a choice to try something new or continue with a known product, about 20% can be expected to try the new product, while the remainder will stay with what they know.[25]

Therefore, Government education regarding the reforms and opportunities, coupled with retailer marketing campaigns will have a significant impact on market liquidity, both initially and over the long-term. If there is a major campaign at market start; then the Market Operator, Network Operator, and retailers will need to be ready to cope with a "bow wave" of transfers, with the resultant impacts on metering/billing and support processes. This would mean that upgraded/new processes will need to be in place so that the customer experiences are reasonable, as all participants' ability to deal with the issues may otherwise be overwhelmed.

Number of transfers and processing timing

The number of transfers and the rate at which they occur will have a significant impact on the appropriate level of investment to support FRC. The expected number of transfers will be a function of the issues described above.

A key aspect that should be noted in planning support for electricity FRC is that failure of systems and process to deliver the required outcomes will lead to delays in churn, or an unacceptably high number of errors, which will have significant outcomes:

- perception that the reform has failed in the eyes of the consumers;

- compliance costs and error/exception processing costs for participants escalating to the point that margins are adversely impacted;
- market exposure to wholesale energy may not matched with retail income, increasing costs and risks of a ROLR event; and
- inability of the market to attract new entrants, and therefor loss of competition benefits for customers.

It is difficult to accurately estimate the cost to develop a set of Market Operator systems for implementing electricity FRC without fully understanding the market structure chosen (i.e. what role REMCo or IMO will have in the market, and what communications infrastructure model is to be used).

11.4. Retailer Systems

The FRC implementation costs that incumbent energy market participants in WA would be exposed to would, like the Market Operator costs, depend on the market structure chosen. In particular, these costs will be impacted by the type of communications infrastructure – for example, whether the FRC Hub or the NEM-based "Hokey Pokey" communications infrastructure is used.

- If the FRC Hub is used, then most (if not all) of the existing active WA-based retailers would be able to leverage off their existing market communications infrastructure.
- If the Hokey Pokey is used, then WA-based gas-only retailers that want to become dual fuel retailers would face additional communications restructuring costs for their interactions with the WA electricity market, over and above their current gas market commitments. Retailers that already operate in the WEM likely face a lower level of communications infrastructure investment, as they will already use Western Power's current version of the Hokey Pokey. However, Western Power's facility would need to be upgraded to cope with FRC, as it is an early version of the facility, and is now out of date.

Market participants have expressed a clear preference that industry itself should decide on the technology to be used. This decision would be based on commercial drivers, but whichever option is chosen, it should be implemented as a standard that is supported through the regulatory frameworks. This will ensure a level playing field when participants are dealing with B2B interactions.

Under both the FRC Hub and Hokey Pokey options, retailers would need to make considerable investment to manage the back-end systems to cope with the different data elements and processes.

There are similar business processes to support electricity and gas markets, but there are also some profound differences; such as temporal issues associated with service orders, metering, and wholesale exposures. In addition, there are data elements unique to each commodity (i.e. HV, losses, solar installations, etc.). These differences will drive a need for systems changes for existing gas-based retailers wishing to become dual fuel retailers, and will add costs.

A "greenfield" retailer commencing operation in the new WA electricity FRC environment would need at least the following infrastructures and business processes to operate:

- CIS/customer billing system;
- B2B communications infrastructure;
- network billing reconciliation modules;
- customer transfer initiation/tracking/CIS interface;
- WEM portfolio forecasting, trading and settlement facilities;
- credit risk management processes;

- marketing infrastructure;
- connection/disconnection policy management processes; and
- regulatory compliance processes.

Existing gas or electricity retailers would need to invest in systems and processes to operate in a new electricity environment, and the magnitude of this investment will depend on their ability to leverage off of their existing systems and processes.

In practice, the level of investment required by retailers will depend on each retail business, and the business model they choose when entering the market. If the opportunity for market entry is made available through a cost-effective delivery of the base infrastructure that the retail business interacts with (i.e. the Market Operator and Network Operator), then the retailer's costs will be at the level necessary to deliver a return to its shareholders.

11.5. Western Power Systems

Western Power will need to make significant enhancements to its existing systems, business processes, and contracted service providers (such as their meter reading contractors). Whether Western Power chooses to replace legacy systems or upgrade its current systems will dictate the scale of its costs in implementing FRC.

Western Power's systems are legacy systems that have been in operation for some years, so implementing electricity FRC will likely be a legitimate driver to replace major components of their systems.

The principle types of systems and procedure changes that Western Power will need to make in implementing FRC are:

Interface with the centralised customer transfer systems	• Western Power and retailers will need a centralised communications system to, amongst other things, inform Western Power when a customer has made a churn request, so that it can adjust the network billing system (see Section 11.3). The Market Operator will establish and operate this system, but Western Power will need to develop an interface with this system.
Internal processes and systems	• Western Power will need to redevelop its network billing systems and registers to support a significantly increased need for service order authorisation and billing.
Metering	• Western Power will need to restructure its metering systems, adjust its contracted service provider contracts, and adjust how it maintains standing data. • Western Power will need to be able to handle significantly more metering data, and more rapid validation and delivery of that data than the current monthly cycle. • Some fairly larger customers in WA are still on basic meters, and Western Power may need to install interval meters for these sites prior to implementing electricity FRC, so that treatment of these sites does not distort the profiling process. If the WA Government wants to avoid Western Power needing to incur these costs, then consideration could be given to making metering contestable, but such a step should not impact a decision in timing for implementing electricity FRC.

Transfer support	• Western Power will need to support customer transfers and NMI discovery. The cost for these systems and processes will depend on the number of customer transfers and the efficiency with which the market wants the process to operate.
FRC project management	• Western Power will incur project management costs while participating in processes (forums and working groups) to develop the FRC systems and policies.

Appendix A: The WA Electricity Sector

A.1 Independent Regulation

The ERA is the independent economic regulator of the WA electricity, gas, and rail industries. With respect to the WA electricity sector, the ERA:

- regulates access to the electricity transmission and distribution networks;[26]
- designs and issues licences, and assesses licence holders – see Section A.3;
- monitors the operation of the WEM – see Section A.8;
- approves the contracts and service standards that protect residential and small business customers; and
- can be asked to undertake inquiries and make recommendations to Government on electricity retail tariffs, noting that the Minster for Energy is responsible for setting electricity retail tariffs.

For more information on the ERA see www.erawa.com.au.

A.2 Electricity Retail Pricing

The WA Government regulates electricity prices charged by Synergy under the *Energy Operations (Electricity Generation and Retail Corporation) (Charges) By-Laws 2006*; and by Horizon Power under the *Energy Operations (Electricity Regional Power Corporation) (Charges) By-Laws 2006*.

Synergy and Horizon Power are required to make the regulated price specified in the retail tariff by-laws available to their small-use customers and to some larger customers. Synergy's current electricity retail tariffs are listed in Appendix C.

A.2.1 Electricity Tariff Increases

The WA Government annually considers changes to the electricity retail tariffs as part of the State Budget process. The WA Government has increased electricity retail tariffs over the last 5 years in an effort to move tariffs towards cost-reflective levels, and to support the financial viability of retailers, as shown in Table A1.

Table A1: WA Electricity Retail Tariff Changes

Year	Month	Increase
2013	July	• 4% plus a carbon component for residences and small businesses • A carbon component for other businesses
2012	July	• 3.5% plus a carbon component for residences and small businesses • Up to 12% plus a carbon component for large businesses
2011	July	• 5% for residences and small businesses • 13-29% for large businesses
2010	April	• 7.5% for households, small businesses, and large businesses
	July	• 10% for households, small businesses, and large businesses
2009	April	• 10% for households • 5% for small businesses • 0% for large businesses

Table A1: WA Electricity Retail Tariff Changes		
Year	**Month**	**Increase**
	July	• 15% for households • 10% for small businesses • 0% for large businesses
Pre-2009		• No price increases since 1997/98 (excluding GST) for households • No price increases since 1991/92 (excluding GST) for small businesses

A.2.2 The Need for Further Tariff Increases

The costs of generating and transporting electricity through the network have risen sharply over the last two decades (particularly generation fuel and network input costs). In addition, network maintenance costs are increasing substantially as the Western Power network ages; and changes to customer energy usage has placed increased pressure on the electricity network.

Electricity retail tariffs in WA are currently below cost-reflective levels. The current A1 Tariff for residential customers would need to be increased by 33.5% in 2013/14 to be cost reflective, excluding carbon costs.[15] The amount by which tariffs will be below cost in the future will depend on the WA Government's tariff decisions – no decision has been announced for 2014/15, and the 33.5% gap will grow if the tariff increases are not greater than inflation.

Therefore, although WA's electricity prices have increased, the tariffs are still below the cost of supply; and the WA Government covers this difference by a subsidy. Synergy's current projected subsidy for 2013/14 is $493.2 million.[16]

A.2.3 Uniform Tariff Policy

The WA Government has a Uniform Tariff Policy whereby the small-use customers (households and small businesses) supplied by Synergy and Horizon Power are all charged the same tariffs, irrespective of location.

This policy covers customers in remote regions, where the costs to supply electricity are considerably higher than in the main electricity grid in WA – the SWIS. The difference between the uniform tariffs and the cost of supply in the regions is subsidised using the Tariff Equalisation Fund ("TEF"). The TEF is funded by additional charges for use of the network in the SWIS – that is, there is a cross-subsidy from customers in the SWIS to customers in regional areas.

A.3 Electricity Licencing

The *Electricity Industry Act 2004* requires that parties who participate in certain activities in the WA electricity industry must be licenced, as indicated in Table A2.

Table A2: WA Electricity Licencing Requirements	
Activity	**Licence**
• Constructing or operating generating works	• Electricity Generation Licence; or • Integrated Regional Licence.
• Constructing or operating a transmission system with a voltage ≥66 kV	• Electricity Transmission Licence; or • Integrated Regional Licence.

Table A2: WA Electricity Licencing Requirements	
Activity	**Licence**
• Constructing or operating a distribution system with a voltage <66 kV	• Electricity Distribution Licence; or • Integrated Regional Licence.
• Selling electricity to customers	• Retail Licence; or • Integrated Regional Licence.

The ERA is responsible for issuing, amending, monitoring, and enforcing electricity licences. Appendix D lists the licences that the ERA has granted as of 1 October 2013.

Copies of all licences are available on the ERA website (www.erawa.com.au), including the terms and conditions that all licence holders must meet. The current ERA annual licence fees are shown in Table A3.

