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Ministry of Business, Innovation and Employment (MBIE)

By email: electricitymarkets@mbie.govt.nz

Submission on *Implementing a ban on new fossil fuel baseload electricity generation*

Introduction

1. Energy Resources Aotearoa is New Zealand's peak energy sector advocacy organisation. Our purpose is to enable constructive collaboration across the energy sector through and beyond New Zealand's transition to net zero carbon emissions in 2050.
2. This document constitutes our submission on the MBIE consultation document *Implementing a ban on new fossil fuel baseload electricity generation*.

Key points

3. We oppose a ban on new fossil fuel baseload electricity generation.
4. It is highly unlikely any such generation will ever be built under the status quo. If it were built, this suggests it stacks up even with its carbon externalities priced in via the ETS. The fixed quantity cap in the ETS ensures we will remain on-track to reach net zero emissions regardless. This means the proposed ban has little or no 'upside'.
5. The proposed ban comes with the downside risk of disincentivising new fossil fuel peaking that may be required in the next decade – including potential new thermal baseload paired with carbon capture.
6. Given the points above, the proposal will unnecessarily occupy officials' and Parliament's limited time and resources for next to no expected benefit.

Submission

We oppose the proposed ban

7. We unequivocally oppose a ban on new fossil fuel baseload electricity generation. We agree with MBIE officials' assessment that it is highly unlikely any such new generation will ever be built anyway under the status quo. This means the ban will

unnecessarily occupy officials' and Parliament's limited time and resources, which could be dedicated to developing and implementing higher priority elements of the *Advancing New Zealand's Energy Transition* consultation package.

A ban on new fossil fuel baseload electricity generation is unnecessary

8. New Zealand has a well-established energy-only market without preferential treatment for any given fuel source. This allows different generation opportunities to compete on a level playing field, based on their returns from sale of electricity in the wholesale spot market and forward contracts. Other dedicated regimes deal with the externalities of these generation sources – for example:
 - emissions are internalised by the carbon price in the emissions trading scheme (ETS), which has a fixed quantity cap for NZUs that will decline over time consistent with net zero by 2050; and
 - environmental effects are managed through the resource management regime and land use planning.
9. This market approach has worked very well in New Zealand. The generation stack has been dynamically optimised over time and, without preferential intervention, has achieved progressively higher renewables share and lower overall emissions intensity. The carbon price signal from the ETS is expected to continue driving this trend as the investment case for fossil fuel generation, relative to renewables, becomes harder.
10. In practical terms, it is highly unlikely that any new fossil fuel baseload electricity generation will be built in New Zealand. This is because:
 - as the carbon price under the ETS rises, fossil fuelled generation is becoming less and less competitive with renewable electricity generation;
 - existing baseload fossil fuel generation assets are being progressively retired, and are run less;
 - fossil fuel baseload is not well suited to meeting New Zealand's 'peakier' demand profile as intermittent renewables grow their share of the generation stack (fast-start fossil fuel peakers are much more likely to be required and built);
 - like officials, we are unaware of any announced plans to build a new fossil fuel baseload generation asset; and
 - existing consents for new gas-fired generation assets are either highly unlikely to be built, and/or are vastly more likely to be built as open cycle gas turbines (i.e., peaking plants as opposed to baseload).

Great care should be taken not to disincentivise the construction of fossil fuel peaking generation, which could be required in the coming decade

11. Analysis we commissioned from EnergyLink found that New Zealand will need to build up to 320 MW of new fast-start peakers by 2038 to ensure the increasingly renewable electricity system can meet growing demand at peak times. EnergyLink suggests that gas-fired peakers are the most economic option.¹
12. This analysis accords with most analysis conducted to date. To illustrate the point, the table below shows a range of analysis which, with one exception, identifies a role for new (fossil fuel) peaking capacity:

Date	Report	New thermal peaking capacity
May 2023	Concept Consulting's report for the Electricity Authority ²	None, at least until 2032
Apr 2023	EnergyLink's Role of Gas in Electricity and Industry ³	Low demand: 200 MW by 2035 High demand: 320 MW by 2035
Oct 2022	BCG's The Future is Electric ⁴ Preferred pathway (Smart System Evolution)	200 MW by 2030 400 MW by 2040 600 MW by 2050
May 2021	BusinessNZ Energy Council's TimesNZ 2.0 ⁵	Kea: 200 MW by 2030 / 1,830 MW by 2050 Tui: 400 MW by 2030 / 1,770 MW by 2050
May 2021	Climate Change Commission's <i>Inaia Tonu Nei</i> ⁶ Demonstration pathway	200 MW by 2035
Mar 2020	Transpower's <i>Whakamana I Te Mauri Hiko</i> base case ⁷	400 MW by 2035

