

KING COUNTRY ENERGY SUBMISSION ON MARKET DESIGN REVIEW ISSUES PAPER

Summary observations on market information

A range of data related issues make it challenging to analyse some aspects of electricity market performance in New Zealand;

The provision of accurate and reasonably accessible information on market performance would appear to be an important element in a well functioning market; and

There is a case for examining current arrangements to improve the coverage, consistency and accessibility of market information.

o To what extent do you agree with these observations?

Basically we agree with the observations.

o What issues would you regard as important in improving information quality and accessibility?

Continuing emphasis on improving the timeliness of information provision.

o To what extent do you consider information quality/accessibility issues will be adequately addressed under existing Commission work programmes?

The EC has made some good steps recently and I see no reason why this should deteriorate.

o To what extent should more detailed examination of information quality/accessibility issues be treated as a high priority in the next stage of the Market Design Review? If so, what aspects and why?

Not particularly important.

Summary observations on reliability of supply

Average reliability experienced by customers has been fairly stable through the 1995-2005 period. If anything, the data indicates an improvement in terms of reduced frequency and lost time from interruptions. New Zealand's performance also appears to be within the range of international experience – though more like that in Australia than Europe or North America;

The frequency of 'voluntary demand restraint' sought to address unusually dry conditions appears to be within the range of historical norms;

Most (if not all) developed countries appear to have experienced at least one major outage affecting a large number of customers at some point in the 1995-2007 period.

o To what extent do you agree with these observations?

They are very pertinent, however one must bear in mind the wide diversity of the various environments compared.

o What other issues would you regard as important in analysing end user reliability of supply?

Ensuring timeliness of transmission infrastructure provision.

o To what extent do you consider end-user reliability issues will be adequately addressed under existing Commission work programmes?

I do not see gaps in the programmes but there appear to be timeliness issues.

o To what extent should more detailed examination of end-user reliability issues be treated as a high priority in the next stage of the Market Design Review? If so, what aspects and why?

Transmission.

Summary observations on other service quality indicators

There is little information available on service quality at the aggregate level – to the extent that data exists, it is based on reports by industry bodies that address customer complaints, and periodic surveys by the Consumers Institute;

The frequency of reported complaints in New Zealand appears to have been fairly steady at around 1 complaint per year for each 1,000 customers, which is broadly comparable the levels reported in the United Kingdom and New South Wales, and lower than that reported in Victoria;

Survey data on customer satisfaction suggests a significant improvement on average between 2001 and 2005, with little aggregate change showing in the survey results for the following year. However, the number of consumers reporting a problem with their supplier appears to have risen between 2005 and 2006.

o To what extent do you agree with these observations?

These are very simplistic averages and hide a wide range of different service levels across the country.

o What other issues would you regard as important in analysing service quality?

An understanding of market operation would improve customer response to issues which are often beyond supplier control.

o To what extent do you consider that service quality issues will be adequately addressed under existing Commission work programmes?

Largely covered but market issue awareness in the public needs improvement.

o To what extent should more detailed examination of service quality issues be treated as a high priority in the next stage of the Market Design Review? If so, what aspects and why?

Awareness.

Summary observations on end-user pricing

End-user prices averaged over all customer types have fluctuated in real terms over the 25 years to 2005, but show little overall trend during the period;

While average national prices in real terms show no strong trend, price trends differ markedly by customer group – residential user prices have risen substantially over the period, commercial prices have generally trended down, and industrial prices have been fairly flat (though all have shown some shorter term variations up and down);

This pattern of price movement began before market arrangements were introduced in the mid-1990s – and has continued in the post-market period, though with an aggregate trend upward through most of the latter part of the period;

Despite rising residential electricity prices, the proportion of average household expenditure devoted to fuel and power has remained around 2.5-3 percent during the period 1998-2004 – this is similar to the proportion in Australia;

New Zealand's electricity prices have generally been ranked in the lower half of prices among IEA member countries – with industrial rankings frequently lower than residential rankings. New Zealand's relative ranking appears to have deteriorated somewhat through time, but there are sizeable year to year shifts (which may be reflect shorter term movements in exchange rates);

IEA data indicates that New Zealand electricity prices are lower than Australia for average industrial users, and higher than Australia for average residential customers;

o To what extent do you agree with these observations?

