

Discussion Paper:
2013 Wholesale Electricity Market
Report to the Minister for Energy

September 2013

Economic Regulation Authority

WESTERN AUSTRALIA

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Contents

1	Introduction	1
1.1	Wholesale Market Objectives	1
1.2	Reporting requirements	2
1.3	Summary of the 2012 Minister's Report	2
1.4	Approach and focus for the 2013 Minister's Report	3
1.5	How to make a submission	4
2	Outcomes in the Wholesale Electricity Market	6
2.1	The capacity market	6
2.1.1	Level of Capacity	8
2.1.2	Mix of Capacity	11
2.1.3	Availability of Capacity	11
2.2	The energy market	13
2.2.1	The Short Term Energy Market	14
2.2.2	Balancing	17
2.2.3	Ancillary Services	22
2.3	Competition in the contestable electricity market	23
3	Key Wholesale Electricity Market Matters	25
3.1	Balancing Market	25
3.2	Load Following Ancillary Services	28
3.3	Verve/Synergy Merger	31
	Appendices	32

Tables

Table 1:	Reserve Capacity Prices and Maximum Reserve Capacity Prices from Market Commencement up to 2015/16	7
Table 2:	Comparison of 2014/15 and 2015/16 Reserve Capacity Requirements	10
Table 3	Quantity of Capacity (MW) Offered into Expression of Interest (EOI) Process by Submission Year and Capacity Year	10

Figures

Figure 1:	Capacity Credits (MW) assigned by the IMO to Market Participants	9
Figure 2:	Daily maximum demand (21 September 2006 to 30 June 2013)	14
Figure 3:	Daily average STEM Clearing Price (Peak Trading Intervals, 21 September 2006 to 30 June 2013)	15
Figure 4:	Daily average STEM Clearing Price (Off-Peak Trading Intervals, 21 September 2006 to 30 June 2013)	16
Figure 5:	Daily average quantities traded in the STEM (21 September 2006 to 30 June 2013)	17
Figure 6:	Daily average Balancing prices (Peak Trading Intervals, 21 September 2006 to 30 June 2013)	18
Figure 7:	Daily average Balancing prices (Off-Peak Trading Intervals, 21 September 2006 to 30 June 2013)	19
Figure 8:	Peak Trading Intervals Final Balancing Prices (1 July 2011 to 30 June 2013)	20
Figure 9:	Off-Peak Trading Intervals Final Balancing Prices (1 July 2011 to 30 June 2013)	21
Figure 10:	Daily average quantities traded in Balancing (21 September 2006 to 30 June 2013)	22
Figure 11:	Number of customers changing retailer per month (September 2006 to June 2013)	24
Figure 12:	Daily average LFAS prices since market start	29

1 Introduction

The purpose of this discussion paper is to assist interested parties in making submissions on any operational, strategic, policy or otherwise high-level issues, including those raised in this discussion paper, that are considered to be impacting on the effectiveness of Western Australia's Wholesale Electricity Market (**WEM**) in meeting the Wholesale Market Objectives (**Market Objectives**).

Submissions on this discussion paper close at 4.00pm (WST) on Monday 14 October 2013. See Section 1.5 for further information on how to make a submission.

The Wholesale Electricity Market Rules (**Market Rules**) require that the Economic Regulation Authority (**Authority**) provide a report to the Western Australian Minister for Energy (**Minister's Report**), at least annually, on the effectiveness of the WEM in meeting the Market Objectives.

Submissions from interested parties on issues impacting the effectiveness of the WEM will assist the Authority in preparing its 2013 Minister's Report, which will be provided to the Minister following consideration of the submissions received in response to this discussion paper, and analysis of the available market data. A public version of the report will be published on the Authority's website after consultation with the Minister.

1.1 Wholesale Market Objectives

Under the Market Rules, the Authority is responsible for monitoring the effectiveness of the market in meeting the Market Objectives and providing to the Minister a report that includes the Authority's assessment of the effectiveness of the market. The Market Objectives¹ are:

- to promote the economically efficient, safe and reliable production and supply of electricity and electricity related services in the South West Interconnected System (**SWIS**)²;
- to encourage competition among generators and retailers in the SWIS, including by facilitating efficient entry of new competitors;
- to avoid discrimination in that market against particular energy options and technologies, including sustainable energy options and technologies such as those that make use of renewable resources or that reduce overall greenhouse gas emissions;
- to minimise the long-term cost of electricity supplied to customers from the SWIS; and
- to encourage the taking of measures to manage the amount of electricity used and when it is used.

¹ Refer to clause 1.2.1 of the Market Rules <http://www.imowa.com.au/market-rules>

² The SWIS is defined in the *Electricity Industry Act 2004* and refers to the interconnected transmission and distribution systems located in the South West of the State, extending between Kalbarri, Albany and Kalgoorlie. See the State Law Publisher website, *Electricity Industry Act 2004*.

1.2 Reporting requirements

According to clause 2.16.12 of the Market Rules, the Authority's report to the Minister must contain (but is not limited to) the following:

- a summary of the information and data compiled by the Independent Market Operator (**IMO**) and the Authority under clause 2.16.1;
- the Authority's assessment of the effectiveness of the market, including the effectiveness of the IMO and System Management in carrying out their functions, with discussion of the following:
 - the Reserve Capacity Market;
 - the market for bilateral contracts for capacity and energy;
 - the Short Term Energy Market (**STEM**);
 - Balancing;
 - the dispatch process;
 - the planning processes;
 - the administration of the market, including the Market Rule change process;
 - Ancillary Services;
 - an assessment of any specific events, behaviour or matters that impacted on the effectiveness of the market; and
 - any recommended measures to increase the effectiveness of the market in meeting the Market Objectives to be considered by the Minister.

1.3 Summary of the 2012 Minister's Report

The Authority provided its 2012 Minister's Report to the Minister in April 2013, and published a public version of that report on its website on 14 June 2013. In the report, the Authority noted that over \$2 billion has been invested in the WEM since market commencement, and there is robust competition between generators, with ultimate benefits for consumers. However, as with all other electricity markets, there are areas that can be improved upon to achieve more efficient outcomes. In particular, the Authority considered that there are a number of issues in the Reserve Capacity Mechanism (**RCM**) that require attention. These include:

- The cost to the market of the substantial and continued excess capacity that is currently secured under the RCM;
- The types of capacity attracted to the market and the implications that this mix of capacity has on the cost of electricity to consumers; and
- Perverse market incentives that allow for some Verve Energy units to be unavailable, yet still receive full payments for Capacity Credits.

The Authority recommended that the three highlighted concerns should be investigated to ensure that the Reserve Capacity Mechanism functions more efficiently. The Authority

recommended that the Public Utilities Office (**PUO**), as the policy advisor, should take the lead in addressing these policy related strategic issues. Whilst the Authority recognised that the IMO has responsibility to address a number of specific operational matters relating to the Authority's concerns and was doing so in its existing work program, the Authority considered market reform issues that have wide implications and are more strategic in nature should be addressed by the PUO, with the assistance of the IMO.

The Authority also noted that a key driver for much of these inefficiencies is likely to be the administered price setting mechanism for capacity in the market and that it would be investigating this further as part of its review of the Maximum Reserve Capacity Price (**MRCP**) methodology which is due to be completed by 1 October 2013.

1.4 Approach and focus for the 2013 Minister's Report

As set out in the 2012 Report to the Minister, the Authority is conscious that there may be potential or perceived overlap between its role, and the roles of the IMO and the PUO in the WEM. The Authority considers that its role differs from the roles of the PUO and the IMO, as follows:

- The role of the Authority is to monitor the market and clearly identify problems or issues that need to be resolved, and to recommend measures to the Minister to improve the effectiveness of the market in achieving the Wholesale Market Objectives.
- The role of the PUO focuses on the development of energy policy, including the policy response to issues or problems identified by the Authority. Major reform changes to the WEM that have wide implications for consumers need to be addressed by the PUO.
- The role of the IMO is primarily operational and involves rule administration and rule development, providing continuous refinements to the market, and finding the most efficient means to implement the solutions or policy responses identified by the PUO.

The Authority recognises that the three organisations must work collaboratively to achieve the best outcome for consumers in the SWIS.

Section 128 of the *Electricity Industry Act 2004* requires the Authority to provide a report to the Minister every three years, based on a review of the extent to which the market objectives set out in the Act have been, or are being, achieved. The last triennial report was provided to the Minister in May 2011. The next triennial report must be provided to the Minister within 3 years and 6 months of the previous report, i.e. no later than November 2014.³

The 2012 Minister's Report indicated that the triennial report would be included with the 2013 Minister's Report. However, with the announcements by the Premier to merge Verve Energy and Synergy, the Authority has decided that it would be more useful to produce an annual report for the 2013 year as soon as is possible after the market data for the 2012/13 year can be analysed and reported on based on the existing market arrangements. It is intended that the triennial report will be included in the 2014 Minister's Report, by which time there will be more certainty about the merger of Verve Energy and Synergy.

³ Section 128(3) of Electricity Industry Act 2004

As summarised in the previous section, the Authority focused on the operation of the capacity market in the 2012 Minister's Report. The Authority does not intend to revisit these issues for the purposes of the 2013 Report other than to note any further developments in relation to modifications to the capacity market and, where appropriate, to comment on the likely impact of those modifications.

Significant changes were introduced to the WEM in July 2012 in relation to the Balancing and Load Following Ancillary Services (**LFAS**) market arrangements. Previously both of these services were provided solely by Verve Energy. The new arrangements provide for other generators to now compete for these services. In addition, the Authority has observed patterns of large negative balancing prices during overnight low load periods and price spikes during lower demand periods, and is currently investigating the factors that may explain these prices.

For this report, the Authority intends to focus primarily on the operation of the new Balancing and LFAS market arrangements. In addition, the Authority will give preliminary consideration to issues arising out of the Verve Energy and Synergy merger in relation to the impact on the effectiveness of the WEM in meeting the Wholesale Market Objectives. However, as the implementation of the merger is still a work in progress and the Government has announced its intention to review the market rules, the functioning and design of the WEM and the role of the IMO, rather than duplicate the work of these processes, the Authority will await further developments and provide its views in the 2014 report to the Minister. In the event that the Authority is unable to address issues raised by stakeholders in the 2013 Minister's Report, the Authority will consider these other issues for inclusion in the next Minister's Report, in 2014.

The Authority invites comments from stakeholders on these specific issues.

Beyond these specific issues, the Authority welcomes comments from stakeholders on any other strategic, policy or high-level issues that impact on the effectiveness of the WEM in meeting the Wholesale Market Objectives.

The structure of this discussion paper is as follows:

- Section 2 provides a summary of key activities and outcomes of the WEM since its inception.
- Section 3 outlines the key matters the Authority intends to focus on in the 2013 Minister's Report.

1.5 How to make a submission

Submissions on the issues outlined in this discussion paper or on any operational, strategic, policy or otherwise high-level issues that are thought to be impacting the effectiveness of the WEM in meeting the Market Objectives, should be marked to the attention of the Assistant Director Markets.

Email address: publicsubmissions@erawa.com.au
Postal address: PO Box 8469, PERTH BC WA 6849
Office address: Level 4, Albert Facey House, 469 Wellington Street, PERTH WA 6000

Submissions must be received by **4:00 pm (WST) on Monday 14 October 2013**.

Confidentiality

Submissions made to the Authority will be treated as in the public domain and placed on the Authority's website unless confidentiality is claimed. The submission or the parts of the submission for which confidentiality is claimed should be clearly marked. Any claim of confidentiality will be dealt with in the same way as is provided for in section 55 of the *Economic Regulation Authority Act 2003*.