Table A3: Annual Electricity Licence Fees ($/annum)		
Generation Licenses	**Installed Capacity (MW)**	**Fee**
	<5	$500
	5-50	$2,000
	50-100	$3,500
	100-1,000	$5,000
	>1,000	$7,500
Transmission Licenses	**System Length (km)**	**Fee**
	<1	$500
	1-10	$3,750
	10-100	$7,500
	100-1,000	$15,000
	>1,000	$20,000
Distribution Licenses	**System Length (km)**	**Fee**
	<1	$500
	1-10	$5,000
	10-100	$10,000
	100-1,000	$20,000
	>1,000	$25,000
Retail Licenses	**Customer Numbers**	**Fee**
	<100	$1,000
	100-1,000	$7,500
	1,000-5,000	$12,500
	5,000-25,000	$20,000
	>25,000	$35,000

A.4 Electricity Generation

The WA Government owns WA's largest electricity generator – Synergy. As of February 2012, Synergy (Verve Energy at the time) produced about 60% of electricity consumed in the SWIS.

There are also a number of privately owned generation facilities throughout WA. Licenced generators are listed in Appendix D.

A.5 Electricity Networks

The WA Government owns and operates the major electricity networks in WA, including:

- Western Power operates the biggest network in WA – the SWIS, and
- Horizon Power operates the NWIS and over 30 discrete networks in regional towns and remote communities across WA.

There are also a number of privately owned electricity transmission and distribution networks that service mining operations in the Pilbara. Licenced Network Operators are listed in Appendix D.

Third party access to the WA electricity networks by retailers and large-scale users is regulated by the ERA in accordance with the *Electricity Networks Access Code 2004*.[26]

A.6 Electricity Retail

There are two categories of electricity consumers in WA:

Non-Contestable Customers	Non-Contestable Customers are residential and small businesses customers that consume ≤50 MWh/annum. Non-contestable customers are supplied only by Synergy, and pay electricity retail tariffs that are regulated by the WA Government under the electricity tariff by-laws (see Section A.2).
Contestable Customers	Contestable Customers are those that consume >50 MWh/annum, and include medium and large businesses. • Customers that consume 50-160 MWh/annum can choose to get supply from Synergy under the WA Government-regulated tariffs, or can negotiate supply from Synergy or another retailer at contracted rates. • Customers that consume >160 MWh/annum must negotiate supply from Synergy or another retailer at contracted rates.

The WA Government owns WA's largest electricity retailer – Synergy has a dominant 65% of the entire retail market, and 42% of the contestable market (measured by energy consumed).[14]

There are also a number of privately owned electricity retailers in the SWIS. Licenced electricity retailers are listed in Appendix D.

A.7 Government Owned Electricity Corporations

The WA Government owns and operates three statutory electricity corporations:

- Synergy – the Government owned gentailer in the SWIS;
- Western Power – the electricity Network Operator in the SWIS; and
- Horizon Power – the vertically integrated gentailer and network operator outside the SWIS.

On 1 April 2006, the WA Government established four statutory electricity corporations – Western Power and Horizon Power; plus Synergy (as an electricity retailer) and Verve Energy (as an electricity generator). However, on 1 January 2014, the WA Government re-merged Synergy and Verve Energy to create a government owned gentailer (continuing to trade as Synergy). See Section 6.1 for a discussion of the impact of the formation of Synergy as a gentailer on the market, and the arrangements that have been put in place to try to mitigate Synergy's market power in the generation and retail sectors.

A.8 The Wholesale Electricity Market

In the SWIS, retailers purchase electricity from generators either directly via contract or through the WEM. The WEM was established under the *Electricity Industry Act 2004*. The objectives of the WEM are to:

- promote the economically efficient, safe and reliable production and supply of electricity and electricity related services in the SWIS;
- encourage competition among generators and retailers in the SWIS, including by facilitating efficient entry of new competitors;
- avoid discrimination in that market against particular energy options and technologies, including energy options and technologies such as those that make use of renewable resources or that reduce overall greenhouse gas emissions;
- minimise the long-term cost of electricity supplied to customers from the SWIS; and
- encourage the taking of measures to manage the amount of electricity used and when it is used.

The WEM is managed as follows:

- The IMO is responsible for WEM operation and development; including administering the rule change process, the Short Term Trading Market ("STEM"), and the Reserve Capacity Mechanism ("RCM"); and
- System Management, a segregated unit of Western Power, is responsible for operating the SWIS in a secure and reliable manner, including short- and medium-term system planning and dispatching the power system.

The WEM market structure is summarised as follows:

- the WEM has separate capacity and energy mechanisms;
- the WEM is a net bilateral market for both capacity and energy;
- the IMO trades capacity and energy not covered by bilateral contracts; and
- System Management manages balancing and ancillary services in real time.

The WEM trading mechanisms are summarised as follows:

Energy Trading

There are three mechanisms for trading energy in the WEM:

- bilateral contracts – bilateral agreements are established between generators and consumers (retailers and large end-users) for the provision of energy. The WEM has no role in how these contracts are formed or on the conditions in these contracts;

- the STEM – a daily forward market for energy that allows market participants to trade around their bilateral positions. The IMO operates and clears the STTM; and
- the Balancing Market – a market that determines the actual dispatch in the WEM. Market Participants provide submissions for each trading interval, specifying prices and quantities at which their facilities may be dispatched. The IMO uses this information to construct the Balancing Merit Order used by System Management for real time dispatch.

RCM — The RCM was introduced to ensure WA has an adequate electricity supply. The RCM was designed to incentivise investment to ensure that there is adequate generation and Demand Side Management ("DSM") capacity available each year to meet peak system requirements.[27]

Ancillary Services — A competitive market has been established for Load Following Ancillary Services in the WEM. Synergy is the default supplier of the other Ancillary Services in the WEM, although other participants may provide such services under contract if Synergy is unable to provide a service, or if another participant can provide the service at a lower cost.

A.9 The Electricity Market Review

On 6 March 2014, the Hon. Dr Michael Nahan, Minister for Energy launched the WA Government's Electricity Market Review. This review will examine the structures of the electricity generation, wholesale and retail sectors in the south-west of WA; and the incentives for industry participants to make efficient investments and to minimise costs.

The Electricity Market Review has three objectives, which are summarised as follows:

1. Lower electricity prices
   - Reducing electricity production and supply costs, without compromising safe and reliable supply.
2. Reduce Government subsidy to Synergy
   - Reducing Government exposure to energy market risks.
   - Private sector to build future generation without Government investment, underwriting, or other financial support.
3. Increase private sector investment
   - Attracting private-sector participants to the electricity market by participants with sufficient scale to facilitate long-term stability.

The Electricity Market Review will be conducted in two phases, which are summarised as follows:

Phase 1
- Stage 1 – Assess the strengths and weaknesses of the current industry structure, market institutions, and regulatory arrangements.
- Stage 2 – Examine options for reforms to better achieve the Review's objectives.

Phase 2
- Develop the detailed design and implementation arrangements of the selected reforms

Phase 1 of the Electricity Market Review will have six work streams, which are summarised as follows:

1.	WEM	Develop options for reform of the WEM, including: • Can the review objectives be best achieved by a capacity-plus-energy market or energy-only market? • How can a capacity-and-energy market it be reformed to achieve WEM security objectives at least cost? • What high-level design features should an energy-only market have to support the review objectives? • What are the options for transition to a significantly different market for either a capacity-and-energy or energy-only market?
2.	Retail Electricity Market	Develop electricity retail market reform options: • contestability thresholds; • mechanisms for regulating electricity retail prices; • arrangements for concessions and subsidies; and • the regulatory framework (metering, customer transfer arrangements and customer protection).
3.	Institutional Arrangements	Options for reforms to the institutional and regulatory structures: • organisation arrangements for the IMO and System Management, and should System Management be kept where it is or put into the IMO; • policy advice and regulatory functions of the PUO; • process for amending the market rules and the governance of this process; and • functions of the ERA, and whether some functions might better be undertaken by the AER.
4.	Industry Structure	Options for a competitive and commercially-viable generation and retail industry: • establish the conditions to attract major energy companies into the WA electricity market; • establish the conditions to enable future private sector generation to be built without Government support or underwriting; and • protect the value of the State-owned electricity businesses and the assets, to the extent consistent with the review objectives.
5.	Fuel	Opportunities and options for coal and gas market reforms to address any constraints that these markets present to achieving the review objectives.
6.	Network Access and Regulatory Model	Options for reforms to the regulatory arrangements for network access: • “constrained” and “unconstrained” models of network access for generators • potential benefits of greater alignment of the access regime with the access regime of the NEM.

Stakeholders can participate in the Electricity Market Review via public submissions. In addition, a "Market Participant Consultation Group" is to be established with representatives from interested parties. Timing for the Electricity Market Review is as follows:

- Market Participant Consultation Group briefing session: 10 April 2014
- Market Participant Consultation Group workshops: As needed (bi-monthly)
- Complete Phase 1: 31 October 2014

Appendix B: The WA Gas Sector

B.1 Independent Regulation

The ERA is the independent economic regulator of the WA electricity, gas, and rail industries. With respect to the WA gas sector, the ERA:

- regulates access to the gas pipelines and distribution networks;[26]
- designs and issues licences, and assesses licence holders – see Section B.3;
- approves the contracts and service standards that protect residential and small business customers;
- monitors the gas FRC arrangements and approves changes to the REMCo Retail Market Scheme – see Section B.7.1; and
- can be called on to undertake economic inquiries and make recommendations to the WA Government on gas retail tariffs, noting that the Minster for Energy is responsible for amendments to the gas retail tariff caps.

For more information on the ERA see www.erawa.com.au.

B.2 Gas Retail Pricing

The WA Government regulates gas prices for small-use customers (those that consume <1 TJ/annum) and are serviced by the ATCO distribution systems (see Section 5.3) under the *Energy Coordination (Gas Tariffs) Regulations 2000*. These tariff regulations provide for a cap on the price that retailers can charge small-use customers.

Prior to 2008/09, the gas tariff caps increased annually by CPI, except for a few components of the tariffs caps, which escalated at CPI+2%. However, with increased costs for the wholesale supply of gas and changes to the costs for gas transmission and distribution; a number of larger tariff increases were imposed between 2008/09 and 2013/14 to re-adjust the gas retail tariffs to more cost-reflective levels.