They are accurate and reflect changes that commenced with the break up of the old Power boards with their inherent residential subsidy.

o What other issues would you regard as important in assessing price movements?

The issue of RMA delays and the price increases consequent on the Maui gas run down are also very significant.

o To what extent do you consider that price issues will be adequately addressed under existing Commission work programmes?

As long as the stress on competition is maintained there is good coverage. There are, however, significant elements of anticompetitive behaviour in some of the EC outputs.

o To what extent should more detailed examination of price issues be treated as a high priority in the next stage of the Market Design Review? If so, what aspects and why?

The fostering of competitiveness in all areas of EC work.

Summary observations on retail margins

Assuming the data and methodology are robust, the high level analysis of retail margins set out above suggests that:

Average incumbent margins in New Zealand (based on the weighted average for the network areas considered) appear to lie between the regulatory benchmarks adopted by Australian regulators for default tariffs, and the actual margins observed for major Australian energy retailers;

Margins appear to have moved up and down through time, reflecting movements in retail tariffs and wholesale energy costs, among other factors;

There is considerable variation in incumbent margins across network areas, with higher margins to some extent correlated with smaller network size – however this apparent correlation may reflect an underlying third variable (e.g. regional spot price variability) rather than network size per se;

In the areas with higher incumbent margins, there appear to be competitors offering service at lower prices; and

To the extent that regional variations in incumbent margins are persistent, this raises questions as to whether such customers find it more difficult to ‘shop around’, and/or other competing suppliers are less inclined to actively market to these customers.

o To what extent do you agree with these observations?

There is some validity in the observations although they are primarily defined by their simplicity. In many more remote areas the non incumbent retailers change prices on a multi year cycle which can lead to differences in snap shot views.

The low density in these areas also requires higher operating costs than urban influenced averages.

The more variable supply pricing is also affected by the cost of hedging to guarantee against dry year cost impacts.

Additionally the difficulty in securing supply through new generation development restricts retailer’s ability to pursue new markets.

o What other issues would you regard as important in analysing retail margins?

The issues identified above, particularly the cycle of pricing should be included.

o To what extent do you consider that retail margins will be adequately addressed under existing Commission work programmes?

Customers are influenced by the long term price impact, particularly in rural areas where service is also more important.

o To what extent should more detailed examination of retail margins be treated as a high priority in the next stage of the Market Design Review? If so, what aspects and why?

Ensuring the maintenance of adequate competition is the optimum measure.

Summary observations on retail competition indicators

The retail market is highly concentrated, with the five main parties (all integrated generator-retailers) accounting for over 90 percent of the market by ICPs;

The retail market has tended to consolidate through time, although some niche players have recently entered the market;

Annual retail market shares have been fairly stable in ICP terms, but there have been changes over time. Market shares appear somewhat more fluid in energy terms;

National retail switching (as measured by ICP switches) has run at around 10 percent for the last few years – which appears comparable with many other deregulated electricity markets;

Survey data indicates that a sizeable proportion of customers (almost 50%) had difficulties with switching in the early period when residential customers could choose their supplier – more recent data suggests that problems have reduced, though around 10%-15% still reported problems with switching;

Retail churn varies markedly across network areas – raising questions as to the underlying causes for the variability

o To what extent do you agree with these observations?

Generally the observations are fair, however, particularly in smaller rural areas service levels are very important and can minimise churn levels.

o What other issues would you regard as important in analysing retail competition indicators?

