MAJOR ELECTRICITY USERS' GROUP

7 February 2017

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Ministry of Business Innovation and Employment
By email to energymarkets@mbie.govt.nz

Dear Cara

Draft NZ Energy Efficiency and Conservation Strategy 2016-2022

1. This is a submission by the Major Electricity Users' Group (MEUG) on the draft replacement New Zealand Energy Efficiency and Conservation Strategy (NZEECS), cover document, submission form and factsheet on proposed industrial emissions intensity target published 14 December 2016.[1]

2. MEUG members have been consulted in the preparation of this submission. This submission is not confidential. Some members may make separate submissions.

3. The next eight sections discuss the questions in the submission form.

<u>Question 1:</u> Does the proposed goal capture what you see as the desirable future state from the promotion of energy efficiency, energy productivity and renewable energy in New Zealand?

4. The proposed goal to "support New Zealand to be an energy efficient, productive and low emissions economy" is reasonable provided:

   a) Energy efficiency refers to a reduction in physical energy use or substitution to another energy form that results in the net-present-vale (NPV) of the future cost of energy including any other operating costs plus the investment cost of reducing demand or switching to another energy form being less than the NPV of the counterfactual assumed to be the status-quo future cost of energy used and associated operating costs. Costs refer to the opportunity costs to society that in most cases will be market prices for different energy forms and market costs of switching (capital and changes in operating costs).

[1] Refer web page http://www.mbie.govt.nz/info-services/sectors-industries/energy/energy-strategies/consultation-draft-replacement-new-zealand-energy-efficiency-and-conservation-strategy and draft NZEECS paper URL http://www.mbie.govt.nz/info-services/sectors-industries/energy/energy-strategies/consultation-draft-replacement-new-zealand-energy-efficiency-and-conservation-strategy/draft-replacement-nzeec-strategy.pdf

In a few cases there may be a market failure or a missing market and market prices are not available to estimate opportunity costs. In those cases, proposed government intervention reliant on estimates of those opportunity costs needs to be transparent and subject to consultation as there can be a wide range of estimates from experts. In those cases, it is prudent policy makers consider a range rather than point estimate of such opportunity costs in the absence of market prices.

If the draft NZEECS intended energy efficiency to refer to a decrease in physical energy used per volume of output, then perverse outcomes are likely. For example, in those regions of New Zealand where there is an existing over-build of the national grid and local distribution network then a decrease in the volume of electricity demanded by consumers in those regions will not have any impact on the future investment plans of Transpower and the local network company but will either increase the unit price of grid and local line charges to consumers in those regions or shift the burden of charges to recover over-built sunk costs to other consumers.

Using dollar values for opportunity costs and comparing NPV outcomes with and without a proposed energy efficiency programme overcomes the risk of perverse outcomes using only physical volume metrics to measure 'energy efficiency' in the text of the proposed NZEECS goal.

b) Clarifying that reference to a low emissions economy is related to the preceding point that the NPV of with and without scenarios in respect of a change in energy use with a key uncertainty in the NPV calculations being the costs and benefits relating to a change in emissions affecting climate change. This is one of those cases, as noted above, where there are a wide range of estimates of the effects of climate change and hence a range rather than point estimate should be used when assessing a particular policy.

<u>Question 2:</u> Where do the challenges and opportunities lie for energy efficiency and renewable energy in New Zealand over the next five years?

5. The challenges and opportunities lie with the daily decisions of each of the 4.7 million New Zealanders and in excess of a quarter of a million businesses. The one common factor in those decisions are the relative prices of different energy forms, the price of switching fuels or using an alternative and the opportunity cost (or price) of doing without energy.

6. The draft NZEECS does not mention the effect of prices on the decision making of individuals, households and businesses. This is an important shortcoming that needs to be considered when finalising the NZEECS.

<u>Question 3:</u> Do the proposed objectives and priority areas capture the key contributions that are needed to achieve the goal?

7. The four areas with sector specific objectives, comprising businesses, individuals, the public sector and market participants as a whole, is one way of dissecting the energy market. The benefit of this approach is that it focuses on broad consumer classes and therefore development of EECA work programmes will start with a consumer rather than supply side focus.

