

WATTS ON

ESOO UPDATE ///

2014 Electricity Statement of Opportunities – June 2015

The IMO published the 2014 Electricity Statement of Opportunities (ESOO) on 17 June 2015, which was followed by a presentation to all interested stakeholders on Wednesday 1 July 2015 at the IMO office.

The 2014 ESOO presents the IMO's forecast of electricity peak demand and sent out energy for the South West interconnected system (SWIS) in Western Australia for the forecast period 2015-16 to 2024-25 across a range of scenarios. The primary purpose of the 2014 ESOO is to set the Reserve Capacity Target (RCT), which is the amount of capacity required to meet demand for the 2016-17 capacity year. The RCT is based on the 10 percent probability of exceedance (PoE) peak demand forecast.

The 2014 ESOO provides further analysis and commentary about current and future trends in the Wholesale Electricity Market and is designed for use by Market Participants, prospective investors and other interested parties.

This year the IMO has incorporated assumptions around battery storage in the peak demand forecasts for the first time in the ESOO. In addition, the effect of increasing levels of solar photovoltaic (PV) systems on the system peak has been modelled.

The publication of the 2014 ESOO was postponed from June 2014, following a direction from the Minister for Energy to defer certain aspects of the 2014 Reserve Capacity Cycle in light of the Electricity Market Review. The IMO received a further direction from the Minister for Energy on 13 March 2015 to defer certain aspects of the 2015 Reserve Capacity Cycle until 2016. As such, the ESOO for the 2015 Reserve Capacity Cycle is expected to be published in June 2016.

The key findings of the 2014 Electricity Statement of Opportunities

Reserve Capacity Target (RCT)

- the 2016-17 RCT is 4,557 MW based on the 10 per cent probability of exceedance (PoE) peak demand forecast; and
- no new generation or DSM capacity will be required in the SWIS over the forecast period 2015-16-2024-25 based on the current level of installed and committed capacity.

Peak demand and sent out energy forecasts 2015 -16 to 2024 -25, based on the expected case economic scenario, are:

- 10 per cent probability of exceedance (PoE) peak demand is forecast to grow at an average annual rate of 0.8 per cent growth over the forecast period; and
- sent out energy is forecast to grow at an average annual rate of 1.3 per cent over the forecast period.

SWIS peak demand

The peak demand for summer 2014-15 was 3,744 MW, observed in the 15:30 to 16:00 trading interval on 5 January 2015. This quantity of demand was similar to recent years, however the peak occurred much earlier in the summer and earlier in the day than usual.

Impact of Solar PV systems

Solar PV systems continue to have a significant impact; systems are getting larger, more widespread, and are shifting peak demand in the SWIS to later in the day. The effect of solar PV systems will continue to grow as systems' costs continue to reduce and new technology such as battery storage supports their adoption which will allow customers to store electricity generation during the day for use during peak tariff periods.

Diversity and competition in the Wholesale Electricity Market

The Wholesale Electricity Market has become increasingly competitive, with a healthy mix of capacity types. The number of Market Participants has increased three-fold since market start and about 150 contestable customers per month switched retailers during 2013-14.

Response to the Individual Reserve Capacity Requirement (IRCR)

The capacity cost allocation mechanism – the IRCR – continues to be an effective incentive for contestable customers to reduce electricity use during periods of high demand. Action taken by customers to reduce their exposure to capacity cost allocations reduced load by a total of



Rebecca Petchey, Analyst System Capacity, and Neetika Kapani, A/Manager System Capacity

42 MW during the peak demand interval on 5 January 2015. While only 20 customers (less than half the number of customers that responded during the previous year's peak) reduced their consumption during this peak trading interval, this reduction was strong and similar to that last year despite the early peak in 2014-15.

The 2014 ESOO and its accompanying data register can be downloaded from the IMO's website: <http://www.imowa.com.au/esoo> and a limited number of hard copies are also available from the IMO office.

Highlights from our CEO

It is an exciting time to be part of the energy market in Western Australia.