Availability of alternatives as already covered is the prime factor.

o To what extent do you consider that retail competition will be adequately addressed under existing Commission work programmes?

Adequate

o To what extent should more detailed examination of retail competition be treated as a high priority in the next stage of the Market Design Review? If so, what aspects and why?

From the data shown no need for higher priority.

Summary observations on capacity margin through time

Dry year security margins were relatively low in the early 1970s, as a result of higher than anticipated demand growth, leading to some supply shortages;

A series of major power station developments through the late 1970s and 1980s expanded dry year security margins as the growth in supply outstripped falling demand growth rates;

ECNZ inherited a significant surplus of capacity when it was established in 1987 and put in place a pause in new investment to allow demand to catch up with supply;

Over the period of operation of the wholesale electricity market, market participants³⁸ have developed and delivered investment in new power stations that has led to dry year margins averaging about 10%. This is less than provided during the surplus of the late 1970s and 1980s, but more than provided in the early 1970s; and

This 10% dry year margin appears to be higher than required by the standard applied by NZED when the system was centrally planned and appears to be higher than the “optimal” standard suggested by Castalia Strategic Advisors in its recent draft review of the New Zealand Reserve Energy Policy.

o To what extent do you agree with these observations?

Appropriate.

o What other issues would you regard as important in analysing past security margins?

The implications of the Government Energy Strategy with the priority for renewables but unaddressed issues with RMA delays.

o To what extent do you consider that security margins have been adequately addressed under existing Commission work programmes?

Adequate

o To what extent should more detailed examination of security margins be treated as a high priority in the next stage of the Market Design Review? If so, what aspects and why?

Maintain current approach.

Summary observations on possible future capacity margin

The commissioning of projects that are under construction and where firm commercial commitments have been made to proceed will lift security margins to levels which are comparable with the average over the period 1990-2005; and

Looking further ahead, it is not possible to form a definitive view on security margins because projects have not been committed. However, the volume of projects being progressed in the development 'pipeline' is sufficient to cover net demand growth for a significant number of years. Even allowing for significant project deferrals, there appear to be sufficient new projects being considered to provide the potential for security margins to be maintained at reasonable levels.

o To what extent do you agree with these observations?

Generally appropriate

o What other issues would you regard as important in analysing future security margins?

Possible implications of Draft NZES.

o To what extent do you consider that future security margins will be adequately addressed under existing Commission work programmes?

Primarily controlled by investment decisions.

o To what extent should more detailed examination of future security margins be treated as a high priority in the next stage of the Market Design Review? If so, what aspects and why?

More an issue of Government impacts than EC issue.

Summary observations on medium term coordination

Hydro/thermal operation, in both pre-and post-market time periods, appears to exhibit relatively close coordination, with thermal generation responding to changes in hydro inflows and storage conditions;

Hydro spill data suggests that spill risks have been managed in the market, and signalled in prices;

Non-hydro plant generally appears to run in a merit order that corresponds with estimates of relativities among short run marginal costs;

Shorter term wholesale price variations are considerably more volatile but appear to more strongly reflect prevailing hydro supply conditions than prior to market commencement.

o To what extent do you agree with these observations?

Agree

o What other issues would you regard as important in analysing medium term coordination?

N/A

o To what extent do you consider that medium term coordination issues will be adequately addressed under existing Commission work programmes?

Currently satisfactory

o To what extent should more detailed examination of medium term coordination issues be treated as a high priority in the next stage of the Market Design Review? If so, what aspects and why?

See above.

Summary observations on real time security/coordination

Existing processes rely on market participants providing sufficient generation/load response options for the system operator to dispatch in real time – participants offer these resources in response to short term market forecasts and/or warning/ emergency notices issued by the system operator;

Examination of system operator notices and offer data presents a mixed picture of short term risk - on the one hand, there have been instances in the last 18 months where the System Operator has issued demand curtailment notices. On the other hand, the frequency of standby residual notices has diminished, and although margins were typically less in 2006, analysis of offered and actual supply does not suggest any year on year deterioration in generation margins;

More detailed analysis would be needed to determine whether other factors could mask potential problems, for example, local transmission constraints affecting offered supply; and

While the current picture is unclear, looking further ahead, it does appear that a number of trends will increase the challenges of maintaining short term security – especially increasing levels of inflexible or intermittent generation on the system.

o To what extent do you agree with these observations?

