

# Chair's Half Yearly Report to the Electricity Authority Board

June to December 2014

20 January 2015

**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.

## Contents

<b>1</b>	<b>Introduction</b>	<b>2</b>
<b>2</b>	<b>Membership and meetings held</b>	<b>3</b>
2.1	WAG appointments took effect part way through the reporting period	3
2.2	Five WAG meetings were held during this reporting period	3
2.3	WAG has maintained the Interests Register as required by law	5
<b>3</b>	<b>WAG continued to progress its two remaining work plan projects</b>	<b>5</b>
<b>4</b>	<b>Hedge market development</b>	<b>6</b>
4.1	WAG published a discussion paper on hedge market development issues	6
4.2	The Board can expect WAG recommendations in 2015	8
	Table 2: Hedge market project – key milestones and target timetable	8
4.3	The Energy Link analysis was a key input to the discussion paper	9
4.4	The WAG hosted a hedge market development briefing during consultation	10
4.5	Next steps	10
<b>5</b>	<b>Review of instantaneous reserve (IR) markets</b>	<b>11</b>
5.2	The project scope was expanded after initial investigations	11
5.3	The Board can expect WAG recommendations in April 2015	12
5.4	The next stage of the project will be technical and require industry engagement	13
5.5	Linkage with other initiatives	13
<b>6</b>	<b>Overlap of Authority and WAG projects</b>	<b>14</b>
<b>7</b>	<b>On-going interest in previous projects</b>	<b>15</b>
7.1	National frequency keeping market	15
7.2	Pivotal pricing project	15
7.3	Wholesale market information project	15
7.4	Aligning forecast and final prices	16
<b>8</b>	<b>Chair's commentary on overall performance of the WAG and the Secretariat</b>	<b>16</b>

## **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 Group 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; and
  - 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 Group's progress against its work plan. This is WAG's seventh half-yearly report, and it covers WAG's activities for June to December 2014.
- 1.1.4 The focus for the WAG in this reporting period has been the hedge market development project, culminating in publication of its Discussion Paper on 11 November 2014 for comment from interested parties.

## 2 Membership and meetings held

### 2.1 WAG appointments took effect part way through the reporting period

2.1.1 The Authority undertook an Advisory Group appointment process in June 2014, just prior to the beginning of this reporting period and the outcomes took effect on 1 August 2014:

- a) the Authority reappointed the three members whose terms expired in August 2014 for a further term of two years - Stephen Peterson (third term), Neal Barclay (third term) and Graeme Everett (second term)
- b) the Authority appointed a new member to fill the vacant WAG position, Phillip Anderson, for a two-year term.

2.1.2 They join the remaining members of the Group whose terms extend into 2015 or 2016 (refer Table 1 below).

### 2.2 Five WAG meetings were held during this reporting period

2.2.1 The WAG met five times during the six month reporting period, of which three were full WAG meetings (15 August, 17 October, 28 November) and two were brief teleconferences (12 and 26 September). The first meeting was not held until after 1 August when the new WAG membership took effect.<sup>1</sup>

2.2.2 Two of the three full WAG meetings were held at the Authority's offices in Wellington. The third (28 November) was kindly hosted by Norske Skog at its Tasman Mill, Kawerau. At the conclusion of that meeting Norske Skog provided attendees with a tour of the Tasman Mill.

2.2.3 Table 1 gives details of WAG membership and members' attendance for the five meetings. Two of these five meetings were one hour meetings held by teleconference.

**Table 1: WAG membership details for 1 June to 31 December 2014**

Member	Affiliation	Date and term of appointment(s)		Current term end	Meeting attendance
John Hancock Chair	Independent	April 2013	2 years	April 2015	5 of 5

<sup>1</sup> A meeting had been scheduled for 10 July but was cancelled once it became apparent that there would not be a quorum.

