

Chair's Half Yearly Report to the Electricity Authority Board

January to June 2015

4 July 2017

Note: This paper has been prepared for the purposes of the Wholesale Advisory Group. Content should not be interpreted as representing the views or policy of the Electricity Authority.

1 Introduction

- 1.1.1 The Wholesale Advisory Group (WAG) was established by the Electricity Authority (Authority) in May 2011 to provide independent advice to the Authority on the development of the Electricity Industry Participation Code 2010 (Code) and market facilitation measures.
- 1.1.2 The role of the WAG is to investigate, analyse, and make recommendations to the Authority Board (Board) on matters agreed to and included in the WAG's work plan. The scope of WAG advice, as set out in its Terms of Reference, is to advise the Board on:
- a) the development of the wholesale electricity market, including the inter-related markets for energy (spot), ancillary services, and risk management contracts such as financial derivatives for energy and location hedges
 - b) the development of provisions relating to reliable supply (which includes system security, reliability (security) of supply, and power quality), for the long-term benefit of consumers
 - c) priorities for developing:
 - i) the Code especially in regard to Parts 4, 5, 7, 8, 9, 13, and 14; and
 - ii) market facilitation measures in regard to wholesale markets services
 - d) any other relevant policy matters in regard to wholesale markets services.
- 1.1.3 WAG's terms of reference require the Chair to report every six months to the Board on the WAG's progress against its work plan. This is WAG's eighth half-yearly report, and it covers WAG's activities for January to June 2015.
- 1.1.4 The primary focus for the WAG in this reporting period has been the hedge market development project, culminating in the provision of recommendations to the Authority Board on 26 June 2015.

2 Membership and meetings held

2.1 The Authority ran two appointment processes during the reporting period

- 2.1.1 The Authority undertook two Advisory Group appointment processes during the reporting period. Specifically:
- a) The WAG Chair's term ended in April 2015, with the Authority seeking nominations for the position in January 2015.
 - b) Five members' terms expired in May 2015. The Authority sought to fill these positions during April 2015.
- 2.1.2 As a result of these appointment processes:
- a) John Hancock was reappointed as Chair for a two year term, effective 1 April 2015.

- b) The Authority reappointed existing members John Carnegie (third term), Chris Jewell (second term), and Alan Eyes (second term) for two year terms, effective 1 June 2015.
- c) The Authority appointed new members James Collinson-Smith and Stephen Drew for two year terms, effective 1 June 2015. They replace outgoing members Richard Spearman and Bruce Rogers.
- 2.1.3 The Authority Chief Executive personally contacted Richard Spearman and Bruce Rogers to thank them for their service on the WAG. The WAG Chair also sent letters of thanks to both retiring members.
- 2.1.4 The remaining members of the Group have terms extending into 2016 (refer Table 1 below).
- 2.2 Five WAG meetings were held during the reporting period**
- 2.2.1 The WAG met five times during the six month reporting period, of which:
- three were full WAG meetings (19 February, 12 March, 7 May), which were held at the Authority's offices in Wellington
 - one was an hour long teleconference (27 February)
 - one was a two hour long teleconference (26 May).
- 2.2.2 Table 1 gives details of WAG membership and members' attendance for the five meetings.
- 2.2.3 Note that no meetings were held following the appointment of James Collinson-Smith and Stephen Drew, and the departure of Bruce Rogers and Richard Spearman on 1 June. However, the WAG's hedge market development recommendations paper was finalised via email, and was not complete until 8 June 2015. The two new members were not involved in that process and the two outgoing members were provided the opportunity to maintain an interest in the finalisation of the paper.