The receipt and publication of a submission shall not be taken as indicating that the Authority has knowledge, either actual or constructive, of the contents of a particular submission and, in particular, whether the submission in whole or part contains information of a confidential nature. No duty of confidence will arise for the Authority in these circumstances.

Further information regarding this discussion paper can be obtained from:

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2 Outcomes in the Wholesale Electricity Market

Electricity markets can be organised in different ways. Broadly, they can be categorised into two types of markets, energy only markets and markets with separate capacity and energy components. The National Electricity Market (**NEM**) operating in the eastern states is an energy only market. In the NEM, a generator receives only one payment stream from the market through the energy output it has produced and made available to the market.

The Wholesale Electricity Market (**WEM**) in Western Australia is a market with separate capacity and energy components. The capacity market component seeks to ensure that supply capacity is sufficient to achieve the required level of reliability and is adequately remunerated to attract investment when needed. In contrast, the energy market component provides a platform in which electricity generators and retailers interact to supply and purchase electricity. In the WEM, therefore, a generator will receive two payment streams, the capacity payment for making its capacity available to the market, and the energy payment for the amount of electricity that it has produced and made available to the market.

This section provides a brief overview of outcomes in the capacity and energy market from market commencement in September 2006 to the end of June 2013.

2.1 The capacity market

The Reserve Capacity Mechanism (**RCM**) is a key design feature of the WEM, which underpins the operation of the capacity market. The provision of a separate capacity mechanism in the design of the WEM was driven by a strong focus on supply security, given that the SWIS is isolated from electricity systems in other jurisdictions and also recognition that competitive supply of generation would take time to mature. The main aim of the RCM is to ensure that sufficient capacity will be available to meet system peak demand throughout the year.

The IMO is responsible for centrally determining the total generation capacity required to provide this level of reliability, i.e. the annual Reserve Capacity Requirement (**RCR**). The IMO determines the RCR two years in advance, in accordance with the Planning Criterion, based on peak demand and energy forecasts.⁴

To ensure sufficient capacity is installed in the SWIS, the RCM includes a concept of Capacity Credits. A Capacity Credit represents one megawatt (**MW**) of capacity that is allocated by the IMO. Capacity Credits are allocated to supply capacity from both generators and Demand Side Management (**DSM**) providers. To apply for Capacity Credits, a capacity provider must go through the capacity certification process whereby the IMO will determine the maximum quantum of capacity that can be allocated to a facility after the IMO has conducted its due diligence assessment and technical review of the capability of the facility.

After the certification process is complete and certified capacity has been granted, capacity providers need to declare to the IMO the amount of certified capacity they intend to trade bilaterally with other participants. In the event that insufficient capacity is identified during this process, the IMO is able to procure the shortfall by calling a Reserve

⁴ Refer to clause 4.5.9 of the Market Rules.

Capacity Auction. To date, the capacity requirement has always been met through declarations of capacity for bilateral trading and there has been no capacity auction held.

However, declarations of the amount of capacity to be traded bilaterally between participants are not binding. As the IMO is required to allocate Capacity Credits to all certified capacity that has been declared for bilateral trade (unless the capacity provider decides to withdraw prior to the IMO's allocation decision being made) there is no quantity limit to the amount of Capacity Credits that the IMO can allocate (even if the total declared certified capacity for bilateral trading is well above the capacity requirement).

The price for capacity (i.e. one Capacity Credit) is determined by the capacity auction if it is held. If no auction is held, as has been the case since the market commenced, the reserve capacity price (**RCP**) is determined administratively based on 85 per cent of the MRCP multiplied by an adjustment factor when there is excess capacity in the market (i.e. it is multiplied by the ratio of the reserve capacity requirement to the total number of Capacity Credits assigned by the IMO for the relevant Capacity Year).⁵

Table 1 sets out the RCP and MRCP values for the period from market commencement in 2006 to the 2014/15 Capacity Year.

Table 1: Reserve Capacity Prices and Maximum Reserve Capacity Prices from Market Commencement up to 2015/16

Period	Reserve Capacity Price (per MW per year)	Maximum Reserve Capacity Price (per MW per year)
21/09/06 to 01/10/06	\$127,500	\$150,000
01/10/06 to 01/10/07	\$127,500	\$150,000
01/10/07 to 01/10/08	\$127,500	\$150,000
01/10/08 to 01/10/09	\$97,835	\$122,500
01/10/09 to 01/10/10	\$108,459	\$142,200
01/10/10 to 01/10/11	\$144,235	\$173,400
01/10/11 to 01/10/12	\$131,805	\$164,100
01/10/12 to 01/10/13	\$186,001	\$238,500
01/10/13 to 01/10/14	\$178,477	\$240,600
01/10/14 to 01/10/15	\$122,427	\$163,900
01/10/15 to 01/10/16	Not available yet	\$157,000

* Note: The value of Capacity Credits settled under bilateral contracts is determined by the negotiated prices between the parties in the contract.

To fund payments for Capacity Credits, each Market Customer is assigned an Individual Reserve Capacity Requirement (**IRCR**) that it is obligated to meet, based on its expected contribution to system maximum demand and a contribution to the system wide reserve margin. Market Customers can achieve this either by procuring Capacity Credits bilaterally from capacity providers holding Capacity Credits, or by purchasing Capacity Credits procured by the IMO from capacity providers.

⁵ A Capacity Year is a period of 12 months commencing at the start of the Trading Day on 1 October and ending at the end of the Trading Day on 30 September of the following year.

Capacity Credits are only valid for a particular Capacity Year, and consequently, the process of capacity certification and allocation is repeated annually.

2.1.1 *Level of Capacity*

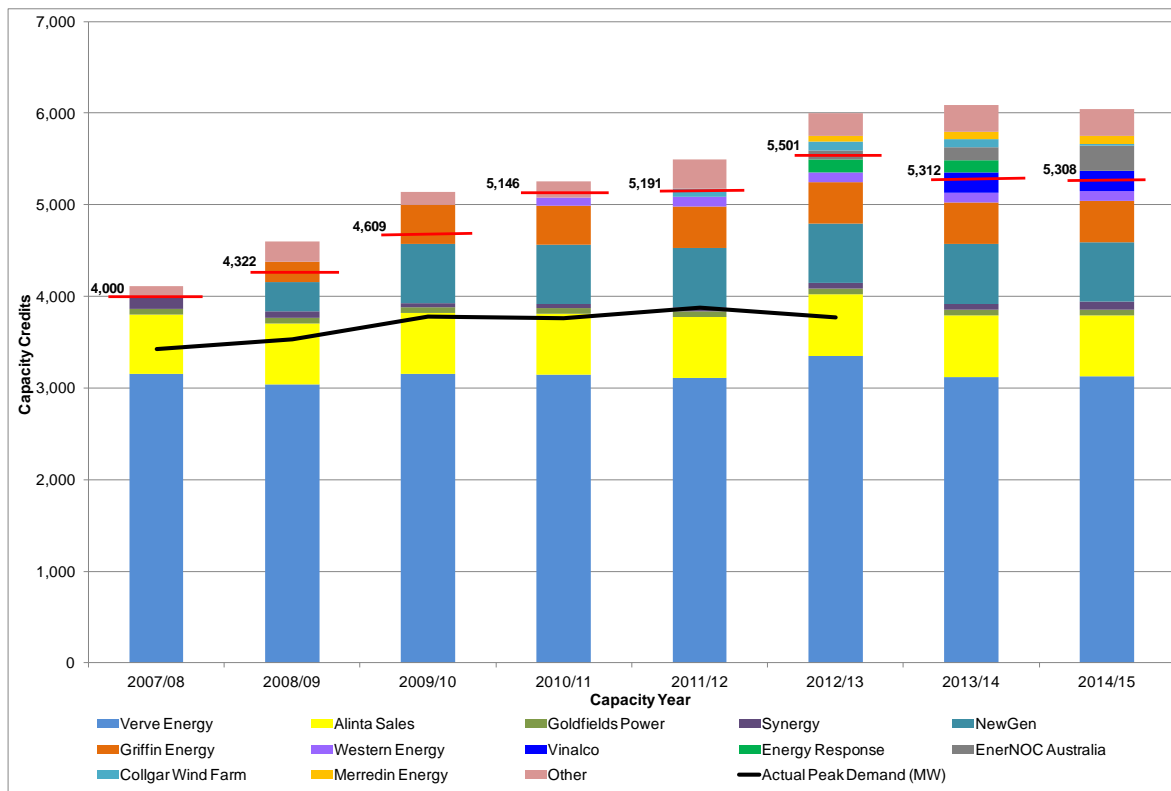
The RCM has successfully secured sufficient capacity for each Capacity Year up to 2014/15. The process for securing capacity for 2015/16 is currently in progress. However, as the current amount of certified capacity is greater than the 2015/16 requirement,⁶ it is unlikely that there will be insufficient capacity for the 2015/16 Capacity Year.

Figure 1 provides a summary of the Capacity Credits assigned to participants in each Capacity Year, as well as the RCR for that year (shown as the vertical black line for each Capacity Year).

As was highlighted in the 2012 Report to the Minister, it is clear from Figure 1 that in each Capacity Year the number of Capacity Credits assigned to participants (in aggregate) has exceeded the RCR. The excess of Capacity Credits assigned to participants has ranged from 2.2 per cent (in the 2010/11 Capacity Year) to 14.6 per cent (in the 2013/14 Capacity Year), with an average of 8.5 per cent over the eight Capacity Years from 2007/08 to 2014/15. The Authority raised concerns in the 2012 Report to the Minister in relation to this excess capacity. It noted that this may indicate that the price being paid for capacity has been set too high and that it was concerning that there was nothing limiting the amount of Capacity Credits that can be issued each year.

Figure 1 also shows that the Capacity Credits assigned to new entrants continue to increase. For Capacity Year 2014/15, Verve Energy provided approximately 52 per cent of the total SWIS certified capacity, compared to approximately 90 per cent when the WEM commenced.

⁷ The Government announced on 27 June 2013 that Kwinana Stage C would be retired from October 2015.

Figure 1: Capacity Credits (MW) assigned by the IMO to Market Participants

Note: In the figure above, the vertical red lines with the corresponding value represent the Reserve Capacity Requirement in each Capacity Year and the black line represents actual peak demand.

The 2013 Statement of Opportunities (**SOO**) published by the IMO in June sets out the Reserve Capacity Requirement for 2015/16 of 5,119 MW. This is 189 MW lower than the 2014/15 requirement of 5,308 MW. The reduction arises from a downwards revision of the demand forecast, a reduction in the reserve margin and a reduction in the volumes required for load following.

Following the five yearly review of the IMO's demand forecasting procedures which was completed in 2012, the 2013 demand forecast includes a number of new features as set out in the IMO's SOO. The IMO also conducted stakeholder workshops both before and after the publication of the SOO. Table 2 below summarises the changes to the RCR.

Table 2: Comparison of 2014/15 and 2015/16 Reserve Capacity Requirements

2014/15 Reserve Capacity Requirement	
2014/15 Reserve Capacity Requirement	5,308 MW
Reduction in reserve margin from 8.2% to 7.6%	-30 MW
Response to IRCR mechanism*	-56 MW
Increased 2014/15 solar PV forecast*	-28 MW
Reduced economic growth forecasts*	-61 MW
Adjustment to temperature-sensitive load model*	-97 MW
Other calibrations to forecasting model*	-12 MW
Year-on-year load growth, 2014/15 to 2015/16*	+115 MW
Change to Load Following Requirement	-20 MW
2015/16 Reserve Capacity Requirement	
2015/16 Reserve Capacity Requirement	5,119 MW

Reproduced from Table B of IMO Electricity Statement of Opportunities – June 2013.