The current gas retail tariffs are listed in Appendix E. All tariff caps listed in Appendix E (both fixed and usage components) are to escalate annually by CPI from 2014/15 forward; except the third usage component in the residential tariff for the Mid-West/South-West, which is to escalate at CPI+2%.

The regulated tariffs do not apply to the reticulated LPG systems in Margaret River, Leinster and Esperance; to bottled gas; nor to any large users (those that consume ≥1 TJ/annum).

In addition to the regulated tariffs, retailers may charge additional fees. The government does not regulate these additional charges.

B.3 Gas Licencing

Under the *Energy Coordination Act 1994*, gas distribution licences are required to operate gas distribution systems, and to sell gas to small-use customers (those that consume <1 TJ/annum). A licence is not required to sell gas to large customers.

The ERA is responsible for issuing, amending, monitoring, and enforcing gas licences. Table B1 indicates that licences that the ERA has issued as of 1 October 2013.

Table B1: Gas Licences in WA	
Distribution Licences	**Trading Licences**
• ATCO Gas Australia Pty Ltd • Esperance Power Station Pty Ltd • Kleenheat	• Alinta • Perth Energy • Synergy • Kleenheat • Worley Parsons Asset Management Pty Ltd

Copies of all licences are available on the ERA website (www.erawa.com.au), including the terms and conditions that all licence holders must meet.

B.4 Gas Supply

WA has a large gas reserves, and is a very large producer of gas compared to other States. Around 90% of Australia's estimated recoverable reserves of conventional gas are in the Carnarvon Basin on WA's North West Shelf. These gas fields support WA's LNG export industry, as well as most of the domestic gas market in WA.

In addition, the Perth Basin is a smaller on-shore gas producing region north of Perth that supplies the domestic market in the Mid-West/South-West.

Wholesale gas supply is purchased and sold via bilateral contracts. These contracts tend to be long-term take-or-pay contracts for large volumes of gas. Prices for wholesale supply of gas in WA has increased substantially in the last decade. It is generally understood that historic gas prices have been in the $2.00/GJ to $3.00/GJ range, and recent analysis by the IMO has suggested that this has increased to the $7.52/GJ to $11.12/GJ range.[28]

The WA Government promotes long-term supplies of natural gas for WA consumers via its "Domestic Gas Reservation Policy". This policy seeks commitments for the equivalent of 15% of gas available from new off-shore gas developments for domestic use. The WA Government applies the policy as part of the negotiating process with export gas producers, with flexibility built in to allow for each project to be negotiated on a case-by-case basis.

B.5 Gas Transmission

Pipeline operators have invested extensively in natural gas transmission pipelines in WA. These pipelines transport gas over large distances from the production fields in the North West Shelf and the Perth Basin, to the major domestic gas customers in the South West.

There are four major natural gas transmission pipelines supplying the WA gas market:

- the DBNGP, which transports gas from the North West Shelf area to customers in the MWGDS;
- the Goldfields Gas Pipeline ("GGP"), which transports gas from the North West Shelf to customers in the Pilbara and to the Eastern Goldfields regions near Kalgoorlie/Boulder;
- the Parmelia Pipeline, which transports gas from various fields in the Perth Basin to customers in the MWGDS; and
- the Pilbara Energy Pipeline, which transports gas from the North West Shelf to Port Hedland.

Other transmission pipelines include the Kambalda to Esperance Gas Pipeline, the Mid West Pipeline, and the Telfer Gas Pipeline.[29]

B.6 Gas Distribution and Storage

ATCO Gas Australia ("ATCO") is the owner and operator of the three largest gas distribution networks in WA, including:

- the MWGDS, which stretches from Geraldton to Bunbury, and includes the Perth metropolitan area;
- Kalgoorlie/Boulder; and
- Albany.

The ERA regulates access to the MWGDS.[26]

There are also a number of other smaller gas distribution networks around WA. Licenced Network Operators are listed in Table B1.

There is currently one gas storage facility servicing the WA gas market – the Mondarra Gas Storage Facility is located near Dongara, on the Parmelia Pipeline.

B.7 The Gas Retail Market

FRC was implemented in WA in May 2004. This means that any company can enter the WA gas market and compete for any gas customers, including residential customers; and customers can choose their retailer.

There is one exception to gas FRC in WA – the "Gas Market Moratorium" applies to Synergy, and restricts it from competing for customers that consume ≤0.18 TJ/annum. This Moratorium was put in place to prevent Synergy from fully competing in the gas market and obtaining a competitive advantage from being able to make dual fuel offers (electricity and gas) while other market participants are prevented from retailing electricity to small customers. The threshold in this Moratorium is equivalent to the contestability threshold in electricity (50 MWh/annum) on an energy basis.

A number of gas trading and retail companies operate across the regional and metropolitan areas, servicing industrial and residential customers. Retailers licenced to sell gas to small-use gas customers are listed in Table B1, noting that a licence is not required to sell gas to large customers.

B.7.1 Gas Retail Market Schemes

The *Energy Coordination Act 1994* requires that all gas distribution systems in WA must have a "Retail Market Scheme", unless the network has only one retailer and one Network Operator. The *Energy Coordination Act 1994* indicates:

- that all Network Operators and retailers on a network that requires a Retail Market Schemes must be a Member of such a scheme;
- the components that must be included in a Retail Market Scheme, including an agreement between its Members, a set of "retail market rules" on how the retail market is to operate, and a Market Operator to administer the rules.

The ERA approves all Retail Market Schemes (except the Minister for Energy approved the first scheme) and approves any changes to approved schemes, but the schemes can be independently operated by private companies.

The only gas distribution systems that currently require a Retail Market Scheme are the ATCO networks (see Section5.3); and REMCo was established as the operator of the scheme to govern these networks – see Appendix F for more information.

B.7.2 Gas Retail Market Competition

There has been active competition in the large customer segment of the WA gas market since the market was opened for competition in May 2004. In addition, Kleenheat has recently entered the WA gas retail market, and is targeting residential and small business customers, so the benefits of competition are now flowing to small-use gas consumers. See Table B1 for a list of licenced retailers, noting that a licence is not required to sell gas to large customer (those that consume >1 TJ/annum).

Table B2 indicates the market share for each of the four active gas retailers on the MWGDS, based on customer numbers, segmented into the large and small customer markets, over a 36 month period from January 2011 to January 2014.

Table B2: WA Gas Retailer Market Shares

	Total Market		Large Customer Market (those consuming >1 TJ/a)		Small Customer Market (those consuming ≤1 TJ/a)	
	Jan 2011	Jan 2014	Jan 2011	Jan 2014	Jan 2011	Jan 2014
Alinta	99.93%	97.72%	50.87%	66.16%	99.97%	97.76%
Kleenheat	0.00%	2.23%	0.00%	8.16%	0.00%	2.22%
Perth Energy	0.00%	0.00%	2.09%	1.09%	0.00%	0.00%
Synergy	0.05%	0.05%	47.04%	24.48%	0.00%	0.02%

This table shows that:

- Alinta has a very high market share in the WA gas retail market as a whole, when measured by customer numbers. This is because 99.9% of gas customers in the State are small-use customers, and until recently, Alinta had a virtual 100% market share in this customer segment.
- Competition is active in the large customer segment of the market – it is clear that all four retailers are active in this segment of the market, as the market share of all retailers has changed over time.
- Competition is ramping up in the small customer segment of the market – residential and small business customers have been reacting quickly to the increase in competition, with over 3.5% of all customers in the State changing retailers in the first year since Kleenheat entered this market segment. This customer transfer rate is slightly lower than rates currently observed in the eastern States, but is a very strong result in the early stages of market development.

In addition, the new entrants to the market (Kleenheat, Perth Energy, and Synergy) have obtained a significant market share if measured by volume – as high as 40%. This indicates that Alinta does not have as dominant a position in the WA gas retail market as would appear based on a simple analysis of customer numbers.

As a result, it can clearly be argued that competition is driving customer choice, and that this choice is likely leading to price savings to end-use customers.

B.8 Gas Information Services

The IMO operates two gas information services for the WA natural gas sector – a Gas Bulletin Board ("GBB") and a Gas Statement of Opportunities ("GSOO"), both of which can be accessed on the IMO website at https://gbb.imowa.com.au. These services are explained as follows:

GBB	The GBB is a website that provides public information on short-term gas supply and demand, and natural gas transmission capacity in WA. The GBB includes an Emergency Management Facility that has restricted access and is only activated in the event of a gas supply disruption.
GSOO	The GSOO is a document that provides information and assessments relating to medium- and long-term natural gas supply and demand, and natural gas transmission and storage capacity in WA. The IMO published the second GSOO in January 2014, and will then annually publish GSOOs from December 2014.

Appendix C: WA Electricity Retail Tariffs

Synergy is required to offer the following electricity retail tariffs, noting that:

- all prices are inclusive of GST and are effective from 1 July 2013 unless otherwise noted; and
- all Electricity Charges include a carbon charge of 2.3683 ¢/day.

Table C1: Synergy Retail Tariffs

Tariff		Charges		Price
A1	The standard home tariff, available for residential homes	Supply Charge		43.2072 ¢/day
		Supply Charge for additional homes		33.5485 ¢/day
		Electricity Charge		25.9052 ¢/unit
B1	For customers currently on this product (no longer available for new customers)	Supply Charge		22.0272 ¢/day
		Electricity Charge		14.5371 ¢/unit
K1	A "combined tariff" to provide power partly for home and partly for business purposes	Supply Charge		43.2072 ¢/day
		Electricity Charge	First 20 unit/day	25.9052 ¢/unit
			20-1650 units/day	29.3160 ¢/unit
			>1650 units/day	26.6844 ¢/unit
C1	This plan is for small voluntary and charitable organisations	Supply Charge		39.0017 ¢/day
		Electricity Charge	First 20 units/day	23.6276 ¢/unit
			20-1650 units/day	29.0041 ¢/unit
			>1650 units/day	26.4030 ¢/unit
D1	This plan is for charitable organisations providing residential accommodation	Supply Charge		36.3341 ¢/day
		Supply Charge (>5 beds)		28.2118 ¢/day
		Electricity Charge		22.1734 ¢/unit
L1	This plan is for small businesses connected at low/medium voltage (240/415 volts) and that consume <50 MWh/annum	Supply Charge		41.0021 ¢/unit
		Electricity Charge	First 1650 units/day	29.3160 ¢/unit
			>1650 units/day	26.6844 ¢/unit
L3	This plan is for businesses connected at low/medium voltage (240/415 voles) and that consume ≥50 MWh/annum	Supply Charge		49.9964 ¢/day
		Electricity Charge	First 1650 units/day	35.2200 ¢/unit
			>1650 units/day	32.0206 ¢/unit
M1	This is the standard plan for business customers connected at a high voltage supply (6.6 kV, 11 kV, 22 kV or 33 kV) (effective 1 September 2013)	Supply Charge		56.1755 ¢/day
		Electricity Charge	First 1650 units/day	38.0306 ¢/unit
			>1650 units/day	34.3973 ¢/unit

Synergy is required to offer the following time-of-use electricity retail tariffs, noting that:

- all prices are inclusive of GST and are effective from 1 July 2013 unless otherwise noted;
- all Electricity Charges include a carbon charge of 2.3683 ¢/day; and
- the tariffs are based on the following periods:
  - peak: Monday to Friday between 08:00 AM and 10:00 PM; and
  - off-peak all other times including weekends.