Table 1: WAG membership details for 1 January to 30 June 2015

Member	Affiliation	Date and term of appointment(s)		Current term end	Meeting attendance
John Hancock Chair	Independent	April 2013 reappointed April 2015	2 years 2 years	April 2017	5 of 5
John Carnegie	Manager, Energy, Environment & Infrastructure, Business NZ	May 2011 reappointed June 2013 reappointed June 2015	2 years 2 years 2 years	June 2017	5 of 5

Member	Affiliation	Date and term of appointment(s)		Current term end	Meeting attendance
Alan Eyes	Energy Manager, NZ Steel	June 2013 reappointed June 2015	2 years 2 years	June 2017	5 of 5
Chris Jewell	General Manager of Trading and Portfolio Manager, Genesis Energy	June 2013 reappointed June 2015	2 years 2 years	June 2017	5 of 5
Bruce Rogers	Pricing Manager, Orion New Zealand	May 2011 reappointed June 2013	2 years 2 years	June 2015	4 of 5
Richard Spearman	Operations Manager, Trustpower	October 2011 reappointed June 2013	2 years 2 years	June 2015	4 of 5
Neal Barclay	General Manager Markets and Production, Meridian Energy	May 2011 reappointed August 2012 reappointed August 2014	1 year 2 years 2 years	August 2016	4 of 5
Graeme Everett	Energy Manager, Norske Skog Tasman	August 2012 reappointed August 2014	2 years 2 years	August 2016	5 of 5
Stephen Peterson	Chief Executive, Simply Energy	May 2011 reappointed August 2012 reappointed August 2014	1 year 2 years 2 years	August 2016	3 of 5
Phillip Anderson	Cumulus Energy Fund	August 2014	2 years	August 2016	5 of 5

Member	Affiliation	Date and term of appointment(s)		Current term end	Meeting attendance
James Collinson-Smith	Contact Energy	1 June 2015	2 years	June 2017	n/a
Stephen Drew	EnerNOC	1 June 2015	2 years	June 2017	n/a

2.2.4 At the invitation of the WAG Chair:

- a) Chris Pugh of ASX joined the 19 February 2015 meeting by teleconference to discuss ASX's views of the New Zealand futures market.
- b) Four representatives of industry participants attended meetings to present their views and experience with aspects of the hedge market. These presenters were:
 - i) Matthew Cleland and Louise Griffin of Contact Energy (19 February)
 - ii) Phil Gibson of Mighty River Power (19 February)
 - iii) Nicholas May of Fonterra (1 May).

2.2.5 Erich Livengood of Transpower (system operator) was invited to attend WAG meetings as an observer, but did not do so during the reporting period.

2.3 The WAG was involved in a joint session with the Retail Advisory Group

2.3.1 On 12 March 2015, the WAG, as it had done in 2014, met with the Retail Advisory Group in order to provide combined input into the Authority's 2015/16 work programme.

2.3.2 Members appreciated the insight provided by the Authority's Chief Executive regarding the Authority's objective, regulatory processes, priorities for market development, and the role of the advisory groups in supporting the Authority's work.

2.3.3 Members participated in constructive discussions about a wide range of industry issues that they believe necessitate the Authority's attention. The members of the RAG and WAG considered that the Authority should prioritise in its work plan, initiatives to:

- a) reduce complexity and the related costs of doing business and barriers to new entry
- b) standardise information exchange protocols and their definition and application
- c) support the wider commercial transition of the industry in the face of disruptive technologies, including addressing lines company pricing, consumer understanding, and access and connection.

2.4 WAG has maintained the Interests Register as required by law

2.4.1 As required by the Crown Entities Act 2004, the WAG maintains an Interests Register. Members are required to disclose any interests to the Chair, and these are recorded in the register.

3 WAG will move on to new projects in 2015/16

3.1 WAG has completed the three projects on its existing work plan

3.1.1 The WAG's 2014/15 work plan consisted of three projects:

- a) hedge market development
- b) national market for frequency keeping
- c) investigation into alternative reserve arrangements.

3.1.2 The WAG completed its **national market for frequency keeping** project in 2014, with recommendations delivered to the Authority Board in May 2014.

