Electricity Te Komihana Hiko Commission

Electricity Hedge Market Issues

A Qualitative and Quantitative Study

[December 2009]

UMR research

Email: umr@umr.co.nz
Website: www.umr.co.nz

WELLINGTON
3 Collina Terrace
Thorndon
WELLINGTON 6011
NEW ZEALAND
Tel: +64 4 473 1061
Fax: +64 4 472 3501

AUCKLAND
11 Earle Street
Parnell
AUCKLAND 1052
NEW ZEALAND
Tel: +64 9 373 8700
Fax: +64 9 373 8704

SYDNEY
Level One, Suite 105
332-342 Oxford Street
SYDNEY NSW 2022
AUSTRALIA
Tel: +61 2 9386 1622
Fax: +61 2 9386 1633

Table of contents

1. Introduction

In 2005, UMR was commissioned by the Electricity Commission (the Commission) to conduct research to provide information that would assist it to determine whether or not:

- there is a shortage of hedge contracts in the market;
- generators have the ability to exercise market power in either the wholesale spot market or the wholesale hedge market and, if so, the extent of that power and its implications for the hedge market;
- vertical integration adversely affects competition in the retail market, the market for hedges and investment in new generation;
- vertical integration is the most efficient market structure given the physical and commercial drivers underlying the New Zealand electricity market;
- issues relating to the lodgement of hedges for prudential security are significant; and
- what constitutes an effective contract from a buyer's perspective, particularly the relationship between price, basis risk and force majeure.

The research was not designed to provide answers to those questions, but to gather information related to the issues it raised to assist the Commission's determinations which will draw from a variety of other sources.

In 2007 and also in 2009, the Commission contracted UMR to conduct follow-up research using the 2005 study for benchmark comparison purposes. As with the benchmark, the methodology comprised two information gathering phases, an online survey and follow-up in-depth interviews. The first phase involved the distribution of a survey to 71 potential respondents. The survey largely replicated the benchmark though a very small number of questions were adjusted or dropped to reflect changes that had occurred. In 2007, an additional final section was included to cover initiatives being undertaken by the Commission. The following table (Table A) identifies respondent numbers by type for the 2009 survey.

RESPONDENT BY TYPE	SURVEYS DISTRIBUTED	RESPONSES
Small purchasers	22	9
Medium purchasers	16	14
Large purchasers	10	8
Sub-total purchasers	**48**	**31**
Generator/generator-retailers	13	11
Others	10	8
Total	**71**	**49**

TABLE A

Respondents were advised that their individual responses would be kept confidential to UMR and that only aggregated data would be reported. The survey is attached in Appendix 1 of the full report. The response rate among the 71 respondents that received surveys was 69% compared to 60% in 2007 and 76% in the 2005 survey. Almost all respondents (n=46) confirmed that they had provided their responses to UMR in confidence. Almost half (n=21) of all respondents also said they regarded the information they had provided as commercially prejudicial information.

The research also involved 30 in-depth interviews which were designed to better understand the reasons behind the responses given to some key questions in the survey. While almost all interviews were conducted face-to-face, two were conducted by telephone in the interests of saving costs due to their relative geographic isolation from other respondents. Requests for interviews were made to all generators and generator-retailers, all large purchasers and a selection of medium purchasers, small purchasers and a selection from the mixed category of distributors and traders. Similar assurances with respect to confidentiality were given to those who participated in the depth interviews. Some distribution companies gave their permission to have their responses to questions about their views on retailing and the removal of restrictions on their ownership of generation reported to the Commission. However, one of the four distribution companies did not wish its views to be identified. The report therefore has anonymised all these responses to protect confidentiality.

In order to preserve the confidentiality of all generators, we have aggregated the data for generators and generator-retailers and described this group throughout the report as gentailers.

This report comprises an executive summary which captures the main findings arising from both the survey and the depth interviews. This is followed by tables showing the responses to the survey questions and then the report on the depth interviews which includes extensive verbatim quotes.

NB. Fieldwork, analysis and reporting were completed prior to the announcements made by the Minister of Energy on 9 December 2009 to reform the electricity sector.

2. Executive summary

2.1 Overview

2.1.1 Competition needs improving

- As was the case when research was conducted in 2007/08, views on whether a competitive market for hedges exists continued to be somewhat polarised between the supply and demand sides.

- Almost all gentailers and a few purchasers said a competitive hedge market did exist while most purchasers[1] and others (non-purchasers and non-sellers of hedges) argued that either it was not competitive or if it was, then there was very limited competition. Gentailers[2]conceded more needed to be done to increase competition.

- Several of the key factors identified as limiting competition were inter-related. These were:

  - scarcity of offers
  - too few competing suppliers
  - lack of liquidity
  - vertical integration of gentailers
  - transmission constraints
  - nodal pricing complexity
  - hydrology and lack of storage in the South Island
  - the physical disposition of generation assets between gentailers
  - the limitations of energyhedge
  - absence of true market characteristics/barriers to entry
  - role of Huntly
  - pricing.

2.1.2 Ways to improve competition

- The suggested solutions to improve competition fell into four categories and were not mutually exclusive.

  1. **Financial instruments**:

  - introduce financial transmission rights and locational rental allocations
  - reduce the number of nodes for pricing basis risk
  - develop more sophisticated risk management products.

[1] Unless otherwise specified 'purchasers' refer to those who purchase hedges, but are not 'gentailers'.
[2] The term 'gentailer' is applied to all generators and all retailers and those who generate and retail. This is to protect the confidentiality of the very small number of gentailers (n=3) who only generate or do not sell hedges.

2. **Market changes and regulation**:

- open up the market trading platform to more entrants
- mandate that gentailers offer specified volumes of hedges.

3. **Structural changes**:

- split generation from retail
- asset swaps between State-owned generators.

4. **Asset investment**:

- improve the capacity of the DC link
- build more peaking plant
- build hydro pump storage in the South Island.

2.1.3 Critical issues for the industry

- The critical issues for the wider electricity industry obtained from the depth interviews were:

  - lack of competitiveness in the wholesale market
  - liquidity
  - transparency of hedges
  - development of hedge products and a trading platform
  - limited purchaser understanding of the market.

Several of the solutions to improve competitiveness in the hedge market outlined earlier were applicable to the industry issues.

2.2 Market competition

2.2.1 Supply and demand sides remain polarised

- Of 11 gentailers, eight (73%) believed a competitive market for hedges existed. Of 31 hedge purchasers, who were not gentailers, 19 (61%) believed a competitive market for hedges did not exist. In 2007, 77% of gentailers believed the market was competitive while 60% of purchasers believed it was not competitive.

2.2.2 Little change in past 12 months

- The consensus was that the competitiveness of hedge contracts has remained much the same over the past 12 months. Although seven respondents said competitiveness had improved (six of these were purchasers), eight said it had got worse (six of these were purchasers) and 21 said it was about the same as 12 months ago.

2.2.3 Majority say the contract process is fair

- Most purchasers (n=17 or 55%) and almost all gentailers (n=10 or 91%) said the process for establishing bilateral electricity contracts was fair. This was much in line with results in 2007.

- The rationale for fairness rested principally on there being 'a willing buyer and a willing seller'. However, the in-depth interviews showed that market knowledge and the ability to manage risk were heavily weighted in favour of gentailers selling hedges.

2.2.4 Vertical integration and low liquidity

- Vertical integration was identified as one of the main factors constraining competition. As retail provides a natural hedge for much of a gentailer's generation, it was argued that there was limited volume available for the hedge market.

- Although some argued for splitting generation from retail to increase liquidity, the counter argument to this was that it would only see premiums injected into generators' hedge prices as their risk increased without access to a natural retail hedge. As it is, some purchasers reported they were going unhedged because over the long term, based on the premium hedges attracted, it was deemed cheaper to do so despite the exposure to price spikes.

- Even so purchasers argued for the need to have more competition in the market. There were suggestions that more retailers would be helpful, though the enthusiasm to achieve this through an increased role for distribution companies was somewhat muted in the current regulatory environment. (see also 2.2.7 and 2.2.8 and the role of distribution companies).

- A second issue that impacted on integration was the displacement of assets across competing gentailers. As a result of basis risk (see 2.2.5) some large gentailers limited most of their activity to either the North or the South Island or tended to avoid pricing competitively in some regions off the 220 kV grid. One suggestion to address this issue was to impose an asset swap between Genesis and Meridian to create more competition in both islands.

2.2.5 Basis risk critical

- Basis risk was another major factor constraining competition. It was a critical issue for most large industrial purchasers and gentailers by limiting the number of competitive offers available to them at their preferred grid exit point. Of eight large purchasers, six said they had had difficulties getting hedges at some locations and this was the case for five of eight gentailers.

- It is also an issue for about half medium purchasers with five of 11 saying they had had difficulties getting hedges.

- Almost all gentailers (n=7) and most large purchasers (n=5) said locational price risk was a significant problem.

Also, four of eight gentailers who sell hedges said they only sold at nodes for which locational price risk was not an issue for them and four priced in a premium at nodes they would prefer not to sell at.

- There is strong support across gentailers and purchasers to see investment in the grid to remove constraints, particularly in the HVDC link, as well as the introduction of instruments like financial transmission rights. By providing rental allocations to transmission, it was argued, it would facilitate competition in areas where few were willing to provide offers.

- Criticism of what was perceived as an overly complex nodal pricing system also arose in the in-depth interviews as they had in the 2007 survey. Critics advocate an average pricing system across regions.

2.2.6 Trading platforms - energyhedge and Australian Stock Exchange (ASX)

- One of the platforms for trading hedges, energyhedge, came in for criticism, some of which arose in the last survey too, namely:

    - low liquidity
    - barriers to entry for small purchasers and traders with respect to credit arrangements and minimum volumes
    - dominated by gentailers or retailers linked to them.

- ANZ's departure as a trader reflected poorly on energyhedge. Its arrival two years ago was regarded at the time as a positive development.

- The ability to obtain hedges out to four years was seen as a positive development and those who were members regarded it as an active market. Gentailers spoke about the introduction of new products in the near future that would improve entry to energyhedge.

- It was too early for most to have any views on the futures market operated by the ASX. However, there was a strong preference to see the initiative picked up by the New Zealand Stock Exchange.

- There was support for an open, easily accessible and flexible trading platform that provided instruments to manage basis risk like financial transmission rights. Most purchasers (n=13) and gentailers (n=7) believed that having a standard hedge product available to all counterparties through a centralised trading platform would add liquidity and transparency to the hedge market and the same numbers were interested in using such a platform.

2.2.7 Distributors and retail

- Distribution companies are not considering retailing as an option because of the perceived financial and political risks involved. These could be allayed somewhat if they had generation to offset risk or long-term hedge arrangements.

- There is a view among distributors though that they are best placed to manage retail relationships.

- The only sign that gentailers had restricted their retail activity came from two gentailers due to basis risk and a perceived absence of a level-playing-field in the hedge market which would be the source of additional supply for new retail customers.

2.2.8 Distributors and generation

- Distributors strongly disagree with having limitations on the size of generation they can own and see benefits resulting from increase supply-side competition and less demand on the transmission grid. Even so, there was little appetite for ownership of large-scale generation. Regulation of the network business would be needed if they owned generation.

2.2.9 Information and disclosure

- While most gentailers (n=8) say there is sufficient information available to develop a reasonable view of the market price of hedge contracts, less than half of purchasers (n=11) were of this view with 13 saying there was not enough information available.

- There was relatively weak support for the view that the disclosure of hedge transaction information would improve the availability of hedges. Most gentailers (n=6) did not think it would while purchasers were more divided with about half (n=10) purchasers saying it would, nine saying it would not and with 12 unsure.

- However, there was more support for the view that disclosure of hedge transaction information would provide useful information to establish forward prices. Almost all gentailers (n=9) and a firm majority of purchasers (n=24) were of this view compared to one gentailer and four purchasers who were not.

- Most purchasers and gentailers said that the publication of the main contract elements - price, type of contract, volume, duration, location and profile - would assist in price transparency.

- Offers and indication and the energyhedge forward curve were rated as the most useful sources for forecasting prices with the latter being rated somewhat more highly by gentailers than purchasers.

- Other information that is considered useful for estimating future prices were the Ministry of Economic Development's (MED) forecasts, long-term weather forecasts, hydrological information and the yet unrealised potential of the ASX's futures and options exchange. There was also an expression of interest in having more understanding about how the equations that determined scheduling, pricing and dispatch in relation to transmission constraints were calculated.

- The lack of information in two areas was causing uncertainty for the market. These were the future governance of the industry and the cost of carbon both of which were pending decisions by the Government when interviews were undertaken.

2.2.10 Duration

- The ability to obtain hedges for the duration required is a problem for a significant minority of gentailers and purchasers.

- In the survey, three gentailers as purchasers of hedges had had difficulty getting prices for the term of contract they wanted and five had not. Similarly, eight purchasers had had difficulty and 18 reported that they had not had difficulty.

- Only one gentailer had a policy to only offer hedges for certain durations. In the last survey, none had that policy.

2.3 Process used for negotiating contracts

- Tenders are the most used process for negotiating hedge contracts, particularly among purchasers. Exchange trader derivatives are used only by four gentailers.

2.4 FM and suspension clauses

- There appears to have been an improvement in the market with fewer onerous FM/suspension clauses being offered. Where FM/suspension clauses are present, there is a preparedness to price contracts with the clauses inserted and with them taken out.

- Of 28 purchasers only three said they considered that more than 10% of the electricity hedges they had purchased contained FM or suspension clauses that they considered to be unreasonable.

- The types of FM clauses that were considered unreasonable were any that included market factors or those within the control of the seller. It was suggested that an alternative to including suspension clauses for plant failures was for gentailers to purchase business interruption insurance.

- Three of eight gentailers as sellers of hedges said that over 90% of their contracts contained genuine force majeure ('Acts of God') clauses not including suspension clauses. However, as purchasers six of the eight said less than 10% of their contracts contained suspension clauses.

- About one quarter of purchasers (7 of 28) said that less than 10% of their hedges contained FM and or suspension clauses, nine though said that 90% or more of their contracts had such clauses and eight were unsure or did not know.

2.5 Credit arrangements

- Credit checks were standard practise before entering into hedge contracts except with other large gentailers. Although a mandatory hurdle to climb, credit support was available to manage the issue. The global financial crisis has brought a sharper focus on credit checks.

- Gentailers were divided on their preparedness to accept hedges being lodged as prudential security and those that would said they would price them accordingly to reflect the risk transfer.

- Only five purchasers, including three of eight large purchasers had encountered problems entering into hedge contracts due to credit arrangements. Among gentailers as sellers of hedges, six of eight had encountered such problems.

2.6 Risk management

- Nine of 10 gentailers said they had a risk management policy that guided their price risk as did five of the eight large purchasers. Four of 10 medium purchasers had a policy as did two of seven small purchasers. For most small and medium purchasers electricity is less than 10% of their input costs.

- Gentailers' risk parameters seemed to be set on the basis of financial risk, not on volume of power. In the wake of the global financial crisis, tighter monitoring of processes have been put in place.

- Large purchasers tended to operate with somewhat more flexibility with the ability to vary how much they hedged depending on market conditions.

- Gentailers and large purchasers allocate risk management to a specialist within their organisations. Six gentailers allocate the role to a risk/portfolio manager and one to a specialist energy manager function. Four of the large purchasers allocate the role to a specialist energy manager function. However, medium and small purchasers allocate the role to either a general procurement or operational line manager.

- Almost all gentailers (n=10) and half of large purchasers (n=4) do not use other parties for their energy trading. Of those that do use other parties, five use generator-retailers and seven use independent parties.

- Almost half of purchasers (n=10) either said they did not have sufficient knowledge of the market or the skills or were unsure whether they had sufficient knowledge of the market or the skills to make effective electricity risk management decisions. In contrast, only two of 10 gentailers said this. This asymmetry of skills parallels the perception that information and knowledge of the market is weighted very much toward the supply-side (section 2.2.9).

- Most small purchasers (five of seven) used a planning window of less than two years when assessing their contract position in contrast to most medium and large purchasers and gentailers which used a window of over two years and in some instances between five to 10 years.

- All gentailers (n=10) said they used staggered maturities to manage their contracts whereas most purchasers (15 of 25) said their contract fell due at the same time.

2.7 Training

- Gentailers and most large purchasers either believed they had acquired the knowledge they needed to manage risk or sent staff who do not have that knowledge on courses.

- Medium and small purchasers had limited knowledge and were generally keen for training, but not all knew where to go to obtain it.

- There was only limited support for the Electricity Commission to provide training.

2.8 Response to high spot prices

- Most purchasers' stock response to high spot prices is to reduce consumption though the ability to do that and the time that can be done for is highly dependent upon type of industry, inventory levels and flexibility in production processes.

- The price threshold at which consumption will be cut also seems to vary, but is largely within the range of $100-$300 per MW/hr. Very few purchasers are willing to cut back on consumption and do so under duress.

- Some support was expressed in the in-depth interviews for the introduction of 'dispatchable demand' by which purchasers would be dispatched by the system operator and paid for cutting consumption.

- There were a small number of purchasers in the in-depth interviews who said they would not cut consumption because it was too costly to do so in terms of the impact on their product and services. Gentailers for the main part responded by maintaining, or if possible increasing power production, if they are able to do so, and some have arrangements with distribution companies to control retail load.

- Gentailers principally increase hedge cover during periods of high spot prices while 10 of 28 purchasers maintain consumption and 13 reduce it. Most purchasers (21 of 28) had been approached to reduce load during a crisis including six of seven large purchasers.

2.9 Hedge seller performance

- Hedge sellers that were rated the best by 12 or more purchasers were:

  1. Mighty River Power
  2 Trustpower
  3. Meridian Energy
  4. Contact Energy
  5. Genesis.

- Gentailers rated the best sellers of hedges in the following order:

  1. Meridian Energy
  2. Mighty River Power
  3. Contact Energy
  4. Trustpower
  5. Genesis.

2.10 Initiatives to improve liquidity

- Small and medium purchasers have much lower awareness of initiatives to improve hedge market liquidity while almost all large purchasers and gentailers were aware of most initiatives.

- The publication of contract details followed by the development of energyhedge and then publication of outage and fuel data were rated as the most useful initiatives in terms of how likely they were to contribute to hedge market liquidity.

3. Quantitative research

3.1 Respondent profile

RESPONDENT PROFILE	
Small purchasers	9
Medium purchasers	14
Large purchasers	8
Sub-total purchasers	**31**
Generator-Retailers	11
Others	7
Total	**49**

3.2 Competitive hedge market

Opinions on whether there was a competitive hedge market were reasonably polarised. A majority of gentailers (8) said it was competitive while a majority of purchasers (19) said it was not. Others who responded were more or less evenly divided on the question. These results are in line with those of the 2007 survey.

COMPETITIVE HEDGE MARKET

Many organisations enter into electricity hedge contracts ... in order to manage exposure to electricity spot prices. Do you believe a competitive electricity contracts market (hedge market) currently exists in New Zealand?

	Total Purchasers		Generators/Retailers		Other	
	2007	**2009**	**2007**	**2009**	**2007**	**2009**
Base (n=)	***25***	***31***	***9***	***11***	***9***	***7***
Yes	5	**9**	7	**8**	4	**2**
No	15	**19**	2	**3**	5	**3**
Unsure/Don't know	5	**3**	-	**-**	3	**2**

Opinions were divided on whether the competitiveness of the hedge market had improved over the past 12 months. Six purchasers thought it had become more competitive but only one gentailer thought the same. A plurality of purchasers (11) said competitiveness was about the same as it was 12 months ago, though nine were unsure. Other respondents were more or less evenly divided with one saying it was about the same, two saying it had got worse with four unsure.

IMPROVED COMPETITIVENESS *Do you believe the competitiveness of the electricity contracts market (hedge market) has improved over the past 12 months?*			
	Total Purchasers	**Generators/ Retailers**	**Other**
Base (n=)	***31***	***11***	***7***
Yes, the competitiveness has improved	6	1	-
The competitiveness is about the same as 12 months ago	11	9	1
No, the competitiveness has gotten worse	5	1	2
Unsure/ Don't know	9	-	4

3.3 Fairness of process

Polarisation was somewhat less marked over confidence in the fairness of establishing bilateral hedge contracts. Even so, seven of the 31 purchasers felt the process was unfair, a view that none of the gentailers shared. Indeed all but one gentailer felt the process was fair, a view shared by slightly more than half the purchasers (17). Others were evenly split between feeling the process was fair (3) and being unsure (3), with one saying that it was not fair. These results are in line with the 2007 survey.

CONFIDENCE IN CONTRACT PROCESS *Do you feel confident that the processes for establishing bilateral electricity contract prices are fair?*						
	Total Purchasers		**Generators/Retailers**		**Other**	
	2007	**2009**	**2007**	**2009**	**2007**	**2009**
Base (n=)	***25***	***31***	***9***	***11***	***9***	***7***
Yes	12	**17**	8	**10**	5	**3**
No	9	**7**	-	**-**	2	**1**
Unsure/Don't know	4	**7**	1	**1**	2	**3**

3.4 Short and medium term hedge prices

Gentailer estimations of future contract prices for the year to March 2011 and the subsequent two years were generally lower than the estimations of purchasers. For instance, nine of the 31 purchasers saw the prices to the end of March 2011 at over $80/MWh compared with only two of the 11 gentailers. There was somewhat closer alignment of expectations for the year ending March 2013 with 18 purchasers estimating prices would be above $80 MW/h and nine gentailers of the same view. Other respondents' estimations also tracked above the estimations of gentailers with five of the seven others estimating prices would exceed $80MW/h in 2013.

FUTURE PRICE PATH

What is your current estimation of the energy component of electricity contract prices for the next 3 years given current market conditions?

Price $/MH	Total Purchasers to March 11	Generator-Retailers to March 11	Other to March 11	Total Purchasers to March 12	Generator-Retailers to March 12	Other to March 12	Total Purchasers to March 13	Generator-Retailers to March 13	Other to March 13
Base (n=)	***31***	***11***	***7***	***31***	***11***	***7***	***31***	***11***	***7***
Over $90 /MWh	3	-	-	6	2	1	10	6	3
$80 - $90 /MWh	6	2	2	10	5	3	8	3	2
$70 - $80 /MWh	9	8	2	6	3	1	3	1	-
$60 - $70 /MWh	4	-	1	-	-	-	1	-	-
$50 - $60 /MWh	-	-	-	-	-	-	-	-	-
Less than $50 /MWh	1	-	-	1	-	-	1	-	-
Unsure/ Don't know	8	1	2	8	1	2	8	1	2

UMR research

3.5 Process for establishing hedges

Tendering was the most used process for negotiating electricity contracts for purchasers either in the form of issuing them (25) or responding to them (8). Eleven purchasers renew contracts with counterparties and 10 contract counterparties directly. Most gentailers used all processes.

PROCESS USED FOR NEGOTIATING ELECTRICITY CONTRACTS

What processes do you use for negotiating electricity contracts?

	Total Purchasers	Generators/ Retailers	Other
Base (n=)	***31***	***11***	***7***
Tenders	25	4	2
Renew contracts with existing counterparties	11	7	1
Contract potential counterparties directly	10	8	1
Respond to tenders	8	5	-
Exchange Trader derivatives	-	4	1
Do not use/ not applicable	1	1	3
Other	1	-	-

Offers and indications and energyhedge.co.nz forward curve are regarded as being the most useful sources for forecasting electricity prices followed by independent forecasts and internal modelling which are regarded as more or less as useful as each other. Gentailers and large purchasers rate offers and indications more highly than energyhedge.co.nz. Other sources - Risk Management index, market commentary forums and market forums were not rated as useful.

FORECASTING SOURCES (NET USEFULNESS)

Please rate each of the methods listed below in terms of their usefulness in forecasting electricity prices

	(VERY USEFUL + FAIRLY USEFUL) - (NOT THAT USEFUL + NOT USEFUL AT ALL)						
	TOTAL NET USEFULNESS	**Total Purchasers (excluding generator-retailers)**	**Small Purchasers**	**Medium Purchasers**	**Large Purchasers**	**Generator-Retailers**	**Other**
Base (n=)	***49***	***31***	***9***	***14***	***8***	***11***	***7***
Offers/ indications	20	13	2	7	4	9	-2
energyhedge.co.nz forward curve	20	11	2	8	1	7	2
Independent forecasts	13	14	5	7	2	-1	-
Internal modelling	12	4	-1	3	2	8	-
Risk Management	-3	-4	-2	-1	-1	-1	2
Market commentary forums	-6	-2	-1	-1	-	-2	-2
Market forums	-15	-8	-2	1	-7	-4	-3

UMR research

While most gentailers (8) and large purchasers (5) said there was sufficient information available to develop a reasonable view of market prices for electricity contracts, small (4) and medium (6) purchasers were more likely to say there was not sufficient information available. Other respondents were also divided with two saying there was sufficient information, three saying there wasn't and two unsure.

Although results were similar to 2007 for large purchasers and gentailers proportionately, more small medium purchasers and others said that there was insufficient information available or were unsure in 2009.

SUFFICIENT INFORMATION TO DEVELOP VIEW OF MARKET PRICE

Would you say there is sufficient information available to develop a reasonable view of market price for electricity contracts?

	Total Purchasers (excluding generator-retailers)		Small Purchasers		Medium Purchasers		Large Purchasers		Generator-Retailers		Other	
	2007	2009	2007	2009	2007	2009	2007	2009	2007	2009	2007	2009
Base (n=)	25	31	10	9	8	14	7	8	9	11	9	7
Yes	11	11	5	2	3	4	3	5	7	8	4	2
No	11	13	4	4	3	6	4	3	2	3	3	3
Unsure/Don't know	3	7	1	3	2	4	-	-	-	-	2	2

Small and medium purchasers were more likely to believe they were offered competitive prices for hedges. Six of the eight gentailers who answered said they believed they were offered competitive prices and one was unsure. Large purchasers were split with three saying yes and three saying no.

COMPETITIVE PRICES OFFERED *Do you believe you are offered competitive prices for your hedges or electricity purchases?*					
	Total Purchasers (excluding generator-retailers)	**Small Purchasers**	**Medium Purchasers**	**Large Purchasers**	**Generator-Retailers as Purchasers**
Base (n=)	**28**	**8**	**12**	**8**	**8**
Yes	14	5	6	3	6
No	9	2	4	3	1
Unsure/Don't know	5	1	2	2	1

3.6 Disclosure

Most respondents thought that the key elements of a contract - price, type of contract, volume, duration, location and profile should be published to assist price transparency. Less than half (22) thought FM clauses should be published too. Ten thought that other terms should be published, however, very few (3) thought counterparty names should be published.

INFORMATION TO ASSIST PRICE TRANSPARENCY

Which of the following information relating to hedge transactions do you think should be published to assist in price transparency?

	TOTAL	Total Purchasers (excluding generator-retailers)	Small Purchasers	Medium Purchasers	Large Purchasers	Generator-Retailers	Other
Base (n=)	***49***	***31***	***9***	***14***	***8***	***11***	***7***
Price	**42**	26	5	14	7	10	6
Type of contract	**40**	26	6	14	6	8	6
Volume	**40**	26	7	13	6	9	5
Duration	**38**	24	5	13	6	8	6
Location	**34**	22	5	12	5	8	4
Profile	**26**	15	3	9	3	7	4
FM clauses	**22**	14	3	6	5	6	2
Other terms	**10**	3	-	2	1	5	2
Counterparty names	**3**	2	1	1	-	1	-
Other	**5**	-	-	-	-	3	2
None	**1**	1	-	-	1	-	-
Unsure/Don't know	**5**	3	2	1	-	1	1

Most gentailers (6), large purchasers (3) and small purchasers (4) did not think that disclosure of hedge transaction information would improve the availability of hedges. Only three of the gentailers, two of the large purchasers and two of the small purchasers thought disclosure would improve availability. Six of the 14 medium purchasers thought it would increase their availability, although six were unsure or did not know.

HEDGE AVAILABILITY

Do you think that disclosure of hedge transaction information improves the availability of hedges?