Member	Affiliation	Date and term of appointment(s)		Current term end	Meeting attendance
John Carnegie	Manager, Energy, Environment & Infrastructure, Business NZ	May 2011 reappointed June 2013	2 years 2 years	June 2015	2 of 5
Alan Eyes	Energy Manager, NZ Steel	June 2013	2 years	June 2015	5 of 5
Chris Jewell	General Manager of Trading and Portfolio Manager, Genesis Energy	June 2013	2 years	June 2015	5 of 5
Bruce Rogers	Pricing Manager, Orion New Zealand	May 2011 reappointed June 2013	2 years 2 years	June 2015	3 of 5
Richard Spearman	Operations Manager, TrustPower	October 2011 reappointed June 2013	2 years 2 years	June 2015	3 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	3 of 5
Graeme Everett	Energy Manager, Norske Skog Tasman	August 2012 reappointed August 2014	2 years 2 years	August 2016	3 of 5

Member	Affiliation	Date and term of appointment(s)		Current term end	Meeting attendance
Stephen Peterson	Chief Executive, Simply Energy	May 2011 reappointed August 2012 reappointed August 2014	1 year 2 years 2 years	August 2016	1 of 5
Phillip Anderson	Cumulus Energy Fund	August 2014	2 years	August 2016	5 of 5

#### 2.2.4 At the invitation of the WAG Chair:

- a) Erich Livengood of Transpower (system operator) continued his attendance at WAG meetings during the reporting period (but did not attend the teleconferences)
- b) Chris Pugh and Waqar Chaudry of ASX joined the 15 August meeting by teleconference to discuss ASX' views of the New Zealand futures market
- c) Greg Sise of Energy Link attended the 12 September teleconference to present Energy Link analysis undertaken for the hedge market development project (discussed further in section 4).

### 2.3 WAG has maintained the Interests Register as required by law

- 2.3.1 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 continued to progress its two remaining work plan projects

- 3.1.1 The WAG's current work plan was adopted in 2013, and initially 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 submitted its recommendations on a **national market for frequency keeping** just prior to the period covered by this report, and has received updates from Authority staff on progress since then.
- 3.1.3 In the period covered by this report the WAG has continued to progress the two remaining projects on its current work plan:
- a) the WAG has concentrated on the **hedge market development project**, as outlined in section 4 of this report, culminating in publication of the WAG Discussion Paper in November
  - b) although its **investigation into alternative reserve arrangements** was given a lower priority during this time, in December the WAG drafted a set of recommendations. It is expected that a finalised version of these will be presented to the Authority Board early in 2015.
- 3.1.4 The WAG has also maintained an interest in the Authority's progress with earlier WAG projects, including in particular pricing in pivotal supplier situations, wholesale market information, and aligning forecast and final prices.
- 3.1.5 At its final meeting of 2014 the WAG considered the wholesale market design aspects of the Authority's current Work Programme and discussed with Authority staff the various projects that the WAG may be able and interested in assisting with in 2015. The WAG looks forward to completing these discussions early in 2015 and adopting a new work plan for the 2015/16 year.

## 4 Hedge market development

### 4.1 WAG published a discussion paper on hedge market development issues

- 4.1.1 A deep and competitive hedge market is an essential element of an efficient and competitive electricity market, because it allows generators, retailers and customers to better manage the risks arising from the spot market, and provides important information about likely forward electricity prices.
- 4.1.2 In September 2013, the Authority engaged the WAG in a detailed investigation, to determine if current hedge market arrangements allow participants to effectively manage the risks they face in the spot market. In particular, the WAG sought to determine:
- a) whether hedge prices are efficient

- b) whether hedge markets facilitate meaningful competition in wholesale and retail markets
- c) whether there are (avoidable) non-price barriers that prevent participants from meeting their risk management needs through hedge markets.

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

- a) hearing presentations from stakeholders including market analysts, brokers, the provider of a trading platform and a number of small independent generators and retailers, who identified difficulties they have observed in the hedge market along with suggested initiatives to improve it
- b) quantitative analysis and metrics, which has helped to objectively measure the hedge market's performance
- c) a survey on the hedge market, run by UMR Research, which provided a range of views on aspects of the hedge market and areas that might benefit from further development.

4.1.4 To help inform the WAG's views, Energy Link was commissioned to perform an independent study into the efficiency of hedge prices.