3.1.3 In January 2015, the WAG provided recommendations to the Authority Board on the **investigation into alternative reserve arrangements**. While the WAG noted in its recommendations that it would like to stay apprised of developments, it recommended that the Authority and system operator were best placed to progress the next stage of work.

3.1.4 The WAG provided recommendations to the Authority Board on the **hedge market development** project in June 2015. Development of those recommendations was the primary focus for the WAG during this reporting period.

3.2 WAG's 2015/16 work plan is still being developed

3.2.1 At its meeting on 7 May, the WAG considered a range of potential projects for its 2015/16 work plan. The WAG was asked to provide input before the Authority Board decided what projects to suggest be included in the WAG's work plan.

3.2.2 The WAG has expressed its interest in a project on event charge cost allocation for inclusion on the WAG's 2015/16 work plan.

3.2.3 The WAG looks forward to more detailed discussion of its 2015/16 work plan at its next scheduled meeting in August 2015.

4 Review of instantaneous reserve markets

4.1.1 Fast Instantaneous Reserve (FIR) and Sustained Instantaneous Reserve (SIR) are products that were introduced to the New Zealand power system over 10 years ago. The power system has since changed with the addition of a new HVDC Pole, renewable energy integration, SMART grid technology, and many other changes. Furthermore, there is now increased computational power for solving complex system modelling algorithms in close-to-real-time.

4.1.2 At the Authority's request, the WAG agreed in September 2013 to add a project on alternative reserve arrangements to its 2013/14 work plan.

4.1.3 The objective of this project was to:

- a) review the current FIR product and market arrangements to determine if they are still applicable to today's power system

- b) consider whether new reserve products and market arrangements could be introduced that could improve procurement efficiencies and security outcomes.

4.1.4 This project was item 2.10 in the Authority's 2014/15 work programme and a priority 2 initiative. This remains the case for its 2015/16 work programme.

4.2 The Board received WAG recommendations in January 2015

4.2.1 The WAG developed its draft recommendations in late 2014. A set of finalised recommendations was delivered to the Authority Board in January 2015.

4.2.2 The WAG identified three areas of inefficiency with regard to the current reserve arrangements:

- a) over-procurement of SIR through using a simple one-for-one procurement approach, rather than dynamic modelling to determine how much SIR is required in order to restore frequency to the target stable level
- b) over-procurement of instantaneous reserve in total, due to FIR and SIR procurement not being co-optimised between each other
- c) over-procurement of FIR due to the FIR procurement mechanism:
 - i) not differentiating payments to providers based on the speed of their response
 - ii) excluding some types of instantaneous reserve from being offered as FIR.

4.2.3 The WAG concluded that the long-term benefits of revising instantaneous reserve procurement arrangements appear to outweigh the likely implementation costs. It therefore recommended that:

- a) investigations continue to determine the most appropriate approach to realise such benefits
- b) these investigations focus on changes to FIR and SIR, rather than FIR alone
- c) the Authority review the reserve management objective for instantaneous reserve procurement in the Electricity Industry Participation Code 2010 (Code), particularly the balance between using instantaneous reserve, and re-dispatch of interruptible load and generation for bringing frequency back to 50 Hz
- d) work continue as long as changes remain net beneficial.

4.2.4 The WAG identified that product design and scoping of the market system changes, due to its technical nature, was best progressed by the Authority and system operator.

4.2.5 It also suggested that the Authority consider establishing an industry working group to ensure that the cost to the industry can be fully understood to inform the existence of net benefits.

4.3 Next steps

4.3.1 The WAG's involvement in the project has come to an end, with the Authority and system operator progressing the technical work. The terms of reference for the WAG require that the Authority keep it apprised of its findings.

5 Hedge market development

5.1.1 The Authority requested that the WAG add the Hedge Market Development project to its work plan in September 2013. The Authority noted improvement in the hedge market in recent years, and requested the WAG's assistance for the purpose of examining:

"...opportunities to further develop the hedge market, in order to maintain its current forward momentum and develop its value to the wholesale and retail markets".