	Total Purchasers (excluding generator-retailers)	Small Purchasers	Medium Purchasers	Large Purchasers	Generator-Retailers	Other
Base (n=)	***31***	***9***	***14***	***8***	***10***	***7***
Yes	10	2	6	2	3	1
No	9	4	2	3	6	2
Unsure/Don't know	12	3	6	3	1	4

However, a strong majority of all respondents (38) considered that disclosure of hedge information would provide useful information to establish forward prices. Only five respondents did not think it would provide useful information, including two large purchasers.

FORWARD PRICES

Do you consider the disclosure of hedge transaction information provides useful information to establish forward prices?

	Total Purchasers (excluding generator-retailers)	Small Purchasers	Medium Purchasers	Large Purchasers	Generator-Retailers	Other
Base (n=)	***31***	***9***	***14***	***8***	***10***	***7***
Yes	24	7	11	6	9	5
No	4	1	1	2	1	-
Unsure/Don't know	3	1	2	-	-	2

3.7 Risk management

While most gentailers (9) have a risk management strategy and most (5) of the eight large purchasers do, most medium purchasers (6) and small purchasers (5) did not have one.

RISK MANAGEMENT POLICY *Do you have a risk management policy that guides your electricity price risk management?*					
	Total Purchasers (excluding generator-retailers)	**Small Purchasers**	**Medium Purchasers**	**Large Purchasers**	**Generator-Retailers**
Base (n=)	***25***	***7***	***10***	***8***	***10***
Yes	11	2	4	5	9
No	14	5	6	3	1
Unsure/Don't know	-	-	-	-	-

More than half of the purchasers assign electricity price risk management to either a procurement manager (7) or an operational line manager (7). In contrast, most gentailers (6) assign the responsibility to a risk management function. Four of eight large purchasers assigned responsibility to a specialist energy manager.

RISK MANAGEMENT INFRASTRUCTURE *Risk management infrastructure - In what part of your organisation is the primary operational responsibility for electricity price risk management?*					
	Total Purchasers (excluding generator-retailers)	**Small Purchasers**	**Medium Purchasers**	**Large Purchasers**	**Generator-Retailers**
Base (n=)	***26***	***8***	***10***	***8***	***10***
Procurement manager function	7	4	2	1	-
Operational line manager function	7	3	2	2	1
Specialist energy manager function	5	-	1	4	1
Finance/ Treasury function	3	1	2	-	1
Risk/ Portfolio manager function	1	-	1	-	6

3.8 Use of other parties for trading

Only one of the 11 gentailers uses other parties as agents for energy trading while almost half (12) of the purchasers use them.

USE OF OTHER PARTIES FOR TRADING

Do you use other parties as agents for your energy trading?

	Total Purchasers (excluding generator-retailers)	Small Purchasers	Medium Purchasers	Large Purchasers	Generator-Retailers
Base (n=)	***26***	***8***	***10***	***8***	***11***
Yes	12	5	3	4	1
No	14	3	7	4	10

Of those purchasers who did use other parties as agents for trading, most (7) used an independent party and five used a gentailer.

PARTY USED FOR TRADING

If you have answered yes above, please complete this next question. Is the party a generator/ retailer or an independent party?

	Total Purchasers (excluding generator-retailers)	Small Purchasers	Medium Purchasers	Large Purchasers	Generator-Retailers
Base (n=)	***12***	***5***	***3***	***4***	***3***
Independent party	7	5	1	1	-
Generator/ Retailer	5	-	2	3	2

3.9 Declared knowledge and skills

Ten of the purchasers either said they did not have sufficient knowledge of the market and skills or were unsure whether they had sufficient knowledge or skills to make effective electricity risk management decisions. Two of the gentailers said they had insufficient knowledge or skills.

SKILLS FOR EFFECTIVE RISK MANAGEMENT

Do you consider you have sufficient knowledge of the market and its issues, and sufficient skills within your organisation, to make effective electricity risk management decisions?

	Total Purchasers (excluding generator-retailers)	Small Purchasers	Medium Purchasers	Large Purchasers	Generator-Retailers
Base (n=)	***25***	***7***	***10***	***8***	***10***
Yes	15	5	4	6	8
No	9	2	5	2	2
Unsure/Don't know	1	-	1	-	-

3.10 Contract planning

Small purchasers tended to use a shorter planning window for assessing their contract positions with most (5) using a planning window of less than two years. By comparison most large purchasers (5) and gentailers (7) used a window two plus years out.

TIME PERIOD FOR ASSESSING CONTRACT POSITION *How far ahead is your usual planning window for assessing your contract position?*					
	Total Purchasers (excluding generator-retailers)	**Small Purchasers**	**Medium Purchasers**	**Large Purchasers**	**Generator-Retailers**
Base (n=)	***25***	***7***	***10***	***8***	***10***
Less than 6 months	1	-	-	1	1
Between 6 months and 1 year	8	4	2	2	1
Over 1 year up to 2 years	2	1	1	-	1
Over 2 years up to 3 years	8	1	5	2	4
Over 3 years up to 5 years	3	1	1	1	2
Over 5 years up to 10 years	1	-	-	1	1
Over 10 years	1	-	-	1	-
Unsure/ Don't know	1	-	1	-	-

The most common practise was to seek to contract either between 3-6 months or 6-12 months of expiry.

TIME PERIOD SEEK TO CONTRACT OR RE-CONTRACT *How far in advance of contract expiry do you normally seek to contract (or re-contract)?*					
	Total Purchasers (excluding generator-retailers)	**Small Purchasers**	**Medium Purchasers**	**Large Purchasers**	**Generator-Retailers**
Base (n=)	***25***	***7***	***10***	***8***	***10***
More than 1 year in advance of existing maturity date	3	-	1	2	2
More than 6 months in advance of existing maturity date	9	5	2	2	2
More than 3 months in advance of exiting maturity date	10	1	6	3	4
More than 1 month in advance of existing maturity date	2	1	-	1	2
Within 1 month in advance of existing maturity date	-	-	-	-	-
Upon maturity of existing hedge contract	-	-	-	-	-
Unsure/ Don’t know	1	-	1	-	-

Almost all respondents sought to contract either for two to three years (14) or between three and five years (10).

PROPOSED DURATION OF CONTRACT *For what duration do you normally seek to contract?*					
	Total Purchasers (excluding generator-retailers)	**Small Purchasers**	**Medium Purchasers**	**Large Purchasers**	**Generator-Retailers**
Base (n=)	***25***	***7***	***10***	***8***	***10***
Less than 6 months	-	-	-	-	1
Between 6 months and 1 year	2	1	-	1	-
Over 1 year up to 2 years	4	-	1	3	1
Over 2 years up to 3 years	11	3	7	1	3
Over 3 years up to 5 years	5	3	1	1	5
Over 5 years up to 10 years	-	-	-	-	-
Over 10 years	-	-	-	-	-
Unsure/ Don't know	3	-	1	2	-

All gentailers have adopted the practise of staggering the maturity of their contracts, but 15 of the 25 purchasers allow contracts to fall due at the same time.

OVERLAP OF CONTRACT PERIODS *The maturity of your electricity contracts could be best described as:*					
	Total Purchasers (excluding generator-retailers)	**Small Purchasers**	**Medium Purchasers**	**Large Purchasers**	**Generator-Retailers**
Base (n=)	***25***	***7***	***10***	***8***	***10***
Fall due at the same time	15	7	5	3	-
Staggered maturities	10	-	5	5	10
Unsure/Don't know	-	-	-	-	-

3.11 Standard contracts and a centralised trading platform

Most purchasers (13) believed a centralised trading platform would add liquidity to the market, but only half of the eight large purchasers believe this. Most gentailers (7) believed it would add liquidity.

BENEFIT OF CENTRALISED TRADING PLATFORM

Do you believe having a standard hedge product (e.g. base load hedge at Haywards) available to all potential counterparties through a centralised trading platform would add liquidity and transparency to the hedge market?

	Total Purchasers (excluding generator-retailers)	Small Purchasers	Medium Purchasers	Large Purchasers	Generator-Retailers
Base (n=)	***25***	***7***	***10***	***8***	***10***
Yes	13	4	5	4	7
No	5	2	-	3	2
Unsure/Don't know	7	1	5	1	1

Most purchasers (13) would be interested in a centralised trading platform. Among the 10 gentailers seven were interested, two were not and one was unsure.

INTEREST IN CENTRALISED TRADING PLATFORM

Would your company be interested in using a centralised trading platform to purchase standard hedge products?

	Total Purchasers (excluding generator-retailers)	Small Purchasers	Medium Purchasers	Large Purchasers	Generator-Retailers
Base (n=)	***25***	***7***	***10***	***8***	***10***
Yes	13	4	5	4	7
No	5	2	-	3	2
Unsure/Don't know	7	1	5	1	1

3.12 Contract elements

Price was rated as significantly more important than any other contract element by all types of respondent. Location was rated second most important by large and small purchasers, and gentailers as purchasers with mean ratings of 7.5 and 7.3 and 6.9 respectively. Gentailers as sellers, however, rated term higher than location. Indeed, as sellers they rate term and credit arrangements significantly more highly than purchasers.

IMPORTANCE OF CONTRACT ELEMENTS (MEAN RATING)

On a 0-10 scale, where 0 means Not important at all and 10 means Very important, please rate the importance of each of the following elements relating to electricity hedges…

	All purchasers (excluding generator-retailers)		Small Purchasers		Medium Purchasers		Large Purchasers		Generator-Retailers as sellers		Generator-Retailers as purchasers	
	n=	mean	*n=*	mean	*n=*	mean	*n=*	mean	*n=*	mean	*n=*	mean
Price	*28*	9.9	*8*	9.6	*12*	9.9	*8*	10.0	*8*	9.8	*8*	8.5
Location	*26*	6.9	*6*	7.3	*12*	6.3	*8*	7.5	*8*	8.0	*8*	6.9
Term	*28*	6.7	*8*	6.9	*12*	6.9	*8*	6.1	*8*	8.6	*8*	6.8
Force majeure/Suspension clauses	*26*	6.3	*8*	6.4	*10*	5.2	*8*	7.5	*8*	6.6	*8*	6.4
Profile	*26*	6.0	*7*	5.9	*11*	6.1	*8*	5.9	*8*	7.6	*8*	5.8
Relationship with counterparty	*28*	6.0	*8*	6.0	*12*	6.5	*8*	5.4	*8*	6.6	*8*	4.8
Credit arrangements	*28*	4.6	*8*	2.3	*12*	5.9	*8*	4.9	*8*	7.4	*8*	5.6
Other service provided by counterparty	*28*	4.2	*8*	4.3	*12*	4.7	*8*	3.5	*8*	3.9	*8*	2.8

*Note: Not all respondents provided a rating for all elements; the number to the left is the number of respondents who provided ratings

3.13 Market experience

Sellers - last six months

In all but five cases gentailers made an offer to a purchaser in response to a request. It was clear from the data that gentailers were not always successful. On average, gentailers' offers were accepted nine times for every 21 offers they made.

SELLERS - LAST SIX MONTHS *In the last 6 months how many times?*				
	Mean	**Maximum**	**Minimum**	**Total**
Were you asked to provide an offer to a purchaser?	21.4	50	-	150
Did you make an offer to a hedge purchaser in response to a request?	20.7	50	1	145
Were the offers accepted by the purchasers	9.4	21	-	66

Further interrogation of the data showed that the claimed response rate to requests and the success rate to offers made varied widely. Gentailers are designated by letters to protect confidentiality. There was quite a range of response and success rates.

Generator-Retailer (n=8)	Response rate (% of responses to requests for offers)	Success rate (% of acceptance to offers made)
A	-	67
B	50	-
C	100	15
D	74	50
E	100	33
F	100	40
G*	-	-
H	100	100

*Invalid response so not included.

Purchasers - last 24 months

Gentailers were far more active than other respondents in seeking to purchase hedges with eight gentailers on average seeking hedges 18.6 times in the past 24 months compared with 2.5 times for large purchasers, 1.5 for medium purchasers and 0.5 times for small purchasers.

PURCHASERS - LAST 24 MONTHS

In the last 24 months how many times did you seek to purchase hedges?

	Total Purchasers (excluding generator-retailers)	Small Purchasers	Medium Purchasers	Large Purchasers	Generator-Retailers
Base (n=)	***28***	***8***	***12***	***8***	***8***
Total	31	9	14	8	11
Mean*	1.5	0.5	1.5	2.5	18.6
Maximum	10	1	4	10	50
Minimum	-	-	-	-	1
No answer	3	1	2	-	3

Experience of most recent occasions seeking a bilateral hedge

65% (47 responses from 72 approaches) of all approaches for a hedge received a response, though this was highest for gentailers (78%) and lowest for large purchasers (19%). Of all responses, 66% had the terms sought (31 of 47), 55% had FM or suspension clauses (26 of 47), 34% had other clauses that were acceptable (16 of 47), 81% had responses at the grid exit points requested (38 of 47) and 70% accepted an offer (14 of 20). For all purchasers there was a very wide range of up to $36 in the prices offered.

MOST RECENT OCCASION								
	Approaches	**Responses**	**Had Terms sought**	**Had FM/ Susp' clauses**	**Had other clauses that were acceptable?**	**Had GXPs requested?**	**Percentage respondents who accept response %**	**Range of differences in prices ($/MW/hr)**
All Purchasers	72	47	31	26	16	38	70 (14 of 20)	$0 - $36
Small Purchasers	18	8	6	5	4	7	100 (4 of 4)	$0 - $26
Medium Purchasers	27	19	11	7	7	16	56 (5 of 9)	$0.16 - $17.50
Large Purchasers	107	20	14	14	5	15	71 (5 of 7)	$0.16 - $36
Generator-Retailers	27	21	17	8	15	31	63 (5 of 8)	$0 - $20

Large purchasers

Of 27 approaches, large purchasers received 20 responses representing a 74% response rate. Of those responses, 70% had the same conditions as those requested (14 of 20), 70% had acceptable FM or suspension clauses (14 of 20), 75% had other clauses that were acceptable (15 of 20) and 75% had prices at grid exit points requested (15 of 20).

LARGE PURCHASERS						
	How many parties did you approach for an offer?	**Of the parties approached, how many responded?**	**How many of the offers contained the same terms as the terms you requested?**	**How many of the offers included FM/suspension clauses that were acceptable?**	**How many of the offers included other clauses that were acceptable?**	**How many offers had prices specified at GXPs that you had requested prices for?**
	3 approached 3	8	6	5	6	8
	2 approached 4	6	5	4	6	5
	2 approached 5	6	3	5	3	2
Total	**27 approaches**	**20 responses**	**14 had same conditions as those requested**	**14 had acceptable FM/suspension clauses**	**15 had other clauses that were acceptable**	**15 had prices at GXPs requested**

Medium purchasers

Of 27 approaches, medium purchasers received 19 responses representing a 70% response rate. Of those responses, 58% had the same conditions as those requested (11 of 19), 37% had acceptable FM or suspension clauses (7 of 19), 53% had other clauses that were acceptable (10 of 19) and 84% had prices at grid exit points requested (16 of 19).

MEDIUM PURCHASERS						
	How many parties did you approach for an offer?	**Of the parties approached, how many responded?**	**How many of the offers contained the same terms as the terms you requested?**	**How many of the offers included FM/suspension clauses that were acceptable?**	**How many of the offers included other clauses that were acceptable?**	**How many offers had prices specified at GXPs that you had requested prices for?**
	3 approached 1	3	1	-	-	2
	1 approached 2	2	1	2	2	2
	1 approached 3	2	2	2	2	2
	1 approached 4	3	2	-	2	3
	3 approached 5	9	5	3	4	7
Total	**27 approaches**	**19 responses**	**11 had same conditions as those requested**	**7 had acceptable FM/suspension clauses**	**10 had other clauses that were acceptable**	**16 had prices at GXPs requested**

Small purchasers

Of 18 approaches, medium purchasers received eight responses representing a 44% response rate. Of those responses, 75% had the same conditions as those requested (6 of 8), 63% had acceptable FM or suspension clauses (5 of 8), 50% had other clauses that were acceptable (4 of 8) and 88% had prices at grid exit points requested (7 of 8).

SMALL PURCHASERS						
	How many parties did you approach for an offer?	**Of the parties approached, how many responded?**	**How many of the offers contained the same terms as the terms you requested?**	**How many of the offers included FM/suspension clauses that were acceptable?**	**How many of the offers included other clauses that were acceptable?**	**How many offers had prices specified at GXPs that you had requested prices for?**
	1 approached 2	1	-	-	1	-
	2 approached 5	4	4	4	2	4
	1 approached 6	3	2	1	1	3
Total	**18 approaches**	**8 responses**	**6 had same conditions as those requested**	**5 had acceptable FM/suspension clauses**	**4 had other clauses that were acceptable**	**7 had prices at GXPs requested**

3.14 Electricity as a proportion of input costs

Electricity costs were a more significant proportion of input costs for large purchasers. Half of the large purchasers and gentailers as purchasers said they comprised more than 25% of input costs with one large purchaser and two gentailers saying they comprised more than 50% of input costs. By contrast, electricity costs comprised less than 24.9% of input costs for all eight small and 12 medium users.

PURCHASE OF PHYSICAL ENERGY AS A PROPORTION OF INPUT COSTS

Approximately what proportion of the input costs of your business/ organisation is the purchase of physical electricity (excluding interest, depreciation and tax)?

	Total Purchasers (excluding generator-retailers)	Small Purchasers	Medium Purchasers	Large Purchasers	Generator-Retailers as Purchasers
Base (n=)	***28***	***8***	***12***	***8***	***8***
More than 50% of input costs	1	-	-	1	2
25% - 50% of input costs	3	-	-	3	2
10% - 24.9% of input costs	7	2	2	3	1
Less than 10% of input costs	15	6	8	1	-
Unsure/Don't know	2	-	2	-	3

All gentailers who purchase electricity did so on the spot market via the clearing manager, but only two large purchasers did that too. Most purchasers (19) purchased from a retailer.

PLACE OF ELECTRICITY PURCHASE

Where does your organisation purchase electricity?

	Total Purchasers (excluding generator-retailers)	Small Purchasers	Medium Purchasers	Large Purchasers	Generator-Retailers as Purchasers
Base (n=)	***28***	***8***	***12***	***8***	***8***
On the spot market via the clearing manager	3	-	1	2	8
On the spot market via an agent	5	-	2	3	-
From a retailer	19	8	9	2	-
Unsure/Don't know	-	-	-	-	-
Other	1	-	-	1	-

3.15 Types of hedge contracts

All eight gentailers purchase contracts for differences, four purchase options, three spot price and exchange traded products, and one fixed price variable volume.

PURCHASERS ONLY - CONTRACTS

What types of electricity contracts do you purchase?

	Total Purchasers (excluding generator-retailers)	Small Purchasers	Medium Purchasers	Large Purchasers	Generator-Retailers as Purchasers
Base (n=)	***28***	***8***	***12***	***8***	***8***
Contracts for differences (hedge contracts)	18	2	9	7	8
Fixed price variable volume (i.e. single price tariff)	15	4	7	4	1
Spot price	15	2	7	6	3
Volume based time-of-use	9	5	2	2	-
Options (e.g. caps, collars, swaptions)	1	-	-	1	4
Exchange traded products	-	-	-	-	3
Other	2	-	1	1	1

* As this was a multiple response question the number of responses do not correspond to the number of respondents in each category.

All eight gentailers sell contracts for differences, six sell for fixed price variable volume and spot based contracts, five sell options and four sell volume based time of use contracts.

SALE OF ELECTRICITY HEDGES *Which of the following types of electricity hedges do you sell?*	
	Generator-Retailers as Sellers
Base (n=)	***8***
Contracts for differences (hedge contracts)	8
Fixed price variable volume (i.e. single price tariff)	6
Spot based contracts	6
Options (e.g. caps, collars, swaptions)	5
Volume based time-of-use	4
Exchange traded products	3
None of the above	-
Other	1
* As this was a multiple response question the number of responses do not correspond to the number of respondents in each category.	

3.16 Responsiveness to offers

Most purchasers (24) including gentailers as purchasers said it took less than 14 days for suppliers to respond to their requests for contract prices and nine (all purchasers) said they took longer than 14 days.

SUPPLIERS RESPONSE TO HEDGE REQUESTS

How long does it typically take hedge suppliers to respond to your request for contract prices?

	Total Purchasers (excluding generator-retailers)	Small Purchasers	Medium Purchasers	Large Purchasers	Generator-Retailers as Purchasers
Base (n=)	***28***	***8***	***12***	***8***	***8***
More than 14 days	9	3	4	2	-
8 - 14 days	8	4	3	1	2
2 - 7 days	7	1	2	4	5
Less than 2 days	1	-	1	-	1
Unsure/ Don't know	3	-	2	1	-

Most gentailers (5) as purchasers say that they took less than seven days to respond to an offer whereas almost half of purchasers (13) took 15 days - 1 month.

PURCHASERS RESPONSE TO OFFER

How long does it typically take you to respond to an offer once provided?

	Total Purchasers (excluding generator-retailers)	Small Purchasers	Medium Purchasers	Large Purchasers	Generator-Retailers as Purchasers
Base (n=)	***28***	***8***	***12***	***8***	***8***
Over 1 month	3	1	2	-	-
15 days - 1 month	13	5	5	3	1
7 - 14 days	7	2	3	2	2
Less than 7 days	2	-	-	3	5
Unsure/ Don't know	2	-	2	-	-

Five gentailers as sellers said it typically took them between two to seven days to provide an offer once requested.

SUPPLIERS RESPONSE TO HEDGE REQUESTS *How long do you typically take to provide offers once requested?*	
	Generator-Retailers as Sellers
Base (n=)	***8***
More than 14 days	1
8 - 14 days	1
2 - 7 days	5
Less than 2 days	1
Unsure/ Don't know	-

Five of eight purchasers said it typically took less than seven days for parties to respond to their requests and three said it took longer than that.

PURCHASERS RESPONSE TO OFFER *How long does it typically take for parties to respond to an offer you have made?*	
	Generator-Retailers as Sellers
Base (n=)	***8***
Over 1 month	-
15 days - 1 month	1
7 - 14 days	2
Less than 7 days	5
Unsure/ Don't know	-

3.17 Force majeure and suspension clauses

Three of eight gentailers had more than 90% of their hedge contracts (in GWh) with FM clauses included. However, six of eight have less than 10% of their hedge contracts with suspension clauses though one had 50-74.9% and one had more than 90%.

FORCE MAJEURE AND SUSPENSION CLAUSES			
What proportion of your electricity hedge contracts contain Force Majeure - genuine Acts of God only, not including suspension clauses? (in % of GWh)	**Generators/ Retailers as Sellers**	*What proportion of your electricity hedges contracts contain suspension clauses? (in % of GWh)*	**Generators/ Retailers as Sellers**
Base (n=)	***8***	***Base (n=)***	***8***
90% and over	3	90% and over	1
75% - 89.9%	-	75% - 89.9%	-
50% - 74.9%	-	50% - 74.9%	1
25% - 49.9%	2	25% - 49.9%	-
10%-24.9%	-	10%-24.9%	-
Less than 10%	3	Less than 10%	6
Unsure/ Don't know	-	Unsure/ Don't know	-

A plurality of purchasers (9 of 28) said that over 90% of the hedges they had purchased had FM and or suspension clauses. Five of six gentailers had less than 10% of the hedges they had purchased with FM and or suspension clauses.

PROPORTION OF CONTRACTS WITH FM CLAUSES *What proportion of your electricity hedges purchased contain FM and/or suspension clauses? (in % of GWh)*					
	Total Purchasers (excluding generator-retailers)	**Small Purchasers**	**Medium Purchasers**	**Large Purchasers**	**Generator-Retailers as Purchasers**
Base (n=)	***28***	***8***	***12***	***8***	***8***
90% and over	9	5	3	1	-
75% - 89.9%	-	-	-	-	1
50% - 74.9%	1	1	-	-	2
25% - 49.9%	1	-	-	1	-
10%-24.9%	2	-	1	1	-
Less than 10%	7	1	2	4	5
Unsure/ Don't know	8	1	6	1	-

Less than half purchasers (12 of 28) said that less than 10% of their hedges contained FM and or suspension clauses that were unreasonable. However, one large and one small purchaser said that over 90% of their contracts had such clauses which they thought are unreasonable.

PROPORTION OF CONTRACTS CONSIDERED UNREASONABLE *What proportion of your electricity hedges purchased contain FM and/or suspension clauses that you consider are unreasonable? (in % of GWh)*					
	Total Purchasers (excluding generator-retailers)	**Small Purchasers**	**Medium Purchasers**	**Large Purchasers**	**Generator-Retailers as Purchasers**
Base (n=)	***28***	***8***	***12***	***8***	***8***
90% and over	2	1	-	1	1
75% - 89.9%	-	-	-	-	-
50% - 74.9%	1	1	-	-	-
25% - 49.9%	-	-	-	-	1
10%-24.9%	-	-	-	-	-
Less than 10%	12	3	4	5	5
Unsure/ Don't know	13	3	8	2	1

3.18 Locational (basis risk)

Most respondents had had difficulty getting hedges at some locations. Twelve of 28 purchasers said they had had difficulty, including six of the eight large purchasers. In addition, five of the eight gentailers had had difficulty too.

PRICING AT DIFFERENTIAL LOCATIONS *Have you had difficulties getting prices for hedges at some locations?*					
	Total Purchasers (excluding generator-retailers)	**Small Purchasers**	**Medium Purchasers**	**Large Purchasers**	**Generator-Retailers as Purchasers**
Base (n=)	***28***	***8***	***12***	***8***	***8***
Yes	12	1	5	6	5
No	13	5	6	2	3
Unsure/Don't know	3	2	1	-	-

Locational price risk is perceived as a significant problem for most large purchasers (5 of 8), most gentailers as purchasers (7 of 8) and all gentailers as sellers (8 of 8).

LOCATIONAL RISK *Do you perceive locational price risk as a significant problem?*						
	Total Purchasers (excluding generator-retailers)	**Small Purchasers**	**Medium Purchasers**	**Large Purchasers**	**Generator-Retailers as Purchasers**	**Generator-Retailers as Sellers**
Base (n=)	***28***	***8***	***12***	***8***	***8***	***8***
Yes	8	-	3	5	7	8
No	12	5	4	3	-	-
Unsure/ Don't know	8	3	5	-	1	-

Five of the eight gentailers and three of the eight large purchasers had found that a lack of offers meant they had had to purchase at locations other than their preferred locations.

PURCHASING AT LOCATIONS OTHER THAN PREFERRED *Have there been situations where a lack of offers has meant that you had to purchase hedges at locations other than your preferred locations?*					
	Total Purchasers (excluding generator-retailers)	**Small Purchasers**	**Medium Purchasers**	**Large Purchasers**	**Generator-Retailers as Purchasers**
Base (n=)	***28***	***8***	***12***	***8***	***8***
Yes	6	1	2	3	5
No	20	6	9	5	3
Unsure/Don't know	2	1	1	-	-

Of eight gentailers as sellers of hedges, five purchase cross-hedges from generators, four said they only sold at nodes for which locational price risk was not an issue for them and four price in a premium at nodes they would rather not sell at.

MANAGEMENT OF LOCATIONAL PRICE RISK *How do you manage locational price risk problems?*	
	Generator-Retailers as Sellers
Base (n=)	***8***
Purchase cross-hedges from generators with generation at locations where locational price risk could be an issue	5
Only sell at nodes for which locational price risk is not an issue for you	4
Price in a premium at nodes that you would rather not sell at	4
Other	1

3.19 Duration

Only one of eight gentailers had had difficulties getting prices for hedges for the term they wanted, and eight of 28 the purchasers had had difficulty.