Table C2: Synergy Time-of-Use Electricity Retail Tariffs

Tariff		Charges		Price
R1	This plan is for businesses that consume <50 MWh/annum, between 80-137 units/day on average, and >20% of their electricity in off-peak periods	Supply Charge		$1.6810/day
		Electricity Charge	On Peak	31.8738 ¢/unit
			Off Peak	11.4685 ¢/unit
R3	This plan is businesses that consume >50 MWh/annum, >137 units/day on average, and >30% of their electricity in off-peak periods (effective 1 September 2013).	Supply charge		$2.3890/day
		Electricity Charge	On Peak	44.1956 ¢/unit
			Off Peak	15.2450 ¢/unit
S1	This plan is for businesses connected at low/medium voltage (240/415 volts), a moderate to high load factor, and higher energy use (minimum charge of $433.0245/day)	Demand charge		109.9903 ¢/day/kW
		Power Factor Charge		46.2044 ¢/day
		Electricity Charge	On Peak	18.1057 ¢/unit
			Off Peak	12.3247 ¢/unit
T1	This plan is for businesses connected at high voltage energy (6.6kV, 11kV, 22kV or 33kV) and a moderate to high load factor (effective 1 September 2013) (minimum charge $638.5653/day)	Demand charge		112.5020 ¢/day/kW
		Power Factor Charge		46.2044 ¢/day
		Electricity Charge	On Peak	18.8166 ¢/unit
			Off Peak	13.3075 ¢/unit

Appendix D: Electricity Licence Holders in WA

Table D1: Electricity Licence Holders in the SWIS			
Generation Licences	**Transmission Licences**	**Distribution Licences**	**Retail Licences**
• Alcoa of Australia • Alinta Cogeneration (Pinjarra) Pty Ltd • Alinta Cogeneration (Wagerup) Pty Ltd • BHP Billiton Nickel West Pty Ltd • BHP Billiton Worsley Alumina Pty Ltd • BlueWaters Power 1 Pty Ltd • Collgar Wind Farm Pty Ltd • Community Electricity Pty Ltd • CSBP Limited • Emu Downs Wind Farm Joint Venture • Eneabba Energy Pty Ltd • Goldfields Power Pty Ltd • Merredin Energy • Mumbida Wind Farm Pty Ltd • NewGen Neerabup Partnership • NewGen Power Kwinana Pty Ltd • Perth Power Partnership • RATCH-Australia Kemerton Pty Ltd • South West Cogeneration Joint Venture	• Karara Power Pty Ltd • Western Power	• BHP Billiton Nickel West Pty Ltd • Newmont Power Pty Ltd • Western Power	• AER Retail Pty Ltd • Amanda Energy Pty Ltd • Alinta • BlueWaters Power 1 Pty Ltd • BlueWaters Power 2 Pty Ltd • Clear Energy Pty Ltd • ERM Power Retail Pty Ltd • Landfill Gas & Power Pty Ltd • Newmont AP Power Pty Ltd • Premier Power Sales Pty Ltd • Perth Energy • Synergy

Table D1: Electricity Licence Holders in the SWIS			
Generation Licences	**Transmission Licences**	**Distribution Licences**	**Retail Licences**
• Southern Cross Energy Partnership • Tronox Management Pty Ltd • Synergy • Walkaway Wind Power Pty Ltd • Western Energy Pty Ltd • WR Carpenter No.1 Pty Ltd			

Table D2: Electricity Licence Holders Outside the SWIS				
Generation Licences	**Transmission Licences**	**Distribution Licences**	**Retail Licences**	**Integrated Regional Licences**
• ATCO Power Australia (Karratha) Pty Ltd			• EDL Pilbara Pty Ltd	• EDL NGD (WA) Pty Ltd • Horizon Power (Regional Power Corporation) • Ord Hydro • Rottnest Island Authority

Appendix E: Gas Retail Tariff Caps

The tariff cap that applies to the tariffs charged by all gas retailers to residential and small business gas customers for 2013/14 are as follows, noting that a "unit" is 3.6 MJ.

Table E1: WA Gas Retail Tariff Caps			
Mid-West/South-West Region			
Residential Customers	Fixed component		19.73 ¢/day
	Usage components	For the first L units	13.61 ¢/unit
		For the next M units	12.28 ¢/unit
		For each additional unit	12.28 ¢/unit
Non-Residential Customers	Fixed component		17.16 ¢/day
	Usage components	For the first L units	12.41 ¢/unit
		For each additional unit	9.94 ¢/unit
Kalgoorlie/Boulder Region			
Residential Customers	Fixed component		44.30 ¢/day
	Usage component		12.65 ¢/day
Non-Residential Customers	Fixed component		44.15 ¢/day
	Usage component		11.27 ¢/day
Albany Region			
Residential Customers	Fixed component	Single Dwelling	21.30 ¢/day
		For additional dwellings supplied through a common meter	20.63 ¢/day/dwelling
	Usage component		25.49 ¢/unit
Non-Residential Customers	Fixed component		21.30 ¢/day
	Usage component		15.49 ¢/unit

Where, for the Mid-West/South-West Region:

- for residential customers:
  - for a single dwelling with a single meter:
    L = 12 × N
    M = 24 × N
    N = the number of days in the period for which the charge is calculated
  - for multiple dwellings supplied through a common meter:
    L = [12 × N] + [(F-1) × 5]
    M = [24 × N] + [(F-1) × 5]
    N = the number of days in the period for which the charge is calculated
    F = the number of dwellings
- for non-residential customers:
  L = 100 × N
  N = the number of days in the period for which the charge is calculated

Appendix F: REMCo and the REMCo Retail Market Scheme

The *Energy Coordination Act 1994* requires "Retail Market Schemes" to be established for the operation of the WA gas retail market. Any Retail Market Scheme must include:

- a legal relationship between the Members of the Scheme (including gas retailers and gas Network Operators);
- a set of rules covering the requirements and processes for practical FRC; and
- an independent entity to manage the Scheme (the "Retail Market Operator").

The Retail Market Operator must be independent of the commercial outcomes of the markets, but may be owned by companies involved in the market.

Retailers and Network Operators must be Members of Retail Market Schemes. Gas shippers, pipeline operators, and self-contracting users have obligations in the Retail Market Rules, and are required to comply with the Rules through either legislation or regulations, but are not required to be Members of a Scheme.

F.1 The REMCo Scheme

The REMCo Scheme was approved by the Minister for Energy in April 2004, and is comprised of:

- the REMCo Constitution establishes the legal relationship between the Members of the Scheme;
- the set of "rules" covering the requirements and processes for practical FRC are the Retail Market Rules and the Specification Pack; and
- REMCo is the Retail Market Operator.

REMCo was incorporated on 8 January 2003, and commenced operations on 31 May 2004. REMCo is a not-for-profit company, limited by guarantee.

F.2 REMCo Operations

REMCo's role is to administer the business processes between the gas market participants in WA that allow retailers to cost effectively compete for the supply of gas to over 680,000 customers. REMCo's four primary business processes are:

- Delivery Point Management – managing the transfer end-use customers between retailers and self-contracting users;
- Balancing, Allocation and Reconciliation Management – managing the daily allocation of gas usage to retailers and self-contracting users to enable settlement of gas supply and gas transmission contracts;
- Rule Change Management – managing further development and improvement of the Retail Market Rules; and
- Compliance Management – managing and enforcing compliance with the Retail Market Rules.

F.3 Regulatory Oversight

The ERA is responsible for the regulation of the WA gas market, including oversight of the REMCo Retail Market Scheme. The ERA's role with respect to the REMCo Scheme includes:

- issuing and enforcing "gas trading licences" and "gas distribution licences";

- approving amendments to the Retail Market Rules;
- enforcing compliance with the Retail Market Rules by pipeline operators, shippers, self-contracting users, and swing service providers; and
- reviewing the performance of the REMCo Scheme.

F.4 REMCo Members

REMCo Membership is open to all gas retailers and Network Operators in WA. REMCo's current Members and Associate Members are listed in Table F1:

Table F1: REMCo Members		
Category	**Member**	**Activity**
Members	Alinta	Retailer
	Kleenheat	Retailer
	Perth Energy	Retailer
	Synergy	Retailer
	ATCO Gas Australia	Network Operator
Associate Members	APT Facilities Management	Self-Contracting User
	Geraldton Brickworks Pty Ltd	Self-Contracting User

F.5 Further Information

Further information on REMCo is available on its website at www.remco.net.au, including:

- the Retail Market Rules, and all subsidiary documentation;
- an *Overview Guide to the Western Australian Gas Retail Market*; and
- a *Technical Guide to Western Australian Gas Retail Market*.

Appendix G: AEMC Reviews of the Effectiveness of Competition in the Eastern States' Energy Markets

G.1 Background

The AEMC has undertaken a number of reviews into the effectiveness of competition in the eastern States' retail energy markets since late 2007, including:

1.	*Review of Competition in the Retail Electricity and Natural Gas Markets in New South Wales – Final Report*	The "NSW Final Report", dated 03/10/13.
2.	*Review of the Effectiveness of Competition in the Electricity and Gas Retail Markets in New South Wales – Draft Report*	the "NSW Draft Report", dated 23/05/13.
3.	*Review of the Effectiveness of Competition in the Electricity and Gas Retail Markets in the ACT – Stage 2 Final Report*	the "ACT Second Final Report", dated 03/03/11.
4.	*Review of the Effectiveness of Competition in the Electricity and Gas Retail Markets in the ACT – Stage 1 Final Report*	the "ACT First Final Report", dated 24/11/10.
5.	*Review of the Effectiveness of Competition in the Electricity and Gas Retail Markets in South Australia, Second Final Report*	the "SA Second Final Report", dated 18/12/08.
6.	*Review of the Effectiveness of Competition in the Electricity and Gas Retail Markets in South Australia – First Final Report*	the "SA First Final Report", dated 19/09/08.
7.	*Review of the Effectiveness of Competition in the Electricity and Gas Retail Markets in Victoria – Second Final Report*; and	the "Vic Second Final Report", dated 29/02/08.
8.	*Review of the Effectiveness of Competition in the Electricity and Gas Retail Markets in South Australia – First Final Report*	the "Vic First Final Report", released in December 2007.