5.1.2 The WAG considered the project brief to be broad in scope. The project brief did not identify a specific problem to be addressed, but rather, requested that the WAG identify any issues in the hedge market, and any improvements that could be made.

5.1.3 Since accepting the project, the WAG's investigation has involved:

- a) hearing presentations from stakeholders including a market analyst, a broker, ASX, large consumers, and a number of generators and retailers
- b) quantitative analysis and metrics, including an independent study into the efficiency of hedge prices performed by Energy Link (which was commissioned by the Authority at the WAG's request)
- c) a survey on the hedge market, run by UMR Research
- d) consideration of submission received in response to a discussion paper, prepared by the WAG and published in November 2014.

5.1.4 Completing the hedge market development project has been the predominant focus of the WAG during the reporting period.

5.2 The WAG has completed its hedge market development project

5.2.1 Hedge market development was project number 1.3 in the Authority's 2014/15 work programme. It was one of the Authority's six Top Priority projects, and remains so for 2015/16.

5.2.2 The timetable the WAG was working toward is shown in Table 2. During the reporting period, in addition to its scheduled meetings, the WAG organised two meetings by teleconference in order to meet the timetable.

5.2.3 The WAG delivered its recommendations to the Authority Board in June 2015, signalling the completion of its work.

Table 2: Hedge market project – key milestones and target timetable

Activity	Dates	Status
WAG agreed to add project to its work plan	5 September 2013	complete
Fact finding phase		
Presentation to WAG – Introduction to the hedge market project	28 November 2013	complete

WAG paper – Hedge Market Development Project update and development of metrics	20 February 2014	complete
Presentations to WAG: <ul style="list-style-type: none"> • OMF • Pulse • EnergyLink, Pioneer Generation, Payless Energy, NZ Windfarms, Cold Storage Nelson • ASX 	28 November 2013 20 February 2014 9 April 2014 15 August 2014	complete complete complete complete
Development of problem definition Analysis of the difference between actual and forecast/modelled spot market prices and observed ASX futures prices – work undertaken by EnergyLink	June – July 2014 15 August 2014 (phase 1 and 2, predominantly statistical analysis) September 2014 (phase 3, assessment of reasons for any difference).	complete complete complete
Assessment of issues and options	June – October 2014	complete
Develop discussion paper	May – October 2014	complete
Consider submissions	January 2015	complete
Develop WAG recommendations	February 2015	complete
Finalise WAG recommendations	May 2015	complete
Present recommendations to the Authority Board	June 2015	complete
Authority commence design of any Code amendments – taking the WAG's recommendations as input to the Authority's 2015/16 work programme	From July 2015	

5.3 The WAG considered the submissions it received in response to its November discussion paper

- 5.3.1 In its discussion paper, published in November 2014, the WAG noted that it was still to form a view on the materiality of the issues, and where development initiatives were best targeted. It sought further information from interested parties, and in particular, sought examples and evidence that would support the issues, and that might rationalise potential development initiatives.

- 5.3.2 The WAG received fifteen submissions in response to its discussion paper, which it considered at its 19 February 2015 meeting. There appeared to be widespread support for two initiatives – a reduction in the ASX contract size, and an arrangement that would allow a futures position to offset prudential security requirements. However, beyond this, the submissions contained divergent views.
- 5.3.3 To help clarify issues raised in submissions, and further inform the WAG's consideration, the group heard presentations from four stakeholders at its 17 February 2015 and 12 March 2015 meetings:
- a) Contact Energy and Mighty River Power, which both expressed an interest in making a presentation to the WAG.
 - b) ASX, the input of which was sought because of its role in the futures market, and because it did not make a submission in response to the discussion paper.
 - c) Fonterra, the input of which was sought as it was understood to have recently begun trading on the ASX trading platform, and the WAG was interested in that experience.