DURATION *Have you had difficulties getting prices for hedges for the term (length of contract) you want?*					
	Total Purchasers (excluding generator-retailers)	**Small Purchasers**	**Medium Purchasers**	**Large Purchasers**	**Generator-Retailers as Purchasers**
Base (n=)	***28***	***8***	***12***	***8***	***8***
Yes	8	3	2	3	1
No	18	4	9	5	7
Unsure/Don't know	2	1	1	-	-

Two of eight gentailers had policies not to provide prices at some locations.

SELLERS - LOCATIONAL PRICING POLICY *Do you have a policy not to provide prices for hedges at some locations?*	
	Generator-Retailers as Sellers
Base (n=)	***8***
Yes	2
No	6
Unsure/Don't know	-

One of the gentailers said they had a policy to only provide hedges for certain durations.

SELLERS - DURATIONAL POLICY *Do you have a policy to only provide prices for hedges for certain durations (length of contract)?*	
	Generator-Retailers as Sellers
Base (n=)	***8***
Yes	1
No	7
Unsure/Don't know	-

3.20 Credit arrangements

Six of eight gentailers as sellers, three of eight large purchasers and two medium purchasers had encountered problems entering into a hedge contract because the counterparty was unhappy with their credit arrangements. Two gentailers as purchasers had encountered problems too.

CREDIT ARRANGEMENTS

[Asked of Purchasers] *Have you ever encountered problems entering into a hedge contract because the counterparty has been unhappy with your credit arrangements?*

[Asked of sellers] *Have you ever encountered problems entering into a hedge contract because of concerns regarding credit arrangements?*

	Total Purchasers (excluding generator-retailers)	**Small Purchasers**	**Medium Purchasers**	**Large Purchasers**	**Generator-Retailers as Purchasers**	**Generator-Retailers as Sellers**
Base (n=)	***28***	***8***	***12***	***8***	***8***	***8***
Yes	5	-	2	3	2	6
No	21	7	9	5	6	2
Unsure/ Don't know	2	1	1	-	-	-

3.21 Load management

Most (21 of 28) purchasers had been approached to reduce load during a crisis including six of eight large purchasers.

APPROACHED TO REDUCE LOAD

Have you ever been approached to enter into an arrangement regarding reducing load during a time of crisis?

	Total Purchasers (excluding generator-retailers)	Small Purchasers	Medium Purchasers	Large Purchasers	Generator-Retailers as Purchasers
Base (n=)	***28***	***8***	***12***	***8***	***8***
Yes	21	6	9	6	2
No	6	2	2	2	6
Unsure/Don't know	1	-	1	-	-

Gentailers principally increased hedge cover during periods of high spot prices. In contrast, 13 of the 28 purchasers reduced consumption and 10 maintain it. Large purchasers were more likely to also use a political response with four of the eight saying they employ this response.

RESPONSE TO HIGH SPOT PRICES

Which of the following are your responses to periods of high spot prices?

	Total Purchasers (excluding generator-retailers)	Small Purchasers	Medium Purchasers	Large Purchasers	Generator-Retailers as Purchasers
Base (n=)	***28***	***8***	***12***	***8***	***8***
Reduce consumption	13	2	4	7	2
Maintain consumption	10	2	7	1	1
Political response (lobby Government/ media)	6	-	2	4	2
Increase hedge cover	4	1	1	2	4
Unsure/ Don't know	1	1	-	-	-
Other	5	1	3	1	3

3.22 Hedge seller performance

Purchasers rated gentailers on their hedge seller performance on a 1-5 scale where 1 meant 'very good' and 5 'very poor'. Thus, the lower the average rating the better for the hedge sellers.

Of the five gentailers that were rated by 12 or more purchasers, the best performing in descending order were Mighty River Power (1.8), Trustpower (2.4), Meridian (2,7), Contact (2,8) and Genesis (3.2%).

When gentailers rated each other Meridian (2.3) rated the best, then Mighty River Power (2.7), Contact (2.8) and Genesis (4.2).

RATING OF GENERATOR-RETAILERS AS HEDGE SELLERS

Using your personal experience please rate the following parties on their hedge seller performance.

	Total Purchasers (excluding generator-retailers)	Small Purchasers	Medium Purchasers	Large Purchasers	Generator-Retailers as Purchasers
Base (n=)	***28***	***8***	***12***	***8***	***7***
Genesis Energy/ Energy Online	3.2 (16)	2.6 (5)	3.5 (4)	3.4 (7)	4.2 (5)
Tuaropaki Power Company	3.0 (1)	-	-	3.0 (1)	1.5 (2)
Contact Energy/ Empower	2.8 (21)	3.3 (6)	2.8 (8)	2.4 (7)	2.8 (5)
Meridian Energy	2.7 (19)	3.2 (5)	2.7 (6)	2.4 (8)	2.3 (6)
Todd Energy	2.5 (2)	4.0 (1)	1.0 (1)	-	3.0 (2)
Trustpower	2.4 (15)	2.4 (5)	2.6 (7)	2.0 (3)	3.0 (3)
Mercury Energy/ Mighty River Power	1.8 (17)	2.0 (4)	1.6 (5)	1.9 (8)	2.7 (6)
King Country Energy	1.0 (1)	-	1.0 (1)	-	3.0 (1)
Pioneer Generation	-	-	-	-	1.0 (1)

3.23 Awareness and ratings of initiatives to improve liquidity

Awareness that the Electricity Commission was considering a number of initiatives to promote hedge market liquidity was much higher among gentailers with 10 of 11 aware and large purchasers with seven of eight aware compared with medium purchasers where only four were aware and small purchasers where two of nine were aware.

AWARE OF INITIATIVES TO PROMOTE HEDGE MARKET LIQUIDITY

Are you aware that the Electricity Commission and the industry is considering and implementing a number of initiatives in order to promote hedge market liquidity?

	Total Purchasers (excluding generator-retailers	Small Purchasers	Medium Purchasers	Large Purchasers	Generator-Retailers	Other
Base (n=)	***31***	***9***	***14***	***8***	***11***	***7***
Yes	13	2	4	7	10	6
No	14	6	7	1	1	-
Unsure/Don't know	4	1	3	-	-	1

Among initiatives respondents were aware of, awareness was highest for the development of Energyhedge with 76% aware (25 of 33). Awareness of all initiatives was much higher among gentailers and large purchasers with a majority of each of these groups aware of all initiatives and was lower among medium and especially small purchasers.

INITIATIVES AWARE OF

Which of the following initiatives are your aware of?

	TOTAL AWARE	Total Purchasers (excluding generator-retailers)	Small Purchasers	Medium Purchasers	Large Purchasers	Generator-Retailers	Other
Base (n=)	***33***	***17***	***3***	***6***	***8***	**10**	**6**
Development of EnergyHedge	**25**	11	-	3	8	9	5
Locational Hedges	**21**	8	-	2	6	8	5
ASX	**20**	8	-	2	6	9	3
Regular survey of market participants	**18**	8	-	3	5	8	2
Support for model master agreement	**16**	6	1	2	3	7	3
Publication of outage and fuel data	**15**	7	1	1	5	7	1
Electricity futures and options	**14**	6	1	2	3	6	2
Promotion of training and advisors	**11**	5	1	1	3	4	2
Risk management website	**4**	2	-	1	1	2	-
None of the above	**5**	3	2	1	-	1	1

Two initiatives, the publication of contract details and development of energyhedge, were rated significantly higher than the other initiatives for their contribution to promoting hedge market liquidity. Publication of outage and fuel data and support for model master agreement were rated moderately well, LRA, promotion of training and advisors and regular surveys were rated poorly.

INITIATIVES CONTRIBUTING TO HEDGE MARKET LIQUIDITY (NET CONTRIBUTION)

Please rate the initiatives in terms of how highly you think they will contribute to promoting hedge market liquidity:

	(VERY HIGH + HIGH) - (LOW + VERY LOW)						
	TOTAL NET USEFULNESS	**Total Purchasers (excluding generator-retailers)**	**Small Purchasers**	**Medium Purchasers**	**Large Purchasers**	**Generator-Retailers**	**Other**
Base (n=)	***49***	***31***	***9***	***14***	***8***	***11***	***7***
Publication of contract details	**21**	17	2	11	4	3	1
Development of EnergyHedge	**19**	11	3	7	1	6	2
Publication of outage and fuel data	**14**	11	-	9	2	2	1
Support for model master agreement	**9**	3	4	1	-2	5	1
Locational rental allocation (LRA)	**5**	3	-1	2	2	3	-1
Promotion of training and advisors	**3**	4	-1	4	1	-2	1
Regular survey of market participants	**-4**	-	2	-	-2	-2	-2

UMR research

3.24 Involvement in future surveys

Most respondents (40) said they were prepared to take part in future surveys on hedge and risk management issues, two said they would not take part and six were unsure.

INVOLVEMENT IN FUTURE SURVEYS

Are you happy to be involved in future surveys on hedge and risk management issues?

	Total	Small Purchasers	Medium Purchasers	Large Purchasers	Generator-Retailers	Other
Base (n=)	***48***	***9***	***14***	***8***	***10***	***7***
Yes	40	7	9	8	10	6
No	2	-	2	-	-	-
Unsure/ Don't know	6	2	3	-	-	1

4. Qualitative research

4.1 Market competition

4.1.1 Overview

As was the case when research was conducted in 2007/08, views on whether a competitive market for hedges exists continued to be somewhat polarised with almost all gentailers and a few purchasers saying a competitive hedge market did exist while most purchasers and others (non-purchasers and non-sellers of hedges) argued that either it was not competitive or if it was, then there was very limited competition. Gentailers conceded more needed to be done to increase competition.

Several of the key factors that were identified as limiting competition are inter-related. They were:

- scarcity of offers
- too few competing suppliers
- lack of liquidity
- vertical integration of gentailers
- transmission constraints
- nodal pricing complexity
- hydrology and lack of storage in the South Island
- the physical disposition of generation assets between gentailers
- the limitations of energyhedge
- absence of true market characteristics/barriers to entry
- role of Huntly
- pricing.

The suggested solutions to improve competition fell into four categories and were not mutually exclusive.

First, there were those that advocated **financial instruments**:

- introduce financial transmission rights and locational rental allocations
- reduce the number of nodes for pricing basis risk
- develop more sophisticated risk management products.

Some said changes to the **market platforms together with some regulation** were required:

- open up market trading platform to more entrants
- mandate that gentailers offer specified volumes of hedges.

Then, there were advocates of **structural changes**:

- split generation from retail
- asset swaps between State-owned generators.

And there were those who advocated **more investment in transmission and generation assets**:

- improve the capacity of the DC link
- build more peaking plant
- build hydro pump storage in the South Island.

4.1.2 The case that competition does not exist

➢ Scarcity of offers

The availability of few competitive offers to choose from was a key reason for thinking the market was not competitive or at best offered weak competition. This suggested to some that a more competitive market would develop if there were more participants making offers.

> *The last time we went out to tender we only got two competitive offers and even then to get them to shift - it was very much a suppliers' market. That is what it is. If you go away, they don't really care.* (Purchaser)
>
> *With the number of providers it is not as competitive as other markets we deal with, but it is competitive.* (Purchaser)

Not all the gentailers, upon whom the hedge market depends for offers, offered hedges.

> *People like Meridian and Genesis - we have had trouble getting any out of them.* (Purchaser)
>
> *At the moment we have only got two major retailers who are prepared to offer hedges, but there is another one that is very selective. In all round terms, I would say the degree of competitiveness is just not what it ought to be.* (Other)
>
> *Has the competitiveness got worse? I think it probably has because Genesis has withdrawn from the market as I understand it with hedges, so that is one less organisation who will offer us a hedge.* (Purchaser)

The size of load and location of the required hedge also influenced the appetite or capacity of sellers to offer.

> *Smaller transactions mean they are not going to bend over backwards to get the deal. Significant transactions on the other hand might be treated differently.* [Because when I say purchasers I am talking about major industrial purchases, large amounts of electricity.] *That is right. A dog can swim both ways on that, if you get too large then you might fall outside of the ability of one retailer to completely supply exclusively. So I think in terms of size of a load it can cut both ways. There is probably a sweet spot somewhere where it is large enough to be attractive to everyone but not so large that it creates a hurdle to supply and reduces who can actually supply.* [Size of load too can affect where your location is?] *Yes. Well Comalco, for example, there is probably a limited number of parties that can actually supply them on an exclusive basis.* (Gentailer)
>
> *Some of those larger purchases when you are going out for hundreds of gig it is a slightly different ball game ... so you find that just the size probably tends to limit the degree of competition.* (Gentailer)

Consequently, the range of hedge products offered to industrial purchasers also appeared to be limited.

> *The reason I thought it was uncompetitive was that it was really hard to get people to give us prices.* (Purchaser)

> *If we just went out and said simply we just want to hedge, but no fixed-price-variable-volume we would probably get two.* (Other)

> *It is not particularly deep. To be fair we have always considered the market in theory with say four participants, four and a couple of small ones. Had the potential for a degree of competition but after say nine years and the participants who are active currently are reduced to two, I would like to think that is competitive but is it?* (Purchaser)

One of the gentailers that was identified as reluctant to hedge was described as engineering their hedge price to equate to that of their fixed price contracts.

> *We have been to them many times asking for hedges and we have encountered a lot of reluctance, it is like getting blood out of a stone … they had engineered their hedge price to equate almost exactly to their fixed price. So we had two offers from them one a hedge and one a fixed price and when we did all the numbers they were almost identical. And the point was made that all they were really interested in was keeping as much of their book on fixed prices so they could keep up their margins. So to me that takes a certain amount of competitiveness out of the system.* (Other)

➢ More competitors

For purchasers, the obvious solution to the lack of competition was to increase the number of competitive suppliers of hedges.

> *Having more players in the market would make it more competitive.* (Purchaser)

> *I think the obvious thing is if you had more retailers that needed to fill up their books.* (Other)

Various solutions were offered to improve the number lack of offers and market liquidity with each placing more emphasis on one factor limiting competition. The key factors limiting competition were vertical integration, limited access to the market, transmission constraints and hydrology linked to the disposition of assets.

➢ Vertical integration

One of the most common of these factors was the vertically integrated structure of gentailers which was perceived as reducing gentailers' motivation to offer hedges to industrial purchasers or if they were to be aggressively competitive about securing contracts.

> *We would say that the vertical integration of generator and retailer and the way that the market has become very regionalised hasn't led to effective competitive. You can basically compartmentalise the generators and their customer base and the generating assets.* (Purchaser)

The issue is now that retailers are 100% hedged, generators are 80% hedged just through the level of vertical integration. There is no incentive apart from being able to say I offer people hedges for them to do it. (Other)

It's not an easy process for something you would think would be fairly liquid and anybody could provide it, but it isn't quite as simple as that. The generators have got their hedge books and they have only got so much to offer because they have already hedged the rest of it and they just aren't interested. They got burnt last year and they are not interested in doing any more work unless it's at a certain price. (Purchaser)

Vertical integration removed the incentive to offer hedge products because to do so might enable competition at either the generation or retail end.

That is a product of the current market structure where effectively we have five large vertically integrated retail generators. And I don't believe there is therefore a particular appetite for them to provide a hedge product. Because somebody here might be wanting a hedge product in order to compete with them in their generation or retail market or both. (Other)

Vertical integration meant that the volume of hedges available was significantly limited by their retail cover which meant lower liquidity and a higher premium on hedge prices than was seen to be necessary.

The gentailers - most of them have their own retail business which probably accounts for 80% or 90% of their generation which means they have got some stuff left over for industry like us. And to some degree it is take it or leave it. If they have a reasonably solid hedge book they could offer us a high price which we obviously either take or leave. (Purchaser)

The generators can largely manage their own problems with retail load so what they have available to sell to industrials is somewhat less. And so it would be better for us if we were competing with retailers for their load. But we are not, they nab that first and then what is left you guys can squabble over it. [So the structure of the market, the fact they are vertically integrated is a key issue?] *Probably is, it is something that might be a problem here. I think the prices are too high and I think that is because there is not enough liquidity.* (Purchaser)

This led some to suggest or support a split of generation and retail.

Vertical integration, I've always felt has been one of the problems because what they are doing is buying and selling to themselves so the market becomes an ass with one part making a profit or not, or the other way around. (Purchaser)

[Are you suggesting a split of generation and retail would enhance the competitive of the hedge market?] *Yes because now we are trying to go to a solution. Every solution I can think of has its own problems. Effectively you would force generators in that situation to hedge. You would have to have some sort of requirement to offer hedges to retailers otherwise retailers wouldn't enter the market. And does that mean you are also going to force retailers to buy those hedges? It becomes an odd arrangement. But balancing everything up I think yes, I think that separation would be good.* (Other)

Interestingly, an industrial purchaser countered this by identifying benefits of vertical integration.

One of the advantages of an integrated generator retailer is that it internalises the risk associated with its retail offerings completely and therefore the risk premium associated with that is lower. And that is a benefit to consumers and to the company overall. (Purchaser)

This argument was picked up by a gentailer who saw any split as adding to risk and therefore placing upward pressure on hedge prices.

> *And that would definitely create a much more liquid hedge market but I am not sure that would actually reflect in lower hedge prices because all you are doing there is changing completely the risk profile of those entities. So suddenly both retailer and generator is having to take more market risk and they would expect to be rewarded for taking that risk. It is going to elevate increased costs.* (Gentailer)

And another gentailer argued that integration brought stability to the spot price.

> *It makes the spot price more stable so a small player coming in isn't as exposed to big price shifts.* (Gentailer)

However, the counter-argument was that unless a split did occur no additional competition would enter the market. The argument here was for an organisational though not necessarily an ownership split.

> *The Ministerial Review promoted the view that lines businesses could enter into generation and particularly the retail market to increase competition and therefore to push down prices. We think that principle makes sense, but in practice we see that being difficult because no one is going to enter those markets given the current market structure. So it is not a place to enter the retail market without generation and the place you can get generation is from effectively your retail competitors or to build your own. And an entrant into the retail market is unlikely to have the scale to be able to have a generation portfolio which is sufficiently diversified across units and across fuel sources. To have a low risk position it is going to be a high risk position. So without effectively a vibrant market and synthetic products like hedges which can enable an entrant to mitigate those risks ... we think there needs to be operational separation between entities in the market* (Gentailer)

➢ Limited access to the market

Lack of liquidity was cited as the principal reason why ANZ had left the energyhedge market.

> *So to answer your question why isn't it competitive - the biggest market is energyhedge, you can't get at that market and the movements and the prices indicate there is very little liquidity in there if you are buying and selling. That is the ANZ example. Then there is less liquidity in the ASX. And then your other source of hedges is essentially over the counter, bespoke arrangements with independent players and there are just not very many independent players who are in a position to offer hedges.* (Gentailer)

In this context, it was pointed out barriers to market entry, such as credit arrangements and minimum trading volumes, existed which further limited competition.

> *The average player doesn't have hundreds of thousands of dollars to go and sign bilateral agreements with all of the parties and energyhedge and any one of those parties can turn around and say no and it is pretty easy for most people because they just say, 'Well show me your balance sheet'. Essentially if you lower the barrier to access I think then that there would be a whole group of people that would start to look at buying and selling hedges right now.* (Other)

> *And the contract size is very large in the ASX, it is a megawatt contract minimum block. That is defined at a level where there is really only a handful of players in New Zealand. A one megawatt block is a very small number of potential players. Energyhedge is better at 250 kilowatts but a lot of people in New Zealand who could be, I think, quite effectively using*

hedges down to 100 kilowatt block size. And there is nothing wrong with 100 kilowatt, there is a transaction cost associated with a hedge but it doesn't really matter if you buy 200 or 300 kilowatt blocks you get much more volume if the contract size is lower. (Gentailer)

Comment was also made that some of the characteristics of a true market, for instance, speculative traders were just not present.

> *Up until now the participants in the hedge market have been predominantly generators who are using it to sell generation and retailers or large consumers who are using it to purchase energy there is actually no true traders who are speculating on the market.* (Gentailer)
>
> *We also notice that new entrant retailers, a lot of them that have popped up, are actually subsidiary companies of the major retailers. So that adds to that view that the only people who are likely to get into this market are those who already have some sort of relationship or investment in generation. So the symptoms of a truly competitive contracts market would be that you would get new entrants coming in and I haven't really observed that.* (Other)

It was suggested that new entrants could be encouraged into the market by introducing a range of financial instruments including caps.

> *That platform traded market needs further development to get customers in that market. I think it needs the ability for customers to enter one-sided trades, it needs to be a cleared market so that the credit issues are managed separately and it needs some products that are more suitable for retail offering. The industrials are one thing - probably doesn't need a much bigger offering for industrials apart from perhaps a North and South Island product, but for new entrant retailers it could probably do with some kind of retail load shape or something like that is what we have suggested and probably capped product ... I think that is more about ensuring that the market is open to new entrant retailers. I don't think it is closed to new entrant retailers but I think that will allow a very clear transparent route to market for those companies rather than requiring them to do an over-the-counter deal.* (Gentailer)

➢ Lack of liquidity

Lack of market liquidity was acknowledged by gentailers though without common agreement about the solution. Some argued to make it compulsory for hedges to be offered into the market for generators over a certain size.

> *There should be a mandatory market obligation placed on participants over a certain size. And at one level it is effectively an extension of energyhedge modified, perhaps works more like ASX than currently our energyhedge does in terms of requiring parties to place offers with a bedspread every day on an approved platform. But that would be a platform that had a clearing house component to it. And we would see that as an important part of achieving a liquid competitive contracts market with a depth of liquidity that is greater than what we currently have.* (Gentailer)
>
> *If you forced the long generators to commit a certain percentage of their generation to the hedge market they have to trade on it.* [And that would be a positive thing?] *Would be for us.* [Positive for the hedge market but is it a positive thing?] *For the sector? I think it would create a lot more clarity on what is the true price of marginal plant.* (Gentailer)

Another pointed out that this intent could be side-stepped.

> *It would have to be designed in such a way that liquidity and depth was actually created and it wasn't just some sort of mechanism that various parties just swapped volumes and satisfied the requirements of the regulations, but maybe not the intent which is actually to allow third parties, etc to access hedges on the same terms and conditions.* (Gentailer)

And yet another gentailer rejected the focus on liquidity saying it would make more sense to ensure a wider range of risk products were available for purchasers to manage their risk.

> *What we wouldn't be supportive of is specific expectations in terms of the liquidity of that market. I think it would be far more useful to set down what structure and range of products in the market is required and then ask the market to provide that. I think a focus on liquidity could give perverse incentives, it is the wrong focus. Liquidity isn't an objective in itself is my point and I think it would be better to focus on the product offering, the option to manage credit.* (Gentailer)

A purchaser also raised concerns about moving to a regulatory rather than a market-led solution involving financial instruments.

> *If there is a consideration by Government that there should be some mandatory volume of hedges offered on to the market such as, say 20% of installed capacity or whatever, that also comes with a considerable amount of attendant risk. Because as you develop the regulations that require that and police them and make tweaks and all the rest of it effectively what you are saying is that officials will determine the hedge price rather than a market outcome.* (Purchaser)

➢ Transmission constraints

Transmission constraints clearly ruled out areas of the country that some gentailers would offer hedges to or at prices that were competitive.

> *North Island generators won't take the basis risk across the DC so the best we can ever get out of a North Island generator is a price at Haywards. So it is very clear that basis risk is a huge issue.* (Purchaser)

> *We see some unusual things at times with our customers and what they require us to do in terms of shifting load from one GXP to another GXP in response to locational prices which begs the question whether it is competitive or not. It's just game playing - you do it to me and I'll do it to you.* [Between generators?] *Yep, between generators. If there is a constraint on the grid or something like that, we see prices at one GXP suddenly change significantly - or our retailer does and he gives us a call to shift to another GXP and we know the cause of that is not really a competitive market, but one player taking advantage of a particular constraint and pricing it accordingly.* (Other)

The choice of sellers was further weakened by the volume some of the medium and large industrials might seek to purchase or for the duration that they might seek hedges for. Also, from the gentailer's perspective, the options available to purchasers under fixed-price variable volume contracts carried attendant risks that had to be priced, particularly where they monitored the market and were capable of responding to it.

> *There are a few issues that we tend to run across. One is customers that are seeking fixed price variable volume contracts that are really too large for those contracts. Because those contracts invariably contain a significant degree of optionality and if you are a relatively*

small customer you are not really taking advantage of that optionality because you are not the kind of customer that is monitoring the market. So to those customers we can sell those kinds of contracts without adding in an inappropriate margin for that optionality because the customer doesn't really use it. But for larger customers they are capable of using that optionality therefore we don't want to sell it to them without them paying for it. So sometimes they are looking for a product to my mind that they are too big for. It is about a 10 megawatt break point I think and there are a few customers around that 10 megawatt break point. Because the customers who are at 30 or gone to CFD's, customers at five we are fine with, it is just in that middle. I think there is a zone in there where there is always a tension. (Gentailer)

➢ Influence of current hydrology

Another factor driving the perception that the market was not competitive was the sense that gentailers priced into their hedges the influence of current hydrology. Thus, hedge prices were more highly priced in dry years for future years' consumption.

[Gentailers argue it's not a competitive market because you don't get unlimited offers, but you can still get two or three offers. What's your response to that?] *Well, it's competitive in that respect, but it's the fundamentals beneath that - how they derive their market prices that's the problem. We've done quite a bit of analysis ... the real issue is trying to figure out what's a good deal and what's not in the future. The problem with the hedges is that they actually take into account the actual market price. This year with lots of supply the price is about $50 or less, but last year they were $100 or $300, so if you look at a hedge it tends to take both things into account, so at times it's uncompetitive because of a shortage of water.* (Purchaser)

Yes, the best time to go to the market is in a wet year because if you are trying to buy a five year contract and if it's due in a dry year period they just seem very negative and it just seems to affect prices in the future which is a strange thing. So, we try to go to the market when they're happy which is in the wet time. I think last time we went to the market almost 12 months before the expiry of our contract because we thought it would be a better time to be going to the market. (Purchaser)

Further, the frequency of dry years over the last decade seems to some to have led to higher risk premiums.

It is also very clear that dry year risk is now a huge issue because of the risk premium. (Purchaser)

➢ Financial transmission rights

The impact of dry year problems and the current fragility of the HVDC link across Cook Strait led to suggestions - apart from increasing the capacity of the link with a new cable - to the need for financial transmission rights (FTRs) or capacity rights in order to address essentially a dual North and South Island market with limited competition.

I think at the bare minimum we definitely do need an FTR arrangement across the DC. I am starting to get - and I know others are starting to get more interested in the work of Brent Layton looking at actually going further but having capacity rights across the DC where generators actually buy the right. Or even a merchant arrangement where the owner of the DC buys and sells at both ends. But there are ways to do this. I think the complexities of the nodal price market in New Zealand, given the transmission constraints makes it too risky for generators to retail great volumes outside of the areas where they don't have assets and feel they have some degree of control over price ... what you will see is with an FTR type arrangement you will see North Island generators being more prepared to retail into the South Island. (Purchaser)

There was a view expressed that with the commissioning of Pole 3 across Cook Strait in about 2012 that the capacity across the DC link would be unconstrained and so would remove a lot of the basis risk for North Island generators entering the South Island.

Associated with this was support for rental allocations to facilitate competition in areas where few were willing to provide offers.

> *I do think there are a few locations that nobody is very excited about. This probably goes to new entrant retailers as well. There are a few locations that are not that exciting to supply and nobody wants to go there.* [Are there obvious answers to those sorts of problems?] *I think for smaller customers we could get the LRA's proposal that the Electricity Commission is putting forward in place that would be of significant assistance to that.* (Gentailer)

> *If you go and ask the genuine retailers for pricing on hedge products the spread of pricing that you get back suggests that either they don't know what they are doing or there is a non-competitive market because the spreads are so wide. And I don't think they are stupid.* (Other)

➢ Far fewer nodes

Some wanted to see this concept taken further by dramatically reducing the number of nodes at which pricing could occur from about 250 to eight. This was also seen as a means of improving liquidity and the ability for multiple offers to be made at all locations.

