



Circular Economy, a case study of opportunity and challenges

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Global Waste Oil

>38 million
tonnes / year

Business Opportunity

Re-refining

Carbon Claim

~50%
reduction



What actually happens to your waste oil?

Most organisations producing waste oil already have a waste oil solution.

But very few have ever been asked a much simpler question:

What actually happens to it after it leaves site?

WASTE OIL IS RECOGNISED AS ONE OF THE MOST SIGNIFICANT LIQUID HAZARDOUS WASTE STREAMS GLOBALLY.

*European Commission Waste Oils Report (2023)

Current industry reality

For years, the default outcome has been simple: collect it... and burn it.

- **Regulatory compliance**

Harder to gain consents for burning waste oil.

- **ESG Expectations**

Companies increasingly need credible sustainability reporting.

- **Regulatory Compliance**

Waste minimisation reform and extended producer responsibility.

Burning waste oil is a one-way outcome. Re-refining creates a circular one.

Glide

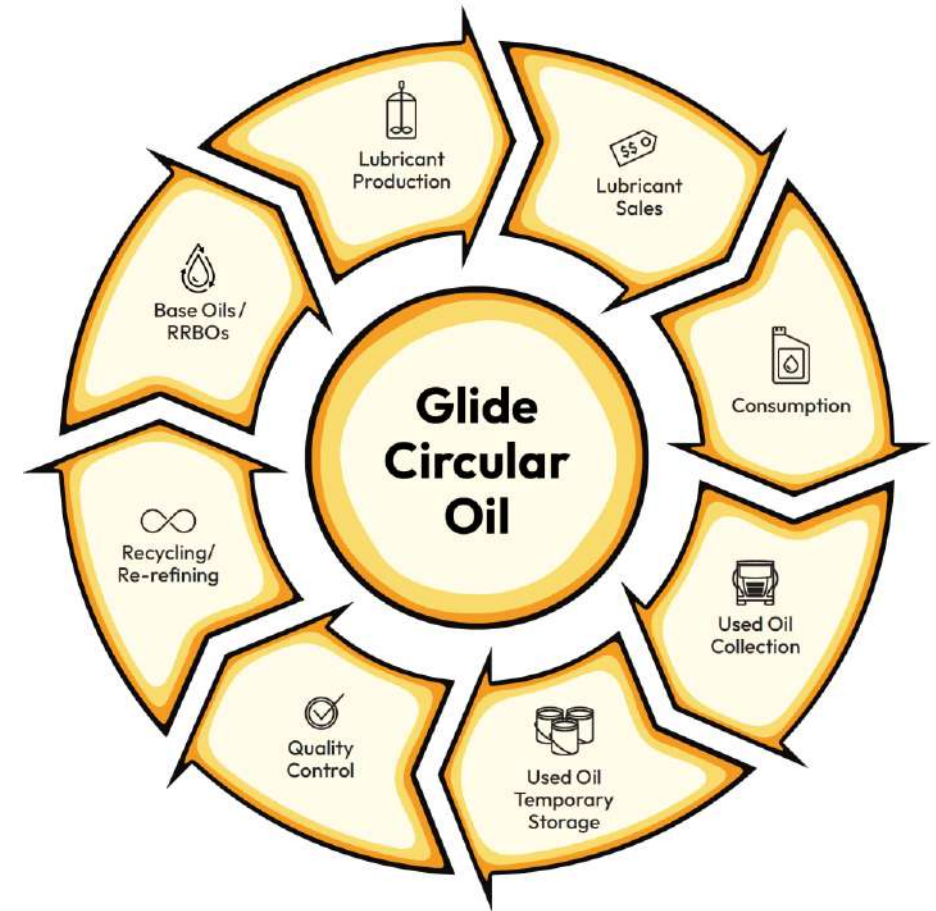
- 100% New Zealand family owned business. Formerly operating as WPC.
- ~50% in North Island market share, expanded into the South Island in January.
- Network of collection depots in Christchurch, Wellington, Palmerston North and our head site in Pukekohe.
- Collecting waste oil since 1984. Decision made to change the outcome through re-refining.
- Glide's re-refining facility became operational this month.



A better use towards circularity



Re-refining is an advanced process that cleans and restores waste oil to its original state, making it suitable for use as new lubricating oil. In contrast, recycled oil is filtered through a simple process, making it suitable for use as burner fuel.



Re-refining is projected to save approximately:

2.7kg of carbon per litre of base oil produced.