5.4 The WAG was unable to reach a full consensus on its recommendations

- 5.4.1 Through-out its investigation, various participants raised concerns about current hedge market arrangements with the WAG. Where possible, the WAG sought to substantiate the issues raised by participants through metrics and analysis. However, the WAG noted that participants' opinions were often conflicting, and the analysis often ambiguous.
- 5.4.2 Ultimately, the WAG was unable to pinpoint evidence of fundamental issues with current hedge market arrangements. However, to the extent that it could, it sought to rationalise the disparate views.
- 5.4.3 In making its recommendations, the WAG was able to conclude that:
- a) the hedge market has developed significantly in recent years and continues to make progress
 - b) some barriers to participation remain and some stakeholders continue to lack confidence in the hedge market
 - c) there is room for improvement in the hedge market that could see the barriers reduced and confidence improve
 - d) the evidence of underlying problems with the hedge market is insufficient to justify intervening by making amendments to the Electricity Industry Participation Code 2010 (Code)
 - e) further progress is possible and likely, without resorting to intervention by the Authority in the form of amendments to the Code.
- 5.4.4 The WAG's recommendations to the Authority Board comprised a 'staircase' approach, whereby any interventions would be proportional to the issues identified. It recommended that the Authority:

- a) Continues to pursue market facilitation measures in order to address barriers to participation and improve confidence in the hedge market. Specific measures were recommended that would aim to:
 - i) improve confidence in forward prices
 - ii) improve participants' ability to manage the need for capital to provide prudential security
 - iii) improve participants' understanding of risk management in the New Zealand electricity market
 - iv) reduce the resource-intensive nature of managing risk through the hedge market
 - v) provide opportunities to manage profile or outage risks
 - vi) allow smaller parties to more comfortably accommodate exchange traded products.
- b) Establishes some specific target outcomes and target timeframes for the hedge market.
- c) Monitors the development of the hedge market against those target outcomes and timeframes.
- d) Develop back-stop measures, and consider further implementing those back-stop measures if market facilitation arrangements fail to deliver the target outcomes. Specifically, the WAG recommended that the Authority take the following steps to cover the possibility that the targets are not met:
 - i) Commence the process to mandate market making for all base load ASX NZ futures.
 - ii) Investigate whether there is a need for further development of the exchange-traded peak product, including possible market making in that product.

5.4.5 However, the WAG was unable to reach a full consensus on the conclusions and recommendations provided to the Board. Members Phillip Anderson and Stephen Peterson presented an alternative view.

5.4.6 The alternative view did not diverge significantly from the consensus position, but largely reflected that those members saw a need for more urgent change, which they were not confident would eventuate through market facilitation, given the vertically integrated nature of the market. Specifically, the alternative view suggested that:

- a) A liquid peak future is necessary to introduce higher levels of innovation to the market.
- b) The vertically integrated utilities should be compelled to facilitate this access, because their business models prevent a competitive hedge market thriving on its own.
- c) The Authority should stand ready to intervene to mandate market making in both baseload and peak futures, with a 3% maximum bid-offer spread, if equivalent progress is not achieved by the market within six months.

5.5 The WAG intends to conduct an informal review of the project

- 5.5.1 The WAG is pleased to have completed its hedge market development project within the timeframes provided. Its immediate involvement in the project has now come to an end.
- 5.5.2 The WAG plans to conduct an informal review of its hedge market development project at its August 2015 meeting. While it may not be possible for the WAG to deliver consensus recommendations on all topics; the Authority's *Charter about Advisory Groups* provides strong encouragement to do so and it will be valuable to reflect on whether it would have been possible to achieve consensus by focusing on the task of providing advice to the Board.
- 5.5.3 Therefore, the WAG considers that undertaking a review of the project will help to identify:
- a) how it can learn from the project, so that the WAG can perform more effectively in future projects
 - b) whether there are ways the secretariat could better support the WAG, to ensure the Authority gets the most out of the WAG.