> *Instead of having a spot market with 250-something nodes we could make a zonal market or maybe a bit of both. If you only had eight zones then that would probably help with the hedge market liquidity. Because you would have more liquidity on the differential prices between the zones, FTR - financial transmission rights. And so then it wouldn't matter so much as to what your location is.* (Purchaser)

> *If Australia can get away with seven nodes why do we need 240. And if the States don't even have full nodal pricing, they have the hub and spoke model why don't we have a hub and spoke model. Twenty would be better than what we have got now, call it 20 hubs and then just average prices out to the rest. And the average prices can be big prices still, you can still say it is a lot more expensive to buy electricity in Hawkes Bay than it is to buy it in Taupo, that is great, it is really important to send those price signals. But if you make them average, so if you say it is always going to be 16% more expensive to buy in Whirinaki than it is in Taupo then that is great, we will all go and offer hedges to every region tomorrow. It will be the price that we would have offered at Taupo plus 15%.* (Other)

➢ Perceived market manipulation

Distrust of gentailer behaviour to manipulate market prices emerged as an issue too.

> *We just thought it was too easily manipulated … I think they withhold some of the bids from time to time to further their own interests … I sense that there's some manipulation going on still at the moment. Since Genesis have to hold that stockpile of coal at Huntly for security reasons, I sense that the other power companies with renewable hydro resources are quite happy to wind them down to much lower levels and take a much less cautious approach than they would have otherwise. Making money out of the lowest cost of generation knowing that Genesis are having to provide the backstop.* (Purchaser)

We have got a nice oligopoly where the State interferes quite a lot. Tells them we have to get the spot price down or high. But you don't need to legislate it just get the SOE's to behave differently and it will all flow. Given that they are 60% of the market. You start forcing people to distrust the market when the government starts to interfere. (Gentailer)

➢ Structural options

A structural change to the industry was suggested which would see the State owned enterprises changing their asset allocations. The specific suggestion was for Genesis to acquire one of Meridian's hydro stations, a move that would increase competition in the South Island market.

You actually need to look at the structure, the physical asset allocations within the industry and make some changes there which you can do with the SOE's. And you do that and you create a need for market outcomes. We know Meridian were quite opposed and we don't think there has been much appetite within government to do this and frankly we think this is an opportunity missed. My feeling is that officials are probably playing down the complexity of a regulated solution and playing up the costs and difficulty of a structural solution. (Purchaser)

I think that the market has always been a bit out of balance because ECNZ built Huntly to support the Meridian southern hydros when it went dry. So fundamentally the New Zealand market balance is between whether Meridian wants to generate hard or if they generate less hard then they expect Huntly coal to come on to fill the lakes. (Gentailer)

There are various options, but the one that makes the most sense is to swap I would say part of the Huntly power station - the coal units - with Manapouri. So Genesis owns Huntly and Meridian owns the other and they swap and then they would behave differently. They don't want to do that I don't think, so they come back with other ideas like mandatory hedging proposals. (Purchaser)

[What did you like about the restructure options - is that the asset swaps?] *Yes.* [Why do you think that would be good?] *It just breaks that regionalisation. It is Meridian in the South Island and very little presence in the North. It is Genesis in the North and so it would just break that paradigm I think.* (Purchaser)

However, this was rejected by one Gentailer as merely shifting problems around.

Plant swapping? I think that is a nonsense, just like moving the deck chairs around a bit. Currently the way the plant demand mixes are set up you have five large companies with a certain mix, if you swap plants around it is just going to shuffle it around a bit. So there might be constraints in certain areas and pricing dominance in certain areas but I think changing plants around is just going to move it around. [Will it make them operate slightly differently though?] *Of course it would. It would mean that that bit of dominance moves to another part of the Island but it is not going to go away ... You have got the physical constraints, they are not going to go away. So I think that is a nonsense that suggestion.* (Gentailer)

Another suggested solution was to address the South Island storage situation by building a pump storage hydro plant to remove what was perceived as the exercise of market power by gentailers in dry years.

> *Just put in Lake Onslow and it would fix it all. That's a huge pump storage system. The problem we have at the moment is that the weather patterns are biannual and there is basically only enough storage in the system to run a normal year … it can store about 12,000 GWh, but it's in no-one's interest to build it, but it would basically remove the whole dry year thing out of the system … the only real way of overcoming that periodic market power is to improve the storage of the system.* (Purchaser)

➢ Pricing of hedges

Prices for hedges were an obvious concern for those who believed the market was uncompetitive or at best weakly competitive. Some had tracked hedge prices over the past few years and the consistent rise in price provided evidence for lack of competition.

> *I don't think it's necessarily price competitive. In our experience with hedges is that the price of hedges has gone up over the past few years consistently*. [And you are trying to get hedges nationwide?] *Yes, at specific GXPs.* (Purchaser)

> *There is no shortage of offers but the offers we believe are too high.* [How do you assess that?] *I guess purely the price escalation we have seen in the last 10 years has been astronomical. It would be our comment that the State Owned enterprises and Contact as well have valued out their assets looking for returns on highly revalued.* (Purchaser)

Others were concerned that hedges were reflecting the long run marginal cost, the signal price for building new generation. This meant that purchasers received no benefit from any over capacity which ought to lower hedge prices.

> *We have got a very good view of what should in theory should set hedge pricing. But can we get that? No. And the reality is that hedge pricing should be priced somewhere between the long run marginal cost of new plant and the short run marginal cost of the marginal plant. But inevitably our analysis shows that hedge pricing is closer to the long run marginal cost. So you don't get any of the benefit of over capacity which effectively should force prices down to short run marginal cost. Somewhere in between there is the theoretical competitive hedge pricing but we don't see it. So that tells us that the market is not liquid enough, it is not dynamic enough to reflect pricing.* (Gentailer)

> *We believe that embedded in the hedges is the long-term pricing. We've done quite a bit of analysis on this and we're one of the few people in New Zealand that accepts Wolak's report*. (Purchaser)

Others felt that hedges were too influenced by current hydrological conditions.

> *The problem with the hedges is that they actually take into account the actual market price. This year with lots of supply the price is about $50 or less, but last year they were $100 or $300, so if you look at a hedge it tends to take both things into account, so at times it's uncompetitive because of a shortage of water*. (Purchaser)

➢ Opting out - purchasers going unhedged

One response purchasers were adopting to the perceived lack of competition and the premium attached to hedges was to go unhedged. This strategy seemed to make more sense for those for whom electricity was a relatively small proportion of their operational costs.

What we have decided to do is move away from the hedge market because of the cost of hedging. And we have taken the view that over a five-year period we were hedging there were several statistically adverse events in that time and the hedge still cost us - we still paid a premium for price certainty. (Purchaser)

One major corporate who currently is totally on spot and they are big users, they are using something like 200 giga watt hours a year, that is substantial and they are totally on spot. They were hedged up until about 18 months ago when they took the decision to go out on spot. (Other)

We concluded our tender some months ago - decided not to because the risk premium that was being required was just enormous. [So you stayed exposed to spot?] *We have elected to go spot and we will revisit that at some point in the future again on a regular basis. But the offers I saw from both* [Name deleted] *and* [Name deleted] *just horrified me.* (Purchaser)

4.1.3 The case that competition does exist

Overview

Even though almost all gentailers and some industrial purchasers said competition for hedges did exist, as was evident in the previous section, there was general support for more to be done to improve competitiveness. This section covers the key reasons why the hedge market is regarded as competitive. These tended to rest on the following:

- multiple suppliers
- active competition between gentailers on energyhedge
- pending enhancements of energyhedge
- preparedness to quote at any location.

Evidence of successful and unsuccessful offers

Most gentailers took the view that a competitive market existed. Competition was defined by some as having at least two suppliers vying for a customer.

I suppose competitive means many things doesn't it? I tend to think competitive means that you have got a number of suppliers who can supply you and they compete with one another. (Gentailer)

We would have about a dozen contract offers out to industrials at any one time so it is pretty reasonable. (Gentailer)

We have contracts short term from days out to 15 year deals with end users. So there is a competitive hedge market that works out there. (Gentailer)

There was some support for this from a few purchasers though as the second quote below shows the level of competitiveness does vary.

We go to the market we get different views from different providers, so it is actually quite competitive where the rates vary from hedge provider to hedge provider. [And you get a range of offers back?] *Sometimes the hedge provider has actually gone to the market and asked us to respond and predominantly we go to the market and ask them to respond, it sometimes works both ways.* (Purchaser)

> *We went out for a hedge and only one company responded. So at that particular time it seemed to me that either most companies had fulfilled their hedge requirements but then when we went out for request for proposals that resulted in our going to Meridian and we got competitive bids from all of the various companies, Contact, Mighty River and so on. So that leads me to believe that, yes, there is a reasonably competitive hedge market out there. Reasonably competitive.* (Purchaser)

Further evidence for some lay in the fact that they bought and sold on hedges to industrial consumers in competition with other sellers. The fact that some offers were successful and others were not was evidence that competition existed.

> *We buy energy off third party generators which we sell through to industrial customers. And both the purchase of that energy is competitive in that we have to match other players and then we sell that as a competitive process as well because our people are competing against other generators who are offering to those industrial customers. That means that we actually get some understanding of what the view of the price is. Price discovery is more through selling to industrial customers and therefore when we are successful we know we are a little bit cheaper than everybody else and if we are unsuccessful we know we were dearer than everybody else.* (Gentailer)

The experience of market responsiveness when hedges were sought was also cited as evidence.

> *When we seek to buy hedges, we always get prices back, we always get timely responses and the prices I think are in line a lot of the time with expectations. The way I would put it is that I think there is a very lively and active over the counter market and it is a fairly robust and competitive market.* (Gentailer)
>
> *When we have wanted hedges we have gone out to various parties and had a reasonable response.* [So you always get at least a few tenders back?] *Yes.* (Gentailer, male)

And others specifically mentioned the hedging activity between gentailers themselves.

> *Competition exists because there are transactions that occur between the generator - retailers on a regular basis. In essence our view is that it could be more.* (Gentailer)

However, one gentailer conceded the hedge market was more an oligopoly than a competitive market.

> *The perfect competitive model is always many buyers and many sellers … there tends to be more of an oligopoly type situation amongst the suppliers which is all about more game theory strategies rather than pure competition.* (Gentailer)

And another one described current gentailer behaviour in such a way as to show there were limited offers available.

> *Contact has actually got plenty of spare juice at the moment so as far as we know they are actually meeting market need … Genesis stopped selling to the industrial market and they made an announcement and they stopped doing that. And Meridian were selling but they have softened off a bit because they are a bit dry in the South Island at the moment. Mighty River will sell but the prices are quite firm and Contact is cheaper than Mighty River. And it changes around quite a bit, it could be quite different in terms of who wants to take the lead in terms of being the more interested seller.* (Gentailer)

➢ Energyhedge, ASX and improving competitiveness

There was virtual unanimous agreement by all those interviewed that there was a need to improve hedge market competition. A number of the gentailers pointed to the development of energyhedge as well as recent and pending initiatives as evidence that competition was improving. Even so, the view was that improvements to competitiveness had not been quick historically.

> *Has the market improved? I think the answer to that is yes. I think particularly over the last 5 years we have seen an incremental improvement year on year. Is it staggering? Probably not.* (Gentailer)

The establishment since the last hedge market survey of energyhedge as a market platform was pointed to as visible evidence of providing competition out for up to four years.

> *Energyhedge has been up and trading for four or five years and that is a market making competitive facility trading out to four year contracts.* (Gentailer)

> *We are active in energyhedge and I trade - in fact this morning we closed out some contracts. So if you are a member of it then that is an active market and it is real money being done. So that is one test.* (Gentailer)

> *Energyhedge has picked up as well after the last survey. We are doing transactions so we can fulfill our needs and other parties can do the same thing as well.* (Gentailer)

Although there was no suggestion among generators that the recent emergence of the New Zealand Electricity Futures and Options on the Australian Stock Exchange had significantly improved competitiveness, it was regarded as another sign of a step toward achieving greater competitiveness.

> *Recently the Australian Stock Exchange have launched a New Zealand Electricity Future. So another example of the competitiveness and contracts trading.* (Gentailer)

> *I think the thing that I would say in the last 12 months is that you have got ASX up and running so a futures platform does exist. A level of trading has taken place on that platform and that is a good step in the right direction.* (Gentailer)

Even so, hardly any purchasers had any knowledge or interest in the ASX arrangement.

Further pending developments of energyhedge such as increasing the number of trading nodes beyond Haywards and providing a wider range of products were seen as enhancements to the competitive market.

> *There is development in energyhedge which hopefully will facilitate more competition. That is introducing new nodes, so at the moment it only trades out of Haywards as a central spot in New Zealand. They are introducing an Auckland node at Otahuhu and a South Island node at Benmore. So yes, and new products which will hopefully alleviate risks people face in terms of new consumption business or retailing businesses.* [How far away are those developments?] *Those developments are all signed off and it is just awaiting implementation. So you are talking before the end of the year.* (Gentailer)

While it was conceded that energyhedge was more or less confined to the gentailers, changes were being proposed to open this platform up to a wider range of participants.

> *At the moment it would be hard to jump in and be a market maker as the five participants are. So to ease that requirement we are looking at a new platform and you can come in and*

trade one way prices and credit facilities are available. That would need the likes of an NZX to provide that sort of facility or an ASX. [Do you think that will happen?] *Yes. Time wise on that I would expect that would be well under way if not delivered within 6 months.* (Gentailer)

Even so, there was a view that large industrial purchasers had energyhedge available to them.

If you talk to some of the big end users they are well aware of energyhedge and what is available there. Any of those guys can go to either that or any of the big generators or gentailers to get hedging contracts. We have contracts short term from days out to 15 year deals with end users. So there is a competitive hedge market that works out there. (Gentailer)

The experience of one non-gentailer of energyhedge though had not been helpful.

We were a participant of energyhedge for over two years. Not once would we have been able to extrapolate a forward curve off the quarterly energy hedge prices and go to any of the energyhedge counter parties and receive a swap for a similar value. So the curve bears no relevance to what you could actually do a transaction at ... [So basically everything has to be done bilaterally?] *Yes but if everything is done bilaterally and the bilateral transactions bear no relevance to the energyhedge curve, then what?* (Other)

The ideal was to see energyhedge have a sophisticated clearing house and more open access to it was advocated.

I think we need to have strict contracts that you could go and hit at any point. I am assuming that is something that the NZX might do. So effectively what you want to be able to do is that you need to be able to go in and execute a price for a certain volume of contract right across the curve and you just push the button and say I want to buy one contract off you and if that means in the background that it goes away and executes 16 contracts behind the back of it then so be it, that is the role of the clearing house. So by having that decent clearing house and having some independent smarts like that then you should expect to see an improvement. (Other)

If you set up an arrangement where anybody could come along and trade hedges subject to meeting some king of prudential requirements which were reasonable, for example, say you put down as a bond 10% of the value of the transaction. (Gentailer)

➢ Preparedness to quote at any location

A very few gentailers said they were prepared to quote a hedge price for every request that came to them. This was a counter to those who said competition did not exist because some offers were priced excessively high, it was argued that high prices were not a sign of lack of competition.

In most instances prices would be made available. They might not be prices that people like and that is something that people acknowledge. If you get a price and you don't like it, it doesn't mean that it is an uncompetitive market. If the house is burning and you are after insurance it is usually pretty expensive. (Gentailer)

However, there was evidence from purchasers that they simply did not even bother approaching some gentailers because they knew from past experience that their prices would be far too high to consider.

4.2 Fairness of the contracting process

■ Overview

Even though the overwhelming view had been that either the hedge market was not competitive or that more needed to be done to improve competitiveness, most gentailers, purchasers and others were of the view that the process of achieving bilateral hedge contracts was fair. The main reasons for this were:

- that both parties could choose whether to sign a contract
- responsiveness and preparedness of gentailers to negotiate.

However, there were aspects of the contractual process did seem unfair to some. These were:

- asymmetrical power and knowledge of risk
- the need for prudential security.

There was also questioning of whether 'fairness' was too subjective and that it would be more appropriate to ask whether the process was economically efficient.

➢ Choice of whether to sign

The fact that negotiation was part of the process and that either party had a choice whether to sign a contract inferred the process was fair. Indeed, if a contract was entered into this meant that there was a willing seller and a willing buyer.

> *Willing buyer, willing seller.* (Gentailer)
>
> *Well by definition, bilateral is an agreement between two parties and it is a negotiation. So no one is twisting anyone's arm to sign anything so both parties are happy they have reached a fair point in negotiation and that is when they sign.* (Gentailer)
>
> *We might not like the prices that we are offered but we can choose to take it or not.* (Purchaser)
>
> *Electricity contracts you go along to someone who has got either a long position or a short position and you say here is a price and they can say yes or no. So you are free to contract unless there is something else that this question was aimed at, I interpret this question as is it fair that two people can sit down and have a conversation and agree on a price for a derivative.* (Other)

Even a few who felt that the power in the negotiations favoured the sellers said the process was fair because they had the choice to walk away from the offer.

> *It is a negotiation. They make an offer and we either agree or say what about this and they say what about that. They may have more of the power on their side so if they don't sell it, it is not the end of the world. If we think the price is too high we may not buy it but then we may not buy one from anybody because we should be dealing with the organisation that has offered us the lowest hedge.* (Purchaser)

➢ Preparedness to negotiate

Some gentailers made it clear that they made every effort to be responsive to meet the terms sought by buyers. And some purchasers acknowledged the effort some gentailers made.

> *We are responsive in terms of process. We always price on a timeframe that the customer has requested. We always entertain them to come back and say if they don't like the price, 'What would you pay? What would you sell at? What terms would you change, for instance, striking out FM clauses?' if they want. So, we are willing to negotiate over terms. We are basically willing to price up any term that a customer wants in or out. So I think that is pretty reasonable in that sense.* (Gentailer)

➢ Asymmetry of power and knowledge of risk

There were, however those that conceded that fairness did exist in so far as purchasers had a choice whether to enter into a contract, but made it clear that gentailer sellers had far more knowledge of the market and an ability to assess risk.

> *In this market you tend to be a price taker, so from that point of view fairness it's in the eye of the beholders.* [Sellers of hedges say it's a willing buyer and willing seller?] *It's willing given their current book and exposure and everything like that. At the end of the day they are better able to assess risks than we are.* [Is that a result of electricity being such a relatively low cost of your operations that it doesn't warrant the amount of resources to manage the risk?] *It doesn't warrant it and I still don't think you're much of an influencer. Yes, it's willing seller, willing buyer, but they've still got to move from their view of the world and that is not normally the case.* (Purchaser).

> *Electricity is still only a small percentage of the overall costs. So they are not electricity experts, they don't know who to call and so I think a lot of it is still a mystery to even large customers.* (Other)

> *It's too loaded toward the supplier. And like I said the last time we went out to tender we only got two competitive offers and even then to get them to shift - it's very much a supplier's market, that is what it is. If you go away, they don't really care.* (Purchaser)

> *I just think, look they have got power, they only offer hedges if it suits them. They know that they are going to make money out of it.* (Purchaser)

And there was a complaint that suppliers required purchasers to sign their contracts which was quite the opposite to the way in which other procurement contracts were handled.

> *We do like suppliers to sign our contracts, which the electricity suppliers are very reluctant to do. It may not make it unfair, but it's their terms and conditions we sign up for whereas other vendors sign our contracts.* (Purchaser)

It was also suggested that gentailers could be more transparent about their pricing of hedges and margins.

> *There could be more transparency around pricing methodology and mark-ups.* (Purchaser)

➢ Prudential security requirements

Umbrage was taken at the requirement to provide prudential security in order to enter into a hedge which made the process unfair.

> *From our point of view when we are negotiating or entering locked in contracts with electricity providers one of the issue that is coming in is the prudential security you have to provide that is usually just quite a big handicap.* [Do they cost that in?] *If we don't provide it, I guess they cost it in. Where it makes no changes to the market full stop. If I am in a facility of trading commodities, putting yourself in our own position, we don't actually increase or decrease commodity prices to our customers based on the risk profile of the customer it is a commodity price. And I see the same thing in New Zealand electricity, it is a commodity price so why do you have to start burdening any of the negotiations or contracts we are entering into with prudential covers.* (Purchaser)

However, the gentailer counter to this was that companies had defaulted in the past and that there was more risk of that occurring as a result of the global financial crisis.

> [You have been burned in the past?] *We get burnt from time to time. We had a customer go under last month for about $70,000. The worst we had was* [Deleted] *that was $250,000.* (Gentailer)

➢ Fairness framed by perception of lack of competitiveness

There were those who thought the process was unfair because they were influenced by their view of the lack of competition more than the actual process.

> *We negotiate and talk to the guys, so from a process point of view it's alright, but it's the fundamental beneath them we have issues with.* (Purchaser)

This was particularly an issue for those who felt they were not being offered fair prices for hedges.

> *We are looking to get a hedge for next year and some are not going to give us much and others are prepared to give us what we ask for but at a higher price and you really just want a price to cover you for the winter, but they want to give you a price for the whole year. You ask them if they can vary that and they say no and the offer is only there for a while and if you don't accept it, it's gone.* (Purchaser)
>
> [So what are the main areas where you don't feel it is fair is it the price?] *Yes.* [Is it only the price or are there other parts of the agreement you have negotiated that you don't like as well?] *Price is the only thing that really matters. Some of the other clauses have an impact on price, force majeure or carbon escalation and all that stuff, but we relate on the price, all this is price. It is just a financial contract.* (Purchaser)

➢ 'Fairness' and economic efficiency

One respondent challenged the focus on 'fairness' arguing that it would be better to ask whether the process achieved efficient economic outcomes which was a more important consideration for the market.

> *If you let fairness come into markets and economics then you start to question what is efficient. And achieving efficiency can sometimes mean that there are winners and losers. There is a reallocation of resource and things like that and it is painful sometimes and some people might label that as unfair. For example, if there is a resetting of prices such that an*

industry participant who relied on a lower price in order to remain in business but the resource became scarce, the higher values elsewhere for the resource and therefore I close up shop because I can no longer afford to run my business on those sorts of prices. That is not unfair the fact is that there is a higher value use for those resources elsewhere in the economy. You hear when people don't like the result is unfair even though it may be efficient. (Gentailer)

4.3 Other forecasting sources

■ Overview

Respondents were asked to identify whether they used any other sources for forecasting sources electricity prices other than:

- independent forecasts
- offers and indications
- *energyhedge.co.nz* forward curve
- market commentary forums
- risk management
- market forums
- internal modelling.

➢ Few additional sources

Most respondents did not draw on any additional information sources. Of the few that did, some referred to the econometric data available from the Ministry for Economic Development.

Stuff probably like some of the MED work, from an econometric perspective. (Gentailer)

The only other one is we quite often refer to MED's. When I was doing the financial analysis for the new power contract I was using MED forecasts as well and basically they are part of the sensitivity approach. (Purchaser)

Another source was use of consultants.

The discussion we have with our consultants [Deleted] *- having a good robust discussion is probably better than trawling Internet sites. There may be, but it's hard to find information out there ... I have been involved with fuel hedging and there's stuff out there galore about fuel hedging and how it works and forecasts. It may be there, but maybe it's not that easy to find.* (Purchaser)

We talk a lot to other energy consultants which gives us sometimes a good background of what is happening in the market. (Purchaser)

Weather forecasts for the South Island in particular were used.

One thing that affects our power prices is rain - that's what I am trying to find - the long-range weather forecast, but it's very hard to find one that goes out longer than three months. (Purchaser)

And one respondent expressed concern about changes to the scheduling, pricing and dispatch equations in relation to transmission constraints.

> *It is the forecasting of transmission constraints ... we spend a lot of time looking at how new equation constraints like, for instance, when Kawerau got commissioned how Transpower might have to lower constraints or tweak the right hand side, so the variables. And that is becoming over time more and more of a black box. At the moment if a certain line comes out we know what the equation would be that they implement. But they are going to move to more of a structure where the equation that they put in will be spat out of some very highly complex algorithm and it will be changed in real time. And we just lose visibility of what the actual risk is. And I see that as a detrimental change.* (Gentailer)

One mention was made of the ASX website though it was added that there was insufficient volume through the futures and options exchange to be that useful at present.

4.4 Training

■ Overview

Gentailers and most large purchasers either believe they have acquired the knowledge they need to manage risk or send staff who do not have that knowledge on courses. Medium and small purchasers had limited knowledge and were generally keen for training, but not all knew where to go to obtain it. There was only limited support for the Electricity Commission to provide training.

➢ Acquired by experience

There was strong support across the board for training about managing electricity risk to be available. In the case of the gentailers and large industrial purchasers, it was evident that there no training was required for those who were interviewed as this was a core competency of their job. Even so, some ensured that staff new to the area went on training courses.

> *Everybody who works in this area for the company if they have no background in a nodally priced market they go straight on to an Energy Link course. And if you have no exposure to a nodal price market you don't really understand how the NZEM works so there is the introductory course and then there are second level courses that build on that which have proved to be very, very useful.* (Purchaser)

> *A couple of my colleagues have gone on a course.* (Purchaser)

> *There are courses out there and they are looking at which ones are suitable for us at the moment.* (Purchaser)

The economic downturn had meant though that some who did want to have training would not be able to do so due to budgetary constraints.

> *Yes I would consider going to training on it, however, this year because of the economic downturn all our training budgets have been slashed so it ain't going to happen this year. But I guess Electricity Market for Dummies would be quite good.* [What would you like such a course to cover?] *I guess the fundamentals of the market and how it works. And then a little bit of commentary on how the various generating assets join together and transmit through the grid and that type of thing. I guess really a lot of fundamentals.* (Purchaser)

Some said they had acquired through experience the knowledge they needed and did not feel there was any further need for training.

> [Do you need financial training for this area as well?] *In a way you do, so you can price off distributions. But I guess I can do that. So it depends how far you want to take it really. But as far as I am concerned it is not that hard and because we operate in the wholesale market and have done so for so long a lot of people here are familiar with that.* [So it is just basically experience over the years?] *Yes.* (Purchaser)

> *We don't really need training on it. We know what happens when we have a high input cost of power. The problem we have for our business is that without any electricity we don't produce* [Deleted] *so you can't turn anything off unless the price is prohibitively high … We don't need training to know that if the power price goes up from eight cents to 20 cents that we don't earn a lot more money*. (Purchaser)

> *Not any formal training. I guess it's picking up on readings on the issues and I guess the advisers that we speak to*. (Purchaser)

➢ Specialised training for large purchasers

However, one or two large purchasers indicated that some specialised training could be provided.

> *Probably risk management techniques specifically. I understand enough about electricity and I understand enough about how hedges work. I understand enough about how to value one offer against another but in terms of formal risk management everything we do is in US dollars. A little bit over $200 million turn over a year and we don't have a formal treasury policy on risk management.* (Purchaser)

➢ More demand from small and medium purchasers

There were evidently some medium and small size purchasers that had limited knowledge of the market and risk management and were keen to receive training. Not all knew who could provide training either.

> *Yes, definitely. I have been in procurement for 20 years and this is becoming more prominent. I can engage a consultant, but at this stage I rely on the integrity of the vendors*. (Purchaser)

> *Our experience has been that the vast majority of end users don't understand how the underlying market works and that they have options. I think that certainly if there was access to training and material that would help them to understand that there were different ways of buying electricity that might help people to start asking questions and thinking a little bit differently rather than saying last year I went out and asked for fixed price variable volume everywhere and will do the same again this year.* (Other)

However, one purchaser noted how in another sector of the energy industry a conscious effort was made by the supply-side to up-skill customers.

> *Understanding the risk, managing it to your advantage and understanding the invoicing and accounting process behind that and may be a section on the pros and cons of fixed price variable contracts. We went through a similar process with BP over our fuel contracts showing us how it works. It was up-skill you first rather than sell us what it is.* (Purchaser)

➢ Training providers

Some gentailers made the point that they provided training for customers and advised where training could be obtained. In this context, only one company, Energy Link, was mentioned.