Phase 2 of the Electricity Market Review is now fully underway and we look forward to actively participating in the work streams that affect the WEM, GSI and the IMO.

We are seeing increasing evidence in WA of the rapid changes in the global energy sector as customers materially change their behaviour and respond to game changing technologies. For the first time the IMO has introduced assumptions around the impact of battery storage in the peak demand forecasts in the recent publication of the Electricity Statement of Opportunities.

I very much look forward to exploring further how other market operators worldwide are dealing with the opportunities and challenges that these technologies present in their energy forecasting when the IMO hosts the annual APEx conference in Perth in November.



As a member of the Electricity Market Review's (EMR) Phase 2 Steering Committee I am fully engaged on the Committee's activities and I look forward to attending the industry briefing forum on 28 July 2015.

The IMO team is constructively working with Western Power and System Management on the transfer of System Management's functions, people and systems into the IMO. We hope to be in a position to share an implementation plan with our WEM stakeholders later in the year.

The IMO is also contributing to the EMR team with three IMO staff members on secondment to the Public Utilities Office to support the WEM Improvements work stream.

Further detail about the initiatives we are currently involved with supporting the implementation of the EMR reforms can be found on page 5.

I would like to thank everyone who attended the stakeholder briefing on the recently published 2014 Electricity Statement of Opportunities. This annual stakeholder briefing presents a valuable opportunity for our Market Participants to get together and discuss industry related matters.

Key talking points from this year's briefing included the early January peak load as well as the impacts on WEM demand of emerging technologies and customer response.

Energy forecasting in the SWIS (and other jurisdictions) continues to be challenging with many factors and assumptions materially impacting forecasts. One that is increasingly receiving attention is the emergence of commercially viable domestic battery technology. For the first time the IMO has incorporated assumptions around impact of battery storage on peak demand forecasts. We look forward to monitoring the impacts



2014 ESOO stakeholder briefing

of these and other emerging technologies on load over the coming months.

We welcome your feedback on the ESOO and input into further data and analysis that you would like to see in future publications.

I am pleased to again congratulate the IMO team and Thoughtworks for making the finals of the 2015 INCITE Awards with our Market Pulse project. This annual award is hosted by WAITTA (WA Information Technology and Telecommunications Alliance) and it is the second time that the IMO has been second in a category of these awards.

Phase 1 of the Market Pulse project was rolled out on the IMO website over the last 12 months. We will shortly commence the next phase of this project exploring further market data publication and market transparency. We value your feedback and ideas to assist us identify further market data that could feature on our website.

Our Graduate Development Program continues to be popular and attract strong and talented applicants with a passion for the energy sector. Applications for the 2015-16 Program closed at the end of June with an impressive 365 applicants. I would like to thank everyone who applied for their interest in the IMO. We are currently reviewing applications and I look forward to welcoming two new members to our team in February 2016.

In this edition of Watt's On, you will find further information on the following key events including: welcoming Mr Chris Campbell as the new Gas Shipper representative for the 2015/16 Gas Advisory Board; an update on the recently completed targeted compliance reviews; a feature on our staff; and our great success with providing market training for a Chinese delegation in cooperation with the Australian Institute of Management (AIM) and UWA Business school.

Lastly, I would like to thank Laura Tompkins, Senior Front Office Administrator, for once again organising a fantastic fundraiser at the IMO for Australia's Biggest Morning Tea for Cancer Council.

This initiative requires IMO staff to channel their hidden Master Chef and contribute their home baking for a morning tea. For the cost of a donation the lucky IMO staff were able to sample some wonderful food. I am proud to report that this initiative raised over \$300 for this most worthy charity.



Australia's Biggest Morning Tea for Cancer Council

As always, I encourage you to share your thoughts and feedback with myself and my team, so please don't hesitate to get in touch.

