MINISTRY OF BUSINESS, INNOVATION & EMPLOYMENT
HĪKINA WHAKATUTUKI

Consultation submission form

The Ministry of Business, Innovation and Employment (MBIE) would like your feedback on:

A proposed reliability obligation to manage dry-year risk.

Please provide your feedback by **5pm, 21 July 2026**

When completing this submission form, please provide comments and supporting explanations for your reasoning where relevant. Your feedback provides valuable information and informs decisions about the proposals.

We appreciate your time and effort taken to respond to this consultation.

Instructions

To make a submission you will need to:

1. Fill out your name, email address, phone number and organisation. If you are representing an organisation, please provide a brief description of your organisation and its aims, and ensure you have the authority to represent its views.
2. Fill out your responses to the discussion document questions. Where possible, please provide us with evidence to support your views. Examples can include references to independent research or facts and figures.
3. If your submission has any confidential information:
    i. Please state this in the email accompanying your submission, and set out clearly which parts you consider should be withheld and the grounds under the Official Information Act 1982 (Official Information Act) that you believe apply. MBIE will take such declarations into account and will consult with submitters when responding to requests under the Official Information Act.
    ii. Indicate this on the front of your submission (e.g. the first page header may state "In Confidence"). Any confidential information should be clearly marked within the text of your submission (preferably as Microsoft Word comments).
    iii. Note that submissions are subject to the Official Information Act and may, therefore, be released in part or full. The Privacy Act 1993 also applies.
4. Submit your feedback:
    i. By email to *electricitymarkets@mbie.govt.nz*
    ii. By mailing your submission to:

    Electricity Markets Policy
    Building, Resources and Markets
    Ministry of Business, Innovation and Employment
    PO Box 1473, Wellington 6140
    New Zealand

Submitter information

MBIE would appreciate if you would provide some information about yourself. If you choose to provide information in the section below, it will be used to help MBIE understand how different sectors view the proposals and options for requiring and achieving minimum onshore fuel stockholding. Any information you provide will be stored securely.

Your name, email address, phone number and organisation

Name:	Madison L. Zegeer
Email address:	Privacy of natural persons
Phone number:	
Organisation:	Sustainable Energy Research Group, University of Canterbury, Christchurch New Zealand

☐ The Privacy Act 1993 applies to submissions. Please tick the box if you do **not** wish your name or other personal information to be included in any information about submissions that MBIE may publish.

☐ MBIE may upload submissions and potentially a summary of submissions to its website, www.mbie.govt.nz. If you do **not** want your submission or a summary of your submission to be placed on either of these websites, please tick the box and type an explanation below:

I do not want my submission placed on MBIE's website because... [insert reasoning here]

Please check if your submission contains confidential information

☐ I would like my submission (or identifiable parts of my submission) to be kept confidential, and **have stated** my reasons and ground under section 9 of the Official Information Act that I believe apply, for consideration by MBIE.

Questions for the consultation

Q1. Do you agree with the analysis in this chapter of why New Zealand does not currently have sufficient dry-year firming? If not, where do you disagree?

☒ Yes ☐ Yes, with changes ☐ No

Please explain your views.

We broadly agree with the analysis presented in this chapter (including Appendix A). The identification of the dry-year firming gap as a combination of physical, financial, and economic risks is well-founded and provides a clear and comprehensive framework for understanding the issue.

Q2. What do you consider to be the principal remaining barriers to investment in additional dry-year firming following the recent reforms to improve fuel adequacy (Government procurement of an LNG importation facility)?

Please explain your views.

In our view, several important barriers remain. First, LNG itself does not remove investment uncertainty. Imported LNG may expose participants to higher and more volatile fuel costs than domestic gas, and its dependability will also be influenced by upstream supply, shipping, and wider supply chain risks. These factors may materially affect the expected revenues and commercial attractiveness of gas-backed firming.

Second, large new loads may materially change the adequacy outlook. For example, a very large new electricity user such as a data centre could significantly increase winter demand while offering less flexibility than some existing industrial loads. This creates additional uncertainty around the level and type of firming that may be required.

Third, the document does not yet appear to fully evaluate the contribution of a broader set of firming options. In addition to new thermal fuel arrangements, there may be credible contributions from geothermal capacity expansion, renewable overbuild, thermal firming through Huntly with discussion of alternative fuel pathways (e.g. torrefied wood pellets), and demand-side participation. There is also a need for complementary investment in transmission to fully utilise firming capacity. Some of these options have already been explored in industry or research settings, but their potential contribution is not yet clearly quantification on a comparable basis.

Finally, demand-side participation remains underdeveloped as a firming pathway. More work is needed to understand the realistic scale, reliability, and verifiability of demand-side response under stressed system conditions.