> *While you probably can't advertise Energy Link they are there and they do offer services and that is where we tell people to go.* (Gentailer)

> *Energy Link do educational market training type courses.* (Gentailer)

> *There are plenty of businesses out there that can offer those services. I mean Energy Link for a start off has a really good hedge training course and market industry stuff.* (Gentailer)

➢ Electricity Commission's role limited

There was little support for the Electricity Commission to be providing training, though it was suggested that it could provide information on its website by listing training providers to help inform those looking for a provider.

> *They are there to make rules and enforce them not to train*. (Purchaser)

> *It doesn't feel right, it doesn't feel like something they should be involved in. I guess if one of the underlying major problems of the New Zealand electricity market is potentially immature risk management policies in amongst major users then maybe that is a way to fix it.* (Purchaser)

> *There is an opportunity here that independent training providers should fill that gap not the Electricity Commission in my opinion.* (Purchaser)

A few purchasers made the point though that the Electricity Commission did have an obligation to ensure that everyone understood the rules it set.

> *I guess the Electricity Commission sets the rules therefore I think the Electricity Commission has an obligation to ensure that those people who are living by the rules understand them*. (Purchaser)

> *I actually think they would be quite good on developments and legal and carbon and things. Because they should have an industry overview and they should be in some ways promoting certain parts of the legislation because they are pushing it through. So yes.* (Purchaser)

A distribution company that provided seminars for its customers said training providers could consider piggy-backing on existing programmes to provide more information to the industry.

➢ Influence of electricity on operating costs

It was also suggested that as electricity was such a relatively small component of total operating costs that there was little interest in understanding about more sophisticated risk management products.

> *Generally they just want to set and forget. Obviously they can't run their business without it, it is a very important part but it is not the sort of thing that if it is a couple of percent higher than what they thought it would be it is not going to break their business sort of thing. There are some other industries that are very energy intensive where it makes up a much larger proportion, Pan Pac obviously, Comalco, Glenbrook and things like that.* (Gentailer)

One suggestion for such purchasers was to provide the technology to enable them to better manage consumption.

> *Just give some technology, they are not going to be half hour market participants, they are never going to want to have CFD's. It is like saying at home would you defer cooking your dinner for your family for two hours to save 20 cents on a peak or off peak time - no.* (Purchaser)

4.5 Hedging policy

■ Overview

The existence of a hedging policy is largely dependent upon the size and type of participant. Gentailers and most large purchasers did have policies while few others did.

➢ Gentailers

All the gentailers had specified hedging parameters set by their Boards. For most, there was a consistent pattern requiring about 75-100% to be hedged.

> *We have a governance requirement that says we have to be 75% hedged over three years and we can do that.* [How did that come about?] *That was because our Board didn't want us to be too exposed going forward.* (Gentailer)

> *Yes.* [Can you indicate what that policy is?] *In that it is 75%-85% is our policy. We have discretion to go outside of that if the opportunities present themselves but generally that is our Board mandate.* (Gentailer)

> *Yes we are, so we are 100% on each side effectively. Give or take. So we hedge pretty much all of our generation.* (Gentailer)

> *Our policy is hedging two years out and so we are hedged for all of next year, 50% hedged the year following. So as the year rolls forward we will look to fill that up so we are always at least 12 months fully hedged out.* (Gentailer)

➢ Influence of financial risk

Risk parameters seemed to be set on the basis of financial risk, not on volume of power.

> *We have risk parameters. And so that is driven by ensuring we meet financial returns etc and that is probably the main driver. Within that, yes, we have a risk policy.* (Gentailer)

> *There are specific requirements in those policies they don't translate into specific hedge levels. They are more your traditional risk measures and that kind of thing. We are required to report all the positions and exposures, but the actual limits are set on the estimated dollar risk not on gigawatt or megawatt terms.* [So it is financially measured?] *Yes that is right. So if you have got the financial measure and then the megawatt exposure you can carry, can vary underneath that depending on how you are estimating the risk.* (Gentailer)

Large purchasers

Large purchasers tended to operate with somewhat more flexibility with the ability to vary how much they hedged depending on market conditions. The percentage of load hedged tended to be lower than for the gentailers at about 40-70%.

> *We normally have about 60% cover and 40% exposed to the spot market. We also try to stagger it in blocks so we have a rolling situation.* (Purchaser)
>
> *We have got an agreement, my boss and I have been working together for 25 years … We have a 20 meg and a five megawatt hedge so depending on how we are running that is around about 70%-75% of our requirement.* (Purchaser)

One large purchaser employed an internal model to calculate how much exposure they should have to the spot market which tended to be about 50% of consumption. Indeed, few large purchasers were more than 50% exposed to the spot price.

> *We have always tended to take a reasonable chunk at spot, not only because it comes out as a rational part of the analysis.* (Purchaser)
>
> *We wouldn't go below 50% that is certainly not something we want to get ourselves exposed to.* [But it is not a written in rule?] *No. That is emotional.* [Not being too vulnerable.] *We don't mind being half naked but full naked, it doesn't look good.* (Purchaser)

It was also clear that in the wake of the international credit crisis high level ownership approval was required for some arrangements, but this was not universally the case.

> *We do, but that policy doesn't necessarily stay the same. It can change depending on our conditions with our customers ... It is more like things are changing out there we need to review our policy. So it is kind of more of a live thing really.* [And it is not determined by your global parent at all they don't have a view on it?] *They do have a view. So basically we do have to consult with them. We have quite a lot of autonomy though.* [I guess they trust that you know the market here?] *Yes. There are also approvals for long term deals so if we wanted to do a long term deal we would have to get those guys to sign it or approve it. That is because of the credit crisis and stuff. It would be the same for most people I would think, we can't approve everything we used to be able to.* (Purchaser)
>
> *We tend to make that assessment ourselves. We haven't got it in writing that you must maintain an 80% hedge all the time. Generally, I guess it also depends on what our appetite for risk is ... if you have no appetite for no risk at all you tend to hedge that 40% higher.* (Purchaser)

One large purchaser was in the process of developing a hedge policy as part of a broader strategy.

> *Not yet.* [Are you developing one?] *Yes.* [Why is that?] *The electricity hedge strategy will form part of the overall energy management strategy. Our existing energy strategy has got about three components. Our first strategy is how can we mitigate cost increases in the short term. The next priority we have got is how can we be less dependent on external supplies of electricity. And the third component is how can we become a major player in the electricity market.* (Purchaser)

Medium and small purchasers for whom electricity was a relatively small proportion of operating costs did not have a firm hedge policy.

4.6 Centralised trading platform and ASX

■ Overview

While most gentailers took the view that energyhedge provided a centralised platform already, purchasers approached the prospect with cautious support and identified factors like the availability of financial transmission rights and trading flexibility to attract them. While gentailers were supportive of the ASX initiative, there was a strong desire to see the New Zealand Stock Exchange running the futures and options exchange instead. Purchasers generally had little knowledge of what was available on the ASX.

➢ Gentailers

Some of the gentailers who said that they would be interested in using a centralised trading platform to purchase hedge products said that energyhedge fulfilled that role for them.

> *Yes, well it was basically to say from our perspective 12A and B really fit the description of what energy hedge is. It is a centralised trading platform. It is open to anyone subject to getting credit which seems to be the bane of all these markets ... what we wouldn't be supportive of is specific expectations in terms of the liquidity of that market. I think we would be far more useful to set down what structure and range of products in the market is required and then ask the market to provide that.* (Gentailer)

> We already do. *Of our book, it wouldn't be large. Most of our hedging is done on bilateral contracts over the counter. So there would be less than 5%.* [Why is that, is that all that is left?] *A lot of that is historical to be honest and also I think it is a standardised contract at Haywards so it doesn't always suit the risk we are taking on.* [Do you think you will do more when the other nodes and things are available?] *Yes and if it introduced peak and off peak products and that sort of thing.* (Gentailer)

> *We can go to energyhedge now and who else runs a hedge pricing indicator?* (Gentailer)

However, some gentailers said that they found energyhedge did not suit their purposes, so another platform had appeal depending upon the terms and conditions.

> *Yes if they were available and if the terms and conditions were of access to that. If energyhedge was something we could trade on. The difficulty we have about that is that the access terms you have to trade all the time, you have to commit to buying and selling etc. We are just not geared up, not big enough for that sort of structure currently so those are hurdles to us that we don't want to be involved in.* (Gentailer)

Some of those that were interested in using such a platform said they would consider using it to meet all their hedge requirements.

> *We'd look at that complete package of 100%.* (Purchaser)

➢ Cautious support from purchasers

However, most were cautious with their responses as a number of variables had to be taken into consideration.

> *Are we interested in using a centralised trading platform - yes absolutely.* [What percentage of your load would you look at purchasing on a centralised trading platform?] *It depends on the mix of customers we have and how much risk they can take to the extent that they can manage the risk. They shouldn't buy any hedges because they will pay an insurance premium for that. To the extent that they can't manage the risk then they need to hedge.* (Other)
>
> [What percentage of your load over and above the take or pay would you consider purchasing on such a platform if one existed?] *Look I don't know what the answer would be because you have got to do a number of things I think. Having a reference node is fine, but you then have to have a fixed factor that relates the price of that reference node to the price at your node and that factor has to stay constant over the period of your hedge. And that way you can do the calculation.* (Purchaser)

Caution meant that not all would place their entire hedge requirement on the platform.

> *It would be a matter of seeing how it goes and whether there is an advantage doing it that way or the other. We'd probably regard it as another supplier and compare it with the ones we have got already. We currently hedge between 30-40 MW.* (Purchaser)
>
> *We are unsure - we have a wait-and-see approach to the suitability of the instrument at the time. If it was suitable it would be 80%.* (Purchaser).

And some laid down specific requirements such as the need for financial transmission rights to be available and full flexibility in trading.

> *Not really, only if there were FTR's, only if there was a decent FTR market.* [Is that likely?] *It is possible, whether it can happen or not depends on people like the Electricity Commission. That is another thing they have been navel gazing about. It is kind of in their court really.* [So they know the issues around that?] *I hope they know, I am sure they do.* (Purchaser)
>
> [Would your company be interested in using a centralised trading platform to purchase standard hedge products, you mentioned before you don't really want to be a trader and sit there all day?] *It depends how long the terms are. If they say to us you can post one way prices and you can go as often or as infrequently as you feel like then we would probably be interested yes.* [Do you have any view about what percentage you might use, of your hedges you might use?] *No.* (Purchaser)

And others who expressed a desire to use such a platform had yet to assess their needs and the implications.

> *Never even looked at it.* [Have you heard of it?] *I hadn't up until then no, hadn't heard of it at all.* [That is a trading platform but only for wholesale markets so generators and retailers buy and sell on it.] *So do I believe a standard product available to all potential counterparties through a centralised trading platform would add liquidity and transparency? I honestly don't know, I really can't answer that question.* (Purchaser)

We haven't had that internal debate ... We are not traders of anything. Electricity for us is a varying degree of cost of doing business. It is not actually our business. It really does become counterproductive when we have to put a lot of resources into doing that analysis. So we have tried to avoid becoming energy traders. (Purchaser)

Unsure - don't know. (Purchaser)

➢ The ASX

Only some of the gentailers had had any experience with the electricity futures and options exchange operated by the ASX. Those that had were enthusiastic and wanted more activity on it.

Yes. I think it is very important if our colleagues in the sector haven't got it yet - they need to. (Gentailer)

It was clear though that there was a strong preference to see the New Zealand Stock Exchange operating. Doubt was cast on whether investors in Australia would bother to trade on it given their lack of understanding of the New Zealand environment.

We have done two trades on that. We really mainly focus on the energyhedge but we are technically there and I have got to say that that market has a lot of advantages ... We wish the New Zealand Stock Exchange would get its shit together and get past it because it would be much more convenient to have that run in New Zealand. But I think the end result if the NZX doesn't get its shit together is we will all go. (Gentailer)

We use it. [Do you think they understand it investors?] *It is just a financial product so for investors it is no different than trading gold or equities. The difference will be that it is something traded in New Zealand sitting in Aussie, so I would question how many investors would. Why the hell would I want to play in New Zealand electricity futures? We use it because we understand the products, understand the underlying products, whether investors will understand that is another thing. And New Zealand punters outside of the participants probably don't even know about it. So I think NZX will have a hell of a lot more future if they launched one.* (Gentailer)

Some gentailers had little interest though in it.

I haven't really had a look at it in detail. I know it is there, we don't have a real burning requirement for hedging sort of thing so it is not front of mind for us at the moment. It is not like we are desperate for it. (Gentailer)

Outside of some gentailers, there was only limited interest in the ASX offering though there was some enthusiasm expressed.

Meridian has come out lately and suggested that the generator retailers act as market makers on ASX. We think that is a super idea because that will bring liquidity to additional nodes across the country. And it opens up the market to financial players and there is a platform that is there and used. (Gentailer - not Meridian)

Some wanted to see more participants involved before committing themselves.

There are only two players in there and one is Mighty River and one is Meridian. We would love to get in there, but we would like to see more of the real market participants in there first. Because we are committed to participating in the ASX. For us it is just the absolute natural bed fellow. (Other)

ASX has got an energyhedge type competition and they offer something at Otahuhu and offering something at Otahuhu is of far more interest to us than offering something at Hamilton. [So what is your likelihood of using that?] *Probably Genesis exiting the market and ASX coming into the market so you could say there is more competition there because it is another potential seller of hedge to us.* [And what percentage would you look at using in the ASX any view on that?] *If they are offering a good price - the lot, as long as we are happy with the counterparty risk.* (Purchaser)

Yes, but I'm not sure what form that would take. About 80%. You wouldn't want to go to a 100% in case you don't use it. About 13-14 MWh a month. (Purchaser)

Most purchasers though were clearly unsure about using the ASX. For most, they would need convincing that it was an active market that had advantages for them. Greater transparency was an attraction as was the presence of capped contracts.

[What about ASX do you have a view on that? Did they come and see you?] *I haven't got a view on it yet.* [What do you think of its likely future, any thoughts?] *I couldn't comment but if it works well I can see a great future.* [Why is that?] *Because I think it gives the market transparency. At the moment I don't think the market has a natural great deal of transparency on the hedge market.* [Is that because any player can trade on the ASX?] *Yes.* [If Energyhedge was opened up and anyone could buy off that would that make that a similar transparent market?] *Yes as long as the information the website provides is transparent and correct.* [Are you likely to use ASX or not?] *Not sure yet.* (Purchaser)

We worry in New Zealand about running out of power, so if we had a capped contract that was traded across Auckland and Wellington and the South Island then you would have a mechanism essentially for turning these irregular periods of extremely high prices into annuity streams, which could then be used to fund demand site management, small generators, peaking plant and the nice thing about it is that it wouldn't impose a cost on the market in that the value of the cap as in the amount that it pays out should be equal to the value of the annuity if it is priced right. And it would create a market mechanism for funding investment and security of supply. (Other)

So there are many, many things that a very simple financial market like that where people could get access to it and there was actually some products that were being traded on a reasonably long term basis that people could do. It is simple, it is market based and so it should be least cost. And it has got access to foreigners and provides opportunity for bringing in new bits of technology. (Other)

Some expressed a need to have more confidence in knowing how to operate in that kind of market.

When it came out a month or so ago we had a look at that. We are not averse to using it at all. [Do you think you are likely to use it in the future at all?] *I am not sure. I suppose we would have to ask the question at the moment, 'Do we really have the expertise there to really participate in it?'* (Other)

There was clearly some potential for those who operated both sides of the Tasman, but this interest was tentative to say the least.

Probably not, but having said that we operate in Australia and Australia and New Zealand are treated as a region, so any initiatives that are picked up there can come over here and vice versa. (Purchaser)

One government sector purchaser felt there may be obstacles to participation due to the heavily prescribed rules around procurement.

> *I'm not aware of it. I think it would be very good, but I am not sure how it would fit within the Government procurement guidelines because obviously spending public money we have certain rules to follow and all that probity that goes with it.* (Purchaser)

And there was a certain amount of scepticism that the ASX would still suffer from having some of the same drawbacks of the current New Zealand hedge market.

> *I would imagine it would be hard going given that I would have thought it would have been the same parties involved in the New Zealand electricity market anyway unless they can somehow draw in a whole lot of speculators. If they can do that, then that is fine, that would be good. But those guys have taken quite a bit of risk.* [Because they don't know the New Zealand market?] *No because they have got no generation load in the New Zealand market, so therefore they are purely speculators with no other way to manage the risk. So they are just taking a punt on the price.* (Purchaser)

> *We have not looked at it. Who is that open to? Because we have found that we paid consistently anything between 10 and 20% more than the hedges exchanged between the gentailers.* (Purchaser)

For the most part, purchasers simply did not know enough about the ASX to have an opinion.

> *No, I'm not aware. How do I find out about that*. (Purchaser)

> *I don't really know much about it.* (Purchaser)

> *Haven't even looked at it. And I don't think anyone at the plant has looked at it either.* (Purchaser)

4.7 Force majeure/suspension clauses

■ Overview

There appears to have been an improvement in the market with fewer onerous FM/suspension clauses being offered. Where FM/suspension clauses are present, there is a preparedness to price contracts with the clauses inserted and with them taken out.

➢ Improvements

There was a general agreement that there were far fewer FM/suspension clauses in contracts today than in the past and as a result of industry pressure on generators.

> *They have moved a bit on FM these days, they have moved away from it.* (Purchaser)

> *The plant availability one was an old one and the industry screamed about this because they said that is your risk to manage, we can't manage that risk for you, it is not an Act of God it shouldn't be an FM situation because all we are doing is managing a price risk. You have a piece of kit that falls over that is your issue for you to manage, they are your assets.* (Purchaser)

This is as a seller I would like to see zero in there, but less than 10%. Suspension clauses? Less than 10%. (Gentailer)

This purchaser outlined two types of clauses they found were objectionable, but these were no longer offered.

Things like retrospective claims up to two years later which someone tried. Other ones like things that could possibly be the generators fault in our views. Those are two things that come to mind but that is probably going back four years. They accepted what we were saying. [Do you think they put them in still?] *No they don't they have different FM.* [Which is acceptable?] *Yes. Of course, that can be a risk and that is fine we understand that. But imagine two years after you get a letter saying, 'Hey by the way, two years ago we had this problem and now we are claiming FM and you have to pay us $1 million'.* (Purchaser)

Where purchasers said they were presented with FM and suspension clauses they found there was a preparedness to price contracts without one, so there was transparency.

I guess what I am thinking about is the Contact suspension clause which has matured over the years. It used to be one plant down would suspend the contract now it is a combination of plants. But that doesn't seem to be a hedge, that doesn't feel like it. [Even with a combination?] *It doesn't feel that way but Contact have been very willing recently at a price to say here is the suspension clause, here is a price without. So it is very transparent.* (Purchaser)

What I would do is to say okay Mr Contact because they have lots of force majeure clauses, give us a price which has no force majeure so therefore the price would probably go up and then we can make the decision. (Purchaser)

One supplier never has an FM, one generator is great. We got the latest generator to quote the cost of taking out the FM and it was a business decision not to take that. [Was it a lot more expensive without it?] *70 + cents. And we also made sure it was more than one of their plants down.* (Purchaser)

This was supported a gentailer who did just that. However, it did appear that FM/suspension clauses were still reasonably prevalent among generators even if they were given another name.

We look at the price more than anything. I don't think it is unreasonable to have those clauses as long as it is reflected in the price. Our standard terms include them so we price to that normally because there is a different sign-off process to change the standard terms and conditions. But a lot of the time it is more just educating them. If it is another generator the FM clause I think a lot of them have FM clauses. They probably call them market disruption … so I bet you that even though they don't have an FM clause somewhere in their scheduling or something they will talk about a market disruption. (Gentailer)

However, some gentailers claimed they did not have FM clauses, though they did price the risk into their contracts.

We have a policy of pricing those in so I have taken the risk. Other parties like to have force majeure in there because it is just an internal policy stance. What we have to do therefore is take into account what would happen if a plant tripped. So we certainly have to look at how much spare capacity we have to cover that contract. If the prices went up can we actually cover that and if we can't then we have to price in that risk. So in that situation if we had a force majeure clause you would be pricing it lower so you still take that into account. (Gentailer)

And others objected strongly to their inclusion from other gentailers.

> *Just going back to the force majeure one, as a seller it is not important to us as we don't have it in. But as a buyer, it pisses the hell out of me that it is in there.* (Gentailer)

If a choice was offered between a contract with the clauses and those without, there was less objection to their presence.

> *FM clauses are fine, people can contract for whatever they like but you can't expect to be paid a contract price for a contract which doesn't have an FM clause if you have got an FM clause in there. You should get a discount off the price if there is an FM clause.* (Gentailer)
>
> *In a competitive market generally it is always a trade-off between price and terms. I don't see it as a major issue ... they are more likely to say here are the terms and conditions and location etc and they are more likely to reduce the price a little bit rather than say I will transact it to the node you want or remove the FM clause.* (Gentailer)
>
> *It really depends on the product and most of the time you do get an offer but it is always price that determines whether it is acceptable or not.* [If you only get one offer do you think that shows that it is competitive though?] *Obviously if it is a product that only one party can offer then I guess it wouldn't be that competitive.* [Is that because it is that one location?] *For example yes.* (Gentailer)

Most of those who had signed contracts with the clauses included said they had never actually experienced them being exercised though this was not universally the case.

> *I think it is Contact who has a clause that says if the usage exceeds the original estimate by 20% Contact reserve the right to renegotiate the price. But we have never had a case yet where the usage has gone way up above the estimate.* (Other)
>
> *We have had a hedge in the past which did have a force majeure in it and that force majeure clause did come into force a couple of times mainly through lack of gas and it normally comes into force when the spot price is high and that is when we need a hedge.* [So what is the point of having a hedge then?] *So, we're not very happy about suspension clauses, they are in a far better position to manage the risk than we are.* (Purchaser)

One respondent flatly refused to sign contracts with FM clauses as they insisted in building a book that had similar contracts.

> *We wouldn't enter into any. We would just refuse. We don't have to trade so if somebody comes along to us and says there is a bit in here about this or that or the next thing then we would just say we won't do it ... our book has to be homogeneous.* (Other)

And not all gentailers were of the view that force majeure risk had to be transferred to purchasers in some form or other. All FM clauses were therefore considered unreasonable.

> *I don't think any generators should have FM in their contracts because they are in the best position to manage that risk. And they should just price that risk into their price. An end user or us, as a buyer, we can't manage FM on their behalf - that is ridiculous. So what happens if you are an end user wanting to buy, we don't write FM in our contracts so if I have cover and I have bought off you and you have written FM in and your plant trips over that is when the market is going to spike and that is when I want my hedge cover and you have just suspended it. What do I do then? So I think they are all unreasonable.* (Gentailer)

Other types of FM that were considered were any that included market factors or within the control of the seller. It was suggested that an alternative to including suspension clauses for plant failures was for gentailers to purchase business interruption insurance.

> *It would be unreasonable if there was a market factor in there because that's why we have a contract ... that's why you have a hedge to take out the market risk, so that would be unreasonable and even going as far as perhaps if your price went up because of a Transpower failing.* (Purchaser)

> [FM clauses that are unreasonable, are there any that you think are unreasonable?] *Yes. Ones that say if one of our kit drops off like a 350 megawatt generator drops off we won't need the hedge contract that we have with you, when these guys should have business interruption insurance which they should use to cover such an arrangement.* (Gentailer)

4.8 Location issues

■ Overview

Location was a significant problem affecting the availability of competitive hedges with the primary problem being basis risk. As a consequence there was relatively little competition outside of the main grid locations and areas of weak competition were identified as the South Island due to the weakness of the DC link, the East Coast of the North Island and the Far North.

➢ Location a significant limitation on competition

Location plays a significant role in limiting the availability of competitive hedges. Some gentailers have a policy of not pricing to some locations due to basis risk and some traders won't venture far from two main nodes.

> [Do you have a policy not to provide hedges at some locations?] *Yes we do.* [What locations and why?] *Well transmission risk is the reason at the end of the day. We don't want to trade in Northland, for example, the transmission constraint risk is too high there. Historically, Hawke's Bay has been a no-go-zone although I suppose as time is moving on and especially with the conception of Whirinaki transmission constraints don't seem to be as much of an issue as they used to be. We don't trade in the South Island because of the HVDC risk.* (Gentailer)

> *We won't sell at all locations, we will only sell at two locations and that is purely because we can't offload the risk. For us, it is all about build a trading book and then going and offering prices to other customers in that trading book. So because the contracts are only available at Otahuhu and Haywards now those are the only nodes we would trade at.* (Other)

> *Genesis would probably prefer not to go to the South Island.* (Other)

➢ Few sellers prepared to price anywhere

The general observation was that currently only two gentailers were active nationwide with the rest being far more selective as to where they would offer hedges.

> *Mighty River, who you would think would rather be in the North they have become more competitive throughout the country ... Contact are generally all over the country they are pretty good ... in general terms at the moment it has almost settled down to a competition*

between Mercury and Contact, that is what we are noticing now. Then the other retailers are still there but they are very selective on where they come in. (Other)

However, it was observed that being prepared to offer at every node did not necessarily mean that competitive prices were forthcoming.

I know Contact has a policy, for example, that says we will offer prices at every node. But offering prices at every node and offering competitive prices are two fundamentally different things. (Other)

➢ Regional impact

This pattern of limits on location was echoed by purchasers' experiences with the South Island coming in for particular mention.

We have had a little trouble in Dunedin, but it's not a top priority and is more the exception to the rule. (Purchaser)

Yes I have trouble getting it up North quoted out of a grid exit point up there ... and the South Island ... there is not a lot of liquidity, but it is such a small part of our business that we don't worry too much about it. (Purchaser)

Naseby and Palmerston. (Purchaser)

[What locations would they be?] *South Island.* (Gentailer)

However, the problem was described as occurring in most places off the 220 KV grid.

It is all the little pockets of the grid that are off the 220 so to speak. Top of the South and the East Coast are the two obvious ones. (Gentailer)

It is reasonably easy to get prices from central North Island, Haywards is okay, but east coast, top of the North Island, the South Island. And I am saying that on the basis of we are not going to generator retailers we are going to independent generators typically. (Gentailer)

Yes. Obviously we would like to buy hedges at demand points and things like that but generally we are brought back to standard hub nodes, Haywards, Stratford for Contact or Whakamaru those sorts of locations. Very rarely do you get hedge offers away from those without paying a sizeable premium. (Gentailer)

And this flowed through to a lack of competitive tension.

[Have you asked for an offer and didn't get one? Or were only offered one?] *No we have always managed to get at least a couple. Again some of that competitive tension is not high though. Like when you said some of the other purchases - we might get three offers but really two of them are half hearted attempts rather than trying to win the business. And there might be only one person who has really put a bit of effort into it. Again that competitive tension is not very high.* (Gentailer)

Sellers tended to confine their activity to their own generation area to minimise basis risk.

That is quite common, that different retailers have a preference to hedge in their own, what you might call generation area. (Other)

So the main reason for us not to have a large position in the South Island is basis risk especially with the HVDC link between the two Islands. So it is a concern in a sense that it restricts what you can do. [Do you think that the upgrade of the HVDC link will improve that?] *Yes it will definitely improve some but I think the risk is still there if the link is out for example. So there is constraint risk and there are the normal losses, we can deal with the losses reasonably okay but the constraint risk is a real problem.* (Gentailer)

And those that were not affected by these issues acknowledged that it was a key issue for the industry.

[Do you consider locational price risk as a significant problem?] *Yes I do. Maybe not so much for us, but in terms of an issue for the industry, yes.* (Purchaser)

4.9 Duration

■ Overview

Duration was not seen as a problem with most parties seeking and obtaining contracts of around two to three years.

➢ Purchasers' duration needs met

Purchasers generally found little problem obtaining hedges for the duration they needed. Most seemed to want hedges for no more than three years and these were available.

Three years seems to be about the limit although for fixed prices we occasionally get them for five years. When it comes back to hedges two to three years seems to be about the limit. If they do go beyond that they want to build in a review clause of some kind. (Other)

The key reason for the limited three-year horizon was the avoidance of risk of what will happen to prices beyond that time. It was therefore a rare and somewhat special reason to seek long-term contracts.

