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

General points:

- We need to stop any new investment in fossil fuel plants. The limited efficiencies gained by Fonterra in their existing plants are more than outweighed by the building of new plant in the dairy industry, running on coal or gas. All new plant should be renewably fuelled, or we are just wasting our time.
- A mandatory carbon price of at least $50/tonne, raised at regular and pre-announced intervals to reach $100/tonne within a couple of years, is needed to drive the urgent and significant emissions reductions that must be made.
- The Government should put legislative and regulatory changes in place to ensure that, as existing heat plants reach the end of their economic life, it is replaced by heat plants that are not fuelled by fossil fuels but powered from renewable energy sources.
- Measures should also be put in place to ensure that existing fossil-fuel-powered heat plants are not run beyond the end of their economic life to avoid replacing fossil fuel energy sources by renewable sources.
- Where existing fossil-fuel powered heat plants have an economic life that extends past 2030, the Government should put in place legislative and economic measures to ensure that this plant is replaced by heat plants that are powered by renewable energy sources.
- If hydrogen is used as an energy source for process heat, it must be generated by renewable means, not derived from fossil fuels.
- Replacing one form of fossil fuel energy source with another is completely unacceptable. In particular, the idea that natural gas is a "transition fuel" away from coal is nonsense. Fossil fuels should be replaced by renewables, not other fossil fuels.

Responses to detailed 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.