

By email

15 February 2017

File Ref: EXTR-9-322

Energy Markets
Building, Resources and Markets
Ministry of Business, Innovation & Employment
PO Box 1473
Wellington 6140

Shed 39, 2 Fryatt Quay
Pipitea, Wellington 6011
PO Box 11646
Manners Street
Wellington 6142
T 04 384 5708
F 04 385 6960
www.gw.govt.nz

Dear Sir/Madam

Submission on the draft replacement New Zealand Energy Efficiency and Conservation Strategy

Please find attached Greater Wellington Regional Council's submission on the draft replacement Energy Efficiency and Conservation Strategy.

If you have any questions please feel free to contact Nicola Shorten, Manager, Strategic and Corporate Planning by phone on 04 830 4035 or by email at nicola.shorten@gw.govt.nz.

Yours sincerely



Greg Campbell
Chief Executive

encl.



To: Energy Markets, Ministry of Business, Innovation and Employment

From: Greater Wellington Regional Council

Submission on the draft replacement New Zealand Energy Efficiency and Conservation Strategy

Thank you for the opportunity to comment on the draft New Zealand Energy Efficiency and Conservation Strategy 2017-2022 (the draft NZEECS). Greater Wellington Regional Council (GWRC) has a keen interest in seeing New Zealand (NZ) become an energy-efficient, productive and low emissions economy. As the national direction-setting document produced under the Energy Efficiency and Conservation Act, the NZEECS is an important instrument for increasing energy efficiency and productivity and, together with the NZ Emissions Trading Scheme, provides the key statutory tools for facilitating NZ's transition to a low emission economy.

GWRC agrees with the Minister's comments in the Foreword that we need to build a willingness to do things differently, and awareness that energy efficiency and increased use of our renewable advantage are critical game-changers for our environment and our economy. This suggests a desire for the NZEECS to drive real and substantive change.

This submission provides general and specific comments on the draft NZEECS with a summary of GWRC's key recommendations at the end.

Goal: Support New Zealand to be an energy efficient, productive and low emissions economy

The draft goal represents a broad and benign high level aspiration. We note that the statement does not articulate what the "desirable future state" from the promotion of energy efficiency, energy productivity and renewable energy in New Zealand is, which makes the first consultation question *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?* difficult to answer. In our view, the intent of the strategy and its commitment to galvanising action could be more effectively communicated by describing a specific outcomes-based goal or vision. This would paint a clear and compelling picture of what an energy efficient, productive and low emissions economy could look like and how the Strategy will help NZ transition to this desirable future state.

Targets

Target: Decrease in industrial emissions intensity of one percent per annum on average between 2017 and 2022

GWRC agrees with the focus on process heat as a priority area in the draft NZEECS. Given that process heat comprises a third of NZ's total energy use and that 60 percent of process heat is supplied using fossil fuels, it is clear that there is scope for improved energy efficiency and a shift to renewables in this area.

We note that the factsheet accompanying the consultation document shows that the one percent per annum reduction target is actually the business as usual forecast, not an aspirational target for change. This is unambitious, particularly for a national strategy document.

We also note that this target is an emissions intensity target, not a target for actual emission reductions. The critical thing from a climate change perspective is to achieve absolute emission reductions in terms of actual tonnes of greenhouse gases emitted. Reducing emissions intensity is a part of the equation but it is insufficient to have it as a stand-alone target for the industrial sector. An intensity-based target on its own will not ensure the sector achieves significant emission reductions and for this reason our view is that it should be either replaced or supplemented by an absolute reduction target for industrial emissions.

Target: Electric vehicles make up two percent of the vehicle fleet by the end of 2021

We note that the EV target is the projected business as usual forecast, as presented by the Ministry of Transport in 2015 prior to the release of the Government's EV package last year¹. This does not signify a commitment to real change.

GWRC sees this target as a very narrow measure for the broad suite of actions that could be taken in the transport sector to achieve the objectives of the draft NZEECS. Improving the efficiency of the current vehicle fleet through the introduction of fuel efficiency standards and/or a tax on internal combustion engine vehicles, as well as investing in walking, cycling and public transport to increase mode share could all contribute to the draft Strategy's efficient and low emissions transport priority area.

Also, while presented as a target, the two percent increase could equally be read as a cap, and as something that could limit uptake. Given technology is advancing rapidly, the target could be reached before 2021, which might reduce the impetus to push further uptake. It is GWRC's view that as well as investing in and incentivising electric vehicle (EV) use, focus should also be put on walking, cycling and public transport, and improved efficiency in the other 98% of the vehicle fleet.

