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14 December 2022

Submissions
Electricity Authority
PO Box 10041
Wellington 6143

By email: reviewconsultation2022@ea.govt.nz

Re: Wholesale Market Competition Review

Nova supports the general tenor of the Issues Paper. The structure of the market is such that there is opportunity for market power to be exercised, and that is difficult to get around. Ensuring there is adequate monitoring of market behaviours as proposed is likely to provide the best outcomes.

The electricity market will play an important role in reducing carbon emissions in New Zealand's energy sector. Given its importance it is crucial that the sector attracts investment and has access to resources. It would be a mistake to disrupt the sector in the absence of solid proof that the market is failing to meet consumers' needs. An unnecessary focus on achieving 100% renewable electricity supply by 2030 is likely to result in higher electricity prices and reduced security of supply, and as a result lead to delays in reducing carbon emissions in sectors such as transport and industrial process heat.

The key to low electricity prices has less to do with encouraging greater investment in intermittent generation capacity than it has with covering for times when the sun is not shining, the wind is not blowing, or hydro inflows fall below average. Expanded demand response and a degree of overbuild of renewables will provide some security, but reserve dispatchable generation will be required as part of the mix. Owners of fast start gas fired generation, (a.k.a. peakers) can, and have historically provided competition to the concentrated ownership of controlled hydro storage.

A significant threat to the market is the challenge of investing in peaker plants to provide hydro firming as an alternative to the Lake Onslow pump hydro project. The Lake Onslow project, combined with the uncertainty associated with the future of the Tiwai aluminium smelter and the need for a flexible gas supply makes any investment in peakers at this time a risky venture.

Nova's detailed responses to the Authority's questions are appended to this letter.

Yours sincerely

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Nova submission: Wholesale market competition review

Q No.	Question	Response
Q1.	Chapter 2 Do you agree that a key competition issue in the transition toward 100% renewable electricity is that it weakens competition during extended times when intermittent generation cannot run?	Nova agrees. Competitive forces are weaker when resources are scarce. This occurs when aggregate generation output is reduced due a lack of wind, sun, or hydro inflows. There are limited options available for renewable based firming or dispatchable generation currently available to deal with capacity shortages, other than short (1-2 hours) duration peaks that batteries may help support. This obviously occurs more frequently with intermittent generation sources than with dispatchable generation based on stored fuels. Unfortunately, higher prices during periods of low output from intermittent generation does not help incentivise the addition of more intermittent generation. This is because the output of new intermittent generation projects is likely to correlate with existing intermittent generation output. As such, new intermittent projects are unlikely to benefit greatly from high prices that occur during periods with no solar and little wind.
Q2.	Do you have any comments on the contents of this chapter?	With respect to para 2.16 re the level of competition in the New Zealand electricity market, while dominated by five major generator/retailers, has better, or no worse competition attributes than several other important sectors in New Zealand including, supermarkets (2), airlines (2), building product suppliers, banks, and telecommunication companies. While the Authority can be proactive about actively promoting competition, the key to an effective and competitive market will be in ensuring that dispatchable generation is competitive.
Q3.	Chapter 4 Do you have any comments on the impediments to generation investment?	There are several factors having a significant impact on the prospects of new dispatchable generation being built. Elevated prices during periods of low intermittent generation output provides an investment signal for building new dispatchable generation but does little to encourage building additional intermittent generation. As per para 5.7 the market has material uncertainty when considering new generation investments. Unfortunately, restrictions on ramping rates for hydro power

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		stations, barriers to building new dispatchable hydro power schemes (e.g. Meridian's failed attempts re: Project Aqua on the lower Waitaki river, and a hydro scheme on the Mokihinui river), Government policies which discourage the build of gas-fired peakers, and the overhang of the Tiwai aluminium smelter, are all impediments to new dispatchable generation plant being built in the short term.
Q4.	Do you agree that the lag in investment is not due to anti-competitive behaviour to slow down investment and discourage entry , or can you provide instances or other evidence to the contrary?	Yes, there is simply no logic for any individual generator to hold back a viable generation project in the prospect of achieving higher prices for existing generation. If they do so they can expect a competitor to step in and take up the opportunity of building their own project, even if it has a lower expected return than the withheld project. If anything, generators have an incentive to commence a new project sooner rather than later to capture market share ahead of competitors. This particularly holds true for existing retailers that might use the generation expansion to underwrite increasing their retail market share. The only circumstance where this does not arise is where there are external constraints holding back the building of new projects. Such constraints can include factors such as conditions on resource consents, lead times and availability of suitably qualified contractors, availability, and cost of critical plant (e.g. the impact of the NZ$ exchange rate), the cost and availability of funding, internal staff resources, and potentially the fit of the project with generators existing portfolio. While we agree that, as noted in the consultation paper, some projects can be built over a two year time frame, but parties critical of the generation sector's record of building new projects likely underestimate the time involved in just getting to the point where construction can commence. No contracts can be finalised until the resource consent application process runs its full course, and then there are frequently significant lead times for critical pieces of equipment, such as power transformers, or roading and earthworks that need to be completed before any other onsite work can commence. Time delays also add to the challenge in meeting risk adjusted hurdle rates of return, given that the longer the time horizon is extended the more risk is involved. Nova believes the apparent delay in getting projects underway in the current environment has been a combination of the above uncertainties, exacerbated by challenges associated with covid-19 and the risk of the Tiwai smelter closure. Noting

