

14 December 2018

Andrew Caseley
Chief Executive
Energy Efficiency and Conservation Authority
By email to levyconsultation@eeca.govt.nz

Dear Andrew

EECA 2019/20 Levy Consultation

1. This is a submission by the Major Electricity Users' Group (MEUG) on the Energy Efficiency and Conservation Authority's consultation on the 2019/20 levy funding proposal and related work programme, 13 November 2018.¹
2. MEUG members have been consulted in the preparation of this submission. This submission is not confidential. Some members may make separate submissions.
3. MEUG makes this submission as an interested party for members that collectively will pay approximately 26% or \$1.35 million of the proposed \$5.2 million levy funded electricity efficiency work in 2019-20.
4. MEUG appreciates the constructive engagement with EECA during the past year and during this consultation round. We acknowledge and welcome the improved quality of information in the consultation paper providing EECA's view of net benefits and how costs are allocated across different work programmes. That has assisted MEUG better understand the issues EECA is trying to address and how it intends to do so; but not to the extent we agree with the net benefit analysis or the use of a levy to fund the work.
5. MEUG has a long-standing and well-known objection in-principle to the levy framework. We have not repeated the rationale for those objections in this submission. Those objections have not changed with the material in this year's consultation paper.
6. There has over the years been an ongoing discussion on the claimed benefits of the work programme. MEUG tabled an initial set of questions on the consultation paper on 15th November. EECA's responded in a memorandum dated 7th December. That memo is attached in appendix 1. MEUG made a supplementary request for information later that day (appendix 2). As at the date of preparing this submission we have arranged a meeting to discuss the Economic Potential Tool model with EECA in early January.

¹ <https://www.eeca.govt.nz/assets/Resources-EECA/corporate-strategic/EECA-2019-20-Energy-Levies-Consultation-Documents.pdf> at <https://www.eeca.govt.nz/about-eeca/consultations-and-proposals/>

7. We will continue to work with EECA to see if a consensus can be reached on estimating benefits to assist decisions for the 2019/20 consultation round. If that is not achieved, we propose to continue work on this because it is a perennial issue each year. The closer we can reach agreement on what and who benefits, the more likely future work programmes can be targeted to high value outcomes.
8. The benefit of continuing discussions, though we don't necessarily agree on the big picture, is that incremental changes to the benefit of EECA and levy payers such as MEUG members are possible. For example, the undertaking by EECA to publish the names of organisations that receive funding from levy-work programmes, following MEUG submissions and discussions on that proposal.² We look forward to EECA advising in the new year when the publication of recipients of levy funded programmes will commence.³

Yours sincerely



Ralph Matthes
Executive Director

² e.g. MEUG submission to EECA on 2018-19 levy consultation, 15 December 2017, paragraphs 11 and 12, refer <http://www.meug.co.nz/node/894>

³ Refer EECA response to MEUG question 5, EECA memo 7 December 2018.

Title	2019-20 Levy Consultation – MEUG questions
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Question One

The EECA analysis referred to on p13 and footnote 5 estimating “New Zealand could save around 15 – 20% of its energy use through improved energy efficiency by 2030.”

Response

The economic energy savings estimate is based on EECA’s in-house analysis and modelling utilising EECA’s expertise and long term involvement in energy efficiency activities with a range of businesses and organisations, and drawing on a range of relevant sources including EECA’s Energy End Use Database (and others cited in footnote 5).

We model the potential savings using our Energy Economic Potential Tool (EEPT). The EEPT is designed to identify and quantify opportunities to reduce energy consumption and Greenhouse Gas (GHG) emissions through the uptake of potential technologies.

The tool selects technologies (such as boilers, cars, light-bulbs) entering the market in each year to minimise:

- All of life costs based on technology long run marginal costs, or
- GHG emissions based on technology GHG intensity, or
- Delivered energy consumption based on technology efficiency.

The reductions in energy consumption and GHG emissions can be estimated over a chosen timeframe in the future (e.g. 2030 or 2050).

The tool provides an estimate of “economic energy potential”, which assumes that the uptake of energy efficient technologies and energy reduction measures are not constrained by any market and adoption barriers.

For example, in transport, replacing an old internal combustion engine with a battery or hybrid plug-in electric vehicle will in some instances (depending on a range of variables) be the most economic choice. In commercial and residential buildings, replacing old incandescent light bulbs with LED light bulbs will significantly reduce electricity use.