Reasonable

o What other issues would you regard as important in analysing real time security/coordination?

o To what extent do you consider that real time security/coordination will be adequately addressed under existing Commission work programmes?

o To what extent should more detailed examination of real time security/coordination be treated as a high priority in the next stage of the Market Design Review? If so, what aspects and why?

Primarily to deal with the implications of increasing intermittent generation.

Summary observations on availability of forward contract prices

Both purchasers and suppliers appear to have concerns about the scarcity of information on forward contract prices;

Actual deals/offers are regarded as the most useful information source – with EnergyHedge being the only other source seen as moderately useful by both users and suppliers; and

Improving information on forward contracts prices should be an important priority.

o To what extent do you agree with these observations?

Very fair.

o What other issues would you regard as important in assessing availability of forward contract prices?

Improved market understanding as recommended by the HMDSG.

o To what extent do you consider that availability of information on forward contract prices will be adequately addressed under existing Commission work programmes?

HMDSG proposals are an ideal starting point.

o To what extent should more detailed examination of availability of information on forward contract prices be treated as a high priority in the next stage of the Market Design Review? If so, what aspects and why?

Concentrate on implementing HMDSG and then evaluate.

Summary observations on available contract price indicators

While some data on forward contract prices is available, the sources are diverse and it is not possible to compile a series that is entirely consistent through time. Instead, it is necessary to look at trends based on a number of contract price 'indicators';

The available contract price indicators have tended to follow a similar track to movements in average spot prices. This is true both in terms of trend (a strong upward movement post-2000), and in relation to shorter term variations. For example, during the 1998-2000 period, there appears to have been a softening in spot and contract price indicators, which was subsequently reversed; and

The available indicators suggest that in terms of directional changes, contract prices have risen/fallen in response to movements in the dry year supply margin. However, the data is not sufficient robust to draw any conclusions about the magnitude of movements.

o To what extent do you agree with these observations?

They are a useful starting point.

o What other issues would you regard as important in comparing contract price indicators?

Publication of hedge contracts as proposed by HMDSG.

o To what extent do you consider that assessment of contract price indicators will be adequately addressed under existing Commission work programmes?

HMDSG proposals are likely to be a good basis to initiate work.

o To what extent should more detailed examination of contract price indicators be treated as a high priority in the next stage of the Market Design Review? If so, what aspects and why?

Start with HMDSG and then evaluate.

Summary observations on LRMC compared to wholesale electricity prices

While each has shortcomings, the best available indicators of actual wholesale electricity contract prices for comparison with LRMC appear to be the NZTF index and EnergyHedge;

Using these benchmarks as sources, actual wholesale electricity contract prices appear to have followed a similar track to LRMC, although there have been periods where they have been above or below estimated LRMC. In the case of the NZTF index, changes in hydrology are likely to play some influence, and for this reason EnergyHedge is likely to be amore appropriate indicator of the relativity between contract prices and LRMC; and

Based on the EnergyHedge data that is available, and allowing for LRMC estimation uncertainty, there does not appear to be evidence that wholesale contract prices have been persistently overshooting LRMC.

o To what extent do you agree with these observations?

N/A

o What other issues would you regard as important in assessing LRMC and wholesale prices?

N/A

o To what extent do you consider that assessing the relationship between LRMC and wholesale prices will be adequately addressed under existing Commission work programmes?

N/a

o To what extent should more detailed examination of LRMC and wholesale prices be treated as a high priority in the next stage of the Market Design Review? If so, what aspects and why?