4.1.5 The WAG produced a discussion paper, which summarised the findings of its investigation and the Energy Link study. This paper was published on 11 November 2014, and marks the achievement of a key deliverable for the WAG.

4.1.6 The WAG considers that there are opportunities to add value to the market. At this point in time, the WAG is of the view that incremental change is appropriate, given the positive developments seen in the market in recent years, and the need to ensure that ongoing evolution of the market is not adversely impacted.

4.1.7 However, as emphasised in the discussion paper, the WAG is still to form a view on the materiality of the issues, and where development initiatives are best targeted. Through the discussion paper process the WAG therefore sought further information from the industry, and in particular, examples and evidence that support the issues, and that might rationalise potential development initiatives. Submissions were due by 19 December 2014.



## 4.2 The Board can expect WAG recommendations in 2015

- 4.2.1 Hedge market development is one of the six Top Priority projects in the Authority's 2014/15 work programme. The timetable the WAG is now working toward is shown in Table 2, amended since the Chair's half year report for the first six months of 2014.
- 4.2.2 The WAG had previously targeted the release of a discussion paper in September, and presentation of recommendations to the Board in December. However, the WAG's consideration of the Energy Link analysis and preparation of the discussion paper took longer than originally anticipated. The WAG is now targeting the Authority's 6 May 2015 Board meeting to present its recommendations.

**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
<b>Fact finding phase</b>		
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"> <li>• OMF</li> <li>• Pulse</li> <li>• EnergyLink, Pioneer Generation, Payless Energy, NZ Windfarms, Cold Storage Nelson</li> <li>• ASX</li> </ul>	28 November 2013 20 February 2014 9 April 2014 15 August 2014	complete complete complete complete
Development of problem definition	June - July 2014	complete
Assessment of issues and options	June – August 2014	complete
Develop discussion paper	May – November 2014	complete
<b>Recommendations phase</b>		
Consider submissions	January – March 2015	underway
Further presentations to WAG	January – March 2015	tbc
Present recommendations to Authority Board	May 2015	tbc

### **4.3 The Energy Link analysis was a key input to the discussion paper**

- 4.3.1 The WAG sought to investigate claims from stakeholders that hedge prices are significantly above average spot prices. To achieve this, WAG sought analysis comparing futures prices with an independent view of potential future spot prices would be most informative as to the existence or otherwise of any potential inefficiency in futures prices.
- 4.3.2 To this end, the Authority (at the WAG's request) commissioned Energy Link to provide analysis comparing futures prices with potential future spot price outcomes, as modelled using its Emarket model. The study also provided commentary on the extent to which any differences might reflect market inefficiencies.
- 4.3.3 Energy Link prepared two reports detailing its analysis:
- a) The first of these reports characterised the volatility of quarterly average spot prices, and assessed 'deltas' for ASX quarterly baseload futures over the next four years – where the delta is the difference between the price of a future and the expected average spot price (i.e. a 'positive' delta would imply futures were above expected average spot prices, and vice versa for a 'negative' delta). These expected average spot prices were based on forward-looking analysis, using 83 inflow sequences and ten forecast scenarios.
  - b) The second Energy Link report sought to determine whether the deltas it observed in its first report could be reasonably explained, in terms of being a risk premium or otherwise. It further sought to determine whether the observed deltas were consistent with what might reasonably be expected in a workably competitive market. Energy Link noted significant challenges in achieving these aims, and took a number of approaches, including:
    - i) reviewing observed and modelled deltas, and considering them in the context of different perceptions of risk
    - ii) exploring how hedging pressure might shape deltas
    - iii) considering the returns to investors of New Zealand electricity futures, and how the returns compare to other markets.Energy Link also compared its observed deltas to the Australian electricity futures market and other assets and investments.

4.3.4 The WAG's consideration of the Energy Link reports was the focus of a number of WAG meetings during the reporting period, including in particular the September 12 teleconference, at which Greg Sise from Energy Link was in attendance. The discussion paper includes a summary of the Energy Link findings, and the Energy Link reports are appended in full to the discussion paper (Appendices J and K respectively).