*Includes contribution of 7.6% reserve margin.

The IMO notes in the SOO that it anticipates 6,029 MW of generation and DSM capacity, with either existing or committed with Capacity Credits for 2014/15 will continue to be available in 2015/16, which represents a surplus of 910 MW of capacity above the requirement for 2015/16 prior to the introduction of any new capacity. However, the subsequent announcement by the Government that Kwinana C will be closed from October 2015 reduces the surplus to 549 MW. DSM currently provides 528 MW of reserve capacity.

Expressions of Interest (EOI) have been received for 59 MW of capacity for the 2015/16 Capacity Year, 57 MW of which is attributable to renewable projects and 2 MW of which is attributable to a DSM facility. The reduction in the capacity offered since 2009 (as shown in Table 1) is consistent with the reductions observed in load forecasts and with the current surplus in capacity in the market.

Table 3 Quantity of Capacity (MW) Offered into Expression of Interest (EOI) Process by Submission Year and Capacity Year

EOI Submission Year	2007	2008	2009	2010	2011	2012	2013
Capacity Year	2009/10	2010/11	2011/12	2012/13	2013/14	2014/15	2015/16
Quantity (MW)	1,192	1,036	1,279	644	337	214	59

Reproduced from Table C of the IMO Electricity Statement of Opportunities – June 2013.

The SOO notes that, if Kwinana Stage C is decommissioned,⁷ existing and committed capacity is expected to be sufficient to satisfy the Reserve Capacity Target through to 2018/19 and that by 2023/24 additional capacity of 689 MW is forecast to be required to service demand growth.

The IMO is currently developing Rule Change Proposals to implement changes to the Reserve Capacity Price formula and implementation of a dynamic Reserve Capacity refund regime which it considers will result in more efficient capacity prices.

⁷ The Government announced on 27 June 2013 that Kwinana Stage C would be retired from October 2015.

2.1.2 Mix of Capacity

The Market Objectives include the economically efficient production and supply of electricity and the minimisation of the long-term cost of electricity to consumers. This requires the use of the most efficient mix of capacity types to meet demand, which in turn relies on having appropriate incentives in the market to attract investment in the capacity mix that delivers the most efficient outcomes. Since 2009/10, growth in liquid fuel generation and DSM capacity has outstripped growth in all other capacity types.⁸ As stated in its 2012 Minister's Report, the Authority acknowledges the valuable roles that these capacity types play in the successful working of the market. However, the Authority raised concerns that the current Market Rules are unlikely to result in an optimal mix of capacity types and creates the potential for inefficient outcomes in the market.

The IMO has noted in the 2013 SOO that, following significant increases in DSM capacity over the last few years, growth in DSM has slowed substantially. In the 2014/15 Capacity year only 25 MW of DSM capacity was certified. For the 2015/16 year only one EOI was received for new DSM capacity (i.e., for 2 MW). The IMO considers this may reflect the market for DSM is approaching saturation.

Additionally, there are a number of potential changes to the rules relating to DSM capacity resources which may have impacted on the level of growth observed in this type of capacity in recent years. In particular, as part of the deliberations of the Reserve Capacity Mechanism Working Group (**RCMWG**), consideration has been given to harmonising rules relating to supply side and demand-side capacity resources, including:

- Increasing the current minimum availability and dispatch requirements for DSM;
- Requiring telemetry services to be installed by DSP's to provide real time data to System Management;
- Improving alignment between the IRCR and Relevant Demand (**RD**) used to calculate the capacity a Demand Service Provider (**DSP**) can provide to ensure the number of Capacity Credits that a DSP may sell to the market is not greater than the Capacity Credits it is required to buy from the market; and
- Fuel requirements for generators.

The IMO is developing Rule Change Proposals for consultation over 2013 and 2014.

2.1.3 Availability of Capacity

In its 2012 Report to the Minister, the Authority raised concerns that there are perverse market incentives that have led to a number of Verve Energy's units being unavailable for extended periods of time. These units have been assigned Capacity Credits and received full payment for these Capacity Credits, even though they were on planned outage for extended periods. The Authority was particularly concerned that planned outages have coincided with times of tight supply, leading to price spikes. Moreover, the facilities on planned outage have included a number of base-load generators and mid merit gas units, which would typically have resulted in lower clearing prices if they had been dispatched.

The Authority identified three possible causes of the high rates of planned outage that have been observed in the WEM during recent years. These were:

⁸ Refer to Figure 13, page 30, of the 2013 SOO for an illustration of the change in SWIS load characteristics and capacity mix over time in each Capacity Year from 2007/08 to 2014/15.

- the design of the reserve capacity refund payments that are paid by generators when generation facilities are unavailable;
- a limited ability of the Independent Market Operator (IMO) to prevent poor performing generators operating in the market; and
- a limited ability of the IMO to monitor and enforce performance standards.

The Authority considered that incentives to maximise plant availability in the market needed to be reviewed and supported the IMO's recent undertaking of a review of current generator availability and incentives to improve performance.

However, the Authority also noted that the issue of plant availability appeared to be a matter associated with Verve Energy's units in particular, and considered that the inefficient outcomes may also be attributable to certain aspects of the arrangements in the contract between Verve Energy and Synergy, assigned by the State Government in 2010.

Accordingly, the Authority recommended that the PUO, as a representative owner of the two entities, undertake a review of the contractual arrangements between Verve Energy and Synergy to ensure that the contract does not provide perverse incentives that result in inefficient market outcomes.

A Rule Change Proposal has now been developed (RC_2013_09) which includes:

- permitting the IMO more flexibility in assigning a quantity of Certified Reserve Capacity to Scheduled Generators displaying excessive rates over 36 months (i.e., between zero and their full allocation);
- specifying a range of factors to be considered by the IMO in making its decision, adding certainty, structure and transparency;
- progressively tightening the combined planned and forced outage rate thresholds that trigger this clause from 30 percent to 20 percent over five years, commencing in 2016, with provision for review in 2018;
- imposing an upper limit on the number of Trading Intervals in any 36 month period for which a generator can claim a reduction of its Reserve Capacity Obligation Quantities (**RCOQ**) due to planned outages;
- granting discretionary power to the IMO to require both performance and performance improvement reports from Market Participants concerning Facilities with excessive Planned Outage rates, regardless of the availability of total system capacity;
- deleting a number of clauses that have become redundant due to the cap on Planned Outages for which a reduction in RCOQ quantities may be claimed; and
- permitting the IMO to adjust the cap on the number of Trading Intervals eligible for a reduction of RCOQs temporarily if the system availability criterion in clause 4.27.9 (i.e., if the number of days exceeds 80) is met.

A Draft Rule Change Report is due to be published on 9 October 2013, with a second submission period extending from 10 October 2013 to 6 November 2013, and a Final Report to be published on 4 December 2013.

In relation to Verve's plant, two significant retirements have been announced since the publication of the 2012 Minister's Report, representing 471.5 MW of Reserve Capacity.

On 25 June 2013, the Minister for Energy announced in Parliament that the refurbishment of the 47-year old Muja Power Station Stages A and B, units 1 and 2 (110 MW) would be suspended.⁹ Additionally, on 27 June 2013 the Minister for Energy publicly announced that the closure of the 37-year old Kwinana Stage C Facilities (i.e., 361.5 MW) would occur by October 2015, representing the final step in phasing Kwinana Power Station out of service.¹⁰

2.2 The energy market

Figure 2 illustrates the maximum SWIS demand¹¹ each day (measured in megawatt hour (MWh) per Trading Interval¹²) from market commencement (21 September 2006) to 30 June 2013. Peak demand days regularly occur in January, February and March. The highest daily maximum demand recorded for the current reporting period¹³ was 1,885.4 MWh (or 3,770.8 MW), which was observed during the 4:30 pm Trading Interval on 12 February 2013. Figure 2 shows a consistent upward trend in the daily maximum demand although the growth in maximum demand has slowed over the last few years and demand in 2013 has reduced to be at the lowest level in four years.

The IMO considers major factors in the reversal of the peak demand growth trend in the SWIS are:

- the emergence and continued growth of small-scale solar photovoltaic (PV) generation;
- increases in regulated tariffs;
- an increased focus by large industrial users of energy on reducing their capacity costs by managing their demand during peak demand intervals in order to minimise their IRCR; and
- an apparent reduction in the relationship between temperature and electricity demand.

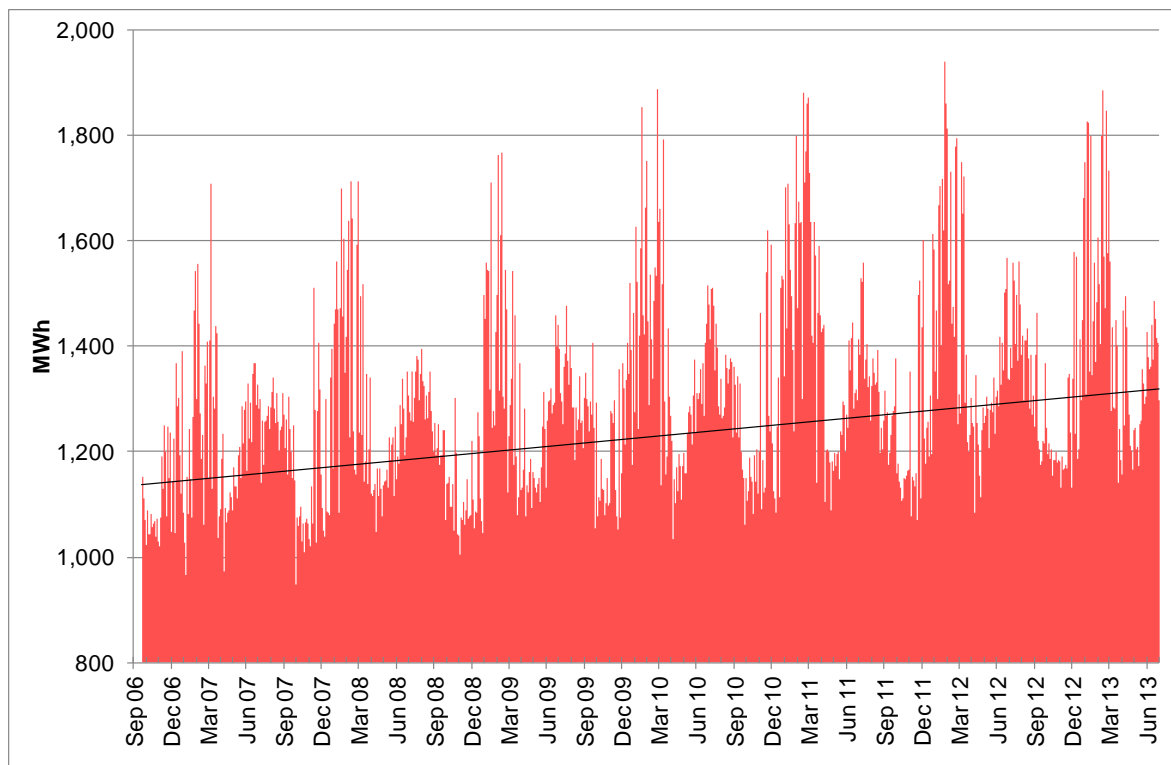
⁹ Muja Power Station Stages A and B units 3 and 4 were already producing electricity.