Q3. Do you agree that, despite the recent reforms to improve fuel adequacy, information, roles and tools, further measures are still needed to strengthen incentives to invest in dry-year firming? If not, please explain why not?

☒ Yes, I agree ☐ I agree in part ☐ No, I don't agree

Please explain your views.

Yes. While recent reforms have made important progress in improving fuel adequacy, information transparency, and clarifying roles, we consider that further measures are still required to strengthen incentives for investment in dry-year firming. Barriers which were identified in the (such as ongoing revenue uncertainty, policy and market design risks, and the lack of consistent evaluation and valuation of diverse firming options continue to weaken investment signals. These

challenges mean that, even with improved fuel availability (e.g. through LNG), investors may remain uncertain about the long-term role, utilisation, and returns of firming assets.

However, we note that further measures should be designed in a way that does not narrow the range of investable solutions prematurely. If the proposed framework implicitly favours LNG-backed firming, MBIE should ensure that this option is assessed transparently against credible alternatives using consistent metrics for system cost, reliability, resilience, emissions, and broader societal outcomes.

Experience from previous interventions highlights the importance of carefully balancing security objectives with investment incentives. Following the 2003 dry-year shortage, the Government commissioned the 155 MW Whirinaki diesel reserve power station. MBIE's subsequent review found that the reserve generation arrangement weakened market investment incentives while imposing significant costs on consumers. This illustrates the risks of approaches that reduce investment uncertainty for one solution while inadvertently discouraging market-led investment in alternative firming options.

Q4. Do you agree that there is value in building new measures on existing regulatory architecture, rather than creating an entirely new regime from first principles? Why or why not?

☒ Yes, I agree ☐ No, I don't agree

Please explain your views.

Yes. The existing market framework is broadly effective and provides a stable foundation for investment, so there is value in building on it rather than introducing a wholly new regime. A targeted approach is more likely to be proportionate and implementable in the near term. However, incremental reform should still be supported to ensure that it does not unintentionally favour a narrow subset of technologies or market participants.

Long-term Obligation

Q5. Do you agree that a long-term obligation should be introduced to strengthen incentives to secure sufficient dependable winter cover in advance where a forecast winter energy adequacy shortfall is identified? If not, why not?

☒ Yes, I agree ☐ No, I don't agree

Please explain your views.

Yes, in principle we support the introduction of a long-term obligation if a material forecast winter energy adequacy shortfall is identified. A long-term mechanism could help address the current gap between system needs and private investment incentives by encouraging parties to secure dependable winter cover in advance. That said, the obligation should be designed so that it is technology-neutral, evidence-based, and proportionate to the level of identified risk. It should not assume in advance that one firming pathway will be the preferred solution.

Q6. Do you agree that the long-term obligation should be placed on large wholesale purchasers rather than on, say, generators or the market more broadly? If not, which parties should hold the obligation, and why?

☒ Yes, I agree ☐ No, I don't agree

Please explain your views.

We agree that placing the obligation on large wholesale purchasers is a reasonable starting point, particularly where those parties are closely linked to underlying winter demand and therefore have a strong incentive to secure reliable cover. However, the case for assigning the obligation to wholesale purchasers should be tested more fully against other possible approaches, including obligations on generators or a broader market-based allocation model.

The design should also recognise that large new loads may increasingly shape winter reliability requirements. Where major new demand materially affects system adequacy, MBIE may also wish to consider whether those parties should face expectations around flexibility, interpretability, or other reliability-supporting arrangements.

Q7. Do you agree that a de minimis threshold should apply to limit the obligation to wholesale purchasers with a material winter load? If so, is the 500 GWh threshold appropriate, and should it be measured by reference to aggregate load over the winter period?

☐ Yes, I agree ☒ I agree in part ☐ No, I don't agree

Please explain your views.

We agree in part. A de minimis threshold is sensible to ensure the obligation is targeted to parties with a material contribution to winter demand. However, a static threshold based only on aggregate winter load may not fully capture emerging risks if very large new loads enter the system.

For example, a large data centre or other major electricity user could significantly increase winter demand while offering less operational flexibility than some existing industrial users. In that context, MBIE should consider whether the threshold remains appropriate over time, and whether very large new loads should also be expected to demonstrate some degree of flexibility, interpretability, or contracted demand response capability.

More generally, the threshold should be **periodically reassessed** to reflect changes in demand composition, electrification, and the scale of individual loads connecting to the system.

Q8. Do you agree with the proposed staged approach under which a warning notification would be issued five years out, a binding obligation would be issued three years out and compliance would be assessed one year out? If not, what timing or trigger approach would be preferable?

☐ Yes, I agree ☒ I agree in part ☐ No, I don't agree

Please explain your views.