4.3.5 As noted in the discussion paper, the WAG does not necessarily endorse the outcome of the Energy Link work at this stage, nor has it asked for it to be academically peer-reviewed. WAG requested that Energy Link undertake the work because it provides independent spot price forecasts that are widely used, by a variety of industry participants.

#### **4.4 The WAG hosted a hedge market development briefing during consultation**

4.4.1 During the consultation period the WAG Chair hosted a hedge market development briefing at the Authority's offices on 10 December 2014. The purpose of the briefing was to outline the key elements of the discussion paper, with a specific emphasis on the Energy Link analysis of futures pricing. All interested parties were invited to attend, with those that were considering making a submission on the discussion paper particularly encouraged to do so.

4.4.2 A live webinar of this briefing was broadcast and teleconference facilities were also available. Over 25 people attended the briefing, and 32 joined by teleconference or over the web.

4.4.3 Feedback suggests that attendees welcomed the opportunity to attend the briefing and generally found it to be a helpful part of the consultative process. It also appeared that many found the Energy Link work interesting and an informative aspect of the WAG's investigations.

4.4.4 A recording of the webinar is available on the Authority's website.<sup>2</sup> Feedback on the use of the webinar has been positive.

#### **4.5 Next steps**

4.5.1 Consultation on the WAG discussion paper closed on 19 December 2014. Fifteen submissions (and one late submission) were received from a variety of interested parties, including generators, retailers, major users, service providers, and other stakeholders.

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<sup>2</sup> <http://www.ea.govt.nz/development/work-programme/wholesale/hedge-market-development/events/wholesale-advisory-group-hedge-market-development-briefing/>

- 4.5.2 The WAG will also hear further presentations from a select number of stakeholders that were not given the opportunity to present earlier in the year, but that have expressed a particular interest in doing so.
- 4.5.3 The WAG will consider the issues raised in submissions, with a view to finalising a set of recommendations at its meetings in early in 2015. The current expectation is that the WAG will present its hedge market development recommendations to the Board at its 6 May 2015 meeting.

## **5 Review of instantaneous reserve (IR) markets**

- 5.1.1 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.
- 5.1.2 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.
- 5.1.3 The objective of this project was to:
  - a) review the current FIR products 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.
- 5.1.4 This project is item 1.10 in the Authority's 2014/15 work programme and it is a priority 2 initiative. It is closely related to one of the Authority's six Top Priority projects, development of a national IR market.

### **5.2 The project scope was expanded after initial investigations**

- 5.2.1 The initial project brief focussed on FIR only. The target of the investigations was an "area-under-the-curve" and "very fast reserve" type of new reserve product. Following further work performed by the secretariat at the WAG's request, it became apparent that additionally considering SIR in any developments could significantly improve the potential benefits.
- 5.2.2 After further discussions with the system operator, the WAG agreed an expanded scope for the review work part way through the period covered by

this report. This enabled the WAG to develop its review, update the cost-benefit analysis and formulate its recommendations.

### **5.3 The Board can expect WAG recommendations in April 2015**

- 5.3.1 At its 28 November meeting the WAG considered a draft set of recommendations to the Authority Board. These were adopted in principle. It is expected that a set of finalised recommendations will be agreed upon at the 19 February 2015 meeting of the WAG.
- 5.3.2 The recommendations paper will:
- a) set out the WAG's view on the current problems with IR procurement
  - b) provide an overview of the work undertaken by the Authority and system operator examining potential alternative approaches to IR procurement
  - c) present the WAG's recommendations on appropriate next steps in light of its investigations.
- 5.3.3 In essence, the WAG has concluded that the long-term benefits of revising IR procurement arrangements appear to outweigh the likely implementation costs. Therefore, the WAG intends recommending that investigations continue to determine the most appropriate approach to realise such benefits.
- 5.3.4 However, the WAG strongly recommends these investigations do not focus on FIR independently (as has largely been the case to-date), but that changes to FIR and SIR are considered together. The distinction between them is largely a result of technical computing constraints from the 1990s when the NZ electricity market was established and the IR products were first defined.
- 5.3.5 Further, the WAG recommends reviewing the reserve management objective for IR procurement in the Electricity Industry Participation Code 2010 (Code), particularly the balance between using IR and re-dispatch for bringing frequency back to 50 Hz. The current practice to rely entirely on IR is inconsistent with the objective specified in the Code that assumes re-dispatch will play a significant role. Determining the appropriate balance between the two approaches involves technical and economic trade-offs. Given that there have been significant changes to the system since the objective in the Code was determined, it would seem appropriate to review this fundamental principle at the same time as reviewing the approach to procuring IR.