While GWRC strongly supports Government action to increase EV uptake, we recognise that EV technology is still relatively immature, with more emphasis on hybrid or gas vehicles globally, given greater certainty about life cycle replacement costs and the ability to retrofit current vehicles. There are also resilience aspects to consider. For example, in current conditions, we face a significant electricity infrastructure issue if (or when) there is a major seismic event in Wellington or elsewhere in NZ. Electricity supply will likely be limited and at a premium. Most electric vehicles and recharge points may not be priorities, so extensive reliance on such vehicles could actually create resilience issues until the power system is robust enough to survive large unplanned events. This again suggests the need to diversify the approach to energy efficiency in the transport sector to achieve maximum gains and increase resilience.

Additional targets

We note that two important measures that featured in the previous NZEECS are absent from the draft replacement Strategy. The first is an economy-wide target for energy efficiency. GWRC views this as a key metric and one that should be included in the current iteration of the NZEECS.

¹ <http://www.transport.govt.nz/assets/Uploads/Research/Documents/2015-Transport-Knowledge-Presentations/Electric-vehicles-future-cost-and-uptake-scenarios-Bronwyn-Lauten-Ministry-of-Transport.pdf>

The second is the target for 90% renewable electricity generation by 2025. While this target is mentioned in the draft NZEECS, it is not restated as an official target and our view is that it should be, and that the target should be supported in the Strategy by the identification of specific actions to achieve it.

Objectives, priority areas and actions

GWRC supports the adoption of new and emerging technologies to use energy more efficiently and increase productivity. This includes transport technologies to improve the efficiency of the vehicle fleet, increase uptake of alternative fuels as well as EVs, and make walking, cycling, and public transport more attractive and accessible. It also links in with the roll out of information and communication technologies like ultrafast broadband that reduce the amount of travel required for people to access the things they need and, in some cases, eliminate the need for travel altogether.

Land use planning is also critical, with well integrated spatial distribution of transport, housing, employment and amenities. Regional-scale spatial planning is needed to support this, but current local government arrangements in most parts of the country mean this is challenging.

The public sector's role in influencing transport networks, transport choices, and travel demand could be strengthened in the 'actions we can take' area. Central government funds transport activities and services, regional and local councils plan and manage transport networks and local land use development, and legislative settings and funding models influence the country's vehicle fleet and peoples travel behaviour. This division of roles and influences could be more clearly outlined in the draft NZEECS. There is also a leadership role for local government in areas such as sustainable and well-integrated urban design, community energy efficiency programmes, and energy management of council-owned infrastructure and community facilities.

In the transport area, central government leadership could involve investigating and implementing legislative change and funding models that:

- influence a shift to more energy efficient forms of transport - public transport, cycling and walking
- encourage higher private vehicle occupancies
- support greater use of rail to move long distance freight
- allow for pricing that reflects the true cost of road use
- recognise and support the potential for other types of EVs such as e-bikes to contribute to energy efficiency goals.

Also, the Government's EV package could be strengthened with a tax on the purchase of vehicles with internal combustion engines (ICE). International literature demonstrates that the inclusion of such a tax is critical for driving significant uptake (in conjunction with other policies such as that already established in NZ via the existing EV package). This is particularly important considering other right hand drive countries that export 2nd hand ICE vehicles to NZ are likely to implement policies that incentivise alternative vehicle technologies (e.g. hydrogen or electric) and were the NZ market to see an influx of 2nd hand ICE vehicles, prices would probably drop - undermining any progress made via the current EV package.

We suggest it is also important that actions to support one form of energy efficiency do not work against another. For example, the use of bus lanes by EVs may encourage EV uptake, but could have negative impacts on public transport travel times and consequently public transport mode share.

Energy data needs

GWRC is currently in the process of building a ‘2050 calculator’ for the Wellington region, an interactive online tool for exploring how the region can reduce carbon emissions and build a sustainable energy future. This tool is adapted from the UK 2050 Calculator and will build on the Wellington City version created by Wellington City Council. Calibrating the calculator requires a snapshot of energy use in the Wellington region that is sufficiently disaggregated by sector, fuel, and - in some cases - end use and/or technology.

