Biomass energy could punch hole in emissions

Carbon News 28 February 2019

NEW ZEALAND could slash five million tonnes off its annual greenhouse gas emissions through the use of biomass energy in factories and for heavy transport, new figures show.

Importantly, it is methane emissions that would be reduced – an issue that New Zealand is struggling to deal with.

With scientists warning that rapidly rising concentrations of atmospheric methane are putting hopes of achieving the Paris Agreement commitments at risk, New Zealand is struggling to know what to do about the 33.9 million tonnes a year of methane it produces – 43 per cent of the country's total greenhouse gas emissions.

Of that, 29 million tonnes comes from agriculture and is deemed by many to be too hard to tackle without reducing food production and damaging the economy.

Carbon neutral

But targeting organic waste and woody biomass could help the Government's goal of making the country carbon-neutral by 2050, the Bioenergy Association says.

In a new report, it says that liquid and gaseous biofuels can be used to fuel ships, aeroplanes, and trucks, and woody biomass and organic matter can be used in industrial heat processes.

"There is adequate biomass throughout New Zealand that can be combusted to produce process heat to allow a theoretical 100 per cent replacement of coal and some gas fuel," the report says.

"Sixty per cent of the biomass fuel to replace coal can be sourced from current plantation forestry operations and the remainder from new forest planting, farm forestry, energy crops such as miscanthus, organic municipal and industrial waste, and use of currently unused agricultural biomass such as stover and straw.

Trade waste

"Municipal Waste Treatment Facilities, which use anaerobic digester technology, process sewage and liquid trade waste into biogas and biosolids both of which can be used as a fuel.

“Food waste from communities can also be treated in an aerobic digester but in this case the resulting digestate can be used directly as a high-quality pathogen-free fertiliser on to land.

“In both applications, the treatment of organic waste reduces disposal to landfill and subsequent discharge of methane, a greenhouse gas, which would otherwise occur.”

As a result, emissions reductions of 1.5 million tonnes could be achieved by 2030, 3.5 million tonnes by 2040 and 5 million tonnes by 2050.

Wide range

At the same time, New Zealand’s annual energy output would be increased by 20 petajoules in 2030, 48 petajoules in 2040 and 68 petajoules in 2050.

The report calls for a wide range of actions, including processing logs in New Zealand instead of exporting them (so that the waste is available), encouragement for farmers to offset emissions through farm forestry and processing of woody biomass, introducing a National Policy Statement on zero waste, research and development into high-value uses of biogas, establishing programmes to encourage the development of biofuels for heavy vehicles and recognising the role of biofuels in the low-carbon economy.

--- ends ---

Story copyright © Carbon News 2019