No not really no. Most parties tend to prefer a two to three year contract. We would contract long term if the parties could agree. The problem you have when you transact long term is that both parties always find it difficult to transact on that term because no one wants to be out of money in the later part of the contract. If something is two to three years away, generally that is a time frame which if you are out of money the term of the contract is only so far away. If you are entering into a 10 year contract and you find out I shouldn't have done that it is a long time until the contract expires. Generally, the main reasons that parties will enter into long-term contracts are if they are investing in capital or some other underlying reason why they want surety of price for an extended period of time. Either that or someone takes a real view that electricity prices are going to go through the roof in the next 10 years so if I can get a reasonably priced hedge then in the long run I will be better off. But you don't find many people who find those views. (Gentailer)

4.10 Additional counterparty services

■ Overview

Advisory, information and market agent services are the main additional services that counterparties provide purchasers. The few gentailers that identified additional services they sought mentioned the ability of end-user to sell back hedges or to provide interruptible load and the type of plant and locations offered by other gentailers.

➢ Purchasers services - advisory, information and market

Although additional counterparty services were rated relatively low in terms of importance compared to price or location, a variety of services were provided. One category of services was advisory and information about usage particularly for those with multiple sites.

> *Usage profiles, market information are probably the two.* (Purchaser)
>
> *Detailed information on usage at any of our sites.* (Purchaser)
>
> *Some of them offer to come and do a survey of your plant to offer energy saving advice.* (Purchaser)
>
> *It would be advice and equipment to manage consumption and obviously lower your peaks and assistance in dealing with lines companies because some of them can be interesting to work with.* (Purchaser)

However, it was clear that price was an overriding consideration in clinching a deal.

> *One thing they will do is they will send you their market report.* [And you obviously don't think that is that much use?] *It is good but it doesn't mean I am going to go and buy a hedge off them just because they send their market report, it is irrelevant. And when I am saying the relationship with the counterparty, it is important, but it is not important when deciding between two offers. If it comes down to one cent that is it we will go with the lowest one.* (Purchaser)
>
> *Meridian has this great online system but it doesn't do anything for us. We want the best possible deal.* (Purchaser)
>
> *One particular generator is very good in providing unsolicited data and information and the others don't. But it doesn't actually make the difference between us using them and purchasing this product versus that product.* (Purchaser)

The other type of additional service provided is to act as an agent in the market for the purchaser.

> *We are in the reserves market so they act for us in the reserves market and we also have some arrangements with them for supply of thermal heat on our site via EFI so we are pretty strong on that relationship side of it.* (Purchaser)
>
> *The first thing which comes to mind if we are entering a hedge contract is are we entering a hedge contract with a current supplier of electricity and can the provider also help us manage our day-to-day bidding for electricity?* [And does your current provider do that?] *Yes, we have a significant amount of hedges also acting as our bidding agents on the electricity market.* (Purchaser)

> *They become our market agent. One deals with the spot market and one deals with our reserves.* (Purchaser)

Assistance during power outages was a critical factor for one purchaser.

> *This is about power outages or their response to power outages, how proactive they are, how good they can notify us, how fast they can get some alternative generation arranged.* (Purchaser)

And one saw some value in Meridian's attitudes toward environmental responsibility.

> *And one of the things we looked at was why do we like Meridian and part of that was we are what we call a responsible care company, so responsible care is an ethos around social responsibility, environmental responsibility, etc. So we kind of liked the fact that Meridian was totally hydro generation. But other services I don't know what other services they can provide to us.* (Purchaser)

➢ Gentailers

Only a few gentailers identified additional services provided by counterparties. Those that did mentioned the ability of end-users to sell hedges, the provision of interruptible load and the type of plant in a sellers' portfolio.

> *Well for things like large end users it may be if they can possibly sell us hedges. Potentially energy hedges or ancillary product hedges. Some of the large guys to offer interruptible load into the market and we are always keen to explore what we can do with that. So if, for instance, the hedges wrapped up with a wider discussion then that is obviously very important we kind of look at the package deal.* (Gentailer)

> *Well it might be sometimes about location. Or type of plant. If someone is buying we don't like it when someone offers us a particular contract off a particular station necessarily. You know they have a portfolio. But there are times you might be thinking they might have a certain plant in their portfolio and therefore that is useful.* (Gentailer)

Some identified the services they provided to purchasers such as the provision of market commentary and energy management advice.

> *We do provide a range of energy management services to smaller customers.* (Gentailer)

> *For industrial sales sometimes we try and give them other bits of information because they are less aware. So I know our sales guys put out a market commentary on what is going on just to keep them informed.* (Gentailer)

Other gentailers focused solely on the hedge itself and neither offered nor expected other services.

> *Not really, if you are going to do a hedge you do it for the purpose of doing a hedge other than other reasons. We don't see that as being a bundled sort of service.* (Gentailer)

4.11 Credit arrangements

■ Overview

Credit checks are standard practice before entering into hedge contracts other than with other gentailers. Although a mandatory hurdle to climb, credit support is available to manage the issue. The global financial crisis has brought a sharper focus on credit checks. Gentailers are divided on their preparedness to accept hedges being lodged as prudential security and those that would said they would price them accordingly to reflect the risk transfer.

➢ Credit checks a requirement, but not a major barrier

While credit arrangements were not a major barrier for sellers entering into hedge contracts, they were certainly regarded as a necessary hurdle that gentailers insisted on having in place. The standard arrangement was to provide some form of credit support.

> *It is always one of those hurdles you have to get over in any contract negotiations but generally they are surmountable. If parties don't want to trade with us they just say they don't want to trade. So generally once you have agreed on a price then getting over those sorts of hurdles should be generally straight forward. I suppose there could be other parties who would be in a different position if your ability to provide credit support is limited.* (Gentailer)

> *In most instances we have been able to arrange appropriate credit support. Sometimes I think it is fair to say customers have been reluctant to provide that and have questioned why they should have to provide it.* (Gentailer)

> *If someone doesn't pass credit approval then there is always a fallback position of credit support. It is definitely something that is out there and it is part of our process to obtain credit approval for every transaction.* [Are there any ways to deal with that or not really, is it hard to find the information you need to seek security?] *Not really as long as they are a public company and they have results that we can assess. It is a bit harder with private companies that don't publish any results. Failing all that we could work on the basis of credit support.* [Is that what you have to do or do you look at the books?] *I haven't dealt with one.* (Gentailer)

Credit checks also appeared to be standard practise to avoid the risk of default. These checks appear to be more rigorous in the wake of the global financial crisis and particularly for those seeking long-term contracts.

> *We have reasonably careful credit checks.* (Gentailer)

> *We do credit checks and certainly there is news about the economy, for instance, manufacturing is struggling and if they are wanting to enter into a long-term contract we have questions. We have a policy that we have to go through to do credit checks and get it signed off by treasury and the CFO. So it is either within policy or outside policy and we try and work it through with the customer as opposed to saying, 'No we don't want to offer'. Because our business is offering so if they can provide us with some sort of comfort then we would go ahead.* [Is it hard to find that from some companies?] *From time to time from customer to customer. More so in the last 12 months.* [Is that just because of the recession?] *Yes that is right.* (Gentailer)

> *It is actually a third party check. They clear it all and do it all and crunch the numbers, we just sign off and away we go.* (Gentailer)

And more risky counterparties were at times subject to more frequent payment schedules and letters of credit.

> *We don't go into negotiations if we don't pass, although every time we offer it is always subject to a credit check.* [And that is just because there are a few question marks around them?] *Yes. We have had customers we have made pay every week.* [How do they find that?] *Didn't like it but they did it. And it has gone into liquidation still paying every week. We are probably the only one of the debtors who does get paid every week. We are strict as, we don't muck about.* (Gentailer)

> *We have credit policies we have to deal with and everyone, like us as a company, generally gets a rating for credit and the better rating you have the easier it is to get credit. The lower the rating the harder it is and we, like anyone else, banks need letters of credit and some form of guarantee if they are dealing with low rated companies.* (Gentailer)

➢ Exceptions made for fellow gentailers

Gentailers were not as insistent about credit checks on their fellow gentailers.

> *Certainly with industrial customers we take into account credit with companies with credit ratings or other SOE's we see as a lot less of a credit risk. So although we are cognisant of it we may not specifically request a credit report for Contact, for instance, or Trust Power because we have been working for a long time or they are Government owned. Other smaller ones we may have a look at as I mentioned for industrial customers.* (Gentailer)

Sellers have experienced instances in the past where they have contracted with those unable to pay what they owe for not insignificant sums.

> *Yes and I was talking about maybe fixed price variable volume type contracts. There is a credit question which we had concerns about issues entering into it and it is just that we have internal credit requirements in the front office. We don't see it we have a credit manager that does background checks because we have been burned in the past.* [You have been burned in the past?] *We get burnt from time to time. We had a customer go under last month for about $70,000. The worst we had was* [Deleted name] *that was $250,000.* (Gentailer)

➢ Lodging hedges as prudential security - mixed views

Two gentailers were enthusiastic about having hedges lodged as prudential security.

> [There is a question here about whether you are prepared to have hedges lodged as prudential security?] *We love to get them. That is quite important to us we work quite hard to minimize our prudential security. A lot of times I might buy a product and say we will take it actually at the generator which means I get the prudential benefit when it goes to the market almost without the counterparty understanding that.* (Gentailer)

> [Are you prepared to have hedges lodged as a prudential security?] *Absolutely.* [Are there any issues you think would be involved in doing that from your perspective or from the perspective of people who might not think that is a good idea?] *Lodging hedges as prudential security? Well the clearing manager has a mechanism Schedule H5 so there is a mechanism there to do it. The issue then becomes the clearing manager probably can't handle a whole lot of those because I suspect it is not a very automated process. I am sure there will be issues as we go through and do it, as yet we haven't done it all of our hedges have been off market.* (Gentailer)

Another gentailer simply saw it as another product to price because it increased their risk.

> *Switches the risk from them to us but that is fine like we said before we price everything. It is not terrifically expensive, it doesn't cost very much.* (Gentailer)

However, other gentailers were reluctant to accept them or regarded it as an additional service for which they might charge depending upon the relationship with the counterparty.

> *I think we would resist that although it always comes down to commercial reality and if you can save a buck by doing that then, yes, we probably would. But again we would probably try and exhaust all other measures before we did that.* [What are your reasons for resisting or being reluctant?] *I suppose it is one of those things that if you can avoid it then you would. You would prefer to keep issues separate, receive the money on one hand but be able to dispute? On the other it comes down to your bargaining position at the end of the day and your will or desire. It just depends the reason of it, how critical is it to your business and do you really need it, do you want it? And other alternatives that the other party might be happy with.* (Gentailer)

> *Depends what relationship you have with the customer and generally if they asked and it makes sense we would. We have done it in the past.* [Do you get asked very often?] *No it is rare.* [In what instance would you turn that down?] *I guess what you are doing is addressing credit issues for someone. So you may want to charge for it, I am not sure we would turn it down.* [It is another service almost?] *It is a service thing.* (Gentailer)

> *I don't know. It is sort of us assuming the risk of the market operator. So there are some certain issues around that.* [So not that keen on it?] *I presume not.* (Gentailer)

4.12 Influence of dry years

■ Overview

Most gentailers have been profoundly influenced by the dry years over the last decade and have placed a sharper focus on risk management as a result. This has also occurred not only due to the most recent dry year in 2008, but also because of the global financial crisis. Even though some purchasers have taken a more conservative approach, others have decided to remain fully exposed to the spot market at present. Their rationale for this has rested on the view that over the long-term the spot market will be less expensive than hedging. Unless price certainty is required or electricity is a significant proportion of operating costs, purchasers are prepared not to hedge and take advantage of current cheaper spot prices.

➢ Profound affect

The dry years had had a profound influence on the behaviour of most respondents making them more conservative to their management of risk.

> *I would say it has had a profound effect on risk management. There were a series of internal and then an external review and that has led to a programme of upgrading our risk management capability.* (Gentailer)

Definitely. Our current contract is with Meridian so we saw the hurt that they had in the 08 year first hand, so definitely, we are now more aware how dry years can affect. We just know how that generational split affects the market. It affects how we look at the profile of generation. (Purchaser)

Definitely been more conservative. There is asymmetry of outcome. You can lose a lot of money in a dry year if you don't manage your risk well. Whereas in a wet year you can lose a bit of money too by not hedging. Asymmetry of price, prices can only go to zero but they can go to affinity the other way. (Gentailer)

Yes, we are re-looking at it now as a result of 2008. 2001 was our defining year when we changed our policies we weren't running a dollars-at-risk analysis before. (Gentailer)

➢ Tighter management of risk

Some though stressed that this had not meant that they had become more risk averse. Rather policies had been reviewed and a much tighter focus placed on processes and reporting requirements.

It has affected our hedge programme, it is affecting the middle office, the processors and systems reporting. The extent of control over the front office is increasing. But I wouldn't say the limits have changed. So the appetite for risk is still there. [So it is tighter?] *Yes systems, processes, reporting, measurement and they flow on into generation development and all of those things.* (Gentailer)

We have had independent reviews of what we do, independent review of our policies. We have refreshed our policies and our parameters and all of that with the Board. And in the process of doing that we have probably gone more granulated and stratified ... We have probably thought about the types of customers, retail customers that are good, bad and indifferent. Both buying and selling, both sides of the market I would suggest. And I think probably one of the reasons we think increasing liquidity is important is because of all our experiences with dry winters. Absolutely essential. (Gentailer)

➢ Global financial crisis

Quite apart from the dry year influence, the global financial crisis had also had an impact on risk management.

The events of last year are twofold, one is the impact on us in terms of what occurred in the electricity market ... the other thing that has gone on is coming from the capital markets side of things ... the whole process of the financial collapse world-wide has created this flow on and the board has become very clearly much more interested in risk management. What has shaken the Board is the bigger global picture and they are responding to that. (Gentailer)

➢ Preference for hedging

Some purchasers that had been well hedged during the dry years had seen the benefits of hedging and were committed to continue hedging.

[Have your experiences in the dry years affected your approach to risk management?] *Yes.* [Which dry year in particular?] *2001.* [What did you decide to do as a result of that?] *To continue doing what we had done.* [So you did okay during that period?] *Yes.* [Why before that time had you been so highly hedged?] *They had pretty good hedge prices back then in fact cheaper than spot prices. But we understood there was a bit of risk there, we didn't understand how much until we saw 2001.* (Purchaser)

Absolutely. [Any particular year?] *2008.* [So not the earlier ones?] *No the earlier ones, the dry years and the average cost per megawatt per year weren't actually that significant. The only real significance we had was in 2008 when it spiked.* [And you weren't covered?] *We were only 85% covered then. That cost us $12 million extra.* [What did you do as a result of being caught out? What did you decide to do?] *Over 100%. We basically increased our cover to 100% and at the same time we lowered the cost of the expiring hedges by 5%.* (Purchaser)

➢ Preference for spot

In contrast, some purchasers' long-term analysis of historic spot prices told them that they would be better off not hedging and some were considering doing so given the perceived lack of competitiveness in the hedge market.

It's factored into our analysis in the sense that - notwithstanding those statistically adverse years we were never ahead of the game as you might expect. All it says is that you are paying a premium for price certainty, so unless price certainty is absolutely essential to you, then why would you hedge? And what has happened is that the price of hedges has increased over time, so what has happened is that you're less protected in time of spikiness and more exposed when prices drop - you actually lose more when prices drop, so it's an interesting phenomenon. They've increased by 40% since 2002. That's in relation to spot prices. (Purchaser)

[You said earlier that spot prices are cheaper than a lot of hedges now but you still will hedge a lot?] *Maybe. But we are changing our views.* [You track obviously spot versus what you are paying on your hedge and where you would be if you were straight on spot?] *Occasionally. And if there is some change and they are not as firm then we will contemplate hedge.* [But it just makes you more aware that the hedge market doesn't seem particularly competitive and you are having to hedge more than spot.] *Over a long period of time that is right. It is an indication to me that maybe they will say they have overcooked the spot market, I don't know but that is what it looks like.* (Purchaser)

The decision on whether to risk exposure to spot prices was also influenced by the purchasers' need for price consistency which was less the case for those for whom electricity was a relatively small proportion of operating costs.

Last year, we had existing hedges in place and had we not it would have cost us a lot. However, over the long-term you're better off not hedging, but if you want continuity of price and consistency then you're going to pay for it. (Purchaser)

I just usually look at the average spot price over a while and say it is $50 but I know that you might have hedged at $70. Look at 2008 the average spot price was $103. It is dependent on our requirements because if we know we have to supply customers we have no choice and you kind of have to hedge anyway. It is just a matter of how firm are our commitments to our customers at any given period of time. (Purchaser)

➢ Duration of price spikes

The duration of spot price spikes though had forced some to rethink their approach. In the first example, the purchaser had switched from spot exposure to hedging due to the long-term nature of the price spikes in 2008.

Last year, we looked at our hedges differently from what we normally have. Normally, we run the mill on spot prices and the hedges are there to moderate the peaks, but last year because of the long-term nature of it we had to change our philosophy and run it just on our *hedges alone directly just to maintain output. So, it depends on the duration of events as to how we adjust our tactics and strategy.* (Purchaser)

However, in this second example, it was judged by this purchaser better to ride the spikes rather than cut back on production because of the disruption that would create.

We actually made one change in 2008 which I found quite interesting. What we have done in the past is as soon as our exposure to spot prices reached certain trigger levels where the increment production was losing money we just cut power. We just reduced power so we were within what we were hedged. But that meant basically doing it fairly instantly and what it does is that it starts to destabilise the whole process. [This is the production process?] *Yes. So what happened in February 2008, it was looked at and it was said, 'This is temporary so we will ride through it'.* (Purchaser)

➢ Best time to purchase hedges

Some purchasers had learned that the best time to purchase hedge prices was when the South Island hydro storage was high.

Yes, the best time to go to the market is in a wet year because if you are trying to buy a five year contract and if it's due in a dry year period they just seem very negative and it just seems to affect prices in the future which is a strange thing. So, we try to go to the market when they're happy, which is in the wet time. I think last time we went to the market almost 12 months before the expiry of our contract because we thought it would be a better time to be going to the market. (Purchaser)

[You are pretty much going to be almost 100% hedged?] *Yes. Unless I can get certainty from the market that the spot is going to be slightly below the contract rates.* [Is there any such thing as certainty in the spot?] *No. Our philosophy is at the end of the day that hedging doesn't actually protect you from price increases it just moves it out.* (Purchaser)

4.13 Responses to high spot prices

■ Overview

Most purchasers' stock response to high spot prices is to reduce consumption though the ability to do that and the time that can be done for is highly dependent upon type of industry, inventory levels and flexibility in production processes. The price threshold at which consumption will be cut also seems to vary, but is largely within the range of \$100-\$300 per MW/hr. Very few purchasers are willing to cut back on consumption and do so under duress. Some support was expressed for the introduction of 'dispatchable demand' by which purchasers would be dispatched by the system operator and paid for cutting consumption. There were a small number of purchasers who said they would not cut consumption because it was too costly to do so in terms of the impact on their product and services. Gentailers for the main part respond by maintaining or if possible increasing power production if they are able to do so and some have arrangements with distribution companies to control retail load.

➢ Type of business critical to willingness or ability to respond

The profile of a purchaser's business or activity was critical to its ability to respond to high spot prices. Some were capable of making a significant cut to their consumption over a prolonged period of time or might be able to do that depending on inventory levels at the time.

For us we are a bit like small towns and we can cut back about 10% across the board. (Purchaser)

[Under normal business operations how much load could you easily cut for a short period when spot prices are high in megawatts?] *100.* [And is that easily cut?] *Yes we would.* [How long would you be willing to do that for?] *As long as the spot prices are high probably.* [How long do they sustain high, is it usually only hours?] *Last year it was a month. It all depends on the conditions in our market place.* [Depends on your customers.] *Yes and depends on our arrangements, depends on our inventory levels, depends on our other options to supply our customers. So we can easily cut load for a period of a day or two not a problem, even a week is not a problem. But to do further than that may be difficult*. (Purchaser)

We run active marketing internally, we have a thing called LOMO which is lights off, monitors off if you are not in a space. We also go through and detube light fittings when there is a genuine national need. We actually peaked out during the 2005 power crisis and we reduced our consumption 17%. We sustained it for two weeks but then it just climbs up. Staff will only buy in when it is going to affect them at home. (Purchaser)

Some were able to do that too, but that was dependent on inventory levels at the time.

The answer is yes in general but it is dependent on variable costs. A large group like [Name deleted] *has a variety of businesses. One very large consumer of electricity would have great difficulty in shedding load because of its nature, doesn't really take highly to shutting down whereas other firms can for short periods.* [How long is an average period you could do it, is it hours?] *Hours as opposed to days and weeks. But when there is short-term stuff that is not price driven but it is actually either generator and/or transmission driven of course and we can drop reasonable quantities of load for short periods. But that is not really hedge market stuff, that is not really dry year stuff.* [So you don't do it as a response to high spot, do you ever do it when the spot price is really high, you still are 20% do you shut it down until the spot goes down?] *In our business we do. I can't speak for all 300+ sites.* (Purchaser)

Some were able to cut consumption but only for shorter periods of between several hours and a day.

We can do that temporarily. [What time is temporarily?] *Look I don't know - a day or something like that.* (Purchaser).

Some had only quite limited capacity to cut load as far more emphasis was placed on running their operations 24/7.

If it was for two hours in the evening we could, but it's like an airline business, we're running 24/7. [Is this something you are quite relaxed about doing or would you be doing it under duress?] *We could, but we'd have to be paid to do so*. (Purchaser)

And others had flexibility within their operation to switch off some processes.

Probably only about 5% and only for a limited time. [That is 5% of that 67 megawatt hours?] *Yes. The problem with us is we are running continuous operations seven days a week for 50 weeks there is no stopping there - 24 hours they don't stop.* [So if you were going to do that how many hours could that be?] *The other one is we can't stop the operation, what we can do is we can stop some operations like wood chipping, we can defer that to when prices are coming down*. [Do you do that?] *Yes. That increases our income.* [Would you do that that often?] *We monitor the electricity prices 24 hours a day and if we see the electricity prices go up we basically start to scale things down*. (Purchaser)

➢ Reluctance to cut consumption

Some purchasers were adamant that they would not cut load because power was essential to the type of business they operated even though electricity was a significant component of operating costs for some.

> *No, as in policy, although Orion in Christchurch offers pricing signals to drop load and use our generators, but it is a very sensitive thing as our priority is to keep the network going rather than save electricity. So, it's that risk and reward thing and the risk is the impact on our customers, so risk tends to hold sway.* (Purchaser).

> *None. We have got product that can go off.* [And refrigeration is your main cost?] *Yes. Equates to 46%-50%.* (Purchaser)

> *We can't. Only in the office buildings can we really look to do that because the load is actually keeping the network running or the kit around the air-conditioning because a lot of it these days is more computerised and it has to be at certain temperatures and that.* (Purchaser).

Those who were most unable to cut consumption tended to own back-up generation though in some cases local body regulations restricted the times when this could be run.

> *If it became essential from a national interest point of view, we would run our gensets and at some of the sites that would contribute most to load shedding. There are restrictions when you can run those things from a noise perspective.* (Purchaser).

However, those for whom electricity was such a small component of their production costs that when they were obtaining high prices for their product they never considered cutting back consumption.

> *Even when we were on full spot when we went out of the* [Name deleted] *plant we just didn't do it because* [Name deleted] *prices were high.* (Purchaser).

➢ Price pain threshold

The price pressure point for most respondents tended to be in the $100 to $300 per MW/hr range.

> [And any price in particular that becomes an issue where you would want to do that?] *It depends but certainly if the price is in excess of $250 we drop load if we thought that was a short-term thing.* (Gentailer)

> [Is there a particular price point where it gets to painful to continue without shedding load?] *It's much higher than $200 MWh.* (Purchaser)

> *As soon as the price gets over $100 we consider shutting down.* (Purchaser)

> [What is a spot price that would trigger something like that?] *Right now, interesting you say that, because I just had to call before you arrived to our property manager saying why aren't you cutting load prices at $230 and he said, 'I don't want to do it until it gets to $300'. So maybe $300. The higher the spot prices are, the stronger the incentive is from people like us to do something about it.* (Purchaser)

> [What sort of spot price is painful?] *Anything with 3 digits in it. People will argue, if I brought the accountants in here and did analysis they would probably talk quite a high price. Because electricity after all is a percentage of the cost reduction, it is not the cost of production.* (Purchaser)

And one purchaser said the trigger for him was the hedge price.

> [And what price is it that it hits that you start thinking you would do that, any set price?] *As soon as it goes above the hedge price. It has to be a significant impact. Say, for example, if I had a hedge price of $74 and the electricity price spikes up I will start scaling down.* (Purchaser)

➢ Support for dispatchable demand

One purchaser placed a lot of emphasis on the introduction of dispatchable demand which see the system operator able to curtail individual consumption at a specified price.

> *The despatchable demand proposal by the Commission is probably one of the best initiatives they have come up with for years even though I don't think it was theirs but they can have the credit as long as it comes through. Because then we can say in our demand bid we are prepared to turn off at such and such a price. And they can set the price and we will get a direct instruction from the system operation to turn off.* (Purchaser)
>
> *It is basically optionality built into the arrangements. Selling blocks back to the generator retailer, it is things like that, just having it being viewed as a more sophisticated tool. Now again, if you had a liquid market it is actually quite easy to do. At the moment because we don't have a liquid market then large loads don't have as much ability to sell back blocks of power. But it would be really quite nice if we got to the stage where they said yes we have got a firm price for this and we are actually prepared to let that go at this price.* (Purchaser)

➢ No willingness to cut consumption

There was little willingness among any of the respondents to cut their load with almost all saying they did it under duress.

> *Duress. You only have to look at our public statements around this and submissions sometimes in the media, we are thoroughly brassed off about doing this. And as I say our colleagues in the group overseas now reporting through to* [Name deleted] *just don't understand how this market works.* (Purchaser)
>
> *We are not relaxed about it because it has an operational impact but we would definitely respond, specially if it was a Government directive.* (Purchaser)

➢ Gentailers maintain generation

Gentailers' responses are to maintain or if possible increase generation when spot prices are high.

> *We will just maintain generation.* (Gentailer)

One gentailer identified a capacity and willingness to cut load through arrangements with distribution companies.

> [Question 25A you could drop off 40 megawatts if spot prices are high is that right?] *Yes that is about our load control ability.* [How long could you do that for?] *Probably three to*

four hours. [Is that relatively easy?] *At the moment it is a little bit hard but I am working on it at the moment and we hope that within another three months it will be relatively easy again.* [Why is it hard at the moment?] *Because we have actually let one of our arrangements go and I am just in the process of reorganising it with a power company. We need to have an arrangement with a line company to be able to do that.* (Gentailer)

4.14 Recent hedge experience

■ Overview

All respondents reported that they kept records of their transactions varying from about three years to over a decade ago. Inter-generator hedging was characterised by only a small number of offers reflecting the narrow market. Purchasers reported a wide range of experiences reflecting a similarly wide range of experiences in terms of the time when a hedge was last sought as well as for the location and duration.

➢ Records kept

Respondents were asked about their most recent hedge purchase experience to understand how easy they found it to get a hedge and how accessible their records were. All respondents said they kept records of their transactions, some going back more than a decade.

> [Do you keep records/ was it easy or hard to find this information?] *I think they go back to 1999.* (Gentailer)

> *Yes we keep that.* [How far back?] *Probably about 5 years.* (Purchaser)

> [Do you keep records? Was it easy or hard to find this information?] *The master file is here.* (Purchaser)

➢ Gentailers and their limited offers

Large gentailers generally obtained the hedges they required partly because they were familiar with what potential sellers could provide them with. However, it was clear that a very small pool priced everything.

