



CASE STUDY

Turning passion into progress

An innovative solution at Fonterra's Collingwood Street cheese plant in Taranaki has diverted nearly 75% of organic waste from landfill

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Summary

An innovative solution at Fonterra's Collingwood St cheese plant in Taranaki has diverted nearly 75% of organic waste from landfill, preventing 666,760 CO₂e of emissions.

The initiative has introduced anaerobic digestion (AD) as a waste solution.

Strong stakeholder engagement and leadership support were key to implementing the change.

The initiative has resulted in both environmental and cost-saving benefits.

Janine Cole is a Compliance and Environmental Manager at Fonterra's Collingwood St cheese plant in Eltham, Taranaki and has found an innovative solution to divert nearly 75% of the plant's organic waste from landfill.

Janine has worked for Fonterra for almost four years and says she's always on the lookout for ways to improve processes and reduce the plant's environmental impact, particularly the volumes of waste going to landfill.

"Organic matter going into landfill is environmentally harmful. The methane gas emitted from landfill is at least 28 times more potent than carbon dioxide and takes much longer to break down in the atmosphere, so finding an alternative to landfill was a priority for me," she says.

While studying post-graduate waste minimisation at Massey University in Palmerston North, Janine learnt about a range of waste treatment solutions to produce better environmental outcomes. This included anaerobic digestion (AD), which uses micro-organisms to break down organic matter without oxygen.

During the AD process, harmful methane gases produced from the materials' breakdown are captured and used as a renewable energy source. AD also generates a nutrient-rich by-product, digestate, which is used as a fertilizer.

"I was so impressed with this technology and its potential to reduce the amount of organic matter going to landfill, while also delivering resource recovery benefits. At this time, it was still more of a scientific concept and there were no commercial anaerobic operations in New Zealand," says Janine.

Collaborating with Kai Commitment and EcoGas

In late 2022, Fonterra became a founding signatory of the [Kai Commitment](#) – a voluntary food loss and waste pact among leading food businesses in Aotearoa New Zealand.

The Kai Commitment is committed to the [Target, Measure, Act framework](#), which is internationally accepted as best practice in tackling food waste, and collaborates with industry partners who play a role within New Zealand's food system.

Through the Co-operative's Kai Commitment pact, Janine was introduced to Andrew Fisher, the founder of New Zealand's first anaerobic digestion plant, [EcoGas](#), who redirect food waste away from landfills and instead use it to create sustainable energy, biogas and biofertiliser.

"Meeting the EcoGas team inspired me to explore if there were any opportunities for the plant at Eltham to start using AD as a waste solution," says Janine.

Working together on a solution

Janine says key to getting the change to AD over the line was keeping the solution simple and engaging key stakeholders at every stage of the process.

This involved working with the Distribution Centre (DC) team to clearly map out the process. "The team on the floor are the experts and getting their input not only helps to plan for success but gets them invested in a positive outcome," says Janine.

Likewise, working through transport logistics required collaboration. EcoGas is in Tāmaki Makaurau Auckland, which is a lot further away than the landfill Eltham had been using.

However, once Janine introduced the local transport provider, Dennis Brown Transport (DBT) to the EcoGas team, they came up with a solution and now work seamlessly in partnership.



Janine Cole and Kelvin Gray



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Encouraging innovation

Janine credits Eltham Site Operations Manager, Kelvin Gray, for encouraging the initiative. She says Kelvin views challenges as opportunities, fostering an environment that welcomes new ideas and innovation.

“Those working on the floor have invaluable insights, but you need a culture to encourage that. I knew I could bring an idea like adding AD to our waste solutions to Kelvin and he would encourage me to explore it further to see if there was a viable use case,” she says.

Janine admits change is challenging but persistence pays off, if you can build a solid business case and provide supportive data and regulatory compliance.

For Janine, these included strict requirements for food waste disposal, including destruction certificates and ensuring materials go to Anaerobic Digestion (AD), not animal feed. She worked with Food Quality and Safety (FSQ), Ministry for Primary Industries (MPI), and EcoGas to ensure compliance at all stages.

Results with huge impact

“Since we started the initiative, we have diverted nearly 75% of our plant’s waste to AD, which has prevented 666,760 CO₂e of carbon emissions being produced in landfill. Plus, the process is overall cheaper than landfill so there have been cost savings as well.”

Janine says moving waste from Eltham in Taranaki several hundred kilometres north to EcoGas stacks up if they have a minimum of 56 bins per load. “This requires some coordination, but the team are motivated to make it happen.”

The new process is not without challenges. AD plants require a mixture of different organic compounds and sometimes EcoGas are unable to take as much waste from Eltham as needed. “In the rare times where EcoGas don’t have capacity for our waste we have to revert to landfill, although this does not happen often”, says Janine. “Cheese is also a high energy product that produces a lot of gas, so you need a mix of different organic compounds for the process to work effectively.”

Fonterra is actively looking for ways to further reduce food loss and waste. They have numerous projects underway to identify possible value streams, including food donation programmes across markets and partnerships with upcycling organisations like [Rescued Kitchen](#).



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Kai Commitment



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