We generally support a staged approach, as it creates a structured pathway from early signal to binding obligation and then compliance assessment. This is likely to be more workable than a single-point intervention and should help parties respond progressively as the adequacy outlook becomes clearer.

That said, the timing should remain flexible enough to account for different lead times across technologies and contracting options. Some resources, such as geothermal expansion or major infrastructure projects, may require longer development timelines, while other options such as some demand-side arrangements may be mobilised more quickly. MBIE should therefore ensure the framework can accommodate different types of firming responses without biasing the regime toward only those options that fit neatly within the default timetable.

Q9. Do you agree that any identified adequacy shortfall should be allocated among obligated wholesale purchasers by reference to their shares of expected winter demand? If not, what allocation approach would be preferable?

☒ Yes, I agree ☐ I agree in part ☐ No, I don't agree ☐ Not sure/no preference

Please explain your views.

We broadly agree that allocating any identified adequacy shortfall by reference to expected winter demand is a logical and transparent starting point. It aligns the obligation with the parties whose portfolios contribute to the underlying reliability need.

However, the allocation method should be designed to avoid unintended distortions, particularly where demand is changing rapidly or where there are large, discrete new loads entering the system. MBIE should also consider whether some adjustments may be needed where parties can credibly demonstrate demand flexibility or interpretability that materially reduces their effective contribution to dry-year risk.

Q10. What forms of cover should be eligible to meet the long-term obligation?

Please explain your views.

In our view, Eligible cover could include thermal fuel arrangements, geothermal expansion, renewable overbuild where it has a demonstrable adequacy benefit, long-duration storage, biomass co-firing, industrial demand response, contracted interpretability, and other demand-side arrangements that can be shown to be dependable under stressed conditions. The regime should be open to portfolio-based solutions and hybrid arrangements, provided these are supported by credible evidence and are not double counted.

A broader eligibility framework would better reflect the range of possible solutions and reduce the risk that the regime unintentionally favours LNG or incumbent thermal options by default.

Q11. How should the compliance framework be designed? In particular, what evidential standard should apply, and how should the regime address more difficult issues such as hydro treatment, attribution, portfolio treatment, shared arrangements and double counting?

Please explain your views.

No comment. Our team does not have a sufficiently developed view on these questions at this stage.

Q12. Should the regime deal with arrangements that appear compliant in advance but later fail because of counterparty failure, project delay, force majeure or similar events? If so, how?

☐ Yes, I agree ☐ I agree in part ☐ No, I don't agree ☒ Not sure/no preference

Please explain your views.

N/A

Q13. Should penalties for non-compliance be designed and calibrated to tilt investments to comply without overly encouraging inefficient over-procurement? Please explain your reasoning.

☐ Yes, I agree ☐ I agree in part ☐ No, I don't agree ☒ Not sure/no preference

Please explain your views.

N/A

Q14. What other design features, transitional arrangements, or implementation issues should be considered to ensure that the long-term obligation is workable, proportionate, cost-effective, and beneficial for consumers?

Please explain your views.

MBIE should ensure the framework remains adaptable as system conditions change, including demand growth, electrification, major new industrial or data centre loads, and changing thermal fuel availability. Therefore, the quantified adequacy targets and compliance expectations should be periodically reassessed using updated modelling rather than treated as fixed over time.

Additionally, if LNG-backed firming is expected to play a central role in practice, MBIE should assess that pathway transparently against alternative portfolios using consistent cost and reliability metrics. This would help demonstrate that the regime is genuinely technology-neutral and directed at the best consumer outcomes. Furthermore, the regime should not assume that contracted fuel is automatically firm if physical delivery remains uncertain. LNG-backed arrangements or other internationally are exposed fuel supply chains and are vulnerable to upstream supply failure, shipping disruption, regasification constraints, transport bottlenecks, or counterparty non-performance.

Finally, demand-side participation should be considered as part of a broader, coordinated flexibility strategy rather than as a marginal or residual option. A comprehensive plan for demand-side management will be important for long-term system resilience.

Short-term Obligation

Q15. Do you support the introduction of a short-term obligation as a targeted backstop where a near-term winter reliability risk emerges despite the operation of the long-term obligation?

☒ Yes, I agree ☐ No, I don't agree

Please explain your views.

Yes, in principle we support a short-term obligation as a targeted backstop where a near-term winter reliability risk emerges despite the operation of the long-term obligation. A short-term mechanism could provide an additional safeguard in situations where conditions deteriorate more quickly than expected or where the long-term framework does not fully deliver.

However, the short-term obligation should remain clearly framed as a backstop rather than a substitute for longer-term planning and investment. It should also be designed so that it does not inadvertently favour only a narrow class of short-notice thermal responses where other credible options are available.