¹⁰ Kwinana Stages A and B were closed in September 2010 and December 2008, respectively.

¹¹ Maximum SWIS demand is the maximum Operational System Load Estimate from System Management—means estimate of the total Loss Factor adjusted MWh consumption supplied via the SWIS during that Trading Interval, which is to equal the total Loss Factor adjusted Scheduled Generator and Non-Scheduled Generator sent out energy as estimated by System Management from Scheduled Generator and Non-Scheduled Generator operational meter data and the use of state estimator systems.

¹² A Trading Interval is a period of 30 minutes commencing on the hour or half-hour during a day. Settlement calculations in the WEM are based on Trading Interval data.

¹³ The current reporting period covers the period from 1 July 2012 to 30 June 2013.

Figure 2: Daily maximum demand (21 September 2006 to 30 June 2013)

2.2.1 The Short Term Energy Market

The daily average STEM Clearing Prices during Peak and Off-Peak Trading Intervals¹⁴ from market commencement to 30 June 2013 are presented in Figure 3 and Figure 4, respectively. The 30-day, 90-day and annual moving averages of these prices are also included in these figures.

STEM Clearing Prices were relatively stable historically, except for the volatility during early months of the market commencement in 2006 and during the June 2008 Varanus Island¹⁵ incident period.

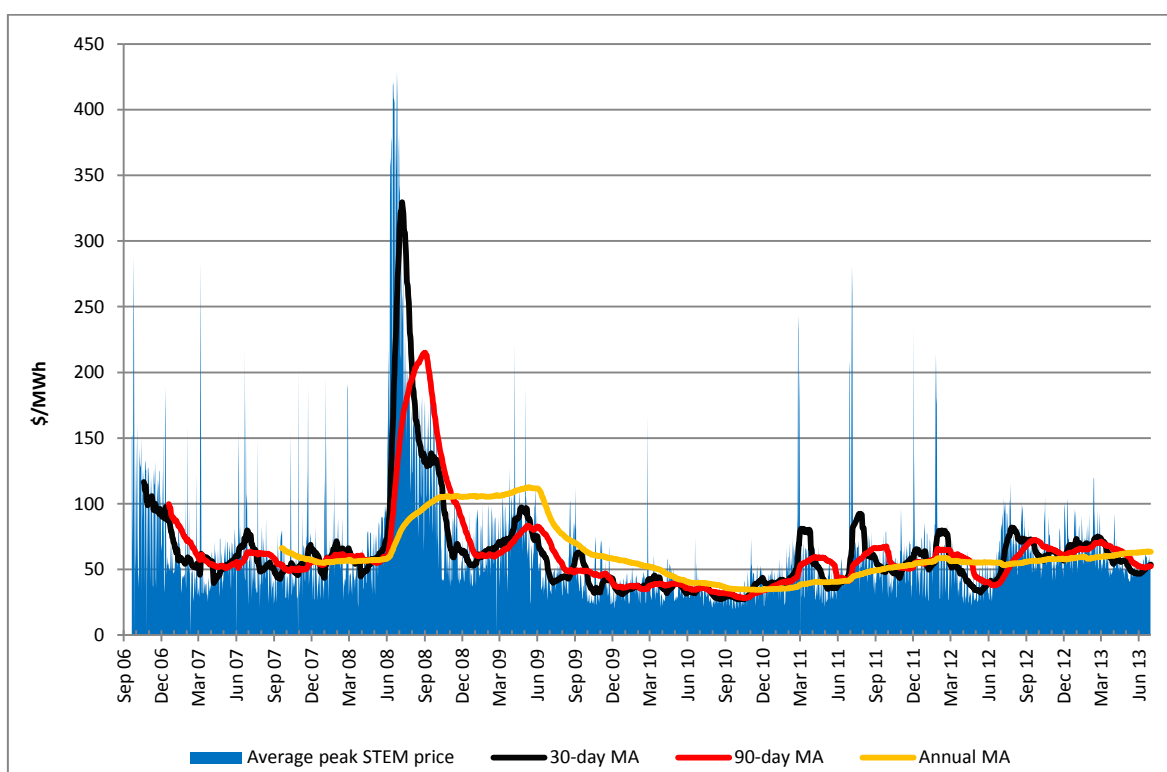
Significantly higher average daily prices were also observed during a number of days in late February and early March 2011, and again in late June and early July 2011. The higher average daily prices in late February and early March 2011 coincided with the shut-down of production at Varanus Island due to the effects of Cyclone Carlos. This gas supply disruption affected generation in the SWIS and led to the declaration of a High Risk Operating State from 23 February 2011 until 1 March 2011. System Management issued a number of Dispatch Instructions and dispatched Curtailable Load during this period. The Authority understands that the higher average daily prices in late June and early July 2011 coincided with a large amount of generation capacity being given approval to take planned outages.

¹⁴ Peak Trading Intervals refer to Trading Intervals occurring from 8 AM to 10 PM and Off-Peak Trading Intervals refer to Trading Intervals occurring from 10 PM to 8 AM.

¹⁵ The incident was caused by the rupture of a corroded pipeline and subsequent explosion at a processing plant on Varanus Island on 3 June 2008. The plant, operated by Apache Energy, which normally supplied a third of the State's gas, was shut down for almost two months while a detailed engineering investigation and major repairs were carried out. Gas supply from the plant partially resumed in late August. By mid-October, gas production was running at two-thirds of normal capacity, with 85 per cent of full output restored by December 2008.

During the current reporting period prices appear to have increased again. The average Peak Trading Interval STEM Clearing Price was \$63.44/MWh, compared with \$51.68/MWh in 2011/12 and \$46.63/MWh in 2010/11. The increase in the Off-Peak average rate is even greater with the average Off-Peak Trading Interval STEM Clearing Price being \$42.80/MWh in the current period compared with \$26.17/MWh in 2011/12 and \$25.68/MWh in 2010/11.¹⁶ The Authority is currently investigating reasons for this increase in STEM prices, particularly in light of the current level of surplus capacity.

Figure 3: Daily average STEM Clearing Price (Peak Trading Intervals, 21 September 2006 to 30 June 2013)



¹⁶ Reporting Year 2010/11 was from 1 August to 31 July of the following year, whilst the Reporting Year 2011/12 covered 1 August 2011 to 30 June the following year. 2011/12 Reporting Year excluded the July 2012 month due to significant changes that occurred in the market resulting from the implementation of the competitive balancing and load following ancillary service market from 1 July 2012.

Figure 4: Daily average STEM Clearing Price (Off-Peak Trading Intervals, 21 September 2006 to 30 June 2013)

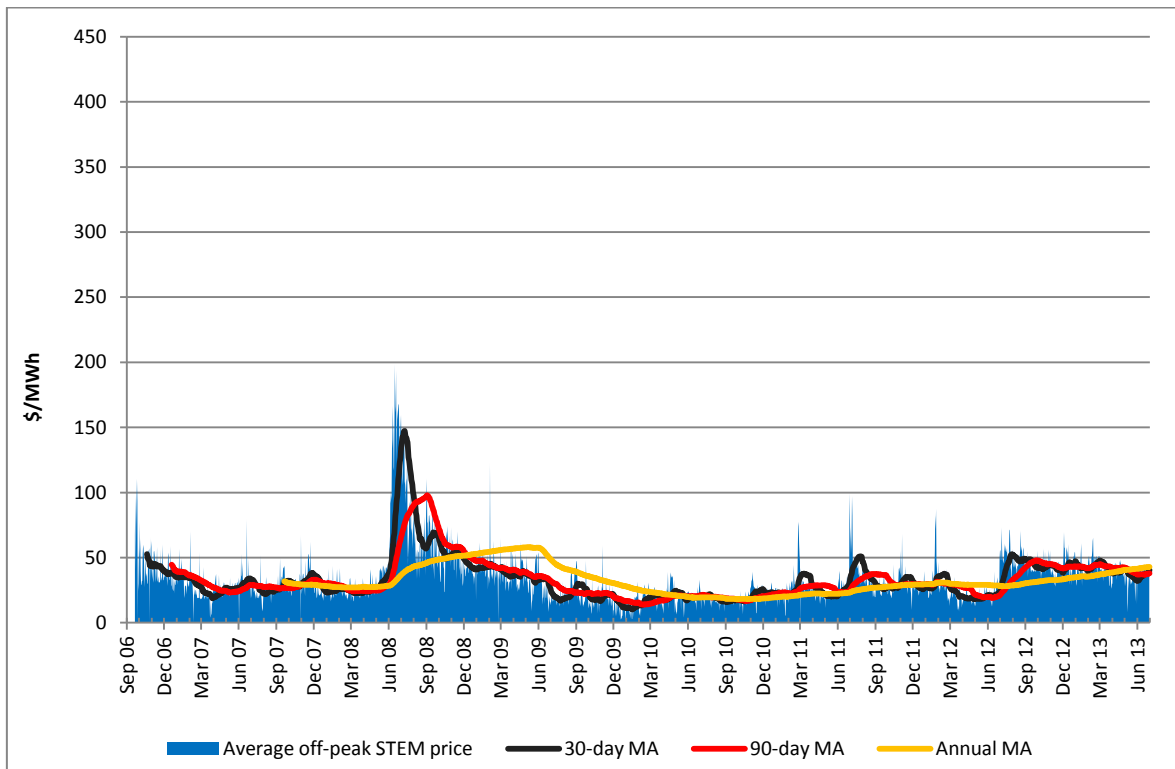
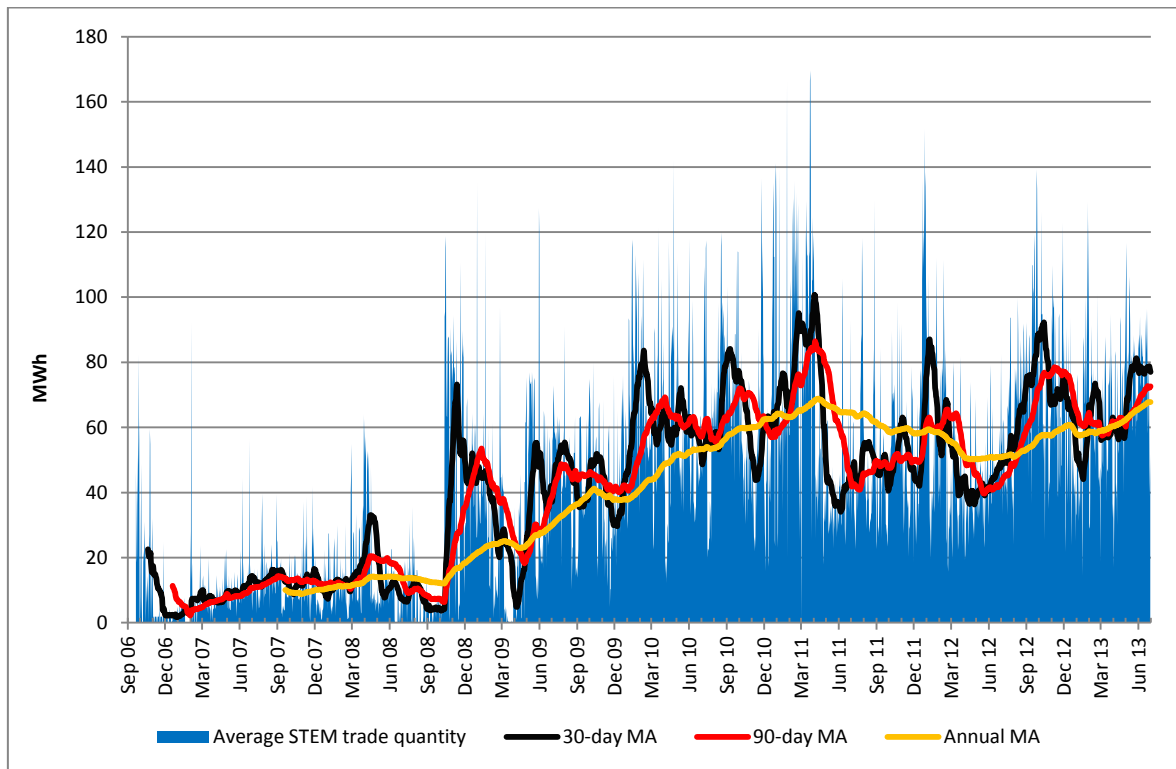


Figure 5 illustrates daily average quantities traded in the STEM from market commencement until 30 June 2013. The Authority understands the step change at the commencement of the 2008/09 Capacity Year was largely attributable to the entry of NewGen's Kwinana facility and Griffin Power's first unit at Bluewaters in that year. Increased STEM trade volume carried on into the 2009/10 and 2010/11 reporting periods, but STEM trade volumes were lower in the 2011/12 reporting period.