The attached high level technical paper helps to explain the functionality of the tool. While this was produced for an internal audience, EECA is happy to share it with you to help answer your question.

Please note that our central estimate of 15-20 percent is actually conservative. However, given the range of other ‘real-world’ factors that will impact the actual uptake of energy efficiency opportunities (e.g. behavioural, political etc.), we think our conservative estimate is justified.

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07 12 2018

Note that EECA has been reviewing its Energy End Use Database and Energy Economic Potential Tool with a view to continuous improvement in the quality of evidence it produces for its stakeholders.

Question Two

Referring to the Low Emission Vehicles Contestable Fund, p20 notes "EECA measures the success of the funding by evaluating how the individual projects contribute to the Fund's overarching objectives." Is there an example of how EECA is currently measuring the success of a particular project that has been funded or the programme as a whole to date that you can share with us? Do you have a checklist or framework already in place to assess each project that has been funded and the overall programme when the LEV Contestable Fund ends? Do you have a measure of success or some other milestone that will lead to a tapering off and cessation of the intervention? The worry is that without a goal in mind or a benchmark of when the incremental costs of the intervention exceed the incremental benefits that the proposed \$7m pa funding will go well beyond the date that it is needed.

Response

- EECA actively monitors the performance of all projects against agreed milestones that are contractually mandated. Failure to meet these milestones can result in a contract variation or termination.
- All projects include a final reporting milestone, specifying the outcome and summary of what was achieved/delivered.
- To date, 8 projects have been completed and an additional 11 are awaiting a final reporting milestone, out of a total of 63 projects we have funded over rounds 1 to 4.
- One of the key contributions of the contestable fund to date has been providing co-funding for installing EV charging stations throughout the country, often in locations where there is not a strong business case for investment and the risk is therefore higher. To date, we have committed co-funding for over 550 chargers, of which nearly 300 have been installed.
- Two examples of other recently completed projects are provided below:
 - **Blue Cars project:** the intention of the Blue Cars project was to trial methods for refurbishing a battery for a Generation One Nissan Leaf, with the aim of demonstrating the potential for offering EV battery refurbishment as a commercial service. At present, a barrier to the increased uptake of used EVs is the lack of servicing options for batteries and replacement options. The project successfully demonstrated a method for refurbishing used Nissan Leaf batteries, with the next step being commercialisation of this method.
 - **Green Cabs project:** the intention of this project was to pilot the use of a range of electric vehicles in Green Cabs' commercial taxi fleet and complete the installation of two 25kWh medium chargers at the Wellington Airport passenger terminal. The outcome was successful with positive feedback from drivers; 15,000 km travelled and 3,600 trips were completed with no mechanical issues, and with an estimated 5,000-plus passengers exposed to an EV. The project report also provided rich qualitative insights including the key barriers to further uptake of EVs among taxi companies, as well as noting the good performance of the Nissan Leaf in harsh environments, contrary to expectations.

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- EECA plans to evaluate the Low Emission Vehicles Contestable Fund before its scheduled completion in 2021.
- A key determinant for the longevity of the Contestable Fund is the quality of applications as measured against the investment criteria for each round of funding. To date, approximately one-third of the applicants are meeting the threshold criteria. The quality of future applications as measured against the investment criteria will ultimately determine how long the fund continues to play a key part in accelerating the uptake of low-emissions vehicles. However, a more analytical assessment of the Fund, as suggested by you, will also occur as part of our evaluation in the next year or so.

Question Three

The analysis supporting the claimed benefits from the E3 programme in section 7.2, page 24.

Response

Each year we compare estimated baseline energy consumption against estimated actual energy consumption to estimate the reduction in energy consumption resulting from the E3 Programme. We calculate estimated baseline energy consumption using a base year (normally the first year a product is regulated) energy consumption and a percentage improvement had the E3 Programme not existed. We then compare the baseline energy consumption with estimated actual energy consumption. Estimated actual energy consumption is calculated using product sales data and product test reports provided to EECA by product importers/manufacturers. We calculate the estimated reduction in carbon emissions using the Ministry for the Environment's carbon conversion factors (MfE Guidance for Voluntary Greenhouse Gas Reporting - 2016). <http://www.mfe.govt.nz/publications/climate-change/guidance-voluntary-greenhouse-gas-reporting-2016-data-and-methods-2014>

Under section 38 of the Energy Efficiency and Conservation Act 2000, EECA may not disclose sales information obtained from industry (other than for the purposes of publishing statistical information only where the provider of that information cannot be identified).