G.2 Assessment Framework

The following is a summary of the assessment framework from the NSW Final Report and the NSW Draft Report, which form AEMC's most recent energy retail market review.

G.2.1 Assessment Criteria

The AEMC is required by the *Australian Energy Market Agreement* ("AEMA"), dated 2 October 2011, to base its assessment on six criteria:

(1) customer switching behaviour;

(2) ability of suppliers to enter the market;

(3) independent rivalry within the market;

(4) differentiated products and services;

(5) price and profit margins; and

(6) the exercise of market choice by customers.

The AEMC's assessment of the effectiveness of competition in the NSW Final Report and the NSW Draft Report was refined from the AEMC's previous reports. The AEMC drew on the requirements from the AEMA, and considered:

(a)	Are customers active in the market?	This covers criteria (1) and (6) from the AEMA; and considers whether customers are aware of the choices available to them, and are able to exercise choice.
(b)	Are there are any barriers to retailers entering, expanding, or exiting the market?	This expands on criteria (2) from the AEMA.
(c)	Is there independent rivalry, such that retailers are competing strongly with each other to attract and retain customers?	This covers criteria (3) and (4) from the AEMA.
(d)	Are customers satisfied with outcomes in the market?	This is not explicitly covered by the AEMA.
(e)	Are retailers making profit margins that are consistent with a competitive market?	This covers criteria (5) from the AEMA.

G.2.2 Market Definition

The AEMC determined that there are two energy markets for small customers in NSW – an electricity market and a gas market. The AEMC defined these markets on the basis that:

- many customers are connected only to the electricity network and not the gas network (62% of electricity customers have access to the gas network);
- customers connected to both the electricity and gas networks have choice for the provision of all services; but while electricity and gas offers may be presented together, retailers make separate offers for the two products, and there are currently no financial benefits to purchasing the two products together; and
- consumers have a limited ability to substitute between electricity and gas in the short term; and
- there are a number of fundamental differences between the NSW electricity and gas markets (gas has fewer people connected to the network, and is typically used for a minority of household energy needs), and this lower market penetration has led to fewer active gas retailers, offering fewer services.

There is a single market in NSW for residential and small business customers because:

- most retailers market to both types of customers;
- the legislative requirements for marketing to both types of customers are the same; and
- customer awareness of choice is about the same across both types of customers.

G.3 Summary of Findings

G.3.1 New South Wales

In the NSW Final Report and the NSW Draft Report, the AEMC presented its analysis for the NSW retail energy markets against the criteria in Section G.2.1 above, based on of a number of consultancies.[30] Results of the analysis are summarised as follows:

- Competition is effective in the NSW electricity and gas retail markets.
- Customers can choose from a range of products and from a range of retailers, and are increasingly taking advantage of these choices.
- Customer choice encourages greater innovation by retailers – a number of measures can be put in place to support increased choice, including:
  - better customer information;
  - tools to help customers better understand and compare prices;
  - ongoing market monitoring; and
  - implementing the NECF.

Based on these results, AEMC has recommended removal of electricity and gas price regulation in NSW; but that monitoring of the NSW markets should continue, and price regulation should be re-established if competition proves to be ineffective in the future.

G.3.1.1 The NSW Electricity Market

Electricity retail market competition is providing benefits to small customers through effective choice of retailers and energy products – this conclusion is based on:

(a)	Customers are active in the market.	• 21% of customers switched their electricity retailer in the last year, primarily to obtain a better price. • 90% of customers are aware that they can switch retailers, largely due to privatisation, price increases, and the *One Big Switch* campaign. • Some customer groups are not participating in the market because comparing tariffs is too complex or because electricity is a low involvement product.
(b)	There are few barriers to retailers entering, expanding, and exiting the market.	• Retailers can source electricity and manage spot price risk through hedges. • Small retailers can have access to economies of scale through outsourcing their billing system. • Costs to exit the market may arise where substantial upfront investment or long-term contracts are required.
(c)	There are signs of independent rivalry.	• While market concentration is high, smaller retailers are gaining market share and competition seems intense. • 12 retailers are competing for small customers in NSW, with 6 in electricity, 4 only to residential customers, and 2 focused on small businesses. • Market concentration is high – the 3 largest retailers have 95% market share, although smaller retailers are increasing their market share.

- Most product differentiation is in the form of discounts (4-5%) and/or cash rebates tied to conditions (e.g. paying on time or loyalty programs). At least 102 unique offers were made in NSW from 2010 to 2012.
- There has been a high amount of marketing activity – 68% of residential customers have been approached by retailers through multiple channels.

(d) Customers are generally satisfied with their experience in the market.

- Surveys indicated that:
  - most customers are satisfied with their market experience and switched to get a better price; and
  - only a minority of customers had negative experiences, mostly related to marketing practices.

(e) Profit margins are consistent with a competitive market.

- It is difficult to identify an appropriate benchmark to compare retail profit margins against, so AEMC focused on whether the regulated retail profit margin is sufficient to support competition (i.e. would competition prevent incumbents from raising prices if price regulation is removed?).
- Profit margins under the NSW regulated electricity retail tariff were adequate to support effective competition between 2002 and 2012.
- 5-6% discounts off of the regulated tariff were sufficient for competitors in the NSW electricity retail market.

G.3.1.2 The NSW Gas Market

Gas retail market competition is providing benefits to small customers through effective choice of their retailer and energy products – this conclusion is based on:

(a) Customers are active in the market.

- 14% of customers switched their gas retailer in 2012, primarily to obtain a better price, with very few switching because of dissatisfaction with their current retailer.
- 80% of customers are aware that they can switch retailers.

(b) There are few barriers to retailers entering, expanding, and exiting the market.

- There are two main barriers to entry into the NSW gas retail market:
  - Retailers may have a small customer base with an uncertain demand, but must take a high risk to supply these customers via:
    - wholesale gas supply (usually using confidential, long-term, “take-or-pay” contracts), noting that the Short Term Trading Market is not very liquid; and
    - gas transportation (usually using long-term pipeline transport contracts).
  - Distribution networks use bespoke interface systems (there are three networks, each with different systems).
- Other potential barriers include exit costs associated with long-term contracts and obsolete tariffs that prevent competition.

(c)	There are signs of independent rivalry.	• There are 6 gas retailers in NSW, including 3 large retailers, 2 of which do not compete against one another (i.e. effectively 5 retailers); so there is independent rivalry in the NSW gas market, but less than in electricity. • Most product differentiation is in the form of discounts and/or cash rebates tied to conditions (e.g. paying on time or loyalty programs).
(d)	Customers are generally satisfied with their experience in the market.	• Surveys indicated that: o most customers are satisfied with their market experience, and switched to get a better price; and o only a minority of customers had negative experiences, mostly related to marketing practices.
(e)	Profit margins are consistent with a competitive market.	• It is difficult to identify an appropriate benchmark to compare retail profit margins against, so AEMC focused on whether the regulated retail profit margin is sufficient to support competition (i.e. would competition prevent retailers from raising prices if price regulation is removed?). • Profit margins in the NSW regulated gas retail tariff were adequate to support effective competition from 2002-2012.

G.3.2 The ACT

In the ACT Second Final Report, the AEMC confirmed its findings that competition is not effective in the ACT electricity retail market for small customers because:

- the weak presence of second tier retailers makes awareness of FRC low, which in turn makes customers sticky;
- ActewAGL is both a Network Operator and retailer, which gives it:
  - perceived product differentiation (perceptions that its product is more valuable than other retailers' products);
  - economies of scale and scope that give it advantages over competitors (it may have higher actual margins than second tier retailers);
- the small market size (~150,000 customers) means there are fewer customers to spread retail costs and risks across;
  - However, while the market is small; the customers are attractive (they have high incomes, high average consumption, and winter peak demand); and
- regulated prices are based on ActewAGL costs rather than an efficient new entrant retailer.

These actual or perceived imbalances have resulted in few retailers entering the market, little retailer rivalry, and limited offers to customers.

- There are 19 licenced retailers in the ACT, but only 4 have small-use customers, and only 2 of these are accepting new customers.
- ActewAGL is a dominant retailer with a >90% market share.
- There is limited marketing and product offerings.
- While 60% of customers are aware of FRC, customer switching has reduced sharply since FRC was introduced.

The AEMC made a number of recommendations to increase the effectiveness of competition, including:

- an education campaign to inform customers about the market;
- a marketing campaign to inform customers about baseline contractual information;
- continued monitoring of the effectiveness of customer protection and switching arrangements;
- implement the NECF; and
- remove the transitional franchise tariff and replacing it with a price monitoring program.

G.3.3 South Australia

In the SA Second Final Report, the AEMC confirmed its findings that:

- competition is effective for small electricity and gas customers in SA, although relatively more intense in electricity than gas;
- competition has been effective in constraining retailers' prices to reflect real input costs and profit margins at competitive levels; and
- some structural limitations are affecting the ability of small customers in regional areas from getting access to the full benefits of competition.

To support this conclusion, the AEMC noted that there is strong rivalry between retailers as they seek to gain market share by offering alternative price, product, and service combinations:

- up front discounts of up to 7% off of the standing contract price in electricity markets, and slightly lower discounts in the gas market; and
- about 66% of electricity customers and 59% of gas customers are now supplied under a market contract.