Allan Dawson

2015 Annual Review of the Gas Advisory Board

The Gas Advisory Board (GAB) is a committee of gas industry representatives who have been appointed as individual members to advise the IMO in relation to rule changes, procedure changes, the operation of the Gas Bulletin Board (GGB) and the preparation of the Gas Statement of Opportunities (GSOO). Each year the IMO is required by the Gas Services Information (GSI) Rules and the GAB Constitution to review the composition of GAB. The 2015 review was completed in June. The IMO received many high-calibre applications for membership on the GAB from across the gas industry. The IMO has appointed representatives to the GAB on the basis of the members' skills, knowledge and industry expertise as they relate to the class to which they were appointed.

Following this year's review the IMO is pleased to welcome Mr Chris Campbell as the new Gas Shipper representative for the 2015/16 GAB and compulsory members Dr Natalie Jackson representing the Economic Regulation Authority and Ms Erin Stone representing the IMO.



Mr Chris Campbell

Chris is the General Manager, Trading and Wholesale WA at Alinta Energy. Chris' recent roles at Alinta together

with memberships on various industry working groups have provided him with

experience in the state and national gas and electricity markets and an understanding of broader energy issues. Chris has a background in accounting and commerce and experience in managing gas and electricity portfolios, as well as business planning and strategy functions.

This year, a number of existing GAB members were reappointed to their positions, including Mr Pete DiBona representing Gas Producers, Mr John Jamieson representing Pipeline Owners/ Operators and Mr Andrew Sutherland representing Large Gas Users. The IMO Board would like to acknowledge GAB members for their efforts throughout the year and thank outgoing members,

Mr Mike Shaw, Ms Elizabeth Walters and Ms Kate Ryan for their valuable contribution.

GAB members are required to act in the best interest of the gas industry as a whole and must have regard to the GSI Objectives of promoting the long term interest of consumers of natural gas in relation to:

- the security, reliability and availability of the supply of natural gas in the State;
- the efficient operation and use of natural gas services in the State;
- the efficient investment in natural gas services in the State; and
- the facilitation of competition in the use of natural gas services in the State.

The IMO publishes all GAB meeting agendas, papers and meeting minutes on our website: <http://imowa.com.au/GAB>

The GAB for 2015/16 consists of the following members:

Member	Representing in GAB
Allan Dawson	Chair
Erin Stone	Independent Market Operator
Stewart Gallagher	Gas Producer
Pete DiBona	Gas Producer
Mark Cooper	Pipeline Owner and Operator
John Jamieson	Pipeline Owner and Operator
Mike Lauer	Gas Shipper
Chris Campbell	Gas Shipper
Andrew Sutherland	Large Gas User
Ian Mumford	Large Gas User
Ray Challen	Coordinator of Energy
Aden Barker	Small End-User, appointed by the Minister
Nerea Ugarte	Observer, appointed by the Minister
Natalie Jackson	Economic Regulation Authority (Observer)

The IMO welcomes Australia China LNG training program

The IMO was invited by the the Australian Institute of Management (AIM) of WA and UWA Business School WA to provide market training for a Chinese delegation interested in knowing more about the energy market in Western Australia.



The Chinese delegates are all executives from a variety of companies operating across the Asia Pacific LNG sector. They are currently undertaking a three month course 'Australia China LNG Training Program' in Perth and as part of this the IMO is assisting with two half day training sessions on the energy market in WA.

The first session was an introduction to the Wholesale Electricity Market covering the South West interconnected system; the market mechanisms of the energy market and the reserve capacity market; the regulatory frameworks that governs this; and an overview of key Market Participants. The second session presented an overview of the LNG market and domestic gas market in Western Australia. The materials were based on the IMO's Gas Services Information functions of the Gas Bulletin Board (GGB) and the annual publication of the Gas Statement of Opportunities. This is the first time that the IMO has participated in this type of training.

The market training was a great success. The Chinese delegates expressed great interest in the WA energy market and it provided a great opportunity for our staff and the Chinese delegates to engage and talk about the differences and similarities between our respective markets. We look forward to welcoming another Chinese delegation in early October 2015.

