Major Electricity Users' Group

23 June 2023

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Chief Executive
Climate Change Commission
1 Wills Street
WELLINGTON 6011

Sent via email: engagement@climatecommission.govt.nz

Dear Jo

2023 Draft advice to inform the strategic direction of the Government's second emissions reduction plan

1. This is a submission from the Major Electricity Users' Group (MEUG) on the Climate Change Commission's (the Commission's) consultation paper "*2023 Draft advice to inform the strategic direction of the Government's second emissions reduction plan*"[1] published for consultation in April 2023.

2. MEUG members have been consulted on the approach to this submission. This submission is not confidential. Members may lodge separate submissions.

Importance of electricity for economic development and productivity growth through the energy transition

3. MEUG appreciates the engagement with Commission staff over recent months and the helpful series of online seminars that provided stakeholders with an overview of the proposed recommendations for the second emissions reduction plan (ERP2).

4. MEUG has focused its comments primarily on Chapter 9 – Energy and Industry,[2] given our members interests and recognition that that the largest share of emissions reductions for ERP2 are expected to come from energy and industry. However, we acknowledge the linkages of this chapter with advice on both the Built Environment (Chapter 8) and Emissions Pricing (Chapter 4).

5. MEUG welcomes the Government's commitment to a low-emissions economy and agrees that increased electrification will help New Zealand reduce its carbon emissions across many sectors. For MEUG, electricity is a key input and cost for our members' businesses. As industrial consumers, it enables the manufacture of value-added products, the revenue from which supports our regional communities, employs

[1] https://www.climatecommission.govt.nz/public/Advice-to-govt-docs/ERP2/draft-erp2/CCC4940_Draft-ERP-Advice-2023-P02-V02-web.pdf

[2] With focus on recommendations 13 and 14 of the draft advice.

hundreds or thousands of kiwis in well-paying jobs, and helps pay for the services we all take for granted like education and healthcare.

6. Therefore, we need an electricity system that supports our members not only now, but as we transition to a low emissions economy. The electricity market and energy policy settings going forward needs to incentivise an increased level of renewable electricity generation, while still ensuring there is an efficient, cost-effective, and reliable electricity system to meet the needs of all electricity consumers.

7. It is important that as we transition to a low-emissions economy, that New Zealand doesn't risk face the risk of deindustrialization in order to decarbonise our economy. We are encouraged to see that the Ministry of Business, Innovation and Employment (MBIE) has moved from the energy trilemma we are all familiar with, to the quadlemma – adding building a productive, inclusive economy to the traditional three legs of affordable, reliable, and secure, and sustainable energy.

8. While reviewing the Commission's draft advice for ERP2, it is important to note that much of the direction for the next period will be influenced by the decisions yet to be taken through the New Zealand Energy Strategy. This is an important piece of work for the first ERP that brings together several important workstreams. It is intended to takes an overarching view of the action needed across the system and consider the impact of decisions in one area on the broader energy sector (for example, the role of gas for electricity generation is considered through the Gas Transition Plan but direction in this plan may impact or influence the work taken by the Electricity Authority on market measures).

Prioritising and accelerating renewable electricity generation build

9. We support the Commission's proposed Recommendation 13 which seeks to prioritise and accelerate renewable electricity generation build.

10. The draft advice clearly sets out why New Zealand needs much greater investment in renewable electricity generation (and the supporting electricity transmission and distribution infrastructure), to meet our net-zero target by 2050. The draft advice also summarises the delays and issues that the sector is facing when trying to develop these investments, and the cost of these delays on New Zealand.[3]

11. Alongside reducing emissions, it is important to note that an increase in renewable electricity generation[4] will also be key to putting downward pressure on current wholesale prices. Wholesale prices and future prices in recent years have been increasing, making wholesale electricity in NZ relatively expensive:

    - From the beginning of 2012 through to September 2018, the wholesale price averaged $75/MWh.
    - By 2022, the wholesale price was averaging $176/MWh.

12. These increases have an impact on business decisions around electrifying process heat. In short, it is unrealistic to expect industrial companies to significantly increase their load while the electricity price remains so elevated. These elevated prices also flow through to and impact all electricity consumers across the country.

[3] As quantified by Sapere (2022) https://www.tewaihanga.govt.nz/assets/The-cost-of-consenting-infrastructure-projects-in-NZ-final-report.pdf (tewaihanga.govt.nz). Report commissioned by Te Waihanga.
[4] Alongside an increase in competition.

13. By enabling greater renewable electricity generation to enter the market, this should put downward pressure on the market, with the intention of near-term prices reflecting lower new renewable generation costs. This should encourage the shift to greater electrification that is needed to meet our net zero targets.