G.3.4 Victoria

In the Vic Second Final Report, the AEMC confirmed its findings that there is effective competition in the electricity and gas retail markets for small customers, although it is relatively more effective in electricity. Evidence to support this conclusion includes:

- the majority of energy customers are actively participating in the energy market by exercising choice, particularly if they are directly approached by a retailer;
    - 60% of electricity customers and 59% of gas customers have entered into market contracts;
- there is strong rivalry between energy retailers, facilitated by market structures and entry conditions:
    - there has been significant market entry by retailers;
    - retailers are offering customers discounted tariffs and a range of non-price incentives;
    - there is evidence of vigorous marketing; and
- retail margins have been sufficient to allow efficient market entry and for retailers to actively seek customers and offer price and non-price incentives

G.4 Competition vs. Regulated Pricing

The AEMC has consistently noted in multiple reports that:

- Competition is effective – it promotes economic efficiency and is the most effective means of providing flexible and timely responses to changes in energy costs, tightening of supply, the need for additional investment, and the impact of climate change policies.
- There is generally no need for price regulation:
  - regulators generally have imperfect information, so regulated prices will either be too low (deterring investment and innovation) or too high (detrimental to customers);
  - regulated pricing lacks the flexibility and timeliness of market pricing, and adds regulatory administration and compliance costs; and
  - price regulation is not an effective way to address affordability concerns, as it distorts the market, and subsidises the entire market, not just those in need.

Appendix H: Gap Analysis between the REMCo Rules vs. the Metering Code and Customer Transfer Code

H.1 The Metering Code Vs. the REMCo Retail Market Rules

The following issues are covered by both the Metering Code and the REMCo Retail Market Rules in a reasonably consistent way; and could simply be covered in the Electricity Retail Market Rules, and deleted from the Metering Code:

- Metering Objectives;
- Obligations for Basic Meters;
- Meter Reading;
- Provision of metered data;
- Data Quality and Verification;
- Estimation and Substitution;
- Data Access and Publication;
- Data Retention; and
- Wholesale Market and Customer Transfer.

The following issues are covered for the electricity market under the Metering Code, but are not covered in the REMCo Retail Market Rules:

- Compliance with Legislation;[31]
- Meter Types;
- Meter Specification, Accuracy, and Reliability;
- Meter Ownership;
- Meter Security;
- Documentation; and
- Enhanced Technology.

Some other issues covered for electricity in the Metering Code that are not covered in the gas Retail Market Rules include:

- Data Ownership and Security:
  - This issue probably needs to be clarified in the gas sector.
- Multiple Users:
  - This can be handled in the gas environment through use of "logical metering". The allocations of energy from a single meter or a set of meters are based on an algorithmic approach that is agreed between parties. This already occurs in the eastern state gas markets (Qld and Vic).
- Dispute Resolution:
  - The Metering Code includes a dispute resolution mechanism, whereas the gas Retail Market Rules includes a more generalised "compliance process" that can be used if there is a dispute on any part of the operation of the rules. It would likely be more appropriate to dispense with the dispute resolution mechanism under the Metering Code and move to a rules compliance process.

- Restriction of customer transfers without interval meters:
    - Section 3.17 of the Metering Code requires that a customer can only be transferred if they have an interval meter. This provision will need to be deleted if electricity FRC is implemented, unless electricity FRC in implemented concurrent with or subsequent to a State-wide rollout of electricity smart meters.

H.2 The Customer Transfer Code Vs. the REMCo Retail Market Rules

The following issues are covered by both the Customer Transfer Code and the REMCo Retail Market Rules in a reasonably consistent way; and could simply be covered in the Electricity Retail Market Rules, and deleted from the Customer Transfer Code:

- Customer Transfer Objectives;
- Information Requests;
- Information Provision;
- Transfer Requests;
- Consent to the Transfer; and
- The Transfer.

Some issues covered for electricity in the Customer Transfer Code that are not covered in the gas Retail Market Rules include:

- Arm's Length Dealing:
    - The Customer Transfer Code requires the Network Operator to treat all associated retailers at arm's length, and this is not an issue under the REMCo Retail Market Rules, where the Network Operator is independent of all retailers.
- Communication Rules:
    - The Metering Code requires that the Network Operator submit communications rules to the ERA; whereas B2B and B2M communications are handled in the gas market via the Specification Pack. Dealing with communications in the FRC environment is a key consideration impact to cost of implementing FRC, and is considered under Section 11 above.
- Dispute Resolution
    - The Customer Transfer Code includes a dispute resolution mechanism, whereas the REMCo Retail Market Rules includes a more generalised "compliance process" that can be used if there is a dispute on any part of the operation of the rules. It would likely be more appropriate to dispense with the dispute resolution mechanism under the Metering Code and move to a rules compliance process.

Appendix I: Assessment of Options for Implementing Electricity FRC in WA

Table I1 – Assessment of Options for Implementing Electricity FRC in WA	
Electricity Retail Market Scheme	
Cross-energy consistency	✓ Consistency with existing WA gas FRC frameworks. ✓ The WA gas FRC approach has proven effective. ✓ WA based gas market stakeholders business processes structured to meet this model.
Cross-jurisdictional consistency	× If WA joins the NEM but regulates its electricity retail market under a state-based framework, then its wholesale market regulation would be consistent with NEM states, but its retail market regulation would not.
Simplicity	✓ Inserting enabling legislation into the *Electricity Industry Act 2004* would consolidate FRC legislation with existing electricity retail legislation. ✓ Inserting enabling provisions into existing legislation, then either making a new electricity retail market or amending the existing gas retail market scheme to cover both gas and electricity. ✓ REMCo can perform the market operation responsibilities, and the ERA can undertake the enforcement responsibilities in the same way as for gas. × WA would bear the brunt of the administrative burden. × The legislative processes may be time consuming. ✓ Simplicity and similarity to gas FRC framework may facilitate acceptance and avoid delays. ✓ WA gas retailers may be the most likely WA electricity retailers, which may facilitate support and acceptance.
Structural benefits	✓ Enabling laws would have the robustness and certainty of legislation. × Enabling laws would be relatively difficult to amend and adapt; although subordinate regulations/rules are more flexible. × Over time, developments in the NEM may exacerbate the difference between the two electricity markets, which could limit new entrant activity and lower market liquidity.
New WA-Based Legislation	
Cross-energy consistency	× Inconsistency with the approach taken for gas FRC, to the extent the bespoke electricity FRC framework differs from the existing gas FRC framework. × Unique regulatory frameworks in both WA gas and the eastern States will likely limit the interest of new entrant businesses, thereby limiting the development of competition.

Table I1 – Assessment of Options for Implementing Electricity FRC in WA		
Cross-jurisdictional consistency	×	If WA joins the NEM but regulates its electricity retail market under a state-based framework, then its wholesale market regulation would be consistent with NEM states, but its retail market regulation would not.
Simplicity	✓	Inserting bespoke enabling legislation into the *Electricity Industry Act 2004* would consolidate FRC legislation with exiting electricity retail legislation.
	✓	Inserting enabling provisions into existing legislation, and then making a bespoke FRC regime.
	×	Bespoke provisions would need to be developed.
	✓	REMCo can perform the market operation responsibilities, and the ERA can undertake the enforcement responsibilities in the same way as for gas.
	×	WA would bear the brunt of the administrative burden.
	×	The legislative processes may be time consuming.
Structural benefits	✓	Enabling laws would have the robustness and certainty of legislation.
	×	Enabling laws would be relatively difficult to amend and adapt; although subordinate regulations/rules are more flexible.
Code Based Approach		
Cross-energy consistency	×	Inconsistent with approach taken for gas FRC.
	×	Unique regulatory frameworks in both WA gas and the eastern States will likely limit the interest of new entrant businesses, thereby limiting the development of competition.
Cross-jurisdictional consistency	×	If WA joins the NEM but regulates its electricity retail market under a state-based framework, then its wholesale market regulation would be consistent with NEM states, but its retail market regulation would not.
Simplicity	✓	Can be implemented relatively quickly.
	✓	Uses the same enabling legislation (s. 39 of the *Electricity Industry Act 2003*) as other electricity codes.
	×	Requires enactment of enabling regulation to establish heads of power for code-making.
	×	May require enactment of statutory provisions to enable the electricity FRC code and the things it would need to cover.
	×	Consolidation of FRC provisions with the relevant existing electricity codes (the Metering Code and Customer Transfer Code) would necessitate amendment of those codes.
	✓	REMCo can perform the market operation responsibilities, and the ERA can undertake the enforcement responsibilities in the same way as for gas.
	×	WA would bear the brunt of the administrative burden.

Table I1 – Assessment of Options for Implementing Electricity FRC in WA		
Structural benefits	✓	It is relatively easy to amend and adapt codes compared to legislation.
	×	Codes lacks the robustness and certainty of underpinning legislative framework, unless enabling provisions were to be enacted.
	×	Over time, developments in the NEM may exacerbate the difference between the two electricity markets, which could limit new entrant activity and lower market liquidity.
Full NERL		
Cross-energy consistency	✓	Consistent regulation between electricity and gas under uniform energy retail framework, assuming gas were to be covered too.
	×	The NERL does not cover FRC, so there is no guarantee of consistency between gas and electricity FRC.
Cross-jurisdictional consistency	✓	Consistent with the national approach being progressively adopted in NEM states.
	✓	Would complement WA participation in the NEM.
	×	The NERL does not cover FRC, so there is no guarantee of consistency between the WA and NEM states' electricity FRC frameworks, although this may not be a major issue if there is consistency across broader electricity retail issues.
Simplicity	✓	Would consolidate all electricity (and gas) retail legislation within a single set of instruments.
	×	The NERL does not cover FRC, so additional FRC provisions would need to be incorporated.
	×	Would necessitate broad amendment of existing electricity and gas retail frameworks to reconcile them with the NERL.
	×	Would separate retail licensing provisions from other licensing provisions (generation, transmission, distribution) for gas and electricity.
	✓	The AER would assume the regulatory burden.
	×	Regulatory oversight would be handed over to a national body (the AER) rather than a WA-based body.
	×	The legislative process would be time consuming.
	×	Handing regulatory oversight to AER may attract resistance and slow the legislative process.
Structural benefits	✓	The enabling laws would have the robustness and certainty of legislation.
	×	Enabling laws are relatively difficult to amend and adapt, although subordinate regulations and rules are more flexible.
	×	Over time, developments in the NEM may exacerbate the difference between the two electricity markets, which could limit new entrant activity and lower market liquidity.