In the current reporting period an upward trend has been observed in the STEM trade volume. The average quantity traded in during Peak Intervals was 57 MWh compared with 51 MWh in 2011/12, whilst the average quantity traded in Off-Peak Intervals was 83 MWh compared with 51 MWh in 2011/12. Significant quantities, in the range of 150 MWh to 300 MWh, were traded during Off-Peak Trading Intervals for the majority of January 2013.

The Authority notes that the increased level of STEM trade volumes during September, October and November 2012 coincide with major Planned Outages. The increase in STEM trade volumes during mid-April to June 2013 also coincided with increases in Planned Outages. The Authority is currently investigating reasons for the increase in volumes traded, particularly during those periods without increases in Planned Outages.

Figure 5: Daily average quantities traded in the STEM (21 September 2006 to 30 June 2013)



2.2.2 Balancing

Figure 6 and Figure 7 illustrate, respectively, the daily average Peak and Off-Peak balancing prices from market commencement to 30 June 2013.

The balancing price in blue in these figures represents the Marginal Cost Administered Price (**MCAP**) for the period 21 September 2006 to 30 June 2012. During this period Verve Energy was the default provider of balancing services and was paid the MCAP for providing any balancing energy deviations. From 1 July 2012, IPP Market Participants were able to compete to provide balancing services. Prices are based on the Balancing Merit Order (**BMO**) produced by the IMO.

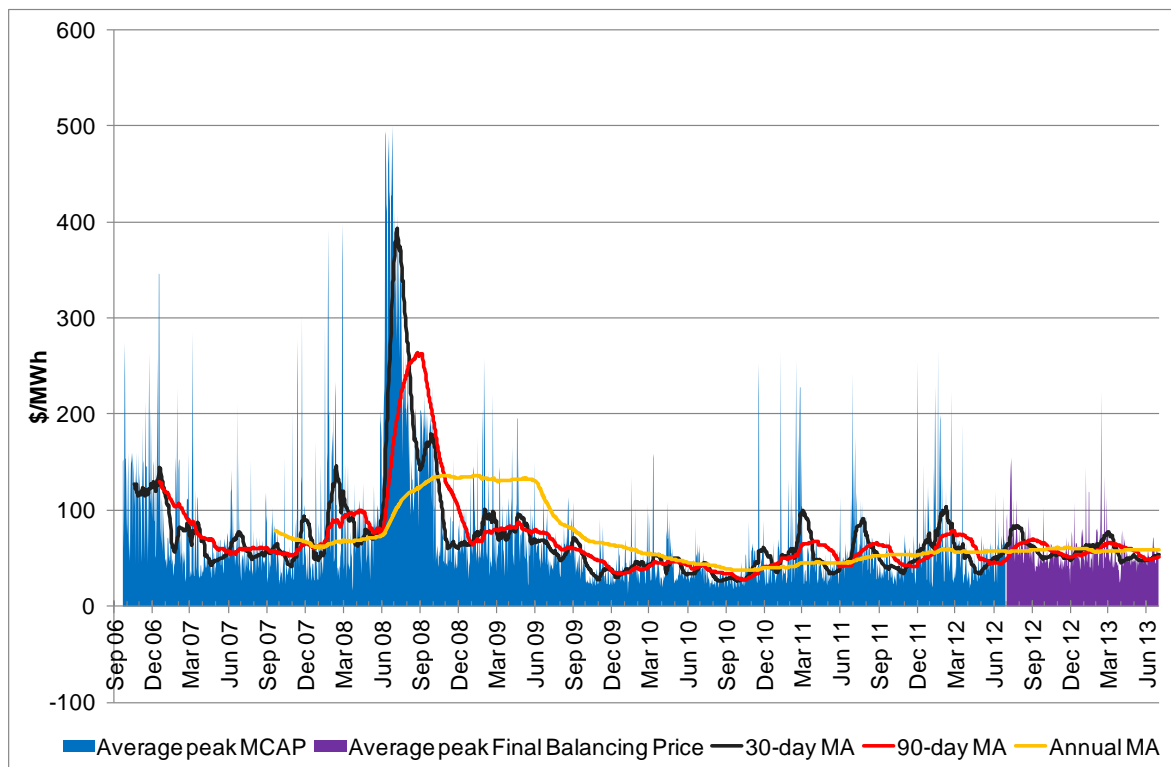
The balancing prices since market commencement to 30 June 2012 followed similar patterns to the STEM prices.¹⁷ Following a period of high prices immediately after market commencement, both Peak and Off-Peak Balancing prices were relatively stable until June 2008 when the Varanus Island incident occurred. Following that event, and the subsequent curtailment of gas supplies, Balancing prices increased significantly in June 2008 and remained at elevated levels for a number of months. Balancing prices returned to lower levels since that time, with average prices at or below those experienced before the 2008 Varanus Island incident. The balancing price reached the Maximum STEM Price in late June 2011 to early July 2011 due to a large volume of Planned Outages approved by System Management at that time, coupled with some unexpected Forced Outages of plant.¹⁸ The balancing price also reached the Maximum STEM Price in December 2011,

¹⁷ MCAP was set by deemed demand estimate (Relevant Quantity) intersecting the day ahead STEM Portfolio Supply Curve. MCAP would increase or decrease relative to the STEM.

¹⁸ As a result, Dispatch Instructions were issued by System Management for Out-of-Merit dispatching of IPP facilities at 'pay as bid' prices in order to mitigate high risk system operating state for security purposes.

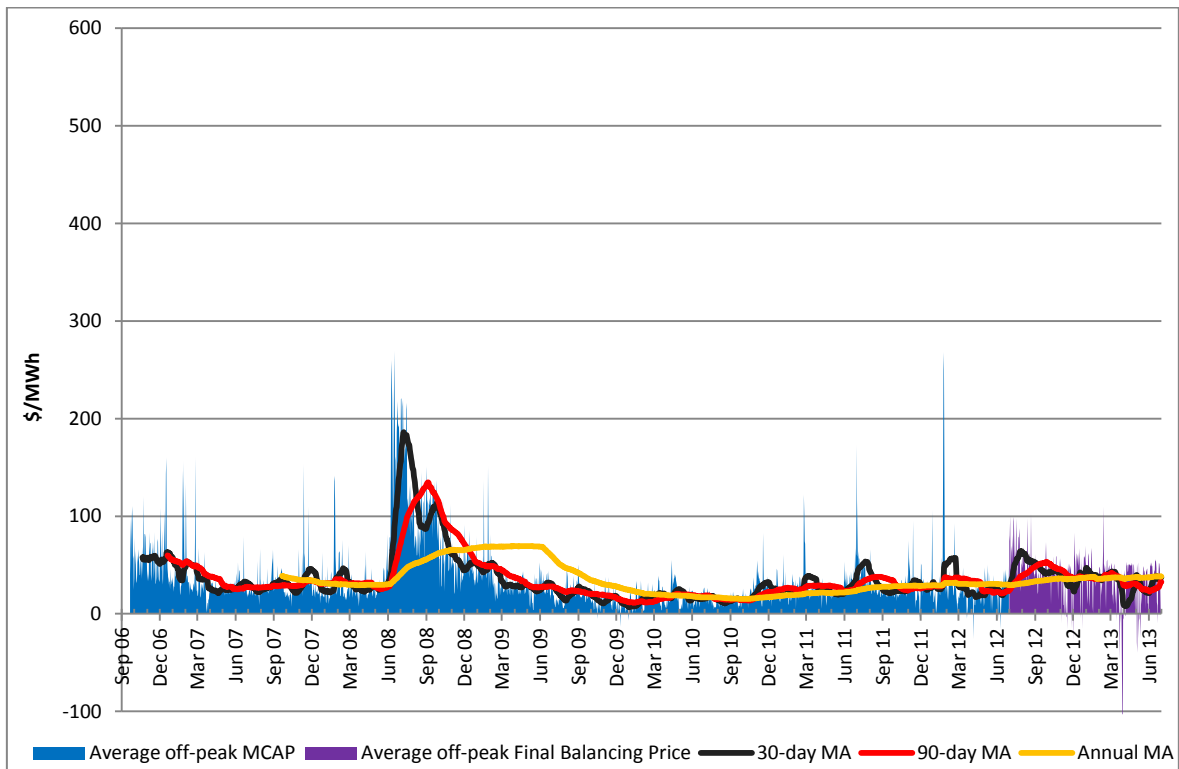
January 2012 and February 2012 i.e., during periods of high summer demand (demand ranged between 3,000 MW to 3,880 MW) as a result of very high temperatures. In this old balancing market arrangement the lowest balancing price reached was negative \$53.39/MWh at 2:00 am on 10 June 2012 (which was the lowest balancing price observed since market commencement). This negative balancing price value was attributed to overnight low demand, falling under 1,300 MW, and very high Intermittent Generation (242 MW).

Figure 6: Daily average Balancing prices (Peak Trading Intervals, 21 September 2006 to 30 June 2013)



Since market commencement in 2006 to 30 June 2012, Verve Energy was the sole provider of balancing energy. Under this arrangement, System Management would only dispatch IPP facilities for balancing purposes in the event that Verve Energy's facilities were unable to provide the balancing energy required. IPP facilities that were dispatched out of the dispatch merit order were paid at their bid prices rather than the MCAP. Some high MCAP events were also observed in the first week of August 2011 and in November 2011 due to the high level of Planned Outages.

Figure 7: Daily average Balancing prices (Off-Peak Trading Intervals, 21 September 2006 to 30 June 2013)



Following introduction of the competitive balancing market the Authority notes there appears to have been an increase in average prices during Off-Peak Trading Intervals and that the incidence of negative prices has increased in both Peak Trading and Off-Peak Trading Intervals.

Figure 8 and Figure 9 show the Peak and Off-Peak Trading Intervals Final Balancing Prices respectively from 1 July 2012 to 30 June 2013 compared with the MCAP over the corresponding period in the previous year.