N/A

Summary observations on generation competition indicators

The generation market is highly concentrated, with the five main parties (all integrated generator-retailers) accounting for over 90 percent of the market by capacity;

Capacity shares show some change through time, reflecting the building and retirement of plant, and the sale/purchase of existing assets. Both Contact and Genesis have seen sizeable upward movements in their capacity shares over the 1999-2007 period, whereas the capacity shares for the other major integrated participants have shown a more gradual increase. The capacity share attributed to parties outside the five main integrated participants has substantially declined over this time; and

While some new entry has occurred into the generation sector in the 1999-2007 period, the scale has been relatively small (only two parties entered and remain operating as at 2007). In addition, the five main integrated parties account for 88 percent of the generation capacity built over this period.

o To what extent do you agree with these observations?

Fair as they stand but no indicators developed.

o What other issues would you regard as important in analyzing generation competition indicators?

Indicators

o To what extent do you consider that generation competition will be adequately addressed under existing Commission work programmes?

N/A

o To what extent should more detailed examination of generation competition be treated as a high priority in the next stage of the Market Design Review? If so, what aspects and why?

Primarily controlled by market structure.

Summary observations on instantaneous reserves market

The interaction between instantaneous reserves and energy markets and the level of competition to provide instantaneous reserves appears to suggest that the instantaneous reserves market is reasonably effective, though there may also be opportunities to reduce the cost of procurement, e.g. through greater reliance on South Island instantaneous reserves.

o To what extent do you agree with these observations?

N/A

o What other issues would you regard as important in assessing the instantaneous reserves market?

N/A

o To what extent do you consider that issues with the instantaneous reserves market will be adequately addressed under existing Commission work programmes?

N/A

o To what extent should more detailed examination of the instantaneous reserves market be treated as a high priority in the next stage of the Market Design Review? If so, what aspects and why?

N/A

Summary observations on frequency keeping market

*Frequency keeping costs appear to be linked to energy market prices;
Procurement costs have tended to rise over time in each island although there has recently been a trend of falling monthly procurement costs;
The level of frequency keeping services can be expected to increase as more intermittent generation connects to the system.*

o To what extent do you agree with these observations?

Fair

o What other issues would you regard as important in assessing the frequency keeping market?

N/A

o To what extent do you consider that issues with the frequency keeping market will be adequately addressed under existing Commission work programmes?

N/A

o To what extent should more detailed examination of the frequency keeping market be treated as a high priority in the next stage of the Market Design Review? If so, what aspects and why?

Response to the growth in intermittent generation.

Summary observations on demand side participation

Looking at the investment horizon, it would appear that electricity intensity has been declining over the last ten years or so in which retail competition and an electricity market have been in place. However, it is not possible to judge whether there is a causal linkage, or simply a coincidence of timing;

In terms of medium term demand response, there is evidence that large industrial users have responded to sustained movements in spot prices during extended periods of low inflows. The evidence for residential and commercial users is not clear. It would also appear that the demand response signals for such users are less pronounced than for large industrial customers;

In relation to very short term (close to or in real time) demand response, it appears that large users are able to respond sometimes but not others. Residential load is also able to respond sometimes, primarily through controlled water heating load; and

Key issues affecting the ability to respond include the accuracy of forward price estimates, the degree of forward notice, and the extent to which contractual relationships mute or remove price signals between the wholesale market and the end-user.

o To what extent do you agree with these observations?

Appropriate

o What other issues would you regard as important in assessing the demand side participation?

N/A

o To what extent do you consider that issues with demand side participation will be adequately addressed under existing Commission work programmes?

We have yet to see the outcome of the current work in the EC so cannot comment.

o To what extent should more detailed examination of demand side participation be treated as a high priority in the next stage of the Market Design Review? If so, what aspects and why?

The larger players who have the capacity to handle on their own are working together. Smaller players will need aggregators to have any impact.