Table I1 – Assessment of Options for Implementing Electricity FRC in WA		
Partial NERL		
Cross-energy consistency	✓	Consistent regulation between electricity and gas under uniform energy retail framework, assuming gas were to be covered too.
	×	The NERL does not cover FRC, so there is no guarantee of consistency between gas and electricity FRC.
Cross-jurisdictional consistency	✓	Broadly consistent with the national approach being progressively adopted in NEM states, save for local administration and potential exclusion of unwanted NERL amendments.
	✓	Would complement WA participation in the NEM.
	×	The NERL does not cover FRC, so there is no guarantee of consistency between the WA and NEM states' electricity FRC frameworks, although this may not be a major issue if there is consistency across broader electricity retail issues.
	×	Local administration and cherry-picking would result in divergences and derogations from the NERL framework; which could discourage new entrant participation and minimise the development of competition.
	✓	Implementing legislation adopted in NEM states, which has also derogated and diverged from the standard NERL approach, suggests that derogations and divergences are acceptable where existing practices are to be maintained.
Simplicity	✓	Would consolidate all electricity (and possibly gas) retail legislation within a single set of instruments, except to the extent any relevant existing WA legislation may be retained (e.g. retail licensing laws).
	×	Partial adoption of the NERL (e.g. retention of existing retail licensing laws) would erode simplicity and complicate implementation.
	×	The NERL does not cover FRC, so additional FRC provisions would need to be incorporated.
	×	Would necessitate amendment of existing electricity and gas frameworks, to the extent required to reconcile with the new consolidated framework.
	×	WA would bear the brunt of the administrative burden.
	×	The legislative process would be time consuming.
	✓	Retention of control within WA may facilitate acceptance and avoid delays.
Structural benefits	✓	The enabling laws would have the robustness and certainty of legislation.
	×	Enabling laws are relatively difficult to amend and adapt, although subordinate regulations and rules are more flexible.
	×	Over time, developments in the NEM may exacerbate the difference between the two electricity markets, which could limit new entrant activity and lower market liquidity.

Appendix J: Acronyms and Definitions

ACT	The Australian Capital Territory.
ACT First Final Report	*Review of the Effectiveness of Competition in the Electricity and Gas Retail Markets in the ACT – Stage 1 Final Report*, dated 24/11/10.
ACT Second Final Report	*Review of the Effectiveness of Competition in the Electricity and Gas Retail Markets in the ACT – Stage 2 Final Report*, dated 03/03/11.
AEMA	"Australian Energy Market Agreement" – an agreement entered into by the Council of Australian Governments on 30 June 2004 to establish: • the AER; • the AEMC; • the AEMO; and • a national legislative framework for energy – the *National Electricity Law*, *National Electricity Rules*, *National Gas Law*, and *National Gas Rules*.
AEMC	"Australian Energy Market Commission" – the rule maker and developer for Australian energy markets. For more information see www.aemc.gov.au.
AER	"Australian Energy Regulator" – the body in charge of approving rule changes for the Australian energy markets. For more information see www.aer.gov.au.
AEMO	"Australian Energy Market Operator" – the company in charge of operating all energy markets (electricity and gas, wholesale and retail) in all Australian jurisdictions other than WA and NT. For more information see www.aemo.com.au.
ATCO	"ATCO Gas Australia" – the owner and operator of the three largest gas distribution systems in WA.
B2B	"Business-to-Business" communications.
B2M	"Business-to-Market Operator" communications.
BMP	Basic Meter Profiler" – a service provided by the MDM
Customer Transfer Code	"*Electricity Industry Customer Transfer Code 2004*" – a code established under the Electricity Industry Act 2004, governing the transfer of electricity end-use customers between retailers in WA.
DBNGP	"Dampier to Bunbury Natural Gas Pipeline" – transports gas from the North West Shelf to customers in the MWGDS.
DSM	"Demand Side Management".
EIC	"Explicit Informed Consent" – it is a significant regulatory issue in implementing FRC to ensure that retailers get EIC from a customer before they initiate a customer transfer process.
ERA	"Economic Regulation Authority" – the Government agency charged with independent economic regulation of the WA electricity, gas, and rail industries. For more information see www.erawa.com.au.
ESCOSA	"Essential Services Commission of South Australia" – the economic regulator in SA.

FRC	"full retail contestability" – the process where an energy market is fully open to competition; such that any retailer can enter the market and supply any end-use customer, and customers are able to choose their retailer.
GBB	"Gas Bulletin Board".
gentailer	A company that undertakes both electricity generation and retail activities.
GGP	"Goldfields Gas Pipeline" – transports gas from the North West Shelf to customers in the Pilbara and to Eastern Goldfields regions near Kalgoorlie/Boulder.
GSOO	"Gas Statement of Opportunities".
IMO	"Independent Market Operator" – the Government agency in charge of operating the WEM. For more information see www.imowa.com.au.
LNG	"Liquefied Natural Gas".
MDM	"Metering Data Management" – a component of a Market Operator's IT systems that is used for the receipt, storage and aggregation of metering data
MDP	"Meter Data Providers" – parties that read meters and provide data to the Market Operator and/or Network Operator.
Metering Code	"*Electricity Industry Metering Code 2012"* – a code established under the Electricity Industry Act 2004, governing electricity metering in WA.
MWGDS	"Mid-West/South-West Gas Distribution System" – the largest gas distribution system in WA, owned and operated by ATCO, stretching from Geraldton to Bunbury, and including the Perth metropolitan area.
NECF	"National Energy Customer Framework" – a new set of national laws regulating the retailing and distribution of electricity and gas, including customer protection measures. The NECF includes the NERL, the National Energy Retail Rules, and the National Energy Retail Regulations.
NEMMCO	"National Electricity Market Management Company Limited" – AEMO's predecessor as the operator of the NEM.
NERL	"National Energy Retail Law" – legislation currently being adopted by the NEM states to align retail market fundamentals, like licensing, contracting, and consumer protection across both gas and electricity commodities.
NMI	"National Meter Identifier" – the unique key to identify each electricity connection point (the meter).
NSW	The State of New South Wales.
NSW Draft Report	*Review of the Effectiveness of Competition in the Electricity and Gas Retail Markets in New South Wales – Draft Report*, dated 23/05/13.
NSW Final Report	*Review of Competition in the Retail Electricity and Natural Gas Markets in New South Wales – Final Report*, dated 03/10/13.
NT	The Northern Territory.
NWIS	"North West Interconnected System" – the second largest electricity distribution and transmission System in WA, operated by Horizon Power, and located in the Pilbara region.

PPS	"Profile Preparation Service" – a service provided by the MDM.
PUO	"Public Utilities Office" – a government agency, part of the WA Department of Finance, which provides energy policy advice to the Minister for Energy.
Qld	The State of Queensland.
RCM	"Reserve Capacity Mechanism" – the mechanism by which the IMO ensures that there is adequate supply of capacity in the WEM. The RCM involves the trade of Capacity Credits between generators (and DSM providers) and retailers.
REMCo	"Retail Energy Market Company Limited" – the company in charge of operating the WA gas retail market. REMCo is a not-for-profit company, limited by guarantee. For more information see www.remco.net.au.
RIA	"Rottnest Island Authority".
ROLR	"Retailer of Last Report" – a mechanism to ensure continued electricity supply to customer in the event of a retailer failure, and to ensure retailers can recover costs if it is required to absorb customers of a failed retailer.
SA	The State of South Australia.
SA First Final Report	*Review of the Effectiveness of Competition in the Electricity and Gas Retail Markets in South Australia – First Final Report*, dated 19/09/08.
SA Second Final Report	*Review of the Effectiveness of Competition in the Electricity and Gas Retail Markets in South Australia, Second Final Report*, dated 18/12/08.
STEM	"Short Term Energy Market" – a daily forward market for energy that allows market participants to trade around their bilateral positions in the WEM.
SWIS	"South West Interconnected System" – the largest electricity distribution and transmission system in WA, owned and operated by Western Power, and stretching from Kalbarri in the north, Kalgoorlie in the east, and Albany in the south.
Tas	The State of Tasmania.
TEF	"Tariff Equalisation Fund" – the fund used to subsidise the WA Government's Uniform Tariff Policy.
Vic	The State of Victoria.
Vic First Final Report	*Review of the Effectiveness of Competition in the Electricity and Gas Retail Markets in South Australia – First Final Report*, released in December 2007.
Vic Second Final Report	*Review of the Effectiveness of Competition in the Electricity and Gas Retail Markets in Victoria – Second Final Report*, dated 29/02/08.
WEM	"Wholesale Electricity Market" – the market for wholesale supply of electricity from generators to retailers in the SWIS, operated by the IMO.
WA	The State of Western Australia.

NOTES

[1] Source: AER, State of the Energy Market 2013.

[2] Source: ESCOSA – Envestra Limited FRC Maximum Prices Price Determination, June 2004.

[3] Western Power's annual report for 2012/13 indicates it had 1,050,662 connections in that year, and based on a 2.5% growth rate, this equates to 1,188,728 connections in 2018/18.

[4] Source: WACOSS Cost of Living (Utilities) Facts – WA State Election 2013.

[5] Source: *NEMMCO Determination and Report: Structure of Participant Fees* under clause 2.11 of the National Electricity Rules, 24 March 2006. Information on electricity FRC costs from the Determination and Report includes:

- NEMMCO incurred costs of about $38 million to establish, and about $8 million to operate the electricity FRC systems in its jurisdictions; a total costs in the vicinity of $46 million.
- NEMMCO's 2003 Fee Determination indicated that its FRC establishment costs up until 31 January 2002 were to be recovered over a 10-year period for capitalised operating costs, and over 5-years for capital investment costs. The elements comprising the FRC operating and establishment costs are shown in the 2005/06 FRC Budget in section 7.3 of this Determination and Report.
- NEMMCO was involved in developing and implementing B2B systems and procedures to allow automatic of data exchange and reconciliation between participants; and supported the Information Exchange Committee in forming the B2B standards and coordinating retailer and Network Operator system testing. NEMMCO estimated costs of $2.075 million for its B2B activities and $561,000 to support the Information Exchange Committee. B2B costs are recouped through FRC fees as operating expenses, with no establishment component.

[6] Source: E-mail from AEMO dated 16/08/13 indicated:

- Vic gas FRC cost was estimated to be in the order of $13 million;
- Qld gas FRC costs were based on an incremental annual charge by AEMO to the industry participants of about $190,000/year to cover increase in operating costs and minor enhancements to existing systems; and
- NSW/ACT Market Operator costs are estimated, as there is no public information on the costs – the estimate is based on a per customer cost extrapolation of the FRC implementation costs involved in SA and WA, which used a similar market model and infrastructure.

