Case study:

Fuelled by Z Energy
The issue

Almost a fifth of the country’s greenhouse gas emissions come from transport.

As one of New Zealand’s major fuel companies, Z is part of the problem. They, along with customers like Fonterra, want to move toward being part of the solution. Making biodiesel available is the single biggest step toward that.

Fonterra has a goal of reducing emissions by 30% across its global operations by 2030 and net zero by 2050. It’s proud to be one of the most emissions efficient producers of dairy in the world, and is up for the challenge of doing better.

Fonterra has a milk tanker fleet of 484 that travel nearly 100 million kilometres every year.
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Since 2014, Fonterra has been working with Z Energy as they continue to focus on energy efficiency and reducing the impact of their operations on the country’s carbon footprint.

Z has built the first and only commercial scale biodiesel plant in New Zealand, which will significantly increase the total supply.

The Te Kora Hou plant will bring high quality biodiesel to the market.

Making biodiesel wouldn’t have been possible without the commitment of New Zealand businesses like Fonterra.
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How Z biodiesel is made

- Tallow delivered and stored
- Transesterification reaction process: The process that produces crude biodiesel
- Biodiesel “clean-up”: Purification and distillation processes
  Testing undertaken throughout the process
- Refined biodiesel in quality assurance tank
- Automatically dispenses the right amount of biodiesel and mineral diesel
- Blend biodiesel at Gantry: Where trucks pick up fuel
- Biodiesel tank at terminal
- Mineral diesel tank at terminal
- Transformed to terminals
- Full biodiesel specifications testing
- Verification of correct blend ratio
- Distribution to service stations, truck stops, customer facilities and marine vessels.

= Product is sampled and tested
Outcomes

160 Fonterra milk tankers fuelled by Z biodiesel.

4% less emissions per truck, per year.

Over the year, Fonterra’s use of 160,000 litres of biodiesel will prevent 425 tonnes of CO2 being emitted.

Replacing 20 million litres of ordinary diesel with five percent biodiesel would reduce New Zealand’s carbon footprint by 37,000 tonnes each year.

Z made the first delivery of biodiesel to Fonterra in 2018.
What does the future look like?

1. There is no silver bullet that’s going to get New Zealand to a low carbon transport future.

2. Z is focused on ramping up biodiesel production and getting product into more truck stops in the Auckland, Waikato and Bay of Plenty regions - helping more customers reduce fossil fuel use.

3. While Z continues to focus on lowering operational emissions, we are also committed to reducing indirect emissions from our customers through greater production of biodiesel and supporting the growth of EV use in New Zealand.

4. Full Te kora Hou plant capacity is expected to reach 20 million litres. Expanding supply will depend on demand.

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