

21/02/2019

Submission on 'Process Heat in New Zealand: Opportunities and barriers to lowering emissions'

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Introduction

I congratulate MBIE and EECA on their recognition that urgent action is necessary to lower New Zealand's carbon emissions. Following last year's IPCC report that worldwide we have twelve years to address emissions if we are to limit global warming to 1.5 degrees, and recognising New Zealand's commitment to the Paris agreement and the cross-party work that is currently underway to enact the Zero Carbon Act, I urge all government bodies to focus on the strongest possible action to reduce carbon emissions immediately.

As a nation, and this includes citizens, businesses and governmental organisations, we must all face the need for change and inform ourselves on how this is to be achieved. An important first step is to cease all further investment in fossil fuel plant. Fossil fuels must be replaced with renewable sources of energy.

A mandatory carbon price of at least \$50/tonne, raised at regular and pre-announced intervals to reach \$100 within a couple of years, is needed to drive the urgent and significant emissions reductions that must be made.

The government must put in place legislative and regulatory measures to ensure that as existing heat plant reaches the end of its economic life, it is replaced by heat plant that is powered from renewable energy sources, not fuelled by fossil fuels. Measures should also be put in place to ensure that existing fossil fuel powered heat plant is not run beyond the end of its economic life in an effort to avoid replacing fossil fuel energy sources by renewable sources.

If hydrogen is used as an energy source for process heat, it must be generated by renewable means, not derived from fossil fuels.

I urge you to put consideration of emissions as your first priority when recommending action on energy. Replacement of fossil fuels by renewable energy is essential and should outweigh financial and business concerns in importance.

I recommend a programme of public information on the urgency of action on carbon emissions and the ways in which people can play their part. I believe that many constructive and useful contributions will be made once the people of New Zealand are given the opportunity to consider the changes which will be necessary. I also recommend increased government investment in the development of alternative energy options, subsidies for businesses to become carbon neutral and the establishment of a data base of options, to encourage the development of technology and innovation in the energy space.

Responses to specific questions:

Q4: Does the NZ ETS provide an incentive to significantly reduce emissions beyond current levels for business who receive industrial allocation?

No. A carbon price of at least \$50/tonne, raised at regular and pre-announced intervals to reach \$100 within a couple of years, is needed to drive such significant emissions reductions. If carbon prices of this magnitude are to be accepted, the revenue needs to be paid back to the people on an equal per capita basis.

Q17: What does your organisation consider are the largest barriers to the electrification of its production?

It's clear from the discussion in this section that companies and institutions' unfamiliarity with electricity as a source of process heat is a substantial barrier to its adoption. Here, the Government should partner with both public and private sector users of process heat to ensure the early uptake of electricity for process heat at a range of scales.

Electrification should not proceed beyond the point where all new capacity can be provided from renewable sources.

Q21: What does your organisation consider to be the largest barrier(s) to the use of biomass for supplying heat?

The largest barrier to the use of biomass for process heat is one that is not listed in this section of the discussion paper: the lack of a carbon price that means that companies pay the true cost of their greenhouse gas emissions. With such a price in place, companies that currently emphasise the barriers listed in this section may well find that these barriers were less substantial than they currently claim.

However, it will also be important to ensure that other sources of emissions related to biomass (e.g. transport emissions) are minimised, and that the sources of biomass are environmentally sustainable (e.g. using wood waste rather than crops grown for biomass).

A major barrier is consultants who are familiar with coal and gas and just use their existing templates to design plant. EECA should compile a list of consultants who are familiar with the use of wood waste and other waste biomass and will recommend quality boilers to use these fuels.

Q27: Has your organisation identified any other barriers to, or co-benefits from, the direct use of geothermal heat that we have not included above?

Although geothermal energy is not a fossil energy source, exploiting geothermal energy sources does result in CO₂ production. While these are substantially less than from the burning of fossil fuels, this means that renewable energy sources should still be preferred to geothermal energy.

Thank you

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