¹ The EnergyLink report is available here: [Summary report](#) and [Full report](#)

² https://www.ea.govt.nz/documents/3147/Appendix_C_-_Concept_Consulting.pdf

³ <https://www.energyresources.org.nz/dmsdocument/243>

⁴ <https://www.bcg.com/publications/2022/climate-change-in-new-zealand>

⁵ <https://times.bec.org.nz/>

⁶ <https://www.climatecommission.govt.nz/public/Inaia-tonu-nei-a-low-emissions-future-for-Aotearoa/Inaia-tonu-nei-a-low-emissions-future-for-Aotearoa.pdf>

⁷ See Transpower's *Whakamana I Te Mauri Hiko* report, available at <https://tpow-corp-production.s3.ap-southeast-2.amazonaws.com/public/publications/resources/TP%20Whakamana%20i%20Te%20Mauri%20Hiko.pdf?VersionId=FljQmfxCk6MZ9mlvpNws63xFEBXwhX7f>

Date	Report	New thermal peaking capacity
Jul 2019	MBIE's Electricity Demand and Generation Scenarios ⁸	Reference case: 490 MW by 2035 / 930 MW by 2050 Disruptive case: 940 MW by 2035 / 1,340 MW by 2050

- The government should take great care to ensure that any ban on new fossil fuel baseload generation does not disincentivise or prevent the construction of fossil fuel peaking capacity.

Fossil fuel generation is not inconsistent with net zero

- Fossil fuel generation is declining, and will likely continue to decline, in its overall contribution to electricity supply over the coming years. This will no doubt reduce the gross emissions of the electricity sector, and we welcome this.
- However, if new fossil fuel baseload or peaking generation is built, this is consistent with New Zealand's legislated goal of net zero (as suggested in the consultation document and RIS). We make this argument for two key reasons:
 - on its current trajectory, the ETS should achieve net zero by the late 2030s. This is when NZUs will no longer be available by auction, so every NZU will be purchased on the secondary market and backed by forestry or other offsets.⁹
 - further, it may be the case that the rising carbon price will incentivise the inclusion of carbon capture with a new generation asset, or its retrofit in future, which would significantly reduce its gross emissions (with residual emissions offset through the ETS, per point above).
- Blunt instruments such as fuel-selective bans constrain future optionality and require the Government to make bold predictions about an uncertain future. The proposed ban also drifts from a focus on the actual outcome (net zero emissions) toward a focus on the preferred solution (no fossil fuels, or even more specifically, no fossil fuels driving a particular electricity generation profile over time).

If a ban is implemented, legislation is the most appropriate means to implement it, and we support the full range of exemptions floated in the consultation document

- Having registered our strong opposition to the proposal, we prefer Option 1 (legislation) over Option 2 (national direction) for the same reasons identified by

⁸ <https://www.mbie.govt.nz/dmsdocument/5977-electricity-demand-and-generation-scenarios-report-2019-pdf> (note this is currently being updated, but at time of writing, the 2019 EDGS is the most recent report).

⁹ This excludes industrial allocation, which is scheduled to continue to 2050. Yet unresolved is whether and how the free allocation of NZUs will be backed (the obvious starting point being that the Government purchases these units from foresters or other offsets).

officials – that it would be less complex and costly than a regionally focused planning mechanism.

18. We support development of all the proposed exemptions. In particular:
- an exemption for new fossil fuel baseload electricity generation with carbon capture, utilisation, and storage should be implemented. This is on the basis that carbon capture could see such plants capture >80% of their emissions – the overarching policy intent, after all, is to avoid emissions-intensive electricity generation; and
 - an exemption for new fossil fuel baseload that uses blended fuels could enable a ‘bridge’ from lower-cost fossil fuel generation to increasingly renewable generation in the future (Genesis Energy’s exploration of torrefied wood pellets at Huntly being an example of how such a ‘bridge’ to transition could work).

Consideration should be given to avoiding unintended impacts on co-generation

19. We note there is a risk that the thermal baseload ban inadvertently prevents the construction of new, or replacement of existing, fossil fuel co-generation. The measure should be designed to avoid this.

Conclusion

20. We appreciate the opportunity to provide some comment on this proposal. We strongly recommend it is abandoned so that the limited time and resource of officials and Parliament can be diverted toward higher priority and higher impact issues in the energy sector.