The IMO provides monthly market training on the Wholesale Electricity Market in WA. If you are interested in knowing more about our training courses please see our website: <http://www.imowa.com.au/home/engage-with-us/market-training>. We are currently considering offering a Gas Market Introduction training session pending interest from our Gas Market Participants. We value your feedback on this and for any queries please contact: Joachim Tan, Senior Analyst, on email: Joachim.Tan@imowa.com.au.



Targeted Compliance Reviews

Our Legal and Compliance team are working with our Market Participants to encourage a compliance culture through education and communication and have recently completed the first of two planned targeted compliance reviews in 2015.

In these reviews we assess compliance (and the risk of non-compliance) with specific obligations under the Market Rules and Market Procedures. As part of our review, we offer to review Market Participants' operational procedures, to the extent that they relate to the relevant obligations. Participation is voluntary but we provide specific feedback to

those Market Participants who do.

A targeted compliance review is a three-step process: (1) **plan** – we select the obligation and publish a compliance guideline; (2) **review** – we request information from relevant Market Participants and complete quantitative and qualitative assessments; and (3) **report** – we provide specific feedback to individual Market Participants who participate and present the aggregate results at a compliance update for Market Participants and other interested stakeholders.

The first review covered two obligations and a review period of 1 March - 30 April 2015. The first obligation was confirming

receipt of Operating Instructions [clause 7.7.6] – for Market Generators and Market Customers with registered Demand Side Programmes. The second obligation was updating Balancing Submissions after Balancing Gate Closure [clause 7A.2.10] – for Market Generators.

We presented the results at a compliance update on 10 June. Thank you to all Market Participants for an excellent response rate. Anecdotal feedback indicates that Market Participants found the review to be a worthwhile exercise. We look forward to engaging with Market Participants in relation to the next review (scheduled for September – December 2015).

EMR ///

An update from the IMO on the Electricity Market Review

As you will all be aware the Electricity Market Review (EMR) Phase 2 is starting to gather momentum. The IMO team has been actively working with the EMR team on the work streams that are likely to impact the WEM and IMO.

At this stage the work stream that has been given priority and that has received the most IMO attention has been the transfer of the System Management functions, systems, responsibilities, and people out of Western Power and into the IMO.

Transfer of the System Management functions, systems, responsibilities, and people out of Western Power and into the IMO

The first significant activity that is underway with the System Management transfer has been a detailed due diligence exercise.

The due diligence process is expected to provide the EMR Steering Committee and the IMO with a clear understanding of the current state of System Management, along with the associated risks and opportunities. The process will involve evaluating the resources (people and financial), systems and processes at System Management, with the information gathered providing a foundation for transition planning and informed decision making.

Both Western Power and System Management have played an invaluable role in developing the scope for the due diligence exercise.

The due diligence exercise has been split into two phases with the first phase expected to conclude around publication time for Watts On and the commencement of the second phase is awaiting regulatory changes.

These two phases of due diligence and their related work streams include:

Phase 1: Boundaries and Benchmarking

- determination of the operational boundaries between Western Power and System Management; and
- benchmarking of System Management against industry peers.

Phase 2: People, Process and Services

- human resources;
- IT Systems;
- compliance;
- legal; and
- commercial.

The information gathered through the due diligence process will serve as the foundation for the transitional planning of transferring the functions into the IMO.

Separating System Management from Western Power is not a simple or insignificant task with many internal relationships and arrangements that will need to be understood, unravelled and formalised/externalised. A working group consisting of representatives from the IMO, EMR team, System Management and Western Power has been established to support the transfer.

The aim is to establish a clear understanding of System Management roles and responsibilities, ensuring that any boundary issues with Western Power are identified and resolved and that accountabilities and relationships pre and post separation are clearly documented and understood.

In addition to the due diligence exercise the IMO team is also, in conjunction with the EMR team assessing the rule changes required to facilitate the transfer of System Management. Again this is not an insignificant exercise with 'System Management' mentioned in over 1000 separate WEM rules.