## **5.4 The next stage of the project will be technical and require industry engagement**

5.4.1 Progressing the investigations of IR product-design and scoping the market systems changes are activities that are highly technical in nature. As such, the WAG believes that the Authority and system operator are best placed to continue such investigations. However, the WAG would like to be appraised of recommendations and findings as the work progresses.

5.4.2 Industry engagement is also paramount, in that it needs to be understood what the costs to the industry might be in order to participate in a revised IR market. The WAG suggests that this be achieved by establishing an industry working group with representatives from generation and demand IR providers.

## **5.5 Linkage with other initiatives**

5.5.1 The WAG is mindful that the Authority and the system operator are considering other changes to IR procurement, which may be relevant to the potential benefits of altered reserve procurement approaches. The WAG appreciated the presentation Authority and system operator staff provided on the Reserve and Frequency Management (RFM) programme to the WAG's November meeting.

5.5.2 The most significant potential change to reserve procurement is the development of a national IR market. An initial high-level review of the national IR market initiative and the initiative to alter IR procurement approaches suggests:

- a) The two are not mutually inconsistent. There is nothing to suggest that a revised IR procurement approach couldn't be implemented on a national basis.
- b) There are potential cost implications acting in two different directions:
  - i) On the one hand, there may be implementation cost savings from making changes to the software to implement both new arrangements (i.e. new IR procurement approach, and a national IR market) at the same time.
  - ii) On the other hand, the investigation into altered IR procurement approaches is at a much earlier stage of development than the national IR market. It is likely that delaying implementation of a national IR market to coincide with implementation of new IR

arrangements could substantially delay realisation of the benefits of a national IR market.

- 5.5.3 On balance, the WAG considers that the cost from delaying the benefits from a national IR market would likely outweigh the potential benefits from implementing altered IR procurement approaches and the national IR market at the same time.
- 5.5.4 The second potential change to reserve procurement is for the planned review of the allocation of IR procurement costs. A high-level review of this suggests this potential cost-allocation initiative is a completely separate issue, and should not have any bearing on whether or how to progress with initiatives to change reserve procurement approaches.
- 5.5.5 The WAG also considers that it is important that this project be coordinated with the other relevant initiatives to ensure consistency of approach, and capture potential synergies between the projects. These include implementation of new extended reserves arrangements, and initiatives relating to a national frequency keeping market, Reserve Management Tool (or its replacement) and the Scheduling Pricing and Dispatch model.

## **6 Overlap of Authority and WAG projects**

- 6.1.1 The WAG has noted a significant degree of overlap between the Authority's and WAG's various projects. For example, multiple projects are underway that affect the frequency keeping market, the reserve market, and extended reserve arrangements. A number of projects are likely to affect the Scheduling Pricing and Dispatch software or Reserve Management Tool.
- 6.1.2 The Group is unclear as to the extent to which:
  - a) the projects might impact on each other, including with respect to their assumed costs and benefits
  - b) links between projects are being properly considered
  - c) a consistent approach is being used, and synergies between the projects are being captured, particularly with regard to software development
- 6.1.3 Having expressed these concerns to the secretariat, the secretariat agreed to present the WAG with information explaining how all of the Authority's technical projects fit together. This was provided to the WAG at both their 17 October 2014 and 28 November 2014 meetings.



- 6.1.4 The WAG appreciates the efforts of Authority and system operator staff to keep the WAG updated on relevant initiatives. The Work Plan Update paper is a regular feature on the WAG agenda, and the Secretariat uses this as a forum for providing updates on past WAG projects and relevant Authority initiatives. Of particular note for this reporting period, the Secretariat has also provided information on the Joint Development Plan timetable and slides illustrating the interdependencies between WAG projects and those of the Authority and the system operator. The presentation by Authority and system operator staff on the Reserve and Frequency Management programme was also appreciated.