Question Four

The analysis supporting the claimed benefits from the Large Energy User programme and Technology Demonstration programme in section 8.4, pages 30-31.

Response

The energy savings are estimated based on savings achieved by similar projects in previous years. The associated carbon reduction benefits are based on the Ministry for the Environment's carbon conversion factors (MfE Guidance for Voluntary Greenhouse Gas Reporting - 2016). <http://www.mfe.govt.nz/publications/climate-change/guidance-voluntary-greenhouse-gas-reporting-2016-data-and-methods-2014>

Question Five

Details on proposed work programmes for Large Energy Users – Direct, Large Energy Users – Indirect and Public Sector Large Energy Users listed as separate row items in

appendix 3, page 39 that in aggregate comprise the Large Energy User Programme. For example we would like to know the names and specific sites of the companies and public sector enterprises where levy funded monies will be spent and on what projects. I've checked the website <https://www.eecabusiness.govt.nz/funding-and-support/support-for-large-energy-users/> referred to in footnote 25 on page 27 where the Large Energy User programme is discussed but cannot find these types of details.

Response

The outputs for the Large Energy User Programme are described on page 30 of the levy document. Funding will be allocated to businesses that meet EECA's engagement and project-based funding criteria which is set on our website www.eecabusiness.govt.nz/funding-and-support/.

I am aware Andrew Caseley has spoken to you regarding your request for the names of organisations that have received funding from one of the energy levies. It is EECA's intention to provide this information, not only to MEUG but also to make it available on our website. Andrew has committed to providing you with a definite timeline for when this will occur by 31 January 2019.

Question Six

While not part of the work proposed for funding by the electricity levy in 2019/20, can you provide details of the proposed Peak Demand Management work under the Energy efficient homes programme listed in appendix 3, page 39.

Response

Reducing peak demand represents an important opportunity for achieving EECA's desired outcome of a sustainable energy system that supports the prosperity and wellbeing of current and future generations. At times, such as during very cold weather or low inflow periods, a significant portion of New Zealand's peak demand is met by thermally generated electricity, meaning that reducing peak demand is an important step to achieving the Government's goal of a 100 percent renewably electricity system (during a normal hydrological year). Reducing peak demand will also generate electricity system-wide benefits to levy payers and consumers in the form of reduced or delayed grid and distribution infrastructure, and less volatile wholesale prices.

In particular, we will seek to manage or avoid unnecessary increases in peak demand resulting from rising EV uptake as this could result in costly and inefficient outcomes.

Peak demand initiative 2019/20 outputs

In order to better understand the potential for demand-side interventions to help reduce peak demand, in 2018/19 EECA will publish a discussion paper seeking feedback on proposed options for reducing peak demand. Following this, we will incorporate feedback into the design of pilots that will test the effectiveness of demand-side interventions for reducing peak demand.

We are still defining the specific activities in this area and we expect to give higher priority to initiatives that will generate the greatest impact. Some of the areas being considered are

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07 12 2018

lighting (replacing inefficient incandescent light bulbs with LEDs), water heating, and space heating.

Key benefits

In 2019/20 we anticipate this initiative will pilot demand-side interventions that have the potential to achieve the following benefits:

- Less volatile wholesale electricity prices during peak hours;
- Reduced or delayed investment in grid and distribution infrastructure;
- Reduced carbon emissions from thermal generation required to meet current levels of peak demand;
- A more resilient electricity supply system.

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Thankyou Mitchell

Please send me a web reference for the Energy Economic Potential Tool spreadsheet or other software if it is already published, or if not, then send me the tool so we can check it, replicate the calculations of the benefits listed in the consultation paper and provide any comments.

Supplementary question on response to Question Three: Can you provide aggregated estimates of baseline and actual demand for broad product categories to allow us to replicate and check the claimed benefits by summing those across broad product categories. Presumably there is a time dimension to this so we'd like to see the key flows and results by each product category over sufficient years to understand the NPV benefit. By providing aggregate estimates by broad product categories EECA will avoid breaching s.38 of the Act.

Supplementary question on response to Question Four: Please provide the evidence of similar projects in previous years referred to in the response.

Kind regards
Ralph
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