Establishing a new rule approval body

One of the recommendations of the EMR Phase 1 was to establish a new rule change approval body for both the WEM and GSI. At the time of writing the EMR team has just published a Position Paper on the proposed design of the new Rule Change Assessment Panel. The IMO would encourage all WEM and GSI stakeholders to provide their feedback and submission on this first EMR paper. Submissions are due by 14 August 2015 and must be sent to electricitymarketreview@finance.wa.gov.au.

WEM Rule Changes deferred

With the initiative to establish a new rule change approval body for both the WEM (and GSI), the IMO Board is using its discretion to defer the consideration of all WEM Rule Change Proposals until after the new body is operational. This means that while the IMO will progress each Rule Change Proposal that is underway to the draft or final report stage, the IMO Board will defer considering the proposed changes until the new arrangements are in place. This is with the exception of the Rule Change Proposal containing transition provisions to facilitate the deferral of the 2015 Reserve Capacity Cycle which is required to implement a Ministerial Direction.

Developing changes to the WEM

The IMO has seconded three staff members - Greg Ruthven, Jenny Laidlaw and Ben Williams - to the EMR team to support the WEM Improvements work stream. It was recognised that this work stream is of critical importance to our WEM participants and this is reflected in the calibre of IMO secondees. The IMO looks forward to working actively on this work stream applying our experience in operating the market and working with the industry on these matters.

Update on our staff

Market Development and Capacity



Kate Ryan

We are pleased to announce that Kate Ryan, Group Manager Development and Capacity, will be taking extended leave in July to prepare for the arrival of her baby. We thank Kate for her significant

contribution over the past 3.5 years, in particular in her role implementing the Gas Information Services Project – the Gas Statement of Opportunities and the Gas Bulletin Board - and more recently as Group Manager. We wish Kate all the best with her new family and look forward to seeing her back soon.

Erin Stone, currently Team Leader Market Development, will take on the role of Group Manager in Kate's absence. Erin started with us two years ago leading the



Erin Stone

development and progression of changes to the Wholesale Electricity Market and Gas Services Information Rules. Erin is an economist and comes from a regulatory background

with previous roles at State Government Treasury and Finance Departments and Western Power.

Market Services and Operations

Mark Katsikandarakis, currently a Senior Market Analyst, will take on the role of Acting Team Leader, Market Services and Operations Process. Mark will be responsible for leading the team that ensure the Wholesale Electricity Market



Mark Katsikandarakis

(WEM) and the Gas Services Information run smoothly on a daily basis. This includes operating the Short Term Energy Market (STEM), Balancing Mechanism and the Gas Bulletin Board, settling

the WEM, processing registration applications, performing market data analysis and providing training and support to Market Participants.

Mark holds a Bachelor of Electrical and Electronic Engineering and a Bachelor of Science in Applied Mathematics from the University of Western Australia. Mark previously worked as a Project Engineer on the Ichthys LNG Project and had responsibility for managing key engineering design processes associated with the LNG Operations Complex buildings.

KEY DATES AND UPCOMING EVENTS ///

JULY 2015

- 15 **IMO Training**
Market Operations, STEM and Balancing
- 15 **Gas Advisory Board meeting**
Gas Advisory Board Annual Appreciation Dinner
- 22 **IMO Training**
Reserve Capacity Mechanism
- 22 **Market Advisory Committee meeting**

AUGUST 2015

- 12 **IMO Training**
Wholesale Electricity Market Introduction
- 12 **Market Advisory Committee meeting**

AUGUST 2015

- 19 **IMO Training**
Market Operations, STEM and Balancing
Reserve Capacity Mechanism

SEPTEMBER 2015

- 9 **IMO Training**
Wholesale Electricity Market Introduction
- 9 **Market Advisory Committee meeting**
- 16 **IMO Training**
Market Operations, STEM and Balancing
Reserve Capacity Mechanism

Please visit our website for the most up to date information on upcoming events: www.imowa.com.au