The Energy End Use Database (EEUD) is a very helpful tool in this regard. However, there are question marks about the reliability of the regionalised data. Figure 1 below shows how the EEUD estimates of energy consumption by fuel for the Wellington region compare with the Wellington Regional Greenhouse Gas Inventory, which largely uses regional sales data (except for coal, LPG and wood). There are notable discrepancies, particularly for the liquid fuels. There are also some questionable results at a more detailed level; e.g. the Wellington region is estimated to use 12% of national electricity consumption in agriculture, while only accounting for less than 2% of the dairy cows in the country.

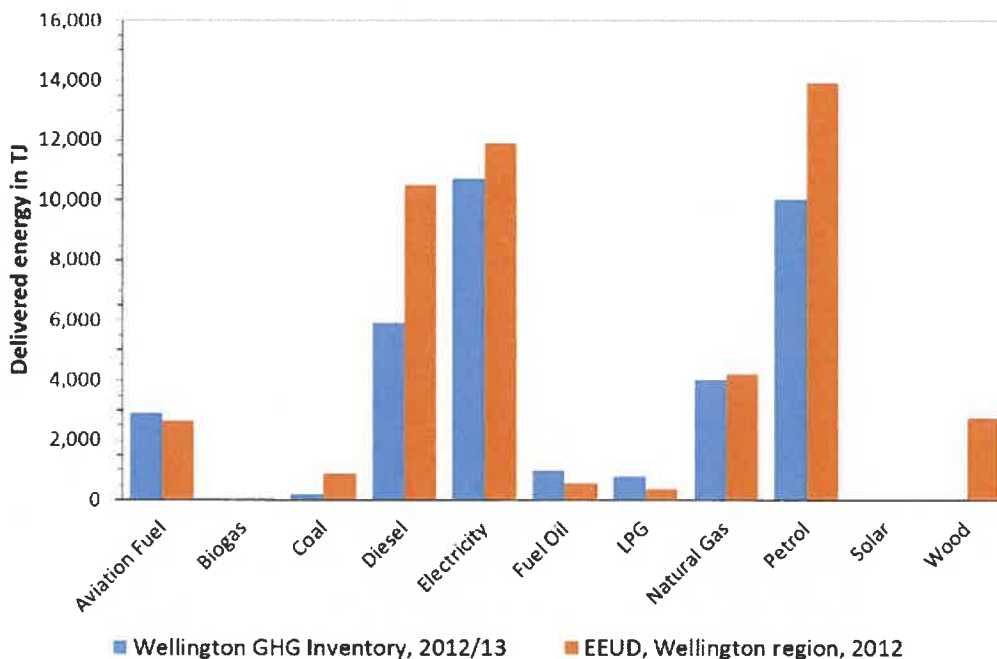


Figure 1: Comparison of EEUD and Wellington GHG Inventory data for Wellington region by fuel

Particular issues encountered during development of the Wellington regional calculator include the lack of information and reliable regional data on:

- The breakdown of energy consumption by fuel at broad sector level (residential, commercial, industrial, transport);

- Coal, wood and LPG consumption - particularly in industry. As there are no regional sales data available, the total regional consumption is poorly quantified;
- The amount or proportion of diesel used off-road and for non-transport purposes;
- A breakdown of transport energy use by passenger/commercial/freight purposes;
- A breakdown of industrial energy consumption into more detailed industry categories.

At the national level, we have found there to be a lack of clear and reliable data on energy use in agriculture and forestry. We note there are significant discrepancies between data sets developed by MBIE and Statistics NZ (see Figure 2). For the calculator, it would be useful to have better information on energy consumption by fuel and end use for different farm types. We have engaged with researchers at the University of Otago who have produced a scoping paper on agricultural energy, which affirmed that there was “a lack of detailed data in a number of areas”.²