6 Interest in other projects

6.1 Spot market review

- 6.1.1 At its meeting on 19 February 2015, the WAG was given the opportunity to comment on an early draft of the Authority's spot market review discussion paper.
- 6.1.2 The WAG appreciates having been given the opportunity to provide its input, and looks forward to updates on the Authority's direction and progress.

6.2 Reserve and frequency management programme

- 6.2.1 The WAG has been kept up to date on the Authority and system operator's joint work on the reserve and frequency management programme. That work programme captures a number of projects, including the following that the WAG has been involved in:
- a) Multiple frequency keeping
 - b) National Market for Instantaneous Reserve
 - c) National Market for Frequency Keeping
 - d) Under Frequency Management.
- 6.2.2 The WAG maintains an interest in the progress and timelines for the reserve and frequency management work, and is interested in providing further input into the various projects as appropriate.

6.3 Authority hedge market development project

- 6.3.1 In addition to its work on the hedge market development, the Authority has been separately pursuing its own related initiatives. Specifically, the WAG understands that the Authority has been looking to identify:

- a) opportunities to enhance trading of exchange traded products
- b) opportunities to allow a futures position to offset the prudential security required by the clearing manager.

6.3.2 The WAG has maintained an interest in these two projects, and has attempted to account for them, as appropriate, within the recommendations it provided to the Authority Board in June 2015.

6.3.3 The WAG appreciates the updates provided by the Authority, and is interested in staying informed of its progress.

6.4 Wholesale market information

6.4.1 The WAG understands that the Authority has added a priority 3 project relating to wholesale market information to its 2015/16 work programme.

6.4.2 The WAG was previously engaged on this issue, and provided recommendations to the Board in August 2012.

6.4.3 The most significant WAG recommendation that has not yet been completed was for the Authority to pursue a “facilitated disclosure” approach to enhancing the availability and accessibility of thermal fuel quantity information and snowpack information.

6.4.4 The WAG has noted its ongoing interest in seeing this issue settled. It therefore looks forward to updates on the Authority’s progress with its new project.

7 Chair’s commentary on overall performance of the WAG and the Secretariat

7.1.1 Our work in the first half of 2015 has been almost entirely dedicated to the Hedge Market investigation. This was an unusual project in many respects:

- our task was not limited to the investigation of a single issue but was exploratory - “to examine opportunities to further develop the New Zealand electricity hedge market, in order to maintain its current forward momentum and develop its value to the wholesale and retail markets”
- it is one of the longest pieces of work ever undertaken by an Advisory Group: WAG took on the project in September 2013 and finally reported to the Board in June 2015
- despite strong encouragement from the Authority Board to present a consensus recommendation, for the first time ever, the WAG’s final report contains a split decision.

7.1.2 These characteristics reflect the fact that the hedge market sits at the core of a competitive electricity industry and the wide range of hedging needs across different market participants. It is to the great credit of the WAG that our consensus recommendations were so comprehensive and that the split decision was of timing and degree alone. My thanks to the members for the professionalism and mutual respect

that they maintained throughout our discussions. The final recommendations paper is the stronger for it.

- 7.1.3 This is also an appropriate place to acknowledge the support we have received from both the Authority staff and external consultants in the Secretariat. The analysis and commentary on hedge market development that they have produced through the project has been important in developing the WAG's understanding of the area and a key recommendation to the Board has been that this analysis continues in the form of a regular Authority publication.
- 7.1.4 I would also like to publicly acknowledge the work of Bruce Rogers and Richard Spearman: both of whom have served two consecutive terms on the WAG since its inception, and whose terms ended in June. They have been influential and constructive throughout their time on the group, evidenced by the number of recommendations that they were involved that have now become Authority policy.

John Hancock

Chair, Wholesale Advisory Group

1 July 2015