Managing the transition away from thermal generation

14. It will be important to carefully manage the energy transition as we increase the level of renewable electricity generation while reducing the role of thermal generation in the electricity system. The Electricity Authority, the Market Development Advisory Group (MDAG) and Transpower have all commenced work in this space, including:

- The Electricity Authority's consultation[5] on the common quality requirements in Part 8 of the Code, which identifies several technical issues likely to arise from a system with greater use of inverter-based resources such as wind generation and solar photovoltaic.
- The MDAG's work[6] on *Price discovery in a renewables-based electricity system*, which has scoped the risk of operational coordination problems and risk of insufficient investment in additional flexibility resources such as additional fast-start thermal plant.
- The Electricity Authority's work[7] with Transpower[8]to better manage supply risk for winter 2023, given a substantial increase in the frequency of trading periods when the available supply is tight (or insufficient) compared to projected electricity demand and normal reserve requirements. Initiatives to be introduced for winter 2023 include making improved information available on residual generation and wind forecasts, as well as price sensitivities if system conditions change.

15. This work should be progressed as a priority for the Authority, noting that it will require coordinated input from many stakeholders to ensure we find the best solutions. Undertaking this work at an early stage will set the foundation for a more successful transition.

16. We agree with the Commission's statement that "*although a 100% renewable electricity system is technically feasible, it may come at significant cost and could increase economy-wide emissions if it led to higher electricity prices*".[9] We consider that it is important to introduce as much renewable electricity generation as is technically and economically feasible and make sure we focus on electrifying as many sectors as possible, with a focus on achieving the greatest overall emissions reductions.

[5] https://www.ea.govt.nz/projects/all/future-security-and-resilience/consultation/part-8-common-quality-requirements/

[6] https://www.ea.govt.nz/documents/1006/MDAG_-_Price_discovery_in_a_renewables-based_electricity_system_-_options_paper.pdf

[7] https://www.ea.govt.nz/documents/1630/Driving_efficient_solutions_to_promote_consumer_interests_through_winter_2023.pdf

[8] https://tpow-corp-production.s3.ap-southeast-2.amazonaws.com/public/bulk-upload/documents/Market%20insight%20report%20-%20Winter%20Review%20-%2011%20Nov%202022.pdf?VersionId=QaQVHc8zmQ6_FpC_Ux7GOimodObF9Vt2

[9] Page 112 of the draft advice.

Ensure electricity distribution networks can support growth and variability of demand and supply.

17. We agree with the second limb of the Commission's proposed Recommendation 13 which highlights the need to ensure that New Zealand's electricity distribution network can support the growth and variability of electricity supply and demand.

18. We are going to need an increase in both the transmission network capacity and distribution network capacity as we increase the level of electrification of both the transport sector and process heat within industry, as well as meet the growth in overall electricity demand. For the next regulatory period (2025 to 2050), Transpower are forecasting a requirement of $3,712.7 million to deliver a reliable and safe network. This equates to a forecast increase in Transpower's allowable revenue of approximately 31%.[10] Alongside this, the Commerce Commission has noted that:

> *"…recently disclosed EDB asset management plans (AMPs) for 2023 show that some electricity distribution businesses (EDBs) are planning significant increases in expenditure on their networks. These mark a step change on 2022 AMP forecasts and in some cases (e.g., Orion and Wellington Electricity) they are more than increases considered previously in customised price-quality paths (CPPs). Some EDBs have also signalled they expect 2024 AMP forecasts to be higher, particularly as resilience expenditure is reconsidered in light of recent extreme weather events".*[11]

19. It will be important to ensure that EDBs across the country can undertake this work in a timely manner to enable the transition and meet customers needs. However, we need to balance that upcoming spend by EDBs and Transpower with the ability to deliver the build and with affordability. For example:

- Transpower has already signalled the potential impact of limited labour supply on its grid upgrades and this labour issue has also been noted by the Commission.[12]
- Customers will face higher electricity prices if electricity networks are built ahead of demand and the forecast level of demand is not realised.

20. We believe these issues are best addressed by the Commerce Commission through its role overseeing regulated industries under Part 4 of the *Commerce Act 1986*. The issues will be addressed through the Commission's price-quality path resets when it considers the requests from regulated lines companies to increase their regulated asset base (RAB) to meet increased electricity demand.

21. Regarding investment for ERP2, the Commerce Commission is currently:

- Commencing a DPP reset for EDBs for 2050 to 2030, which will scrutinise and set the level of expenditure on 16 regulated EDB networks.
- Transpower has commenced planning for its regulatory control period four (RCP4) which will also cover the period of 2025 to 2030. Both an independent verifier and the Commerce Commission will scrutinise the forecast expenditure.

[10] https://tpow-corp-production.s3.ap-southeast-2.amazonaws.com/public/uncontrolled_docs/Transpower_RCP4_Consultation_webinar_presentation.pdf?VersionId=Qnq6Qv.ZQ6dCSvforCiYu1ekGcVppTjQ

[11] Paragraph 16.2, https://comcom.govt.nz/__data/assets/pdf_file/0032/316886/Default-price-quality-paths-for-electricity-distribution-businesses-from-1-April-2025-Proposed-process-25-May-2023.pdf

[12] See page 124, 2023 draft advice.