> *Yes in general. We know what each counterparties standard terms and conditions are and we have got a feel for what they would be happy to write, like the size of the hedge. We obviously don't waste our time asking for things people can't deliver. Some of the counterparties out there are more or less flexible. We price anything.* [Not everybody prices everything?] *I think there is one other counterparty that prices everything and the others offer you what they offer you.* (Gentailer)

> *Pretty fair to say that some parties are easier to deal with than others …* [Does it come down to maybe having two or three who are quite competitive and a couple of outliers or does it just vary all of the time?] *It is probably fair to say that most competitive parties tend to be the same ones and the less competitive ones will be the same.* [And is that a function of location?] *A little bit location in some instances. And I would think there are some parties who show greater reluctance to transact.* (Gentailer)

> *We first try to internally balance the portfolio because it usually is a cheaper option. But if we do seek hedge cover … we usually identify one or two players that probably give you the best suit for the need that you have.* (Gentailer)

The market experiences reflected some of the key issues that had been raised earlier about limited market competition.

> *We almost did one, still umming and aahing whether we do one or not. In the last 24 months have we done one? I don't believe so, not in the last two years.* [Have you answered that as if you did?] *Yes, I have just gone out in the last couple of months but we haven't actually concluded a transaction but we sort of got close enough that we could have transacted one if we needed to.* [So you would have been able to find it easy or difficult to get the prices and terms you sought?] *Not really. We actually asked for a non-standard, a week day only, business day only hedge for peaking purposes for a specific period of only four months which we got back a couple of offers for that. And of the five parties we went out to three responded and one of them responded that they couldn't meet the requirements.* [So there was a bit of choice there?] *There was. We had two to select from. Although having said that one party met exactly the terms we wanted, the price wasn't too bad but one of the parties that responded, responded to a different location than what we wanted. But again we could have dealt with it, we could have assessed the transmission risk as such so that wasn't really an undue barrier.* (Gentailer)

> *Usually they say what terms do you want, this is the price we offer take it or leave it. I am tempted to ring them up and say this is the price we are prepared to pay is anyone interested.* (Gentailer)

One gentailer wanted to emphasise the difference between industrial end-user experiences and inter-generator deals.

> *You have to be careful these don't distort the answers of the industrial end user because they are not going to have a $20 price difference. We are talking here about a 50 megawatt very large chunk of energy on an inter generator deal, this isn't a five megawatt three to five year deal.* (Gentailer)

➢ Purchasers report a wide range of experiences

There was a very wide range in the most recent occasion hedges had been sought, so it was difficult to get comparability across purchasers' experiences in terms of time.

> *I think it was about 15 years ago.* (Purchaser)

> *May 06 when we started off this three year hedge.* (Purchaser)

> *September/October 2008.* (Purchaser)

> *Mid 2009.* (Purchaser)

Even if that had been possible to make comparisons of hedges sought at the same time, it was evident that experiences differed depending on location and the terms sought.

One purchaser reported that the most recent occasion had produced a competitive range of prices and four offers, but added that there were times when there were very large price ranges and a hedge seller that priced much higher than other sellers.

> [The most recent occasion you purchased a hedge how many parties did you approach?] *Four.* [And how many responded?] *Four.* [How many came back with the terms you requested?] *Three or four.* [Can you say the price differential from highest to lowest?] *The most recent time, this one we are talking about was just a three month deal for the end of this year, it was pretty cheap. It might have been $10. But I can tell you there has been other*

> *times when the range was less than $10. We must have got three prices and I think it was a range of $8. But there has been times when we have had huge ranges $20-$30.* [Why is that because they price risk differently?] *It is bizarre I don't know why. There is one party in particular that prices very high.* [Do you ask why?] *I say to them how about I sell you one for $5 less than you are offering.* [What do they say?] *They are full of all sorts of things. They are strange they seem to want to price off their fuel cost or something. I am not quite sure they don't make a lot of sense to me. So there is something funny going on, it is their commercial position really that causes a price like that. Not even bothering to compete basically.* (Purchaser)

Other purchasers could get the price they wanted, but not for the volume and time period sought.

> *The price is good, but there just isn't enough volume ... We asked about January to March next year and they wouldn't change it because it wouldn't match the load they had on their books ... They are always looking at mitigating their own risk.* (Purchaser)

> *We understand the system and what prices you are likely to get so whilst they might not be prices that we like the answer is yes, we get the prices we expect usually.* [What about the terms? Is that not such a big deal?] *We always get the term we want.* (Purchaser)

And others found the opposite experience was the case.

> [Did you find it easy or difficult getting the prices and terms you sought?] *Terms not price, yes.* (Purchaser)

> [Did you find it easy or difficult getting the prices and terms you sought?] *Difficult.* (Purchaser)

> *We never get them as low as we would like. We've always managed to get two normally and sometimes there are significant variances between them.* (Purchaser)

One purchaser had decided not to hedge now though they had in the past.

> *Well, we see ourselves as a price taker. So, we look at the price and if it's sort of about what we expect it to be anyway we wouldn't hedge.* (Purchaser)

And one stood out as being able to negotiate down from the best hedge price offered.

> [So is it usually easy or difficult to get the price and terms you want?] *It is never easy no. We get our tender responses and then we start looking at them. The experience of the last round tells us that we get a first round price and then we start negotiating the price a bit further down.* [So you never accept the first offer, that is a point to negotiate from?] *Yes. When we go out for tender we were offered a ridiculously high number, $6.60 a megawatt hour and we said, 'We can't do that' come back to us.* (Purchaser)

4.15 Retail activity

■ Overview

Distribution companies are not considering retailing as an option because of the perceived financial and political risks involved. These could be allayed somewhat if they had generation to offset risk or long-term hedge arrangements. There is a view among distributors though that they are best placed to manage retail relationships. The only sign that gentailers had restricted their retail activity came from two gentailers due to basis risk and a perceived absence of a level-playing-field in the hedge market which would be the source of additional supply for new retail customers.

➢ Little consideration of retail by distribution companies

Distribution companies were asked whether they had considered retailing and what would need to happen for them to enter the market. There appeared to have been little serious consideration of retailing even though historically distributors had been involved in it. Apart from the regulatory barriers, the lack of interest is was mainly due to the absence of a compelling business case to do so.

> *Not yet seriously. We monitor industry developments, we were looking at generation through wind farm development, but through that process it was pretty clear that we could not under the legislation at the time retail and in fact probably it would not be the right business decision anyway.* (Other)

> *We are following the proposed changes, but it's not an area that we are thinking of getting back into at the moment. There's a whole skill set around that area and investment and it's not something we have given any thought to or see there is reason to get back into at the moment in that area.* (Other)

> *In its previous incarnation prior to the lines-energy split it did generation and it had retail so it does have a history of being in those spaces … there might be some logic for us to leverage that relationship and then build a customer base. But again I think only ever in the context of it being a viable business opportunity and one that is capable of being well managed from a risk point of view.* (Other)

> *Unless there was a strong incentive to do it, it is certainly not a strategic direction the business is focused on. There would have to be a strong opportunity.* (Other)

➢ Risks high for distributors though commercial retail a possibility

One distributor that had at least considered the possibility said the risks were too great. The risks were financial and political. On the one hand there was the perceived difficulty of acquiring adequate hedge cover and on the other the response by councils or trusts as owners to high prices.

> [But have you considered possibilities of being retailers once again?] *Yes we have and typically when we start writing the business case for that and writing up a memo to the Board and I did this just weeks ago, really you quickly end up saying, 'Well the risk is too great'. There is a couple of levels of risk, one is the hedging risk, the other is the political risk and you are stuck between the two. We are owned by Councils and it would be the same for people owned by Trusts. The wholesale price goes shooting up, the hedges now offered by the generators go up with a shock one year - are you really going to go to your local community and say, 'By the way here is a big increase?'* (Other)

This left open the possibility of retailing to major purchasers.

> *At the major customer end it is a bit more feasible in terms of if you point to wholesale prices and market to those - sizeable businesses, yes, feasible, but households in this current environment, quite difficult. It is basically because of the hedging risk really.* [So you see there could possibly be a gap there for retailing to corporates?] *Yes … I think there would be a lot that would be very interested immediately. Households are completely confused.* (Other)

➢ Need for generation or appropriate hedge cover

Some distributors felt that if they were to seriously consider retailing they would need to have their own generation in place to off-set the risks they faced.

> *Our view would be that you don't retail if, you don't generate and we don't generate, so we're not actively considering retailing.* [So if you were generating, it would be an option?] *To consider. You always have to consider your options. But even when we were looking with the wind farm we would not have been able to retail that due to the fact there wouldn't have been a grid connection and what have you, and going forward unless there was a strong incentive to do it is certainly not a strategic direction the business is focused on. There would have to be a strong opportunity.* (Other)

However, other options included the availability of appropriate hedge products to manage risks. For instance, one distributor said there would also need to be a long-term hedge product available.

> [Would you only enter retail if you could generate?] *No I don't think that is the case. I think we would enter retail as long as we could manage the risks.* (Other)
>
> *Definitely, certainty around hedging and that is not just a short-term thing. If someone suddenly arrived and said, 'Look we can give you a couple of years hedges', we would say, 'If we are going to establish a retail brand it is for a lot longer than two years'. So you would have to have the confidence that 10 years from now it is likely that you would have access to the ability to manage your price risk. So that is a key thing. Also the other side of it is simple cost management that I think we would be looking to out-source a whole lot of stuff to keep our costs down. But I think that is very much the order of things.* (Other)

➢ Distributors see themselves as appropriate retailers though

Even so, the case was made for distributors to be the most appropriate type of retailer since they had existing, direct relationships with customers and would be better able to manage the necessary customer relationship. The analogy was given that the current retail sector was akin to having oil companies having a relationship with airline passengers rather than the airline.

> *What I would say is you asked about retailing and I think there is a terminology problem here. To me retailing is about customer service. When we talk about retailing in electricity we are really talking about the bill and kilowatt hours being sold by generators, generator retailers selling kilowatt hours, there it is and it is a hedge for their output. That to me is energy trading, if you are asking should we be in retailing which is customer service I say 'yes'. So it comes back to this thing that there needs to be a differentiation in terminology between generators selling the output of their generators and real retailing which is about customer service. To me customer service is what retailing is, so having remote large generators responsible for customer service to me is unsustainable, it is an unsustainable situation and as we get more distributor generation and electric cars and smart everything, appliances and all that sort of thing I honestly think what comes out of the remote generator is like BP's fuel going into an airline, it is relevance.* (Other)

➢ Regulation required

However, the irony of advocating that distributors should be allowed to be involved in generation and retailing while calling for gentailers to be split was not lost. It was suggested that a regulatory framework needed to be put in place to ensure both competitive generation and competitive retail.

> *I think we recognize the fact that if we were in generation, retail and lines we were in three major parts of the electricity value chain and so there does need to be some constraints on that. We are already subject to fairly rigorous regulation of our lines business. And if there is equivalent separation applied to the existing generator retailers such that there is effectively a competitive retail market and a competitive generation market then the competition of those two markets should act to keep the prices down if we are unable to cross subsidise based off our monopoly lines business which regulation prevents then I guess we won't see approval.* (Other)

> *I think that distributors have some unfettered monopoly powers around how they can treat individual end-users.* (Other)

Despite these very tentative responses to the idea of retailed one distributor reported that retailers were nervous about distributors gaining access to the retail market.

> *I get a lot of queries from retailers asking whether we are going to get into retail. They are quite nervous about it.* (Other)

➢ Only two gentailers have restricted activity

Retailers were also asked whether they had had to restrict their retail activity. One gentailer confirmed that they had due to transmission risks and the need to concentrate retail efforts in defined areas in order to capture economies of scale.

> *Yes. Again we don't go to Northland. There are some areas like the Hawke's Bay which have historically been out of bounds to us. We had a bad experience there back in 2001/2002 and the South Island. And generally I suppose our retail efforts there are other reasons why we wouldn't go to an area as well as just risk management. Especially in a mass market you want to try and concentrate on areas so you can get economies of scale. You don't want to pick up one customer at every GXP in the country because the cost to serve customers on such a broad base meter reading and all the rest of it would be quite high so you tend to focus retail campaigns in geographic areas.* (Gentailer)

Another has decided to roll back its marketing to new customers as additional customers would have to be supplied from the hedge market where they felt there was not a level-playing-field.

> [Have you ever had to restrict your retail business?] *In theory we are doing that now. We have put the brakes on. We have got a marketing team and we have put the brakes on them at the moment because of uncertainty around our purchase price - because any new customer we bring on we have to supply from the hedge market. So we are going through a process now of trying to analyse what we would need to price those customers at. Once we have done that then we will be able to work out whether we think we are going to be competitive or not and if we are not going to be competitive then we won't go out. So the answer to that is yes.* [So if the market was more competitive?] *If we had confidence that we could win customers by having a level playing field on the price of purchase cost of electricity then that would allow us to get out more and target customers. But the way things are structured now we have become very protective of our own base and we spend a lot more time and energy on maintaining our traditional trading areas and less outside so that is not great competition.* (Gentailer)

For one gentailer, solutions to address basis risk would give them more confidence to retail elsewhere in the North Island while the ability to enter into a swap arrangement with South Island generators might open up that market.

> [What would need to happen for you to enter the market in the areas like Northland, South Island, Hawke's Bay?] *Again, it comes down to that basis risk, that transmission risk management issue. And the South Island I tend to think we could possibly do that by entering into swaps with other generators, sell some of our generation to Meridian up here and buy some down there and those sorts of things. It is not that it can't be managed. I suppose it is also recognition that if we ever went down to the South Island how would we service that demand? It is not just a risk management issue as well, it is also if we were to launch in the South Island how would we support products down there and how would we deliver service.* (Gentailer)

However, another gentailer said the solutions lay with many of the issues already raised about increasing the competitiveness of the hedge market.

4.16 Distributors and generation

■ Overview

Distributors strongly disagree with having limitations on the size of generation they can own and see benefits resulting from increase supply-side competition and less demand on the transmission grid. Even so, there was little appetite for ownership of large-scale. Some regulation may be needed of the network businesses.

➢ Benefits of having no restrictions

Four distributors were interviewed in the survey about their views on lifting restrictions on distributors' involvement in generation. Several benefits were identified, the primary one being increased supply-side competition, but also embedding small-scale generation within networks had the advantage of reducing demand on the grid.

> *I think in terms of large scale generation, and that is probably the key issue, it provides more competition on the supply side if you like with the wholesale market. I think the other thing to think about are the opportunities for lines companies to engage in small scale but widely distributed generation, particularly renewable generation, but not necessarily only renewable generation effectively within their grid. And I guess the other benefit we would see on large scale generation, as well, is that it is likely to be located relatively close to our network. So doesn't have to be for large scale but certainly for small scale which effectively reduces demand on the transmission system and the need for transmission investment and those sorts of things.* (Other)

> [What are your views generally on distribution coming in to?] *From my point of view good, the more options the better. More suppliers can only improve things.* (Other)

> *The reality now is that we need as many people as possible looking at generation options and we should think, not only in terms of large scale generation, but in terms of large numbers of smaller generators and I think the networks are ideally placed to investigate those options.* (Other)

➢ No limitations on generation capacity

None of the distributors agreed that there should be limitations placed on the amount of generation capacity a lines company could own though not all had given the matter much consideration.

> *I am trying to understand why you would put a limit on it, so I come from the point of view of - no, I don't see a need for any restrictions. Can I think of a reason why you would put a restriction on them? I think this is historic. I think there was a real concern years ago that some power boards were making non-commercial decisions. It seems to me now that time has moved on and even Parliament recognise under changes to the Commerce Act, Part Four, that community owned networks, the concern was largely about community owned networks making poor decisions - that they are now exempted from the Commerce Commissions price control.* (Other)

> *I haven't considered the matter. If I was asked to submit by 5 O'Clock today to the EC, I'd probably say we support the Ministerial Review which is looking at distributors getting into generation as an option. So whatever changes are made to remove restrictions, we would support that, but I can't tell you what changes should be made.* (Other)

It was pointed out that it would be unfair to restrict distribution companies' ownership of generation while not capping that of their generation competitors and that concern over network companies to make major investment decisions was an historic anomaly.

> *We don't want to get capped out in terms of our ability to own generation. If we think that is the most effective way to manage risk, at let's say, 100 megawatts and we are competing against existing firms who have got no cap on the generation they own and can have that diversity of plant and fuel source and therefore would be in a much stronger competitive position than we would ever be able to achieve.* (Other)

> *I think if you really sat down and thought 'come on if we trust these companies to make very large decisions for their communities around the network surely you trust them for generation as well'. So I think there is natural transparency there around investment anyway.* (Other)

➢ Some regulation of network needed

However, it was conceded that there would need to be some regulatory framework in place to ensure open access to the distributors' network for competing generators and to avoid cross-subsidisation of generation by the monopoly network.

> *I thought the reforms of the industry were meant to separate lines from retailing in order to create a competitive market for electricity. I don't see that allowing a distributor to generate actually gets in the way of that, as long as there is still competitive retail. But we don't have a strong desire to become a gentailer. We've got an active generation project, so we think distributors should be able to generate. I don't think having restrictions on distributors from generating is essential to create that competitive retail market.* (Other)

> *I don't necessarily think they should. I think the concern is that distributors should be limited and regulated in what they can do within their own network because of the opportunities for cross subsidisation within their own networks.* (Other)

> *I don't think there should be restrictions ... the distribution part of it has to be regulated because it is a natural monopoly.* (Other)

[What are the potential negatives?] *Lines companies into generation - clearly that potential concern around access to the network, particularly, if it is embedded generation long-term which might not be the same as terms offered to non-owned generation. But that is really why we are pretty clear around that operational separation requirement being quite an important aspect. So I think that needs to be well managed. But other than that I don't see too many other negatives.* (Other)

It was argued that there should be more concern about the need for regulation if distributors were retailing.

I don't see arguments against distributors generating. I see arguments against distributors retailing because they have a position of market dominance in their network. (Other)

I suppose if it's tied up with retailing there may be a need to have some restrictions around how that's done. But again if there was a liquid market, that wouldn't necessarily be needed. I'm aware of the ones that have expressed interest to date and they are in areas where there's not a great deal of retailer choice, so there's opportunities there that would fit a solution. (Other)

➢ Interest in generation somewhat weak

Despite support for the removal on any restrictions on the amount of generation that could be owned, there was no strong desire expressed to move into generation, although one distributor had actively pursued a generation option. One key barrier to investing in generation, it was argued, was the risk exposure to competing generators who were vertically integrated and therefore had much of their generation hedged.

You need your generation and retail balanced or else you are exposed and that's why we'd be fairly cautious stepping in there at all and I'd be surprised you'd encourage any new entrants because of that fact which leaves it as it is with generators having a large retail book and not much of a hedge market. (Other)

Another issue for some distribution companies is the absence of any feasible generation sites close enough to their network.

Around our area anyway, there is a large amount of existing embedded generation owned by multiple other parties and to a large extent they are quite active in looking at new opportunities ... There has been the odd opportunity come along, but they haven't come to anything. So, if those had come to something, we may have investigated it further, but to a large extent we don't have a strong focus on it at the moment. And there is not a great deal of obvious ones that are left. There are some niche areas you could get into, but our view is that they are not necessarily economic anyway because you need some scale to get into that area. We are currently limited to about 20 per cent of our demand. (Other)

The view was expressed that it would be unwise to get involved in large-scale generation without a retail book and a consistent generation power source.

My view is that it is challenging for a merchant generation plant to be built here and survive without a natural retail book ... you might be able to get away with it with something consistent like geothermal but for a lot of fuel sources like wind or water you are subject to the vagaries of the climate ... we have had experience in New Zealand where firms who aren't well matched, don't have hedges they get taken to the cleaners and driven out of business, TransAlta being the case in point. (Other)

Comment was made by one distributor that they had heard that some rural, trust-owned companies were interested in owning generation to regain control over their destiny.

> *I have had other lines companies, rural based lines companies, not so much here in Auckland, I guess, but a sense that particularly where they are largely or 100% Trust owned that they are regaining control of their destiny for their regions from an electricity point of view. I suspect there are probably some mixed views about that view but it is a view that I have heard expressed.* (Other)

4.17 Most critical hedge market issues

■ Overview

Consistent with earlier comments, the following inter-related sets of issues were identified as the most critical ones for the hedge market:

- lack of competitiveness in the wholesale market
- liquidity
- transparency of hedges
- development of hedge products and a trading platform
- limited purchaser understanding of the market.

➢ Lack of competition

Lack of competition was the over-riding theme that characterised the most critical issue for the hedge market and largely explained other issues that were raised such as the need for greater transparency and liquidity.

For some purchasers it was lack of competition particularly where they were located.

> *Single biggest issue is the lack of competition at an electrically adjacent node.* (Purchaser)
>
> *I guess it's a truly competitive market.* [What would be the hallmarks of that?] *Consistent terms and genuine price competitiveness.* (Purchaser)

Solutions to address location issues revolved around upgrading transmission and additional generation both of which were raised as the most critical issues for the industry in general (see next section).

> *Transmission risk. I suppose some might say lack of competition.* [Some people say on the purchaser side more generation would be good.] *That would spur competition. It is one of those things that unfortunately we are not an industry where the incremental plant that comes on is often at a lower cost than the existing stuff.* (Gentailer)
>
> *Definitely, increase the generation capacity. I don't say they need to generate more but the capacity needs to be increased.* [How is capacity different from more generation in general?] *Opportunity. At this stage New Zealand can only generate 7000 megawatts, 7000 megawatts is our cap. We need another two to 3000 megawatt generation availability.* (Purchaser)

Lack of competitiveness was a common refrain picked up by those who were neither purchasers nor sellers of hedges too.

> *I suppose I would have to keep coming back to the lack of competitiveness*. (Other)

> *I would like to hear back from them that there is a consistent message, that they are very comfortable, but not only are they getting multiple offers right now, but they are confident that next year and the year after that those hedges will be available*. (Other)

Lack of competitiveness was particularly pronounced when the southern hydro lakes were low.

> *The periodic failure of the market in the dry years that leads to market power.* (Purchaser)

➢ Product development

It was suggested by some respondents that there should be some mechanism in place to ensure Huntly was run aggressively when lake levels were low either by requiring Genesis to sell a capped hedge product or to have a contractual arrangement between it and Meridian.

> *I think we need to develop a market for capped product. And I think Genesis needs to be the market maker and I think the government needs to define that Genesis is the market maker.* [Using Huntly?] *Huntly and they need to tender small blocks of Huntly as a capped product to the market on a regular basis and guarantee that they will keep doing it.* (Gentailer)

Another gentailer went further suggesting that the development of a wider range of hedge products would aid more transparent pricing and attract more participants to the market.

> *Further energyhedge development platforms products, I think that will be the biggest win this market will have in hedging. Providing transparent market pricing and availability for wider counterparties to participate.* (Gentailer)

One purchaser wanted to see more sophistication in the hedge products offered including two-way arrangements.

> *I think again there is a lack of sophistication in the offerings and it would be a bit like the hedge would be a two way thing. We will offer you blocks of power at these prices but we will also offer to buy it back from you at these prices.* [So the Gentailers could actually be a bit more imaginative in their product development?] *Exactly.* (Purchaser)

➢ Liquidity

A primary contributor to the lack of competitiveness was weak liquidity in the market.

> *Lack of liquidity*. (Gentailer)

> *It's improved depth in the market, but I just don't know how the hell to do it to be honest.* (Purchaser)

This was seen to be due in part to the limited number of participants.

> *Lack of active participants.* (Purchaser)

> *There are no speculators or others that you would see in other markets.* (Purchaser)

There were a few who were wanted to be active in the hedge market but faced barriers to entry to energyhedge.

> *Access to hedges. If there was access to hedges you would have people with generation resources that would be able to go sell those for their power and you would have retailers who could build retail businesses and hedge their position and manage their prudential exposure with relative ease.* (Other)

And it was also partly due to vertical integration limiting volumes.

> *There is a very limited to zero hedge market. You can get a hedge, but I'd like to see you sell it to someone else. There is no real hedge market except for people hedging for their own use.* (Purchaser)

> *The lack of offers and constraints around them. They just don't really suit what you want in terms of volume, location and time.* (Purchaser)

> *I don't think there is any incentive for the gentailers to actively participate or support, there is no incentive for them to do it.* [Apart from the threat?] *Apart from having to talk a lot about it like you are trying to do something so the Commission doesn't turn around and do something. So we have to address why there is no incentive and the main reason that there is no incentive is vertical integration. There is no reason for them to be bothered.* (Other)

➢ Transparency

Transparency over hedge pricing was also a crux issue as there was a degree of suspicion about how prices were determined.

> *Pricing transparency. And a level playing field. I think the level playing field is really the key.* [But how do they do that?] *Well, the only real way to do that is to segregate generation and retail.* (Gentailer)

> *Transparency of the existing hedges.* [And how do they provide that?] *By basically providing information of all hedge contracts that are being settled and their duration. That only gives you the wider picture of the hedge market, you still have the ability to negotiate or influence that price yourself.* (Purchaser)

> *Uncertainty about whether energyhedge is a clean price, a true market*. (Purchaser)

One gentailer's response to this was to develop a better trading platform.

> *I think the biggest single issue is the hedge market's response to the need for scarcity pricing in the spot market. I know that drags into a different thing but I think the thing that most concerns us is that for a number of reasons the spot market is not fully reflecting the cost and capacity ... I guess as the spot market becomes riskier it is incumbent on the industry to provide mechanisms by which customers can not only get a hedge but can be assured that the hedge is competitive ... so that is why I think we need the development of the platform traded market.* (Gentailer)

➢ Complexity for purchasers

For some purchasers the complexity of the market was a major limiting factor to use of it.

> *The first thing I would say to them is that I don't understand it.* [So they should improve the understanding of hedge purchases?] *Yes I think so. And I think for me that is the crux*

of the matter. [If you don't understand it, it is hard to participate properly?] *Absolutely.* (Purchaser)

It's really understanding the financial risk because right now we know that whatever we use we pay, at the time-of-use, a fixed fee so we can model our budget. I guess without a hedge if our usage changes there is some risk around that and there is the exposure to the spot market and being in government we are quite risk averse. I guess we have different drivers from a lot of private companies - its operation, not cost. (Purchaser)

Even those well versed in the market have argued the need to shift to regional pricing and away from a model that requires the need to price at every node.

I would suggest that another one would be locationally adjusted to a central reference point. If you did it to one reference point it would be a lot more sensible for people assessing price. (Gentailer)

4.18 Most critical electricity industry issues

■ Overview

The following issues were identified as the most critical ones for the electricity industry in general:

- need to upgrade transmission assets
- need for new generation
- governance uncertainty.

➢ Transmission upgrades

As noted in the previous section, the need to upgrade the transmission system was also seen as critical for the industry in general. Several respondents focused on the HVDC link across Cook Strait.

Ongoing it's market competitiveness, but the DC link is of pressing concern at the moment. (Purchaser).

The lack of cover in the South island and alternative generation in a dry year. The DC link because if there's dry year in the South they can't send the power through the link. (Purchaser)

I think from a transmission point of view the DC, which will go ahead I am sure, will help just for the North-South Island pricing and stuff like that, competitiveness there. (Other)

The Cook Strait cable issue was observed by one distribution company as having an adverse impact on the stability of the system too.

The system stability with regards to the amount of generation available, interruptible load and spinning reserve at the moment which is hinging around the Cook Strait cables. That's a major issue. (Other)

But comments were also directed to the need to upgrade transmission assets. Elsewhere too gentailers were particularly concerned about the overall state of the grid.

I think at the moment we have the inability of the grid to transfer sufficient power. (Purchaser)

It relates to transmission upgrades, it relates to the response of providing capacity support wind, it relates to the offer around Whirinaki and a series of other technical issues relating to the system operators closing the reserve market from time to time and various other things that they are doing. (Gentailer)

The biggest win or investment would be in transmission in my opinion. [Upgrading the grid you mean, what are the issues there?] *No investment for 50 years. Massive price separate, massive risks for people to manage and understand.* [Which you have to price in?] *Someone has to yes.* (Gentailer)

It was recognised that infrastructure investment was being proposed to address these issues.

