

8 July 2019

Position statement

Ecogas processing of food waste to produce energy and bio-fertiliser at Reporoa is a model for all communities

The announcement that Ecogas will collect central North Island food wastes and process them at Reporoa into energy and bio-fertiliser will provide an example that all communities across New Zealand could follow said the Bioenergy Association.

Brian Cox, Executive Officer of the Bioenergy Association said that “ The Ecogas processing of food waste uses proven technologies and is widely done in most other countries. New Zealand has been slow to adopt circular economy principles where food wastes are processed to make other products rather than discharge to landfill. There is no reason why all communities across New Zealand could not have zero organic waste going to landfill by 2030.”

“The production of biogas from the waste will allow the generation of electricity, provide hot house heating, produce high value bio-fertiliser, and provide carbon dioxide for enhanced plant growth in the hot houses. These are valuable products which will reduce T & G Global’s horticulture operating costs and increase productivity. This is on top of the avoided cost of disposing of organic wastes from the site, as well as those communities who have contracted to supply organic waste instead of disposing of it into landfills.

The Bioenergy Association has identified that 1.8Mt CO₂-e of greenhouse gases could be reduced if this type of project was extended to other food processors and communities.

Mr Cox said that “it is great that the Government has recognised that using organic waste to produce energy and other co-products is good for business and communities and that proactive climate change policies can have a very positive upside to communities and the economy.”

Ends

Additional information

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Bioenergy and biofuels sector

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1. Bioenergy has a unique point of difference from other forms of renewable energy as it is the most flexible and versatile form of renewable energy and contributes widely to the New Zealand economy. The use of biomass for energy (bioenergy) provides a fundamentally different least cost approach to achieving a low carbon economy compared to all other renewable energy forms. Biomass use and bioenergy can:
 - substitute for all fossil fuel uses for any energy application and is carbon neutral,
 - contribute to carbon storage (remove GHG from the atmosphere)
 - provides significant opportunities to address environmental issues arising from optimisation of land use (eg pastoral intensification and landfilling)
 - Provide many opportunities for regional economic growth and employment based on our under-utilised land resource.
2. Focusing on use of biomass as a valuable resource leads to new business opportunities, improved business resilience of landowners, and extraction of value from waste. Energy is often the co-product of higher value products such as regional employment, bio-based materials and more resilient land use.
3. Bioenergy is from a fully renewable resource, using proven technologies and has extreme flexibility. The processing of biomass can produce a wide range of revenue streams from application of heat; generation of electricity; use as transport fuel; extraction of chemicals and manufacture of bio-based materials; use as bio-fertiliser; and purification of water.
4. Communities and business adopting a circular economy approach by matching local wood and waste residues as feedstock as an input to creation of products, optimises the financial viability of the business, offsets costs of waste disposal and being used to generate employment and new business that supports the local economy.
5. Bioenergy initiatives are generally highly integrated with other sectors and other activities so cross sector and all-of-government approaches are necessary. For example integrated agriculture land use for animal health management with shelter can produce revenue creating wood fuel.
6. Bioenergy could achieve greenhouse gas reductions of:
 - 1.8 Mt CO₂ -e pa from reduced use of coal and gas for process heat
 - 1.8 Mt CO₂ -e pa from reduction of methane from waste
 - 5.0 Mt CO₂ -e pa from use of biofuels in transport

These levels of greenhouse gas reduction are comparable but less cost than many of the other initiatives currently being pursued by Government. <https://www.bioenergy.org.nz/greenhouse-gas-reduction>

7. The vision for bioenergy - Economic growth and employment built on New Zealand's capability and expertise in forestry, wood processing and bioenergy production from waste - leading to new business opportunities which by 2050 could more than double biomass energy supply up to 27% of the country's energy needs, with a consequential 15% reduction in greenhouse gas emissions*.[* compared to 2017]

Waste to energy

www.biogas.org.nz

1. Waste-to energy results in the generation of heat and electricity through anaerobic digestion processing of residual waste streams that can not otherwise be sustainably reused or recycled and therefore diverting waste from landfill.
2. Use of residual waste streams to produce energy forms part of the circular economy.
3. New Zealand can achieve zero waste to landfill by 2040 if we start seeing residual waste as an opportunity and not a problem.
4. An ideal opportunity exists to co-locate waste to energy facilities processing organic liquid and solid waste residual waste streams with industrial heat users to displace the use of fossil fuel for the generation of heat and power.
5. An ideal opportunity exists to combine bio-processing waste with the upgrade of waste water treatment plants. These upgraded plants have the ability to generate revenue to offset operating costs for local government bodies and could progressively be developed to the point of zero residual chemical discharge to water or sludge to land.
6. Diversion of waste from landfills to waste to energy facilities reduces CO₂ and methane emissions improving air quality, enhances the economic resilience of communities through reduction in waste water treatment facility usage, reduction in landfill reliance whilst providing new offtake business opportunities through the production of electricity, heat and bio processing opportunities.
7. The technology for Bio-processing waste and waste water is well developed and the footprint is smaller than for existing sewerage processing systems employed, particularly those disposing to land.
8. Technology for treatment of both liquid and solid residual waste streams is well developed and accepted internationally and able to be utilised in New Zealand with minimal (if any) changes therefore mitigating technology risk.