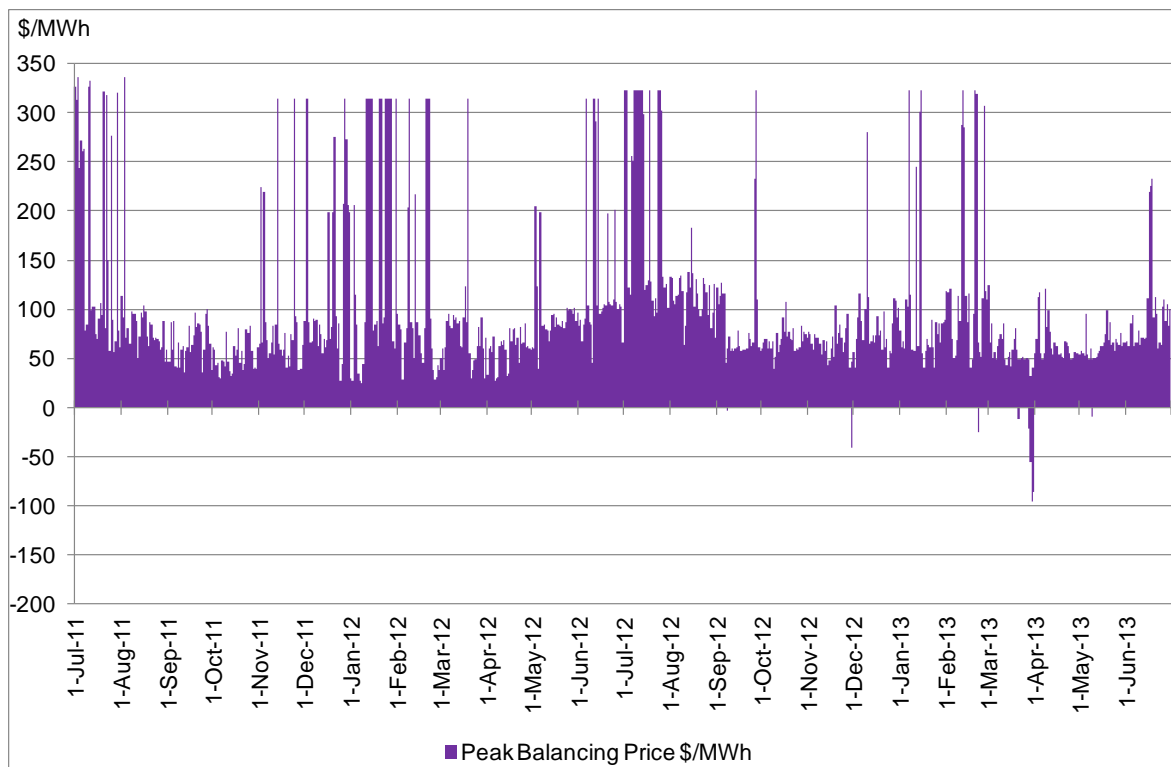
Figure 8: Peak Trading Intervals Final Balancing Prices (1 July 2011 to 30 June 2013)

Figure 8 shows that Peak Balancing Prices did not reach the cap (Maximum STEM Price) during the December 2012 to March 2013 summer period as frequently as the MCAP in the December 2011 to March 2012 summer period. However the average Peak Trading Interval MCAP for the period 1 July 2011 to 30 June 2012 was \$57.18/MWh, which is similar to the average Peak Trading Interval Final Balancing Price for the period 1 July 2012 to 30 June 2013 of \$58.21/MWh which suggests prices during other periods have tended to be higher on average compared with the previous period.

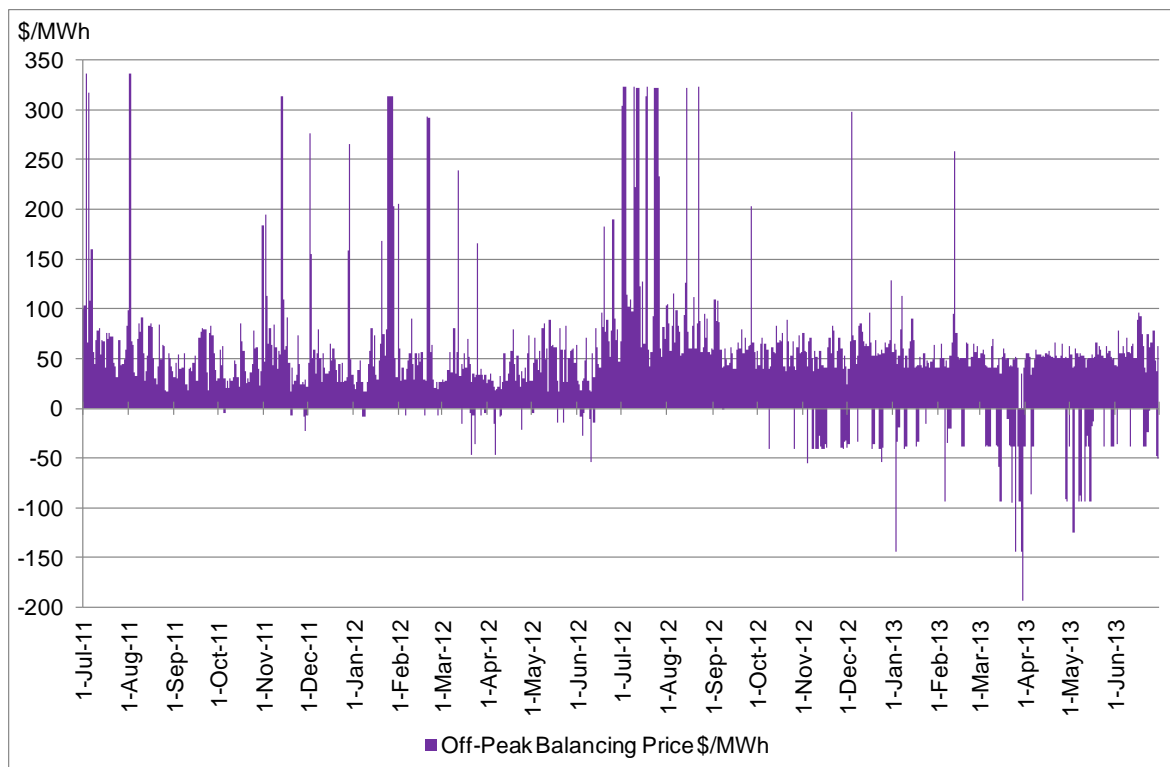
Figure 9: Off-Peak Trading Intervals Final Balancing Prices (1 July 2011 to 30 June 2013)

Figure 9 compares Off-Peak Balancing prices from 1 July 2011 to 30 June 2013. The Authority notes very few Trading Intervals with negative Balancing prices occurred during the period 1 July 2011 to 30 June 2012. Under the old balancing market the lowest MCAP observed since market commencement was negative \$53.39/MWh at 2:00 am on 10 June 2012. The incidence of Negative Balancing Prices appears to have increased in the New Competitive Balancing market and the level of such negative prices is significantly lower. The lowest Final Balancing Price recorded during the current reporting period was negative \$193.86/MWh at 2:00 am on 30 March 2013.

The negative Final Balancing Prices during Off-Peak periods appear to coincide with high levels of Wind Generation. In the new Balancing Market, all wind generators are required to submit one price tranche per Trading Interval, i.e. the price below which the wind generator wants to be curtailed. The Authority notes that during the current period a number of wind farms at times were bidding at -\$1,000.

The Authority notes comments made by the IMO in relation to this:

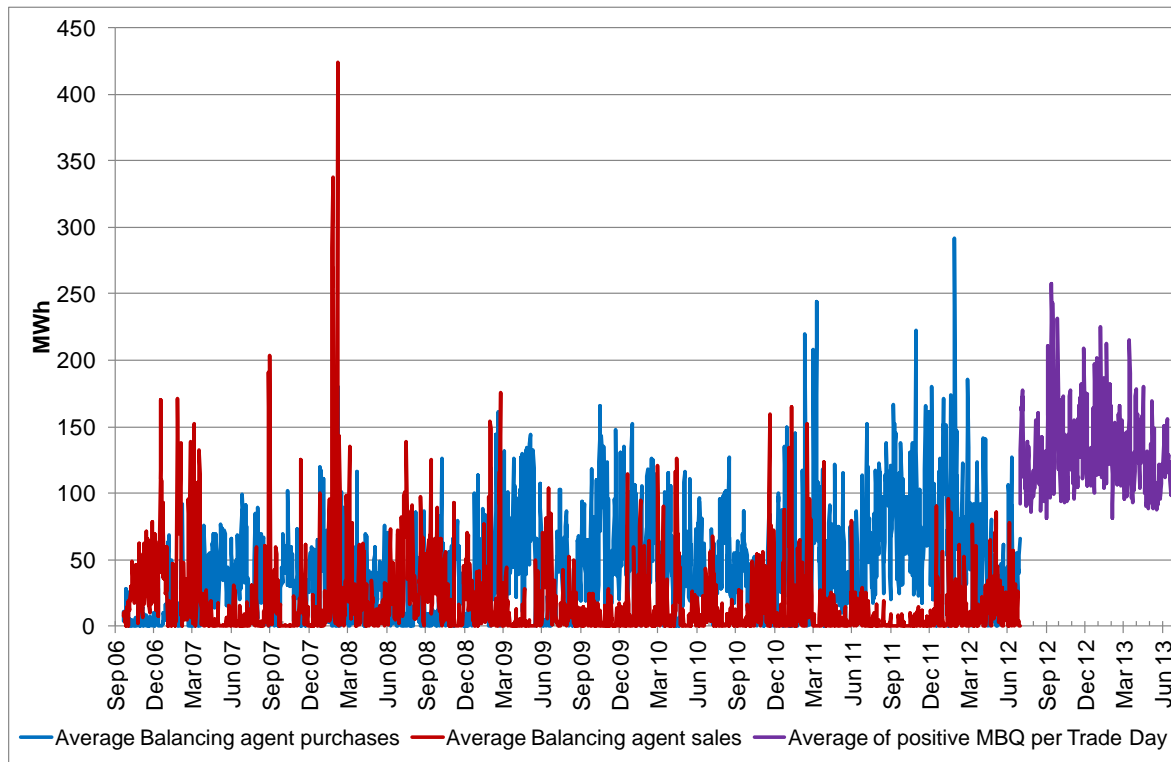
We saw the emergence of some significant negative prices overnight in April and May and this prompted a change in offering behaviour from our wind generators. This change to the offering structure priced a big proportion of the SWIS wind generation at a price slightly less than the negative of the Large Scale Generation Certificate price. This offering behaviour means that our wind generators are more likely to be curtailed overnight before Generation Facilities with higher negative prices such as base load plants that are more expensive to curtail. Since the bidding behaviour change we have seen our wind generators curtailed overnight.¹⁹

With the introduction of the competitive balancing market it is not possible to do a like for like comparison in relation to volumes. Figure 10 below illustrates the daily average quantity per Trading Interval purchased and sold in Balancing by Verve Energy as the

¹⁹ IMO "WATT'S On" July 2013.

sole balancing agent (from market commencement until 30 June 2012).²⁰ In the new balancing market, generators offer their gross available capacity in the Balancing Market. Any deviations they are required to make from their Net Contract Position (**NCP**)²¹ is treated as a Balancing Market transaction. The deviation quantities for a participant are called the Metered Balancing Quantity (**MBQ**). The purple line in the chart below represents the daily average of total positive deviations from NCP by all participants per Trading Interval. As the real-time supply equals demand, the total negative deviations from NCP will match the total positive deviations from NCP.