Q16. Do you agree that the short-term obligation should apply to large generators whose contribution to annual energy supply exceeds a defined *de minimis* threshold? We welcome views on whether 2,500GWh of expected annual generation is the appropriate threshold.

☐ Yes, I agree ☒ I agree in part ☐ No, I don't agree

Please explain your views.

We consider a de minimis threshold is appropriate in principle, but MBIE should test whether 2,500 GWh is the right level and whether generation volume alone is the best basis for determining coverage. MBIE should also consider whether the short-term framework, while generator-focused, interacts appropriately with the reliability implications of major new loads. A system with rapidly changing demand characteristics may require a more integrated approach than one based only on generator scale.

Q17. Do you consider the proposed trigger – projected hydro storage crossing the Watch Curve within 90 days if it declines at an assumed rate of 18GWh/day – is appropriate? If not, what alternative trigger should be considered?

☐ Yes, I agree ☒ I agree in part ☐ No, I don't agree

Please explain your views.

We support the use of a transparent trigger mechanism in principle, but we do not consider the assumed decline rate should be treated as fixed without further testing.

We therefore suggest MBIE use updated modelling to reassess the quantified trigger settings over time and to test how sensitive the trigger is to dry-year severity, major load growth, generator outages, and the level of available demand-side response.

Q18. Do you agree with the proposed monitoring period, notification process, three-week response window, and approach to switching off the obligation if conditions improve? If not, what alternative process would be preferable?

☒ Yes, I agree ☐ No, I don't agree

Please explain your views.

We broadly support the proposed process as a practical way to operationalise the short-term obligation. Clear monitoring and notification rules are important for predictability and accountability. In terms of switching off the obligation, a dedicated mechanism based on the notification threshold (which is derived from the 18GWh for 90days benchmark) could bring clarity as to improvement of the conditions.

Q19. Do you agree that each obligated generator's obligation should be determined by reference to the winter load its portfolio is expected to support, including its own retail load and relevant contractual commitments? If not, what alternative basis should be used?

☒ Yes, I agree ☐ I agree in part ☐ No, I don't agree

Please explain your views.

This is a reasonable basis in principle, as it links the short-term obligation to the practical role a generator portfolio plays in supporting winter demand. However, the methodology should be transparent and robust, particularly where portfolios include complex contractual arrangements or shared resources. MBIE should also ensure the framework does not overlook situations where growing demand, new contracting patterns, or large discrete loads materially change the relationship between generation portfolios and the winter load they are expected to support.

Q20. What forms of firm energy fuel cover should qualify under the short-term obligation? In particular, how should hydro be treated, including whether, and in what circumstances, existing stored water should be capable of counting toward compliance?

Please explain your views.

Eligible cover under the short-term obligation should be defined broadly enough to capture genuinely dependable near-term options, while still applying a clear firmness standard. This includes thermal fuel arrangements, some forms of hydro support, contracted demand response, interruptible industrial load, and alternative fuel pathways where they can be operationalised in time. For Hydro, existing stored water plays a central role in reliability, but it should not automatically count toward compliance unless MBIE can clearly distinguish between baseline system security and additional attributable cover. The short-term regime should also leave room for demand-side participation where it can be credibly demonstrated. In some cases, interruptible industrial arrangements may provide a more reliable near-term response than assumptions about fuel availability alone.

Q21. How should compliance be assessed? We welcome views on what evidence should be required, and how the Authority should approach questions of firmness, attribution, double counting, and reliance on third-party arrangements (including examples of how these matters are addressed in other jurisdictions).

Please explain your views.

No comment. Our team does not have a sufficiently developed view on these questions at this stage.

Q22. How should the regime deal with arrangements that appear compliant in advance but fail in practice because of upstream supply failure, transport disruption, force majeure, counterparty failure, or similar events?

Please explain your views.

No comment. Our team does not have a sufficiently developed view on these questions at this stage.

Q23. How should penalties for non-compliance be designed and calibrated so that they provide a credible incentive to secure genuine firm fuel cover without encouraging inefficient or disproportionate responses?

Please explain your views.

No comment. Our team does not have a sufficiently developed view on these questions at this stage.

Q24. What other design features, transitional arrangements, or implementation issues should be considered to ensure that the short-term obligation is workable, proportionate, cost-effective, and beneficial for consumers?

Please explain your views.

MBIE should ensure the short-term obligation complements, rather than substitutes for, a broader strategy on demand-side participation and flexibility. A resilient system is unlikely to be delivered through supply-side measures alone. Additionally, the trigger and compliance settings should be **revisited over time** using updated modelling. This is important because the severity of dry-year risk will depend on changing demand, available thermal fuel, renewable build-out, hydro conditions, and the practical availability of demand-side response.