[7] REMCo's total direct costs to implement gas FRC in WA and SA was $11.481 million; including $10.326 million to develop REMCo IT Systems; plus $1.144 million to develop the Retail Market Rules. This $11.481 million was allocated 40% to SA ($4.59 million) and 60% to WA ($6.89 million) based on the customer numbers in each State.

[8] It is likely that only the SWIS will be able to support a contestable electricity market in WA at this time because:

- electricity pricing outside of the SWIS is significantly below cost (even more so than in the SWIS); and
- the SWIS has a sufficiently large number of customers, and there are relatively few customers outside the SWIS.

[9] Source: ERA Annual Performance Report 2012 – Retailers.

[10] Source: The IMO website (www.imowa.com.au).

[11] Source: AEMO MMS 30 Minute Dispatch Price by Region, IMO WEMS 30 Minute STEM and Balancing Price

[12] On Page 115 of the *2013 Wholesale Electricity Market Report to the Minister for Energy*, the ERA indicates that, on average, 120 customers churned per month for the current Reporting Period compared to a monthly average of 156 in 2012/13, with the maximum number of customer transfers being 198 in March 2012.

[13] Source: the IMO's Electricity Statement of Opportunities – June 2013.

[14] Source: Synergy's Annual Report for 2011/12.

[15] On 28 January 2014, Synergy indicated to the Upper House Financial Estimates Committee that the A1 Tariff is 33.5% below cost – see:

http://www.parliament.wa.gov.au/Parliament/commit.nsf/(Evidence+Lookup+by+Com+ID)/B9EE16C2FE904FE748257C6F0013D8D0/$file/ef.aar12.140128.aqon.001.Synergy.pdf

[16] The information on the $493.2 million subsidy to Synergy for 2013/14 is spread across two documents:

- the 2013/14 State Budget Paper No. 3 – see: http://www.treasury.wa.gov.au/cms/uploadedFiles/State_Budget/Budget_2013_14/bp3.pdg
- the 2013/14 Government Mid-year Financial Projections Statement – see: http://www.treasury.wa.gov.au/cms/uploadedFiles/_Treasury/State_finances/2013_14_midyear_review.pdf

[17] Source: sample of Vic Standing contract Offers.

[18] It is acknowledged that there are other ways to cherry-pick high-value customers, such as:

- structuring the standing offer so that it is most beneficial to high-value customers;

- making the standing offer only to high-margin customer classes; and
- undertaking a door-knocking campaign in neighborhoods that have predominantly high-value customers.

These marketing techniques would allow new entrants to attract more high-value customers than low-value customers, but would not allow full cherry picking. It is also noted that door-knocking is on the decline in the eastern States' since customers have complained about "strong arm" tactics used in these campaigns, and the ACCC has fined retailers for these tactics.

19 Jackgreen Energy is the example of the retailer failure in the NEM. The following is a summary of the Energy and Water Ombudsman NSW ("EWON") analysis of the circumstance of the retailer failure:

- Jackgreen was Australia's largest specialist renewable electricity retailer before it collapsed in late 2009. Jackgreen was served with a court application in December 2009 due to an alleged failure to pay an outstanding $808,983 to Integral Energy Australia; and was suspended from the NEM by the AEMO on 18 December 2009.
- EWON found that the factors contributing to Jackgreen's failure included:
  - inappropriate marketing to low income and disadvantaged customers;
  - initial problems with Jackgreen's "smooth pay" billing system;
  - ongoing billing issues resulting in significant billing delays for some customers;
  - an ineffective credit management policy that allowed high arrears to accumulate; and
  - no viable customer hardship policy to identify and assist customers in difficulty.

20 The legislation for an Electricity Retail Market Scheme would need to set out, amongst other things:

- The purpose for the Electricity Retail Market Schemes, such as to ensure that the market is operated in a way that is open and competitive; efficient; and fair to market participants and their customers.
- The persons that must comply with the Electricity Retail Market Scheme, including electricity Network Operators, electricity retailers, and any other person that has a role in electricity retailing.
- What the Electricity Retail Market Scheme is to consist of, such as:
  - one or more agreements between Members of the scheme;
  - a formal entity to administer the scheme (the "Market Operator"); and
  - a set of Electricity Retail Market Rules.
- What the documentation for an Electricity Retail Market Scheme must provide for, such as:
  - administration of the scheme;
  - participants meeting the costs to administer the scheme;
  - reporting to the ERA on the operation of the scheme;
  - dispute resolution; and
  - access to the scheme.
- The requirements for the Electricity Retail Market Rules, including:
  - the roles and functions of each kind of electricity retail Market Operator;
  - the transfer of customers between electricity retailers;
  - the collection, management and use of metering data;
  - balancing of the electricity retail market;
  - audits of the scheme;
  - dispute resolution and rules enforcement; and
  - rule changes.
- That the ERA is to approve the initial Electricity Retail Market Scheme and any changes to the scheme, noting that the Market Operator is to develop the scheme and any scheme amendments for consideration by the ERA.
- The criteria that the ERA is to use when considering approval of the initial Electricity Retail Market Scheme, and any changes to the scheme, such as:
  - sufficient consultation has been undertaken with affected parties on the scheme or scheme amendment;
  - the scheme/scheme amendment is consistent with the governing legislation; and
  - the scheme/scheme amendment is suitable for the legislated purposes of the scheme.

21 The Energy Market Review includes consideration of revisions to the electricity market institutional arrangements (see Section A.9), and could include formation of a new WA-based Market Operator (see Section 9.1). This issue was likely included in the Electricity Market Review because of concerns with the IMO's governance structure that have been raised by market participants, focussing on:

- separation of the major market functions (market operation, rules development, rule change approval, and rules compliance); and
- establishing a Board structure that has stronger commercial incentives and more accountability to industry.

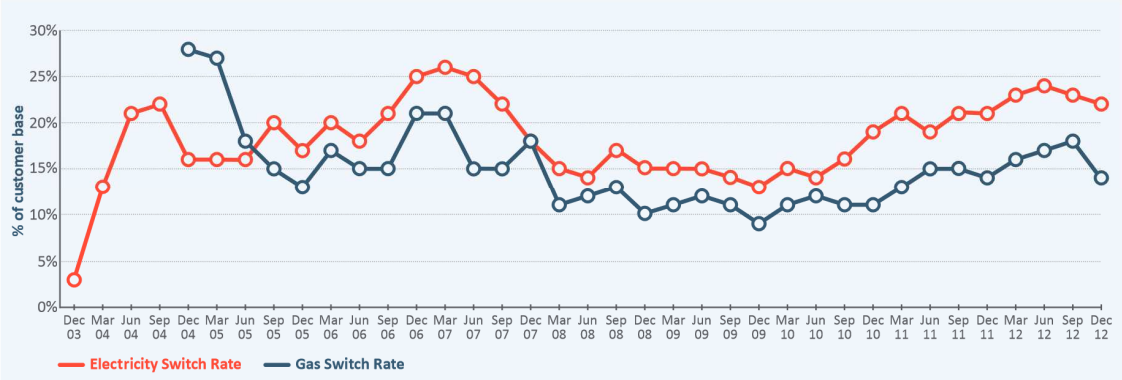
While REMCo and its Members believe REMCo's current governance structure is highly effective, REMCo requires greater scale to make more effective use of its resources. As a result, REMCo would consider moving its operations into a single energy Market Operator for WA (gas and electricity, wholesale and retail), but only if the structure of that entity meets certain requirements.

22 AEMO was created out of an amalgamation of six different energy Market Operators in eastern Australia, including NEMMCO, ESIPC(SA), VENCorp(Vic), REMCo(SA), GMC(NSW/ACT) and GRMO(Qld).

23 The WA Government has traditionally avoided making use of national institutions like AEMO; but the AEMO Option has clearly been put back on the table by the Electricity Market Review (see Section A.9).

24 Source: Electricity Retail Market Review – Electricity Tariffs – Final Recommendations Prepared for the WA Office of Energy (2009).

25 A generally accepted rule-of-thumb is that, given a choice, 20% of any population will exercise the option of choice. For example, there has consistently been 15%-20% customer churn in SA since 2003 – see the following graph:



26 The ERA regulates the electricity transmission and distribution networks under the *Electricity Networks Access Code 2004*; and the gas transmission and distribution systems under the *National Gas Access (WA) Act 2009*. Access Arrangements approved under these pieces of legislation include approving the terms and conditions (including prices) that owners of electricity networks and gas pipelines must offer for access to their infrastructure.

27 The RCM is based around trade of Capacity Credits between those supplying capacity to the WEM and those using it (i.e. retailers). Each year, the IMO estimates the total capacity required by the market for the year; and retailers are obliged to secure adequate Capacity Credits to meet its "Individual Reserve Capacity Requirement". Retailers can secure Capacity Credits through bilateral trade with generators and/or DSM capacity providers, or can purchase Capacity Credits from the IMO. Generators and DSM capacity can register Capacity Credits with the IMO. Registration of these Capacity Credits obligates the providers to make that capacity available to the market, which ensures that, having paid for capacity, the market can make use of it.

28 The IMO's "*Energy Price Limits for the Wholesale Electricity Market in Western Australia*", dated 13 March 2014, includes an analysis of gas supply for a 40MW power station, and concludes that gas pricing was in the $7.52/GJ-$11.12/GJ range, based on an assessment of publically available information on gas contracts and based on gasTrading spot price data (see www.gastrading.com.au).

29 The PUO publishes a map of the gas transmission pipelines that lists the installed capacities of each pipeline (see http://www.finance.wa.gov.au/cms/section.aspx?id=13387.)

30 The consultancies used by AEMC in its analysis of the NSW energy market included (reports on these consultancies are available on the AEMC website at www.**aemc**.gov.au):

- *Survey of Business Customers of Electricity and Natural Gas in New South Wales: Effectiveness of Retail Competition* (Roy Morgan);
- *Survey of Residential Customers of Electricity and Natural Gas in New South Wales: Effectiveness of Retail Competition* (Roy Morgan):
- *Retail Competition in the NSW Electricity and Natural Gas Markets: Focus Groups with Residential and Small Business Consumers* (Roy Morgan):
- interviews with retailers to obtain their views of the NSW energy market (Sapere Research Group); and
- estimates of the profit margin for supplying small electricity and natural gas customers in NSW for 2002 to 2012 (NERA Economic Consulting).

31 The Metering Code requires the electricity Network Operator to ensure that meters comply with the *National Measurement Act 1960*, and there is no similar requirement on has Network Operators under the Retail Market Rules.