Figure 10: Daily average quantities traded in Balancing²² (21 September 2006 to 30 June 2013)



2.2.3 Ancillary Services

Ancillary Services are required to maintain power system security and reliability through the control of key technical characteristics, such as frequency and voltage, which ensures that electricity supplies are of acceptable quality. There are five defined types of Ancillary Services applicable in the SWIS, which are Spinning Reserve, Load Following, System Restart, Load Rejection Reserve and Dispatch Support. System Management is required to estimate the technical requirements for Ancillary Services, based upon standards set

²⁰ The daily average quantity per Trading Interval bought was calculated as the total quantity purchased by Verve Energy each day divided by 48 Trading Intervals. Similarly, the daily average quantity per Trading Interval sold was calculated as the total quantity sold by Verve Energy each day divided by 48 Trading Intervals.

²¹ The NCP reflects a generator's net bilateral and STEM contractual position.

²² Data sourced from the IMO website: 'Balancing Quantity (MWh)' for the period 21 September 2006 – 30 March 2011 from the *Balancing Information - 6 Month Summary* webpage <http://imowa.com.au/n4841.html>; and 'Balancing Trade Estimate' for the period 31 March 2011 – 30 June 2012 is sourced from the *Weekly Market Report* webpage <http://imowa.com.au/market-data-weekly-market-report>

out in the Market Rules and is required to publish a report each year, which is published on the IMO's website.²³

Until 1 July 2012, Verve Energy was the sole default provider of all Ancillary Services. Since that date, Load Following Ancillary Services have been opened to all Market Participants. To date only one IPP has entered this market. This is discussed further in section 3.2.

2.3 Competition in the contestable electricity market

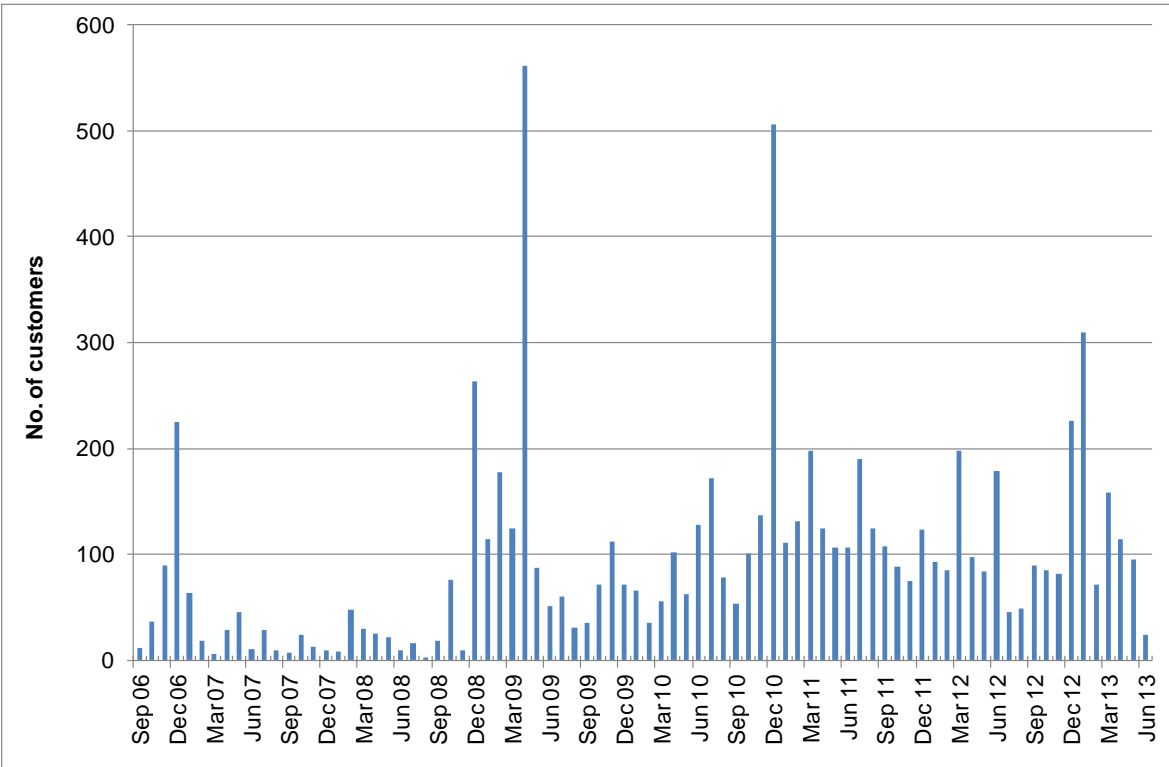
The electricity industry in Western Australia is not fully deregulated. Currently, only customers with annual electricity consumption of more than 50 MWh can choose their electricity suppliers in the SWIS. Synergy is the sole supplier of electricity to customers that use less than 50 MWh of electricity per annum in the SWIS. The dominance of Synergy and the lack of specific plans to extend competition in the retail electricity market has been a concern raised by the Authority since the market commenced.

Figure 11 illustrates the level of customer transfer between retailers in the contestable section of the electricity market in the SWIS. At the commencement of the WEM in 2006, there was a progressive increase in the monthly customer transfer number which reached 225 customers in December 2006. Customer transfer numbers then moderated and remained relatively low throughout 2007 and for the majority of 2008. The long term general trend has been towards a steady increase in the number of customers changing retailers since December 2008, which likely reflects the Government's decision to increase tariffs in 2009. Notably, customer transfer numbers spiked in April 2009 (561 customers) and again in December 2010 (506 customers).

Customer transfer numbers appeared to have stabilised since December 2010 with approximately 5 per cent of customers switching supplier in 2012/13 compared with 6 per cent in 2011/12 and 7 per cent in 2010/11. However switching levels were much higher in December 2012 and January 2013 compared with other months during the 2012/13 year with over 500 customers switching in the two month period compared with the 2012/13 monthly average of 112.

²³ System Management, *Ancillary Service Report 2013*
http://imowa.com.au/f2841,4116159/2013_Ancillary_Service_Report_FINAL.pdf

Figure 11: Number of customers changing retailer per month (September 2006 to June 2013)



3 Key Wholesale Electricity Market Matters

As discussed in section 1.4, for the 2013 Minister's Report, the Authority intends to mainly focus on issues relating to the new Balancing and Load Following Ancillary Services (**LFAS**) market arrangements and the potential impact of the Verve Energy and Synergy merger on the effectiveness of the WEM in meeting the Wholesale Market Objectives

3.1 Balancing Market

The initial design of the market was based on a conservative approach which aimed to minimise the risks associated with the reform process by undertaking an evolutionary rather than revolutionary approach to market design. The original WEM design took account of:

- The SWIS is a small, geographically isolated system which is not interconnected with any other electricity jurisdiction;
- A desire to reduce risk and encourage private investment;
- A desire to maintain as much as possible, existing Bilateral contracts;
- The initial industry structure was characterised by a small number of market participants, with limited diversity and number of generating plants;
- A number of existing participants were small in size and were expected to be financially vulnerable;
- The significance of the reliability objective to Government; and
- Minimising the implementation costs of the wholesale market while maintaining its efficiency and effectiveness.

The original market model consisted of:

- A bilateral contract market;
- A binding day ahead Short Term Energy Market (**STEM**);
- Balancing and ancillary services mechanisms; and
- A Reserve Capacity Mechanism.

Until 30 June 2012, Verve was the sole provider of balancing services and the WEM operated under a "hybrid" design in terms of dispatch. Under this design, IPPs were required to commit and dispatch their facilities to meet their respective Resource Plans, i.e. 'net dispatch,' whilst Verve Energy's generation portfolio was dispatched to meet residual requirements in the market under the "gross dispatch" regime. IPPs were penalised through the application of charges for deviations from their Resource Plans except when the facilities are dispatched by System Management for system security reasons. System Management managed overall system security by scheduling and dispatching Verve Energy's facilities and resorting to IPP's facilities by issuing Dispatch Instructions, only when Verve Energy's balancing capability was stretched.

After the market commenced, efforts were initially focussed on refining the Market Rules to ensure that they worked as intended. Following this work, attention shifted to focus on the future development of the Market. Most of this development was led by the IMO with

stakeholder involvement. As set out in the IMO's Market Rules Evolution Plan Issues Paper in June 2009, it was considered that the original market design did not provide mechanisms to handle unexpected events between the clearing of the STEM and real time and that this appeared to create a number of issues which impacted on both Verve Energy and other market participants:

- under the day ahead mechanism, balancing prices did not always reflect the final dispatch and this was impacting on the balancing generator - Verve Energy during the one day lag;
- IPPs did not have the flexibility to move generation between their own units or purchase from another generator within the dispatch day without incurring unfavourable deviation prices in balancing; and
- there appeared to be a desire to allow IPPs to contribute towards balancing more effectively where this makes sense economically.

After further consultation, Market participants ranked an improved Balancing Mechanism as the number one priority. A Market Rules Evolution Plan was developed by the IMO and a new competitive balancing market was designed, with stakeholder involvement, over the next few years.

The new competitive balancing market was introduced on 1 July 2012 enabling all generators to offer balancing services. Transitional arrangements applied until 5 December 2012 when all the new systems became available. Balancing Facilities are defined as Market Generators' (other than Verve's) scheduled and non-scheduled generating facilities. The objectives of the Balancing Market are to:

- enable all balancing facilities to participate in the Balancing Market;
- dispatch the lowest cost combination of facilities made available for Balancing;
- establish a balancing price which is consistent with dispatch;
- seek to ensure timely and accurate Balancing pricing and quantity information, including forecasts, and system security information, is provided to all Market Participants; and
- seek to ensure timely and accurate information relevant to the operation and administration of the Balancing Market is provided to affected Rule Participants.

Balancing offers are required to include all balancing facilities (i.e. all scheduled and non-scheduled generating facilities) apart from those on an approved planned outage. Balancing offers include the quantity and price at which a Market Participant is willing to be dispatched. Prices offered must be within the Price Cap (i.e. between the maximum and minimum STEM price) and must not be in excess of the Market Participant's reasonable expectation of its short run marginal cost when such behaviour relates to market power. Market Participants are able to revise their offers up to 2 hours prior to the Trading Interval commencing to reflect changes in market conditions.

Under the new balancing market, Verve has continued to be able to offer its facilities on a portfolio basis and is treated as a single Balancing Facility. Verve is able to offer its portfolio in 35 tranches and IPP's can offer 10 tranches for each scheduled generating facility. Intermittent generating units can only be offered as a single tranche and offers include price only.

The IMO uses the balancing offer submissions to develop the Bidding Merit Order (**BMO**) which is ultimately used to determine which facilities are dispatched by System Management.

Any deviation Market Participants are required to make from their NCP is treated as a Balancing Market transaction. Market Participants are paid the Final Balancing Price on their MBQ, i.e. the difference between actual generation and their NCP.