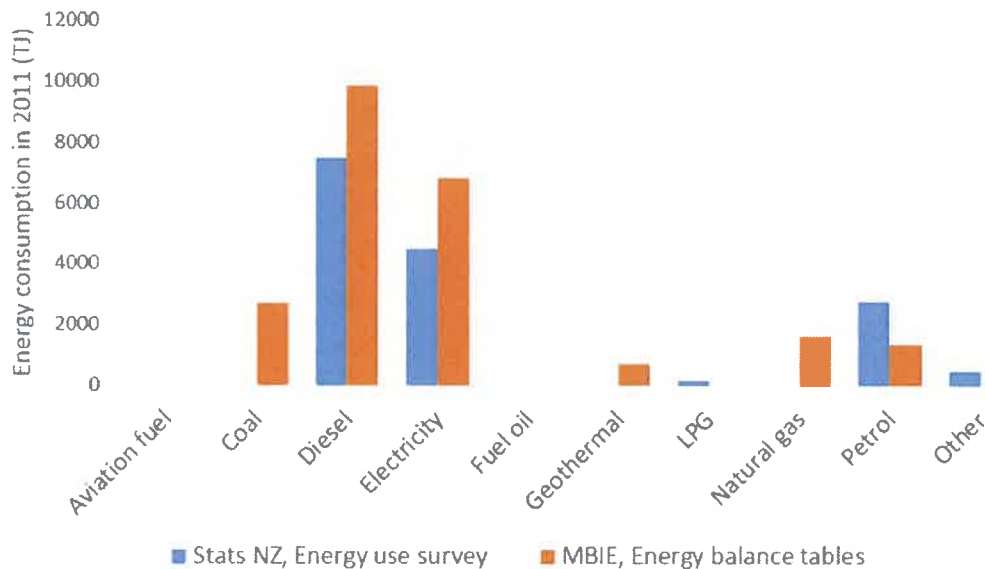


Figure 2: Comparison of national energy consumption by fuel in agriculture as estimated by Statistics New Zealand³ and MBIE⁴

More analysis and centralised information would also be useful on energy efficiency and fuel switching opportunities. For example, there is a particular information gap on the extent to which fuel switching is possible for categories of process heat, and plausible rates of change. Information like this would help to form more credible assumptions about future scenarios in the 2050 calculator, and to identify possible interventions by GWRC.

Evidence base and funding

² <http://www.otago.ac.nz/centre-sustainability/publications/otago621272.pdf>

³ http://www.stats.govt.nz/browse_for_stats/industry_sectors/Energy/EnergyUseSurvey_HOTP11.aspx

⁴ <http://www.mbie.govt.nz/info-services/sectors-industries/energy/energy-data-modelling/publications/energy-in-new-zealand>

Our observation is that the draft NZEECS contains only limited data and analysis to justify the objectives and actions proposed. It would be helpful to see in the Strategy some evaluation of the outcomes of the previous iterations of the NZEECS and a robust evidence base to explain the rationale for the approach favoured in the current draft Strategy. For example, some analysis of the relative costs and benefits of different energy efficiency and conservation options available to NZ, as well as modelling to estimate the emissions reductions potential of the proposed policy actions would both warrant inclusion in the Strategy.

We also note that the draft NZEECS does not commit any new funding, and that EECA's total budget between 2015/16 and 2019/20 is set to fall by 45%⁵. This calls into question the Government's commitment to "unlocking NZ's energy productivity and renewable potential".

Summary

We believe there are numerous opportunities for increased energy efficiency and renewable energy in NZ and that availing ourselves of these opportunities can help significantly reduce NZ's greenhouse gas emissions, increase resilience and save money. The draft NZEECS acknowledges that NZ's energy productivity improvement is lagging behind other countries, but a commitment to move beyond business as usual is not reflected in the Strategy's targets and actions. The NZEECS, as the key national policy document promulgated under the Energy Efficiency and Conservation Act, can and should play a critical role in setting an ambitious direction for NZ energy policy and spurring action to achieve real change.

GWRC's key recommendations are:

- The target for a decrease in industrial emissions intensity should be an actual target for change and not just reflect the business as usual forecast
- The target for a decrease in industrial emissions intensity should be accompanied by new and specific policy actions to achieve it
- The target for a decrease in industrial emissions intensity should be supplemented by a target to reduce absolute emissions in the sector
- The target for an increase in electric vehicles should be strengthened beyond the projected business as usual scenario
- The singular focus on electric vehicles should be broadened to include measures and corresponding actions relating to other sustainable transport modes such as walking, cycling, public transport and car-share
- Fuel efficiency standards for both heavy and light internal combustion engine vehicles should be introduced and a tax on the purchase of vehicles with internal combustion engines considered
- An economy-wide energy efficiency target should be included
- The target for 90% renewable electricity generation by 2025 should be re-stated

⁵https://www.parliament.nz/resource/miNZ/51DBHOH_PAP69451_1/caa6cfe6f7a2204f488f6ef09af801b2644ed902

- A clear evidence base and sound analysis of the relative costs and benefits of NZ's energy efficiency and emissions reductions options should be outlined in the NZEECS and should demonstrably inform the strategic approach and actions set out in the Strategy.
- Improvements should be made in the energy data available for business, household and public sector planning

Thank you for considering GWRC's feedback on the draft replacement New Zealand Energy Efficiency and Conservation Strategy.



Greg Campbell

Chief Executive

Greater Wellington Regional Council