

A wood residues circular economy

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Wood energy chip for small-to-medium energy requirements

Azwood Energy is an example of a company cleaning up forestry slash and using it as a low emission energy source to power industry and heat New Zealanders. The residues are then used to give back to the land – all helping to supercharge the economy while creating an alternative to fossil fuels.

The company works in partnership with forestry, providing an environmental clean up of wood waste from skid sites, helping to prevent erosion and protect waterways. It uses this residue to produce low emission replacement energy for fossil fuels.

The circular economy is created when healthcare facilities, schools, businesses and organisations (including wood processing) heat their people and operate their processes using the low emission wood fuel produced from this residue. The fulfilment of the circular economy is turning forestry residue into wood fuel and compost. To close the loop, in many cases ash from burned wood fuels is further utilised, and added to other forestry residues to produce composts and other organic growing media, thereby giving back to the earth.

The widespread implementation of such a sustainable circular economy could combat the impact of severe weather events, like Cyclone Gita in Tasman, preventing forestry slash damage like that also recently seen in Tolaga Bay. It may be of no comfort to those affected, but had this circular economy been operational in Tolaga Bay and able to create a local market for its wood energy, the environmental disaster may have been averted.

In that scenario, it is very likely that the slash and logs that were washed down in that wall of wood would have been burned long ago to provide process energy to heat plants in place of environmentally damaging fossil fuels like gas and coal.

There is a place for residue wood fuel in responsibly powering New Zealand, with a huge resource sitting there, ready to be used. If companies such as Azwood Energy can work alongside proactive forestry companies to reduce industry impact then it is a win-win for New Zealand.

The Labour Coalition government has set a goal to plant one billion trees over the next 10 years. This initiative will enhance forestry's role in reducing the effects of climate change by storing more carbon in building materials, as well as providing more wood residue fuel for heat plant conversions, helping New Zealand transition to a low emissions future.

Fossil fuels like gas and coal supply 60% of this country's energy for process heat, and this contributes 9% of its gross greenhouse gas (GHG) emissions. EECA and the Ministry of Business, Innovation and Employment are working on a process heat action plan to improve the energy efficiency of using process heat and increase the amount of renewable energy used in its supply.

A recently published report by PwC, commissioned by EECA, identifies how and when businesses spend money to reduce energy use and carbon emissions in some manufacturing processes. EECA's Chief Executive Andrew Caseley says, 'The PwC report makes it clear that strategic focus at senior levels to champion energy efficiency and carbon reduction projects, and improved access to capital, enables the success of such projects.' He notes that as well as making equipment more efficient, woody biomass technologies are increasingly becoming viable alternatives to fossil-fuelled boilers when investment in new plant is being considered.

Azwood Energy is a wood energy supplier and manufactures the entire range of wood fuels – biomass hog fuel, wood energy chip and wood pellet fuel. In the energy sector for 40 years, it began in coal supply, switching in the mid-1990s to wood energy. The company has been recognised by the Bioenergy Association as the national leader in range of product and extent of business, successfully re-purposing more than 1.2 million m³ of wood residues each year.

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