Implementing the new market has required significant costs to be incurred. The Allowable Revenue submissions received by the Authority from the IMO and System Management in November 2012 forecast that the IMO would incur \$10.55 million in relation to its Market Evolution Program (**MEP**), and System Management would incur \$13.352 million in relation to its new IT system, SMARTS. This does not include costs incurred by participants to meet the new market requirements. In 2011 the IMO commissioned an assessment of the expected benefits and costs of allowing market participation in the WEM to provide balancing services. The assessment was carried out by Sapere Research Group (**Sapere**). Sapere estimated benefits of between \$7.8 million and \$9.6 million per annum and identified the following directly measurable benefits:

- Lower cost balancing capacity as a result of lower cost IPP plant being dispatched before Verve plant in the merit order.
- The shorter gate closure and ability of IPPs to respond to events would increase the capacity bid into the balancing market with the benefit being that the additional capacity would be least cost which would benefit consumers in the form of lower balancing costs.
- Encourages and allows generators to return to the market earlier from planned outages in the event of major pricing events such as another generator tripping out unexpectedly.
- Reduces the amount of cycling of baseload plant.²⁴

Sapere prepared an update of this work in November 2012 which estimated the actual benefits achieved during the first four months of trading under the new balancing market. The report concluded that benefits of \$5.1 million had been achieved in the first four months, and that over a twelve month period these would amount to \$15.3 million which it noted was twice the level expected in the original study.

Sapere's analysis shows that prior to the introduction of the balancing market, much of the available IPP capacity was offered in at extreme prices to ensure either dispatch with certainty or non dispatch with certainty. Following the introduction of the balancing market Sapere's analysis shows there has been an increase in IPP generation made available in the price bands between \$0/MW and \$100/MW.

The Authority notes that significant volumes are still being offered at the minimum and maximum price cap levels, which may not reflect short run marginal cost. Furthermore, whilst adoption of portfolio based bidding for Verve Energy may have been appropriate when it was the sole provider, continuing with this practice reduces the transparency of the market. The Authority considers that both these factors lead to increased risk that the most efficient generator is not being dispatched.

²⁴ Base load plant are designed to run more or less at a flat load and incur additional costs if required to ramp down and then ramp up in response to changes in demand.

There are currently a number of potential rule changes under consideration which will further refine the operation of the new balancing market. These include:

- removal of the requirement to submit Resource Plans;
- potential changes to the STEM, including changes to timeframes, making participation optional or removing the STEM altogether; and
- changes to the timeframes and requirements for Bilateral Submissions.

Discussion Point 1

Stakeholders are invited to comment on:

- How successful and effective they consider the new Balancing market to have been.
- Improvements, if any, which should be made, including those already identified through the IMO consultation process.

3.2 Load Following Ancillary Services

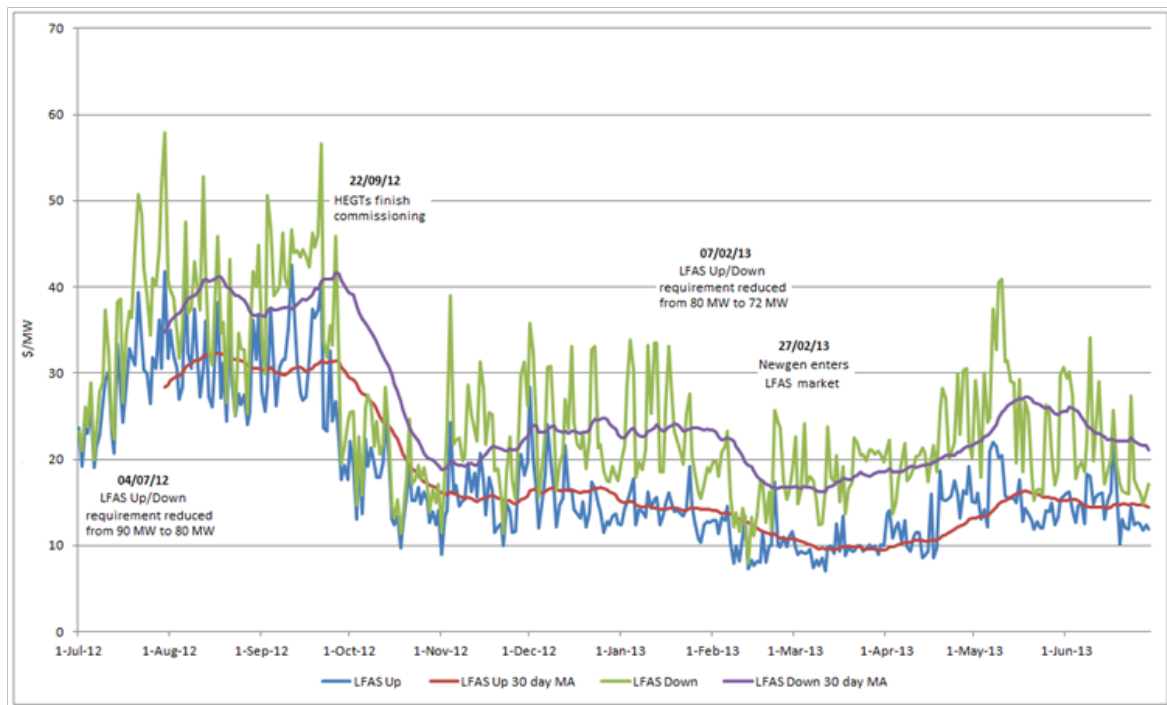
Load Following Ancillary Services (**LFAS**) are the primary mechanism in real-time to ensure that supply and demand are balanced. Load following accounts for the difference between scheduled energy and actual load. Load following resources must have the ramping capability to pick up the load ramp between scheduling steps as well as maintain the system frequency. Load following can only be provided by units operating under Automatic Generation Control (**AGC**). LFAS Up refers to the service of adjusting output upwards to meet demand and LFAS Down refers to the service of adjusting output downwards, when demand is low.

LFAS has been provided since the inception of the WEM, with Verve Energy being contracted to be the sole provider of this service until 30 June 2012. Up to this date, payment for the provision of LFAS was based on a proportion of the MCAP, which was in turn based on prices in the previous Balancing Market. A new competitive LFAS market was established on 1 July 2012, with the key elements of this new market being market derived prices rather than administratively derived prices, and participation is open to all IPPs in addition to Verve.

The LFAS requirement is set by System Management and must meet the standard according to section 3.10.1 of the Market Rules. This states that the level must be the greater of 30 MW or the capacity sufficient to cover 99.9% of short term fluctuations in load and output. The current requirement for both LFAS Up and LFAS Down is 72 MW. The requirement does not change from Trading Interval to Trading Interval.

The total cost of providing LFAS is passed on to Market Customers and Non Scheduled Generators, based on each Market Customer's monthly aggregate demand, as a proportion of that month's total system load. Figure 12 below shows the average daily LFAS prices since the competitive market commenced.

Figure 12: Daily average LFAS prices since market start



As noted in the chart, several key events affecting LFAS have occurred over the twelve months since the competitive market was introduced. These are:

- The LFAS Up and LFAS Down requirement was reduced from 90 MW to 80 MW on 4 July 2012;
- Verve's High Efficiency Gas Turbines (**HEGTs**) became available on 22 September 2012;
- The LFAS Up and LFAS Down requirement was reduced from 80 MW to 72 MW on 7 February 2013;
- NewGen became the first IPP to enter the LFAS market on 27 February 2013.

As can be seen in the chart above, the commencement of the market saw the highest volatility in prices, and the highest average price for both LFAS Up and LFAS Down. This period also had the highest number of times that the LFAS Down price was above \$100/MWh.

There are several possible reasons for the initial increase in prices when the new market commenced. These include:

- Initially it was a market without competition and one where the seller knew that its product would be purchased regardless of price;
- The carbon price impact on SRMC as at 1 July 2012, thus resulting in higher prices;
- Potentially the previous administered price understated the SRMC of generation.

Following the introduction of Verve's HEGTs there was a sizeable reduction in prices and further reductions following NewGen's entry to the market.

Overall, it is clear that the introduction of the HEGTs and competition has successfully reduced the cost of providing the LFAS. In terms of “market share,” based on the payment received for providing the LFAS service, NewGen has approximately 12 per cent, with Verve having the remaining 88 per cent.

As part of the Discussion Paper for the 2012 WEM Annual Report to the Minister for Energy, Participants were invited to comment on issues that were impacting on the efficient operation of the new LFAS market. Overall, the feedback from stakeholders primarily dealt with concern with the excessive costs of providing the LFAS. The reasons given for this were:

- Belief that the amount being procured is highly conservative (i.e., that only one third of the load following procured is required);
- A lack of transparency as to whether the most efficient facilities were providing this service; and
- A lack of competition for the first eight months of market operation and only limited competition subsequent to that (with only one participant joining Verve in providing this service).

Discussion Point 2

Stakeholders are invited to comment on:

- How successful and effective they consider the new LFAS market to have been.
- Improvements, if any, which should be made.
- What barriers there may be for further new entrants to the market.
- Whether the current method of allocating costs to all customers based on monthly aggregate demand, as a proportion of that month’s total system load is appropriate.
- In light of the progress with the LFAS market, whether the development of competitive markets for further ancillary services (such as spinning reserve) should be prioritised.

3.3 Verve/Synergy Merger

On 10 April 2013 the State Government announced plans to merge Western Australia's state owned electricity generator, Verve Energy and retailer Synergy. A single board of directors was installed on 1 July 2013, and legislation is being developed to enable the two businesses to trade as a single entity.

The concerns of the Authority in relation to the implications for the WEM of further increasing the dominance of Verve Energy and Synergy by merging them have been set out in detail in previous reports to the Minister. With the merger now fully committed to by the Government, the Authority does not intend revisiting those views in its 2013 Report to the Minister.

The Authority is responsible for monitoring the effectiveness of the market in meeting the Market Objectives and advising the Minister accordingly, including identifying measures to increase the effectiveness of the market. The Authority's preliminary assessment is that the merger of Verve and Synergy will raise serious market power issues which will need to be addressed to minimise barriers to effective competition and to ensure efficient dispatch of generation. The Authority notes comments by the Minister of Energy stating that it is the intention of the Government that new generation will be provided by private investors, that the Government may vacate the retail contestable market and that the Government intends to focus on reducing costs in the sector.²⁵

Implementation of the merger is currently being developed by a Merger Implementation Group appointed by Government. The Authority is also aware that the Government, in consultation with industry, is to undertake a review of the Wholesale Electricity Market Arrangements.

Rather than duplicate these processes, the Authority intends to wait for further developments and will include its assessment in the 2014 report to the Minister.

In the interim, as part of this consultation, the Authority is open to receiving stakeholder views on what issues need to be addressed to ensure the current Wholesale Market Objectives continue to be met after taking into account the merger of Verve and Synergy. Although it is likely that the Authority will be unable to address these issues in the 2013 Minister's Report, it will consider them for the next Minister's Report and, in any case, will bring them to the attention of the Minister.

²⁵ Energy in Western Australia Conference 2013

APPENDICES

Appendix 1 Acronyms

AEMO	Australian Energy Market Operator
AGC	Automatic Generation Control
BMO	Balancing Merit Order
DSM	Demand Side Management
DSP	Demand Service Provider
EOI	Expression of Interest
HEGT	High Efficiency Gas Turbine
IMO	Independent Market Operator
IPP	Independent Power Producer
IRCR	Individual Reserve Capacity Requirement
LFAS	Load Following Ancillary Service
MAC	Market Advisory Committee
MBQ	Metered Balancing Quantity
MCAP	Marginal Cost Administered Price
MEP	Market Evolution Program
MRCP	Maximum Reserve Capacity Price
NCP	Net Contract Position
NEM	National Electricity Market
PUO	Public Utilities Office
RCM	Reserve Capacity Mechanism
RCMWG	Reserve Capacity Mechanism Working Group
RCOQ	Reserve Capacity Obligation Quantities
RCP	Reserve Capacity Price
RCR	Reserve Capacity Requirement
SOO	Statement of Opportunities
STEM	Short Term Energy Market
WEM	Wholesale Electricity Market