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NEWS | HEDGE MARKET

Low prices, underinvestment behind peak hedge issues - Sapere

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Fuel scarcity and low incentives to invest in peaking generation - not use of market power - are behind non-

integrated electricity retailers' difficulties in securing shaped hedges to cover peak and super peak periods, Contact Energy says.

In its response to the Electricity Authority's ***Reviewing risk management options for electricity retailers*** consultation, Contact says the regulator's analysis of market power has been "inconsistently applied" and there is no evidence that the exercise of market power is occurring.

"This creates a significant risk that the authority chooses the wrong set of interventions as part of the Electricity Competition Taskforce, and other work the authority is undertaking."

Contact says there is "clear evidence that there is increasing scarcity of firm capacity" due to several reasons including upstream gas supply, regulatory changes, demand uncertainty, and disruptions to efficient investment signals.

The gentailer's submission includes Sapere's response to the November risk management issues paper.

The consultancy says that the trend of peak demand rising faster than peak capacity since 2015 supports a "presumption of underpricing of super peak contracts and spot prices".

"If the revenue earned by an existing supplier is less than that required by an efficient new entrant, the supplier cannot be said to have exercised market power in a manner adverse to the long-term benefit to consumers."

It says that if spot market peak prices have been insufficient to attract and maintain peak capacity, the authority can be "confident that market power could not have been in play".

The "elephant in the room" causing a lack of peak hedge cover is actually because peak prices were too low to encourage investment, Sapere suggests.

It acknowledges that is an "unpalatable message" following the electricity price spikes in August, but says the authority must have a "clear line of sight

between demand and supply and pricing" for the long-term benefit of consumers.

"This lack of investment must be a central feature in any analysis of flexibility contracts struck prior to now," Sapere says.

Market work

The authority's review of whether the availability and pricing of risk management contracts are creating a barrier to retail competition found that a range and combination of hedges are available to electricity retailers.

However, it found that the markets for morning and evening peak products in particular were "neither deep nor liquid," and some gentailers were not offering hedges when requested.

It said this was a risk to competition in the market.

The Energy Competition Task Force - made up of the authority and the Commerce Commission with the Ministry of Business, Innovation and Employment observing - will include the review's analysis in the development of actions focused on enabling new generators and independent retailers to enter, and better compete, in the market.

The authority has also been working on providing more market products with the launch of the Standardised Flexibility Product Co-design Group's new super peak over-the-counter product this month aiming to ensure more access to more market participants.

Evidence and drivers

Sapere's report says the authority's review noted the evidence points to fuel or capacity scarcity often being the driver behind the current thin and illiquid market for shaped hedge cover.

Sapere says that, until now, super-peak contracts have only been able to be backed by gas and hydro - "two fuels which, in the New Zealand context,

are quite uncertain on a medium-term basis".

Sapere points to the authority's inability to determine whether super-peak hedges were consistent with competitive prices, and whether the increase in OTC super-peak prices observed over the assessment period is justified.

"The authority recognises that OTC super-peak hedge contract prices will trade at a substantial unquantified premium over ASX baseload prices adjusted for shape."

However, Sapere says, the regulator was unable to determine an efficient level of such a premium, likely due to it underestimating the shape premia, underestimating the illiquidity premium, not estimating a spot price volatility premium, adopting a scarcity premium that underestimates contract prices, and not adding a premium for ASX volatility.

"Absent accurate estimates of these premia, commentary as to whether observed prices or terms for super-peak hedge contracts are impacted by market power becomes speculative," Sapere says.

The consultancy says that revealed prices may have reflected the "real-world considerations faced by sellers who underpin flexible contracts".

These include existing gas plant pricing in the uncertainty of whether they would have insufficient fuel, the uncertainty of sufficient hydro inflows over the contract term, and - in August especially - the "uncertainty of whether gas-fuelled hydro firming would come online in this scenario due to the gas situation".

Uncertainty factors

Sapere also notes the recent uncertainty to invest in peaking plant which was created by the now past potential of a Tiwai exit or the Onslow pumped hydro proposal.

"The prospect that the Government would support the entry of a 1200 MW peaker into the electricity market can only have further undermined the signal for private sector investment in peaking capacity, especially as the

Government maintained its position that Onslow could be in place by 2030," Sapere says.

Other factors included international fuel price increases following the invasion of Ukraine - particularly of coal which had a direct effect on Huntly's short-run marginal costs.

That also had a "very plausible impact on water values (which contain signals about the expected market price in the event that Huntly is required to firm hydro)", Sapere says.

Lithium prices also rose during the Covid-19 pandemic due to supply chain disruptions - delaying investment in large-scale battery energy storage.