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		that in 2020 there was a heightened level of uncertainty as to the long term impact of the pandemic. A new challenge to emerge during 2023 will be the uncertainty of the consenting environment given the new legislative framework being developed to replace the RMA before the end of this Parliamentary term. Applicants will need to form a view whether they should accelerate consent applications under the current RMA framework which at least is well understood, versus the new framework which could well make progressing developments harder and longer, particularly if an application affects a resource or an area of greater environmental protection under the new regime.
Q5.	Do you have any comments on the role and impact of carbon pricing on investment and wholesale market competition or the other contents of this chapter?	The carbon price has reached a point where any increase does not add any additional incentive to invest in intermittent renewable generation projects. That is because SRMC of thermal generation is now well above the LRMC of wind and solar in any case. As such, thermal generation does not compete with intermittent generation. The short-run opportunity cost for dispatchable hydro generation will be benchmarked against the high marginal cost of thermal generation and to a lesser extent the LRMC of new intermittent renewables. In effect therefore, the high carbon price is now diminishing the value of intermittent generation output for retailers. This is because retailers and direct-connect industrial customers need to be able to cover their supply risks over all time frames, i.e. retailers need the cost of intermittent generation to be lower to offset the higher cost of dispatchable generation during periods when intermittent generation output is low and prices high.
Q6.	Chapter 5 Do you agree with the Authority's overall conclusion that it currently considers that continued reliance on the current conduct-based measure to mitigate the exercise of market power remains broadly appropriate in	Nova agrees that the conduct-based measures and the potential entry of new supply to mitigate the exercise of market power are appropriate in seeking to limit the exercise of market power in the transition to 100% renewable electricity. Nova is concerned however that barriers to building new dispatchable generation capacity (as discussed above), and scale of investment required to develop large scale demand response, means that the spectre of new competitive generation builds is less effective as a deterrent to market power than it ought to be.

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	the transition toward 100% renewable electricity?	While the proposed policies and actions to facilitate new renewable generation have merit and adhere to the climate change ethos, the challenge lies with facilitating competitive dispatchable generation and in particular peaking capacity and demand response. The Government's policies and the NZ Battery Project are supressing any serious investment in a 'Plan B' for meeting peak demand and back-up for dry hydro conditions. The issue with investment underwrites is that they distort the incentives for third parties to make investment decisions as they impact on the risks and rewards associated with their projects. When governments choose to underwrite new projects then investors will likely hold back on investing in competing projects without a similar underwrite. Any move by government to establish financial underwrites for projects (renewable or otherwise) needs to consider any unintended consequences and impacts on the wholesale market, and where possible, mitigate that impact.
Q7.	Do you agree with the objective and evaluation criteria set out in this chapter?	The objective and evaluation criteria are appropriate, but the package of actions goes further to assume that the objective can be achieved by promoting renewable generation only and ignoring the requirement for hydro firming and peaking capacity, at least in the transition. Modelling conducted by both Concept Consulting and Energy Link indicate that the optimal solution for New Zealand is to allow for around 2% of dispatchable thermal generation over the long term (in the absence of large-scale pump hydro). It is expected that much of this thermal generation will be able to be converted to biogas or biofuels beyond 2030 or so, but in the transition, it has a critical role in supporting lower electricity prices and as such, conversions from petroleum fuels, coal, and gas to electricity.
Q8.	Do you have any comments on the contents of this chapter?	The proposed action to '*analyse thermal generation transition risks in the context of demand to 2030, its role in hydro firming and more prevalent solar and wind generation, and options to mitigate transition risks*' is imperative. The CEOs of Transpower and the major gentailers have also been highlighting the risks to meeting peak load in the near term.