The grid itself, yes and the DC links, etc comes down again to the basis risk as well. [Any other weak areas of the grid or is it everywhere?] *It is in various parts around the country I guess. There is some major work being proposed as well.* (Gentailer)

The national grid, improvement of the national grid will lead to greater competition throughout the country, will lessen locational risk for parties, won't eliminate it by any means but will certainly lessen that. (Gentailer)

Well, they have to do the catch up in investment in getting the electrons. [So the transmission grid?] *Yes. And that is under way and happening.* (Purchaser)

➢ Aging generation assets

The need for new investment was not confined to the grid as aging generation assets were also identified as a problem.

Aging assets. [Are you thinking grid or are you thinking generation?] *Across the board. New Plymouth power station, Huntly Power Station and then grid obviously that is a major issue.* [Do you feel things are being done now or not?] *It is starting to be done with Transpower especially with the Cook Straight cable but it is lamentably late.* (Purchaser)

I don't think there is one single issue that stands out. What we have now is just a product of under investment and poor market pricing. (Other)

The second key issue is this one of do we have enough capacity in the market? (Other)

The need for new generation was also specifically linked to the need to address the problems that arose in dry years.

Security of supply and that is a bit of a problem. They made a hash of the Whirinaki Power Station, needs to get fixed. (Purchaser)

It is security of supply in dry years. The industry is clearly unable to manage sustained low periods of low inflows. (Purchaser)

This also pointed to the need for low cost generation and the need to make it easier to obtain Resource Management Act consent for new infrastructure investment.

I guess the biggest issue for them is the insufficient low cost generation of electricity ... We need to have lower electricity costs to be competitive and compared to benchmarking in South America or Australia, I think our electricity costs are higher than that. (Purchaser)

It goes back to its ability to create new generation. (Purchaser)

One of the concerns that has been voiced often, and we have experienced it as well, is that consenting is pretty difficult. (Gentailer)

The lack of low cost generation also presented itself as a key issue for those with retail customers.

The critical issue is ongoing increases in wholesale electricity costs. Because as a retailer over time we can't absorb that all and it has to be passed through to a retail customers. That is the critical issue for the sector really. (Gentailer)

More generation was linked to increasing competition for some.

Obviously the more generation the more competition. (Other)

➢ Governance uncertainty

Lack of regulatory certainty was also a significant issue which was impacting on investment decisions.

Carbon would definitely be up there. [Is there a lot of uncertainty around it or is it clearer now or not?] *It is clearer now but that is what we thought a year ago as well. It is fair to say that there has been a fair bit of uncertainty and just when you think there is more certainty there is a change in Government and things change again.* (Gentailer)

Probably governance at the end of the day. The big three would be transmission investment … the generation plant to go with it … So governance itself. [This is the Electricity Commission and the Commerce Commission?] *The Commerce Commission, the whole who is in control type of thing or should they be in control because if you are a pure market sort of person the market will deliver.* [In terms of governance is it a lack of clarity that currently exists?] *There is the uncertainty so the more upheavals you have the more uncertainty that creates for investors in general about what regime they are investing in.* (Gentailer)

Some felt there needed to be greater clarity around the regulatory responsibilities and believed this was being addressed and would have major implications for the Electricity Commission. It was conceded though the Commission had had too broad a set of issues to address.

I do think industry governance is an issue. We are supportive of the proposals to establish the new governing body and to reallocate some responsibilities as between that body, Transpower and the MED. We think that gives a clear focus for that governing body. [Is that instead of the Electricity Commission.] *Depends how you do that, it could be just that stripped out.* [Why is the current thing not working?] *Probably a range of drivers, but what has sprung to mind is that I think it has had too broad a set of things to deal with.* (Other)

I think the biggest issue is the governance of industry and the performance of the electricity industry. It just has to change … they won't still be called the Electricity Commission they will be called the Electricity Market Authority, but whether it is just the same thing with a new name remains to be seen and that is our biggest fear. (Purchaser)

The Electricity Commission has been drawn into finding end solutions like models, national models for everything and I think it is important to learn the lesson of that. That it is far better to have targeted responses and put the acid on, say, in this case, the network sector or whichever sector they are talking about, to give them the good news, give us the context, tell us why this isn't an issue, tell us progress, what has happened in the last year to give us some comfort that things are improving. (Other)

Uncertainty over how carbon will be treated was an aspect of the regulatory issues that were a concern.

> *It is an issue because we don't quite know how that will financially impact the industry.* (Purchaser)

Some though wanted to see less interference by the Government.

> *Uncertainty because of the Government interfering with the market.* (Gentailer)

> *And I guess fundamentally I believe remove interference by the Government in this market. Let it do what it does and that is going to be the best outcome. It might be painful but it will be best.* (Purchaser)

➢ Distributor pricing

One purchaser, a nationwide user of electricity identified problems dealing with the intransigence of some local distribution companies to negotiate price due to their monopoly power.

> *From a user point of view it's the monopoly the lines companies. I guess we can barter and bargain with the retail companies, but we can lose all that with the lines companies.* (Purchaser)

Appendix 1: Quantitative survey

This survey is divided into 5 sections:

- Section A is for all respondents to answer
- Section B is for both purchasers and sellers of electricity contracts (hedges)
- Section C is for sellers of electricity contracts
- Section D is for purchasers of electricity contracts
- Section E is for all respondents to answer

Notes:

- If respondents both purchase and sell electricity contracts they should complete all sections.
- Agents who act on behalf of purchasers should complete sections A and D.
- The sale and purchase of electricity hedges refers to the sale and purchase of electricity contracts in New Zealand only.

Section A - All respondents

■ Demographics

1a Please select the section of the market you work in [Tick all relevant boxes].

- ☐ Purchaser of electricity contracts (hedges)
- ☐ Seller of electricity contracts (hedges)
- ☐ Seller and purchaser of electricity contracts (hedges)
- ☐ Agent for purchaser of electricity contracts (hedges)
- ☐ None of the above
- ☐ Other (please specify)
  ____

1b What is your type of business? [Tick all relevant boxes].

- ☐ Consumer
- ☐ Generator
- ☐ Retailer
- ☐ Distributor
- ☐ Hedge market agent
- ☐ Other (please specify)
  ____

1c What is the ownership structure of your business? [Tick one box only].

- [ ] Publicly listed or private company
- [ ] State owned enterprise
- [ ] Trust
- [ ] Other

2 Your electricity consumption/ retail business and/or generation could be predominantly described as: [Tick all relevant boxes].

Location	Consumption/ Sales	Generation
Upper North Island (Taupo North)		
Lower North Island (Turangi south, including Taranaki and Hawkes Bay)		
Upper South Island (Christchurch North, including the West Coast)		
Lower South Island (Ashburton South)		
New Zealand wide		
Distribution		
Unsure/ Don't know		
Not applicable		

■ Market perception

3a Many organisations enter into electricity hedge contracts (typically either contracts for differences or fixed-price variable-volume contracts) in order to manage exposure to electricity spot prices. Do you believe a competitive electricity contracts market (hedge market) currently exists in New Zealand?

- [ ] Yes
- [ ] No
- [ ] Unsure/ Don't know

3b Do you believe the competitiveness of the electricity contracts market (hedge market) has improved over the past 12 months? [Tick one box only].

- [ ] Yes, the competitiveness has improved
- [ ] The competitiveness is about the same as 12 months ago
- [ ] No, the competitiveness has gotten worse
- [ ] Unsure/ Don't know

4a Please tick the box that best reflects your current estimation of the energy component of electricity contract prices for the next 3 years (for year ending 31 March, base load with no force majeure (FM) at the Haywards node[3]) given current market conditions.

	1 April 10 - 31 March 11	**1 April 11 - 31 March 12**	**1 April 12 - 31 March 13**
> $90 /MWh			
$80 - $90 /MWh			
$70 - $80 /MWh			
$60 - $70 /MWh			
$50 - $60 /MWh			
< $50 /MWh			
Unsure/ Don't know			

4b What processes do you use for negotiating electricity contracts? [Tick all relevant boxes].

- [ ] Tenders
- [ ] Respond to tenders
- [ ] Renew contracts with existing counterparties
- [ ] Contract potential counterparties directly
- [ ] Exchange Trader derivatives
- [ ] Other (please specify) ____
- [ ] Unsure/ Don't know

4c Do you feel confident that the processes for establishing bilateral electricity contract prices are fair?

- [ ] Yes
- [ ] No
- [ ] Unsure/ Don't know

[3] The Haywards node is the major wholesale reference node located in Wellington.

■ Market information

5a Please rate each of the methods listed below in terms of their usefulness in forecasting electricity prices.

	Very useful	Fairly useful	Not that useful	Not useful at all	Not applicable
a. Independent forecasts					
b. Offers/ indications					
c. energyhedge.co.nz forward curve					
d. Market commentary forums					
e. Risk management					
f. Market forums					
g. Internal modelling					

5b Would you say there is sufficient information available to develop a reasonable view of market price for electricity contracts?

- [ ] Yes
- [ ] No
- [ ] Unsure/ Don't know

5c What additional information do you believe would assist you in making electricity risk management decisions?

____

____

____

Section B - Purchasers and Sellers of Electricity Hedges

■ Risk management infrastructure

6b In what part of your organisation is the primary operational responsibility for electricity price risk management. [Tick one box only].

- ☐ Specialist energy manager function
- ☐ Risk/ portfolio manager function
- ☐ Finance/ Treasury function
- ☐ Operational line manager function
- ☐ Procurement manager function
- ☐ Other (please specify) ____
- ☐ Unsure/ Don't know

6c Do you use other parties as agents for your energy trading?

- ☐ Yes
- ☐ No
- ☐ Unsure/ Don't know

6d If **YES** above, is the party a generator/ retailer or an independent party?

- ☐ Generator/ Retailer
- ☐ Independent party
- ☐ Unsure/ Don't know

7a Do you have a risk management policy that guides your electricity price risk management?

- ☐ Yes
- ☐ No
- ☐ Unsure/ Don't know

7b Do you consider you have sufficient knowledge of the market and its issues, and sufficient skills within your organisation, to make effective electricity risk management decisions?

- ☐ Yes
- ☐ No
- ☐ Unsure/ Don't know

Contract position/ Strategy

Q8-10 Please describe your current contract position for each of the next 3 years (for future years based on your most up-to-date forecasts of expected load and generation).[4] (All values in GWh/annum). [Please write 'na' if not applicable to your organisation].

	Apr 09 - Mar 10	Apr 11 - Mar 12	Apr 12 - Mar 13
What percentage of your annual consumption do you hedge? (if you are a retailer, include retail load)?			
What percentage of your annual generation do you hedge?			

11a How far ahead is your usual planning window for assessing your contract position?

- ☐ Less than 6 months
- ☐ Between 6 months to 1 year
- ☐ Greater than 1 year to 2 years
- ☐ Greater than 2 years to 3 years
- ☐ Greater than 3 years to 5 years
- ☐ Greater than 5 years to 10 years
- ☐ Greater than 10 years
- ☐ Unsure/ Don't know

11b How far in advance of contract expiry do you normally seek to contract (or re-contract)? [Tick one box only].

- ☐ More than 1 year in advance of existing maturity date
- ☐ More than 6 months in advance of existing maturity date
- ☐ More than 3 months in advance of exiting maturity date
- ☐ More than 1 month in advance of existing maturity date
- ☐ Within 1 month in advance of existing maturity date
- ☐ Upon maturity of existing hedge contract
- ☐ Unsure/ Don't know

[4] Note that all information provide in this survey will remain confidential in un-aggregated form.

11c For what duration do you normally seek to contract? [Tick one box only].

- [ ] Less than 6 months
- [ ] Between 6 months to 1 year
- [ ] Greater than 1 year to 2 years
- [ ] Greater than 2 years to 3 years
- [ ] Greater than 3 years to 5 years
- [ ] Greater than 5 years to 10 years
- [ ] Greater than 10 years
- [ ] Unsure/ Don't know

11d The maturity of your electricity contracts could be best described as: [Tick one box only].

- [ ] Fall due at the same time
- [ ] Staggered maturities
- [ ] Unsure/ Don't know

Use of standard contracts

12a Do you believe having a standard hedge product (e.g. base load hedge at Haywards) available to all potential counterparties through a centralised trading platform would add liquidity and transparent to the hedge market?

- [ ] Yes
- [ ] No
- [ ] Unsure/ Don't know

12b Would your company be interested in using a centralised trading platform to purchase standard hedge products?

- [ ] Yes
- [ ] No
- [ ] Unsure/ Don't know

Section C - Sellers of Electricity Hedges

Relevant questions relate to the sale of hedges (floating price payer) only

■ Market experience

13 On a 0-10 scale, where 0 means not important at all and 10 means very important, please rate the importance of each of the following elements relating to electricity hedges to be sold:

Contract element	Rating (0-10)
Price	
Term	
Profile	
Location	
Force majeure/ Suspension clauses[5]	
Credit arrangements	
Relationship with counterparty	
Other service provided by counterparty	

14 In the last 6 months how many times:

	Please specify number of times
Were you asked to provide an offer to a purchaser?	
Did you make an offer to a hedge purchaser in response to a request?	
Were the offers accepted by the purchasers?	

15 What types of electricity hedges do you sell? [Tick all relevant boxes].

- ☐ Contracts for differences (hedge contracts)
- ☐ Fixed price variable volume (i.e. single price tariff)
- ☐ Spot based contracts
- ☐ Volume based time-of-use
- ☐ Options (e.g. caps, collars, swaptions)
- ☐ Exchange traded products
- ☐ Other (please specify)
  ____

[5] Force majeure clauses are "Acts of God", whereas suspension clauses are those which enable the seller of the hedge to suspend the hedge if certain pre-defined events occur.

16a How long do you typically take to provide offers once requested? [Tick one box only].

- [ ] More than 14 days
- [ ] 8 - 14 days
- [ ] 2 - 7 days
- [ ] Less than 2 days
- [ ] Unsure/ Don't know

16b How long does it typically take for parties to respond to an offer you have made? [Tick one box only].

- [ ] Over 1 month
- [ ] 15 days - 1 month
- [ ] 7 - 14 days
- [ ] Less than 7 days
- [ ] Unsure/ Don't know

17a What proportion of your electricity hedge contracts contain Force Majeure (genuine Acts of God only, not including suspension clauses)? (in % of GWh) [Tick one box only].

- [ ] >90%
- [ ] 75%-89.9%
- [ ] 50%-74.9%
- [ ] 25%-49.9%
- [ ] 10%-24.9%
- [ ] <10%
- [ ] Unsure/ Don't know

17b What proportion of your electricity hedges contracts contain suspension clauses? (in % of GWh) [Tick one box only].

- [ ] >90%
- [ ] 75%-89.9%
- [ ] 50%-74.9%
- [ ] 25%-49.9%
- [ ] 10%-24.9%
- [ ] <10%
- [ ] Unsure/ Don't know
- [ ] Over 1 month

18a Do you have a policy not to provide prices for hedges at some locations?

- [ ] Yes
- [ ] No
- [ ] Unsure/ Don't know

18b Do you have a policy to only provide prices for hedges for certain durations (length of contract)?

- [ ] Yes
- [ ] No
- [ ] Unsure/ Don't know

18c Have you ever encountered problems entering into a hedge contract because of concerns regarding credit arrangements?

- [ ] Yes
- [ ] No
- [ ] Unsure/ Don't know

19a Do you perceive locational price risk (basis risk) as a significant problem?

- [ ] Yes
- [ ] No
- [ ] Unsure/ Don't know

19b If **YES** above, how do you manage it? [Tick all relevant boxes].

- [ ] Only sell at nodes for which locational price risk is not an issue for you
- [ ] Price in a premium at nodes that you would rather not sell at
- [ ] Purchase cross-hedges from generators with generation at locations where locational price risk could be an issue
- [ ] Other (please specify) ____

Section D - Purchasers of Electricity Hedges

Relevant questions relate to the sale of hedges (fixed price payer) only

■ Nature of consumption

20b Approximately what proportion of the input costs of your business/ organisation is the purchase of physical electricity (excluding interest, depreciation and tax)? [Tick one box only].

- ☐ More than 50% of input costs
- ☐ 25% - 50% of input costs
- ☐ 10% - 24.9% of input costs
- ☐ Less than 10% of input costs
- ☐ Unsure/ Don't know

20c Does your organisation: [Tick one box only].

- ☐ Purchase electricity on the spot market via the clearing manager
- ☐ Purchase electricity on the spot market via an agent
- ☐ Purchase electricity from a retailer
- ☐ Unsure/ Don't know
- ☐ Other (please specify) ____

■ Market experience

21a On a scale of 0-10, where 0 means not important at all and 10 means very important, please rate the importance of each of the following elements relating to your decision when purchasing electricity hedges.

Contract element	Rating (0-10)
Price	
Term	
Profile	
Location	
Force majeure/ Suspension clauses[6]	
Credit arrangements	
Relationship with counterparty	
Other service provided by counterparty	

[6] Force majeure clauses are "Acts of God", whereas suspension clauses are those which enable the seller of the hedge to suspend the hedge if certain pre-defined events occur.

21b In the last 24 months how many times did you seek to purchase hedges?

____

22 For the **most recent** occasion you sought to purchase bilateral hedges:

		Example	Most recent occasion
a)	How many parties did you approach for an offer?	**4**	
b)	Of the parties approached, how many responded?	**2**	
c)	How many of the offers contained the same terms as the terms you requested?	**1**	
d)	What was the difference in price (i.e. highest priced offer less lowest priced offer in $.MWh)?	**$4.20**	
e)	How many of the offers included FM/ suspension clauses that were acceptable?	**14**	
f)	How many of the offers included other clauses that were acceptable?	**1**	
g)	How many offers had prices specified at GXPs (Gride Exit Points) that you had requested prices for?	**1**	
h)	Did you accept an offer?	**Yes**	

23a What types of electricity contracts do you purchase? [Tick all relevant boxes].

- ☐ Contracts for differences (hedge contracts)
- ☐ Fixed price variable volume (i.e. single price tariff)
- ☐ Spot price
- ☐ Volume based time-of-use
- ☐ Options (e.g. caps, collars, swaptions)
- ☐ Exchange traded products
- ☐ Other (please specify)

  ____

23b How long does it typically take hedge suppliers to respond to your request for contract prices? [Tick one box only].

- ☐ More than 14 days
- ☐ 8 - 14 days
- ☐ 2 - 7 days
- ☐ Less than 2 days
- ☐ Unsure/ Don't know

23c How long does it typically take you to respond to an offer once provided? [Tick one box only].

- ☐ Over 1 month
- ☐ 15 days - 1 month
- ☐ 7 - 14 days
- ☐ Less than 7 days
- ☐ Unsure/ Don't know

24a Do you believe you are offered competitive prices for your hedges or electricity purchases?

- ☐ Yes
- ☐ No
- ☐ Unsure/ Don't know

24b What proportion of your electricity hedges purchased contain FM and/or suspension clauses? (in % of GWh) [Tick one box only].

- ☐ > 90%
- ☐ 75% - 89.9%
- ☐ 50% - 74.9%
- ☐ 25% - 49.9%
- ☐ 10% - 24.9%
- ☐ < 10%
- ☐ Unsure/ Don't know

24c What proportion of your electricity hedges purchased contain FM and/or suspension clauses that you consider are unreasonable? (in % of GWh) [Tick one box only].

- [ ] > 90%
- [ ] 75% - 89.9%
- [ ] 50% - 74.9%
- [ ] 25% - 49.9%
- [ ] 10% - 24.9%
- [ ] < 10%
- [ ] Unsure/ Don't know

24d What types of FM/ suspension clauses do you consider to be unreasonable?

____

____

25 Under normal business operations, how much load could you easily cut for a short period when spot prices are high? (in MW)

____

26a Have you had difficulties getting prices for hedges at some locations?

- [ ] Yes
- [ ] No
- [ ] Unsure/ Don't know

26b Do you perceive locational price risk as a significant problem?

- [ ] Yes
- [ ] No
- [ ] Unsure/ Don't know

26c Have there been situations where a lack of offers has meant that you had to purchase hedges at locations other than your preferred locations?

- [ ] Yes
- [ ] No
- [ ] Unsure/ Don't know

26d Have you had difficulties getting prices for hedges for the term (length of contract) you want?

- [ ] Yes
- [ ] No
- [ ] Unsure/ Don't know

27a Have you ever encountered problems entering into a hedge contract because the counterparty has been unhappy with your credit arrangements?

- [ ] Yes
- [ ] No
- [ ] Unsure/ Don't know

27b Have you ever been approached to enter into an arrangement regarding reducing load during a time of crisis?

- [ ] Yes
- [ ] No
- [ ] Unsure/ Don't know

28a During periods of high spot prices, your responses are to: [Tick all relevant boxes].

- [ ] Reduce consumption
- [ ] Maintain consumption
- [ ] Increase hedge cover
- [ ] Political response (lobby Government/ media)
- [ ] Other (please specify) ____
- [ ] Unsure/ Don't know

Hedge seller performance

28b In your personal experience please rate the following parties on their hedge seller performance. If you are one of the listed parties, please **DO NOT** rate yourself.

	Very good	Good	Average	Poor	Very poor	No opinion
Contact Energy/ Empower						
Genesis Energy/ Energy Online						
King Country Energy						
Mercury Energy/ Might River Power						
Meridian Energy						
Pioneer Generation						
Trustpower						
Todd Energy						
Tuaropaki Trust						
Other (please specify)						

Section E - All Respondents

■ **Disclosure/ Future involvement**

29a Which of the following information relating to hedge transactions do you think should be published to assist in price transparency? [Tick all relevant boxes].

- ☐ Type of contract
- ☐ Price
- ☐ Location
- ☐ Duration
- ☐ Volume
- ☐ Profile
- ☐ FM clauses
- ☐ Other terms
- ☐ Counterparty names
- ☐ Other (please specify) ____

29b Do you think that disclosure of hedge transaction information improves the availability of hedges?

- ☐ Yes
- ☐ No
- ☐ Unsure/ Don't know

29c Do you consider the disclosure of hedge transaction information provides useful information to establish forward prices?

- ☐ Yes
- ☐ No
- ☐ Unsure/ Don't know

29d Are you happy to be involved in future surveys on hedge and risk management issues?

- ☐ Yes
- ☐ No
- ☐ Unsure/ Don't know

Hedge market initiatives

30b Are you aware that the Commission and the industry is considering and implementing a number of initiatives in order to promote hedge market liquidity?

- [ ] Yes
- [ ] No
- [ ] Unsure/ Don't know

30c If **YES** above, which of the following initiatives are you aware of? [Tick all relevant boxes].

- [ ] Risk management website
- [ ] Locational hedges
- [ ] Development of *EnergyHedge*
- [ ] Support for model master agreement
- [ ] Publication of outage and fuel data
- [ ] Promotion of training and advisors
- [ ] Regular survey of market participants
- [ ] ASX
- [ ] Electricity futures and options
- [ ] Unsure/ Don't know

30d Please rate the initiatives you are aware of in terms of how highly you think they will contribute to promoting hedge market liquidity.

	Very high	**High**	**Average**	**Low**	**Very low**	**No opinion**
Publication of contract details						
Locational rental allocation (LRA)						
Development of *EnergyHedge*						
Support for model master agreement						
Publication of outage and fuel data						
Promotion of training and advisors						
Regular survey of market participants						
ASX						
Electricity futures and options						

30e Are there any improvements you would like to see? If so, what are they?

■ Confidentiality

31a Do you consider the information that you have provided in this survey contains commercially prejudicial information?

- [ ] Yes
- [ ] No
- [ ] Unsure

31b Do you confirm that you have provided this information to UMR in confidence?

- [ ] Yes
- [ ] No
- [ ] Unsure

Appendix 2: Qualitative interview questions

1. You say a competitive hedge market does not/does exist in New Zealand.

   [**If DOES NOT exist**], please explain the problems [**probe further if answer is market power of generators or vertical integration are referred to]** Any examples? Is the limited size of the NZ market and hedges available an issue? If so, is this linked solely to generator power or vertical integration or are there other factors?] What specific evidence is there that there are problems? What are the solutions?

   [If DOES exist], what is the evidence that one does exist? What, if any, improvements, could be made do you think?

2. Are there any sources you find useful in forecasting electricity prices that we may have missed in question 9?

3. Have they received any training?

   Do you think it would be useful if training were provided to assist companies in making risk management decisions? If yes, in what areas? Do you think the Commission could/should assist?

   Are you aware of any current training partners? [if so] Who are they?

4. In Question 10 when you were asked to fill out your actual percentage hedged for each of the next 3 years, were there any qualifications you felt like putting around your answers when you completed the survey? What were they? Do you have any special contracts that are activated under special circumstances e.g. a dry year which may not have been covered in your initial response?

5. Do you have a firm policy that you should hedge to a certain level each year? What is your policy with respect to hedging?

6. If YES, You said Yes to Q12B, the question about using a centralised trading platform to purchase hedge products - what % of your load would you look at purchasing? Approximately what would that be in MWh or kWh?

   What is your view of using ASX in the future <u>and the likelihood</u> of using it?

SELLERS ONLY

7. [**If YES to Q18A**] In question 18A you say you have a policy not to provide hedges for some locations. What locations and why?

8. [**If YES to Q18B**] In question 18B you say you have a policy only to provide hedges for certain durations. What durations and why?

9. [**If YES to Q18C**] In question 18C you say you have encountered problems entering into a hedge because of credit arrangements. What were the problems?

10. Are you prepared to have hedges lodged as a prudential security? If not, why not? What are the issues involved here?

PURCHASERS ONLY

11. [**If 'Other Services' identified in Q21A**] What other services provided by the counterparty were you referring to in question 21A which referred to rating the importance of factors you weigh up when purchasing hedges?

12. Have your experiences from dry years affected your approach to risk management? [**If yes**] In what way has your approach to risk management been affected?

13. Question 22 asked you to answer some questions about the most recent occasions you had sought hedge contracts in the last 24 months When was the last occasion? Do you keep records/ was it easy or hard to find this information? Did you find it easy or difficult getting the prices and terms you sought? Was there anything you wanted to add to your answers which perhaps didn't fit the questions that were asked?

14. [**If NO to question 24A**] Why do you believe you are not offered competitive prices for hedges? Have you ever accepted a hedge you did not want to? Was that because there was just one offer? What was the problem - price too high? Location? FM clauses unreasonable? Anything else?

15. In question 28D you identified some types of FM/suspension clauses that you felt were unreasonable. What were you reasons?

16. You say you could cut some load in periods of high spot prices under normal business operations. How long would you be prepared to cut load for? Is this something you are quite relaxed about doing or would you be doing it under duress? Is there a particular price point where it gets to painful to continue without shedding load? What is that price point? Is there anything more that could be done to assist demand side reduction?

17. [**If YES to Q26A**] You say you have had difficulty getting hedges at some locations. What locations?

18. Have you asked for an offer and didn't get one? Or were only offered one?

19. In question 28A you ticked 'other' means of responding to high spot prices. Can you tell me a bit about those responses?

20. [**Particularly for Distribution companies and others if relevant**] Have you considered retailing electricity? If you think your company may have, but are not sure you can get back in touch with me later.

'OTHERS' ONLY

21. [**If a <u>retailer</u>**] Have you restricted the extent of your retail activities? What would need to happen for you to re-enter the market?

    Would you give us permission to report your comments back to the Commission on this question as there is a very small base of respondents who fall into the category of former retailers who are being interviewed?

22. [**If a <u>distributor</u>**] What are your views on providing generation restrictions on distribution companies? What would you change if you could? What would be the pros and cons of such a move?

    Would you give us permission to report your comments back to the Commission on this question as there is a very small base of respondents who fall into the category of distributors who are being interviewed?

ALL

23. Finally, if you had to identify the single biggest issue for you around the issue of electricity hedges what would it be? What about in relation to the electricity industry in general? [**possibly prompt on lack of certainty and new generation? voltage fluctuations? Transmission issues**]