Find out more...

Factfile information

Organisation: Electricity Authority
Contact Energy
Meridian Energy
Genesis

"Lithium prices increased by 830 per cent in the Chinese spot market from December 2020 to April 2022, ultimately slumping growth for renewable energy technologies and delaying investment in many global economies."

These have since decreased by more than 80 per cent.

Sapere says that the efficient economic costs of these premia "cannot be accurately calculated because economic costs and prices are jointly and simultaneously discovered via the competitive process".

"The practical difficulty is that the liquidity of flexibility products is limited by flexible generation capacity and the security of its fuel supply."

Battery, flexibility investments

Sapere says its analysis suggests that some substantial risks to firm capacity investment - "notably policy and regulatory uncertainty" - have reduced and the increasing investments in industrial demand flexibility and batteries is "encouraging"

The latter could plausibly back the standardised super peak contract announced last month, it says.

"Liquidity in flexibility contracts like super-peak contracts should improve as these investments materialise."

However, it cautions that aside from Contact and Meridian Energy's demand response contracts with the Tiwai smelter - additional flexibility is still being implemented over the next two years.

Sapere is concerned that regulatory intervention in super-peak contract pricing could have severe implications on future investments in these areas.

Demand assessment

Sapere says there was little to no growth in peak demand in New Zealand between 2006 and 2015 but since then peak demand has increased alongside a decrease in firm capacity.

"As a result, growth in peak electricity demand consistently exceeded growth in firm capacity since 2015. Indeed, firm capacity barely grew for a period of 4 years following the decommissioning of Otahuhu and Southdown."

From 2018, the system operator's security of supply assessments began showing some scenarios where the winter capacity margin was "vulnerable to increasing peak demand because of electrification and the possibility of peaking capacity not keeping up with peak demand growth".

The firm geothermal capacity at Tauhara and Te Huka, developed by Contact, will also help although these will be offset by the eventual decommissioning of Contact's Taranaki Combined Cycle plant, Sapere says.

2021 gas warnings

Sapere also looks at the advance warnings that gas supplies would tighten to the extent they currently have - something which caught many participants, including Meridian Energy, off-guard last winter.

In May, the Gas Industry Company released figures showing a 12.5 per cent reduction in gas production during 2023, and a 27.8 per cent reduction in gas production in the first three months of 2024.

It warned that large gas consumers - including generators - could expect gas supplies to be constrained throughout the decade.

Sapere tracks the gas industry's warning back to an NZX notice from Contact in December 2020, which it says might have been the "canary in the mine."

That statement noted that OMV had revised down its estimates of gas that it could supply Contact in 2021 by 3.7 petajoules to 10.6 PJ.

"In isolation, this might have been missed or treated as a one-off situation but we now know this was the beginning of gas producers recalibrating their supply arrangements to meet declining volumes," Sapere says.

In 2021 the Security and Reliability Council's forward work programme ranked the reliability and resilience of the gas industry as its third highest risk, and many commentators including Meridian, Contact and Mercury were warning the authority that the government's interventions were damaging the gas market with severe security of supply implications.

The Gas Industry Company that year also stated that its assumptions were that natural gas would be needed for some petrochemical, industrial, commercial, agricultural and residential use beyond 2030.

It warned that "without ongoing investment well in advance of when the gas is needed, there is a real risk that not enough gas will be able to be delivered to major gas users, including electricity generators, during the transition out to 2030 and beyond".

That year Enerlytica observed that about $2-3 billion of capital expenditure was needed over this decade to maintain gas continuity.

"Policy direction since 2018 has made winning this capital from international investors now far more challenging," it said.

Risks passing

Sapere says that the next two to three years will see new firm capacity come to the market with Contact, Meridian, and Genesis all investing in grid-scale batteries.

Contact also has its super-peak demand response deal with New Zealand Steel that will come into effect from the end of this year.

It also points to the number of retailers developing hot water and electric vehicle charging products that will reduce peak demand.

It says that instead of attempting to battle market power that there is little to no evidence of, the authority needs to pursue "forward price transparency and liquidity for flexibility products" which will mean "continued close attention to investment incentives".

"We recognise that this will be cold comfort to flexibility purchasers (e.g., independent retailers) who are feeling the brunt of high super-peak prices," it says.

However, its analysis suggests that "some of the risks associated with firm capacity investment have passed, and investment is coming to market in forms of demand response and battery storage that could plausibly back the standardised super peak contract".

"This investment is a prerequisite for the availability and efficient pricing of peak-related contract is the availability of flexibility capacity (including demand reduction)."