## **7 On-going interest in previous projects**

### **7.1 National frequency keeping market**

- 7.1.1 At its 27 June 2014 meeting the Authority Board accepted the WAG recommendation to proceed with establishing a national frequency keeping market.
- 7.1.2 However, the WAG now understands that initial results from the system operator's trial operation of new HVDC controls are likely to have a significant impact on the approach to achieving a national market for frequency keeping. Results to date indicate that the need for frequency keeping may reduce over time and may be substituted for by greater governor response from generators.
- 7.1.3 The scope of the national market project is currently being reviewed as a result of the system operator's work. The WAG asks to be given an opportunity to comment on the scope of the proposed review and to be briefed on this work as it progresses.

### **7.2 Pivotal pricing project**

- 7.2.1 The WAG appreciates the updates it has received on the pivotal pricing project, including on the Authority's pursuit of Code changes, and areas where these have departed from the Group's recommendations.

### **7.3 Wholesale market information project**

- 7.3.1 The WAG has maintained a watching brief on the Authority's progress with the wholesale market information project.



- 7.3.2 In particular, the WAG has noted little progress against the “facilitated disclosure” approach to enhancing the availability and accessibility of thermal fuel quantity information. However, snowpack information has been made readily available.
- 7.3.3 The Authority requested the WAG’s further input on this matter at its 20 February 2014 meeting, and the group agreed to offline discussions that might advance the issue, noting the Authority’s intention to review the arrangements in the second half of 2014.

#### **7.4 Aligning forecast and final prices**

- 7.4.1 The WAG made its recommendations on the alignment of forecast and final prices project in October 2013. However, the WAG maintains a consideration for further issues affecting the alignment of forecast and final prices.
- 7.4.2 At the 20 February 2014 meeting, the group discussed a number of process issues (rather than regulatory design issues) that may be causing some misalignment. The Chair remains in discussion with Authority staff on these issues.

### **8 Chair’s commentary on overall performance of the WAG and the Secretariat**

- 8.1.1 I signalled in the last 6 monthly report the importance of Transpower’s commissioning of upgrades to the HVDC link between the North and South Islands and the establishment of new control software for the link to the co-optimisation of ancillary service and reserve markets across both islands. I have noted in sections 5 and 6 the importance of this software in the development of these markets during the last 6 months. The Authority has signalled an intention to review its strategy for Frequency Keeping in the light of early results from the operation of the new HVDC control systems and we welcome the opportunity to contribute to this investigation in the next period better to ensure competition in, reliable supply by, and the efficient operation of, the New Zealand electricity industry for the long-term benefit of consumers.
- 8.1.2 The majority of our time in the last 6 months has been spent on our Hedge Market Investigation. This is an opportunity to thank industry participants for the time they have spent informing our understanding of problems in these markets both in direct presentations to WAG and through submissions in response to our recent Discussion Paper. The supporting analysis in our

Discussion Paper has exposed how these markets have evolved in recent years and raises important questions as to whether regulatory intervention will be necessary to ensure timely long-term consumer benefit or whether that is inevitable through the evolution of participant trading.

- 8.1.3 The Authority Secretariat and its consultants have continued their professional support for the group. I am particularly grateful for their work in developing a high quality Discussion Paper and their expert opinions on *Futures Prices and their Relationship to Modelled Spot Prices* and an *Assessment of Deltas in Futures Prices* against challenging timescales and in an area in which industry perspectives are varied and the issues nuanced. It was also gratifying to see how popular the use of a webinar for our December seminar was - doubling the number of attendees from those able to attend in Wellington. We have benefited from this in the number, diversity and quality of the submissions that we have received on our Discussion Paper.
- 8.1.4 We look forward to finalising our recommendations on Hedge Market development and contributing to the Authority's investigations of Frequency Management strategy and Spot Market design over the next 6 months where our work programme promises to be as busy as ever. My thanks to my colleagues on the WAG for their continued professionalism and insights on the group.

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John Hancock  
**Chair, Wholesale Advisory Group**  
20 January 2015