22. We recommend that Government focus on ensuring that the Commerce Commission's regulatory framework remains is fit for purpose and adapts to best enable and prioritise the transition to a low-emissions economy. Work on this is helpfully underway, with the Commerce Commission already taking steps to consider how EDBs are planning for decarbonisation.[13]

Pursuing more widespread process heat decarbonisation

23. MEUG supports the Commission's proposed Recommendation 14 to pursue more widespread process heat decarbonisation and establish mechanisms for other industrial sectors and processes to decarbonise.

24. We believe that positive progress is being made on process heat decarbonisation, with many business exploring opportunities to convert process heat to either electricity or biomass. The Government Investment in Decarbonising Industry (GIDI) has helped bring forward many projects. The recent announcement[14] between NZ Steel, the Government and Contact Energy to install an electric arc furnace, halving its coal use, is an example of the positive projects that can be advanced when the sector, business and government work together.

25. However, we agree with the Commission's statement that "*Government may have overestimated how quickly emissions reductions from process heat can be achieved*"[15] and further action will be needed over the second and third ERPs to reach the emission reduction targets sought by Government. We endorse the statement that there are wider barriers that need to be addressed to further reduce industrial emissions.[16] MEUG welcomes the opportunity to work with government and energy sector participants to understand how we can unlock greater emission reductions over the coming ERP2.

Enabling demand side participation

26. The Commission's draft advice discusses how demand side management can be better leveraged to reduce network costs and support system flexibility. MEUG agrees with this proposition and notes that demand side management is currently being explored by the sector:

    - The Electricity Authority has recently introduced real-time pricing and dispatch notification participation for aggregated demand response and distributed energy resources.[17] The enhancements to dispatchable demand (which came into force on 27 April 2023) have been designed to allow large industrial consumers to bid in demand management in a way that better suits the physical constraints of their plant and processes.[18]

    - There are some examples of industry arrangements to manage demand. On 5 April 2023,[19] Meridian and New Zealand Aluminium Smelters Limited (NZAS) announced that they are entering into a demand response agreement for

[13] Commerce Commission - Review of Electricity Distribution Businesses' 2021 Asset Management Plans in relation to decarbonisation (comcom.govt.nz)
[14] NZ Steel to receive up to $140m to recycle scrap steel using electricity instead of coal | RNZ News
[15] Page 119, 2023 draft advice.
[16] Page 109, 2023 draft advice.
[17] https://www.ea.govt.nz/projects/all/rtp/
[18] https://www.ea.govt.nz/news/general-news/final-phase-of-real-time-pricing/
[19] https://www.meridianenergy.co.nz/news-and-events/meridian-and-nzas-demand-response-agreement.

2023/2024; this was approved by the Electricity Authority on 8 June 2023.[20]

27. However, MEUG believes that targeted action is required to explore how demand side management can play a greater role in the market. MDAG's recent paper on *Price discovery in a renewables-based electricity system* and the supporting work from Dr. Batstone[21] clearly set out the key role that demand side flexibility (DSF) can play in the wholesale market and prospects for increasing the offerings of DSF. However, to date there has been very limited uptake of DSF in New Zealand.

28. We believe that a change in culture is required to drive this change, with action focused on understanding and strengthening the value proposition from the consumer-perspective (i.e., level of investment, revenue stream to feed into a business case) and understanding the barriers for consumers who have elected not to pursue this option. MEUG considers that demand side participation should benefit both parties involved. It is important to recognise that if businesses are going to reduce production (therefore profit from this production) to provide demand management services to the system, it should be beneficial for both the business and the electricity system (System Operator).

29. MEUG has signalled its interest to work closer with the Electricity Authority and Transpower to understand how we can best incentivise demand side management within New Zealand and to identify what the characteristics of a successful demand side arrangement are for businesses.

30. If you have any questions regarding our submission, please contact MEUG on 027 472 7798 or via email at karen@meug.co.nz.

Yours sincerely

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[20] https://www.ea.govt.nz/news/press-release/electricity-authority-approves-meridian-clearance-application/

[21] *Enhancing wholesale market demand-side flexibility: Framework for Option Development*, November 2022, Stephen Batstone, https://www.ea.govt.nz/assets/dms-assets/31/DSF-framework-paper-FINAL-1.pdf and *Prospects for the uptake of demand-side flexibility in the New Zealand wholesale electricity market under 100% renewables*, January 2022, Dr Stephen Batstone, https://www.ea.govt.nz/assets/dms-assets/29/03-Demand-Side-Flexibility-in-the-Wholesale-Electricity-Market-under-100-Renewables-Dr-Stephen-Batstone1341582-v2.1.pdf .