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Q9.	Chapter 6 Are there any other options that would promote wholesale electricity market competition in the transition that you consider would be more effective and efficient?	Nova agrees that for so long as Meridian Energy is supplying the Tiwai aluminium smelter, separation of ownership of the Manapouri Power Scheme is problematic, let alone the issue of property rights and investor's interests. That could be reconsidered if the smelter closes, but the challenges around operating Manapouri within its consent requirements and volatile inflows should not be underestimated. If any condition is to be imposed on the future development of the large gentailers this needs to be signalled well in advance to minimise the short term impact on their market capitalisation. For this reason, Nova recommends considering any options now and setting a clear path for the future is important for ensuring investors are confident in investing their capital into New Zealand's electricity market. It is a feature of markets generally that in capital intensive industries where there are economies of scale, and the largest participants have a strong cash-flow there is a tendency for an increasing concentration in market power. The NZ electricity market is no exception to this. There is no evidence that the market power of the existing incumbents increases if they grow their intermittent generation capacity.
Q10.	Do you have any comments on the contents of this chapter?	Nova does not support the proposal to invite '*MBIE to amend the Electricity Industry Act 2010 so that section 46 powers include parties in industries critical to security of electricity supply, such as the gas industry.*' Nova agrees that the gas industry is critical to NZ's electricity supply, but the Authority already has the powers under s46 to ascertain what gas supplies the electricity generators have available to them, including their priority rights and access rights to gas storage for the purposes of generation. Most gas supply agreements between parties however have no links to electricity supply. The mere risk of the Authority calling for copies of gas contracts unrelated to electricity generation creates concern for gas users that confidential data might become public and impact on their negotiations with customers, which may be in NZ or overseas. While the proposal does not go as far as calling for the power to divert gas from industrial consumption to electricity generation, the information requested does create significant leverage that might be used in the event of a dry hydro event.

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		Such a power also creates a risk for major gas users that their customers may factor in supply uncertainties when negotiating supply contracts. Creating an expectation that gas might be diverted for generation in the event of low hydro inflows will also have the undesirable impact of: • reducing the imperative of a thermal generator to cover its fuel risks, and • allowing hydro generators to transfer their risks to the market by lowering their hydro storage target to a level where there is higher probability of diverting gas from industrial customers to thermal generators to provide hydro firming. A similar effect was the experience when the Government owned the Whirinaki Peaker Plant as a reserve generator. There was a point where hydro generation from storage continued at times when thermal plant was not fully dispatched, despite increasing risks of a severe hydro shortage.
Q11.	Chapter 7 Are there any other options that would better facilitate efficient investment in renewable generation to promote wholesale electricity market competition in the transition?	Nova supports the proposal to develop an Annual Electricity Generation Investment Opportunities report. It is appropriate that the function sit with MBIE as it needs to be independent of Transpower and market participants. In developing this report MBIE should liaise closely with Transpower to determine if expansion of the Grid capacity can stay ahead of load and demand requirements. One result of this work could be that transmission capacity is expanded to some regions in anticipation of generation expansion, i.e. an expansion of the REZ concept if necessary. Nova does not support establishing and requiring market making for longer dated ASX futures contracts. As stated in the Issues Paper, they are likely to be expensive in relation to the additional value they would create. Of the various financial derivative products discussed in paras 7.8 – 7.15 Nova believes that a price cap would be the sort of product that would assist with firming type products. Peak hedges and other shaped type products are suitable for retailers without their own generation capacity and for parties with baseload or more consistent forms of generation, A price cap product will facilitate: • retailers or consumers entering PPA arrangements with developers of intermittent generation; or

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		• developers of intermittent generation that could use such a product to support selling firmer hedge products; and • parties that either have a demand response capability or high cost dispatchable generation who desire fixed revenue streams to support their firming capability. With respect to the Authority collecting information regarding firming agreements (para 7.14), we recommend that the Authority first establish a suitable definition for what constitutes a firming agreement. Nova endorses the view that regulatory uncertainty is reducing the appetite for making investments. The Government needs to either reduce that uncertainty soonest or provide compensating mechanisms for offsetting the regulatory risk to ensure a competitive generation market through the transition to 100% renewables. The concept of '*applying pro-competitive conditions on consents for renewable generation*' is just as likely to have a negative impact on parties considering in investing in consents to build generation as positive. Competition is enhanced if participants can bring projects to market when market conditions are suitable. For this reason they prefer to have secured consents in advance as that process typically takes the longest elapsed time. Collecting site data and site planning can require significant investment, and parties not wish to overinvest in that unless they have security over the site. The party with a resource consent may also have undertaken extensive engagement with Transpower in preparation to connect the site. The sum of these factors means that the prospect of losing that investment to another party may well disincentivise prospective generators from making the investment in the first place.