8. The downside is that many future changes in consumer behaviour will be technology driven, across all classes of consumers and involve other technologies. For example, EV policies will affect household, business and government vehicle fleets and growth in EV is likely to be linked with the location of batteries in households, businesses, local networks and the grid undertaken by a range of service providers. Hence the fourth sector area, market participants as a whole, may contain a larger number of EECA work activities compared to the discrete household, business and public sector areas.

9. As an aside note the importance of pricing in how EV and battery deployment and interlinkages might evolve. Any work by EECA in the area of EV and batteries must be cognisant of work by the Electricity Authority and Commerce Commission on a range of price and quality policy settings such as line and grid charges that along with technology specific investment and operating costs will drive decision making by households and businesses.

10. MEUG sees merit, subject to some suggested refinements, in the first two proposed priority areas. Those two priority areas and associated targets are noted below:

    a) Priority area #1: Renewable and efficient use of process heat.

       Proposed target: Decrease in industrial emissions intensity of one per cent per annum on average between 2017 and 2022.

       A suggested refinement on the proposed target is to wait until the Process Heat paper is published in April 2017 so that the proposed one percent aspirational target can be checked.[2]

    b) Priority area #2: Efficient and low-emissions transport.

       Proposed target: Electric vehicles make up two per cent of the vehicle fleet by the end of 2021.

11. MEUG sees no merit in the proposed priority area #3: Innovative and efficient use of electricity. MEUG agrees EV should be a priority area for EECA over the next 5 years and therefore our support for the proposed priority area #2 above for efficient and low-emissions transport.

12. Apart from EV as a large new opportunity, and that is covered by the transport priority area, no evidence is provided to view electricity consumption as currently being sufficiently inefficient to warrant an equivalent status as process heat and transport as a priority area. The electricity sector has been subject to EECA levy funded work programmes since 2005/06, that is 12 years. It is probably safe to assume all of the low-hanging-fruit has long been picked. Put another way, allocating scarce EECA resources and levy payer funds to support "innovative and efficient use of electricity' would have low and diminishing returns relative to the other priority areas of process heat and transport. Better to have two high value priority areas in the NZEECS to direct EECA work programmes over the next 5 years than add a third that has questionable ongoing new value but would dilute resources to the other two high value areas.

<u>Question 4:</u> Does the focus on what each group can contribute resonate with you? Do you think anyone is missing?

13. As noted in the response to question 3 above, dissecting the analysis into the three broad groups and a fourth group comprising all consumers has value because it focuses on consumers not the supply chain.

<u>Question 5:</u> Taken together, do you think the proposed goal, objectives and priority areas will set a clear direction for action to unlock our energy productivity and renewables potential?

14. Yes, provided the proposed third priority area is removed as suggested in paragraph 12 above.

[2] Expected date of April 2017 for the Process Heat paper from MBIE email to MEUG, 31 January 2017.

Question 6: What specific actions could help us to achieve the goal of the Strategy? What, if any, additional costs would you face if those actions were implemented? Please quantify if possible

15. No comment.

Question 7: Do you agree that the preferred targets will be measureable and meaningful targets, and support the objectives and actions?

16. Yes, provided first they are clearly referred throughout the NZEECS as aspirational just as the existing renewables generation target is.[3]

17. Second, the third proposed priority is removed as discussed in paragraph 12 above.

18. Third, MBIE re-consult on the proposed pargets, objectives and priority areas once new energy targets are published as mentioned in the cover paper published alongside the draft NZEECS consultation paper:

> "The Government is also developing new energy targets that will signal the longer-term direction for the sector that will sit above the Strategy"[4]

19. Re-consulting would ensure no misalignment between the over-arching new energy targets and the operational details of the revised NZEECS.

Question 8: How can we ensure that energy data and research generates knowledge and understanding that can help to unlock our energy productivity and renewables potential?

20. Publish the information and use surveys and other methods to assess if making information public has had a measurable increase or earlier than otherwise uptake of energy efficiency opportunities.

Yours sincerely

Ralph Matthes
Executive Director

[3] The draft NZEECS refers to the targets as aspirational in only one section, the second paragraph on p18.
[4] MBIE & EECA, Replacing the NZEECS 2011-2016, Information to support the public consultation, December 2016, p2.