

## Process Heat in New Zealand: Opportunities and barriers to lowering emissions.

Submission from

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### **General comments.**

I live in the Nelson Region surrounded by forests and wood waste, and the local particle board and LVL factory; Nelson Pine Industry have been using wood waste for over a decade. They employ a company to source clean (enough) wood waste with sufficient energy content to be suitable for their boilers. This encourages the forestry companies to be tidy with their slash.

The fact that schools, hospitals and Fonterra still burn coal for process heat is deeply disturbing with the adverse health effects from the emissions, as well as the greenhouse gas emissions. There are also additional consequences as coal clinker is toxic requiring landfill disposal, whereas wood ash can be recycled. Coal mining is a dangerous occupation and environmentally damaging.

Fossil fuel is a dense energy source, and deceptively cheap because the externalities to future generations and the global climate are not factored in. The Government still subsidises the fossil fuel industry and until this stops **and** the ETS carbon price goes up in known intervals to provide certainty, most industries are not going to willingly use a currently more expensive and less convenient fuel.

Government therefore needs to regulate and ensure that no new fossil fuel plants are built, and the current ones are phased out by 2030. In 12 years time we have to have halved our GHG emissions if we are complying with the recommendations in the 2018 IPCC report 1.5 degrees of warming, and stopping burning coal and gas is necessary to meet that.

The suggestion of using gas as a bridging fuel is flawed as it produces GHG on burning and during discovery, production, pipelines etc. There are plenty of renewables available in NZ, and battery storage is becoming efficient enough to store wind and solar, and thus encourage wider use of PV panels on a variety of locations.

Wood waste fuel takes up more storage space and requires a different type of boiler, so there needs to be qualified (and certified?) advisors in the industry who can assist industries make the transition. Electricity used in process heat is also a specialised field that Government should encourage and regulate.

One of the opportunities from phasing out fossil fuels for process heat is the chance to modernise buildings, or processes so they need less heat. Buildings, especially schools can be designed to be more comfortable in hot and cold weather.

The development (and export) of innovation technology to use renewable energy for process heat is another of the opportunities from this transition.

The GHG produced by Fonterra burning coal to process the milk, and the NOx and methane produced by the cows making the milk are all contributing significantly to NZ's GHG emissions. If the real cost of processing milk, once the environmental, global, and future consequences are taken into account, means it is not economic to produce so much of this commodity then that is what must happen. This industry has known what they are doing for sometime, and cannot plead ignorance. They must also be aware that overseas markets are expected to penalise environmentally "dirty" industries.

Reducing GHG emissions is of paramount importance to NZ and the world, and leaving fossil fuels in the ground and switching to renewable energy is essential.

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