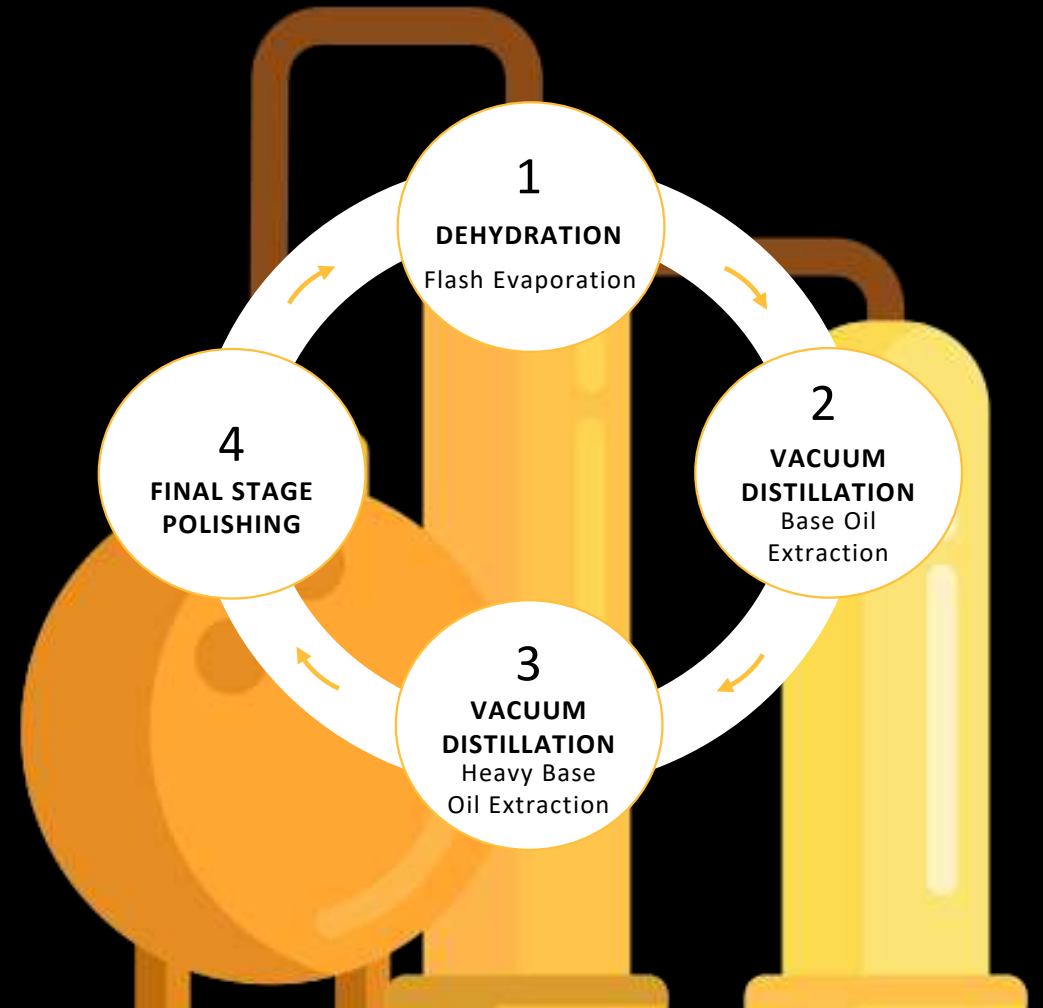
Over 100,000 tonnes annually at scale.

Carbon savings will be independently verified by Toitū.

Glide's facility is powered by Ecotricity's Climate Positive certified electricity.



The re-refining process



Glide facility: Pukekohe, Auckland



Comparison scenarios

Baseline process

- Explore
- Extract
- Refine
- Blend

(transport)

New Zealand

- Retail
- Use
- Collect
- Clean
- Deliver....

- Burn



Circular system

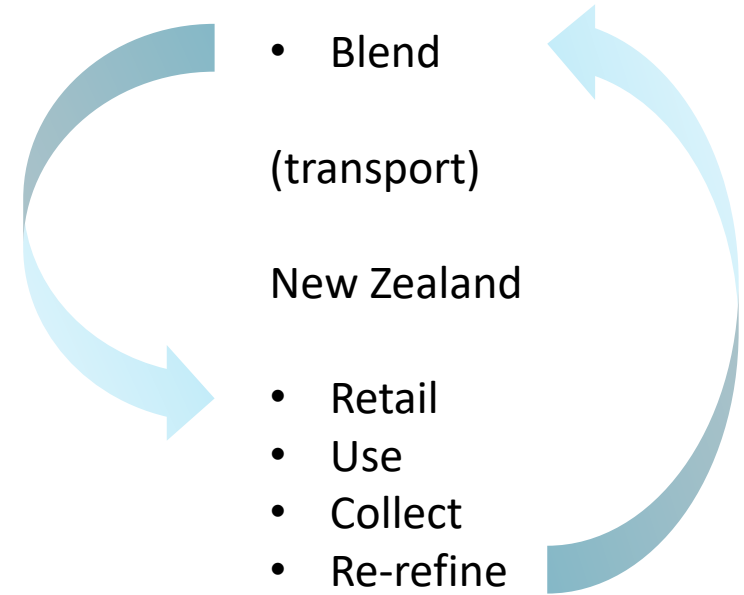
- Explore
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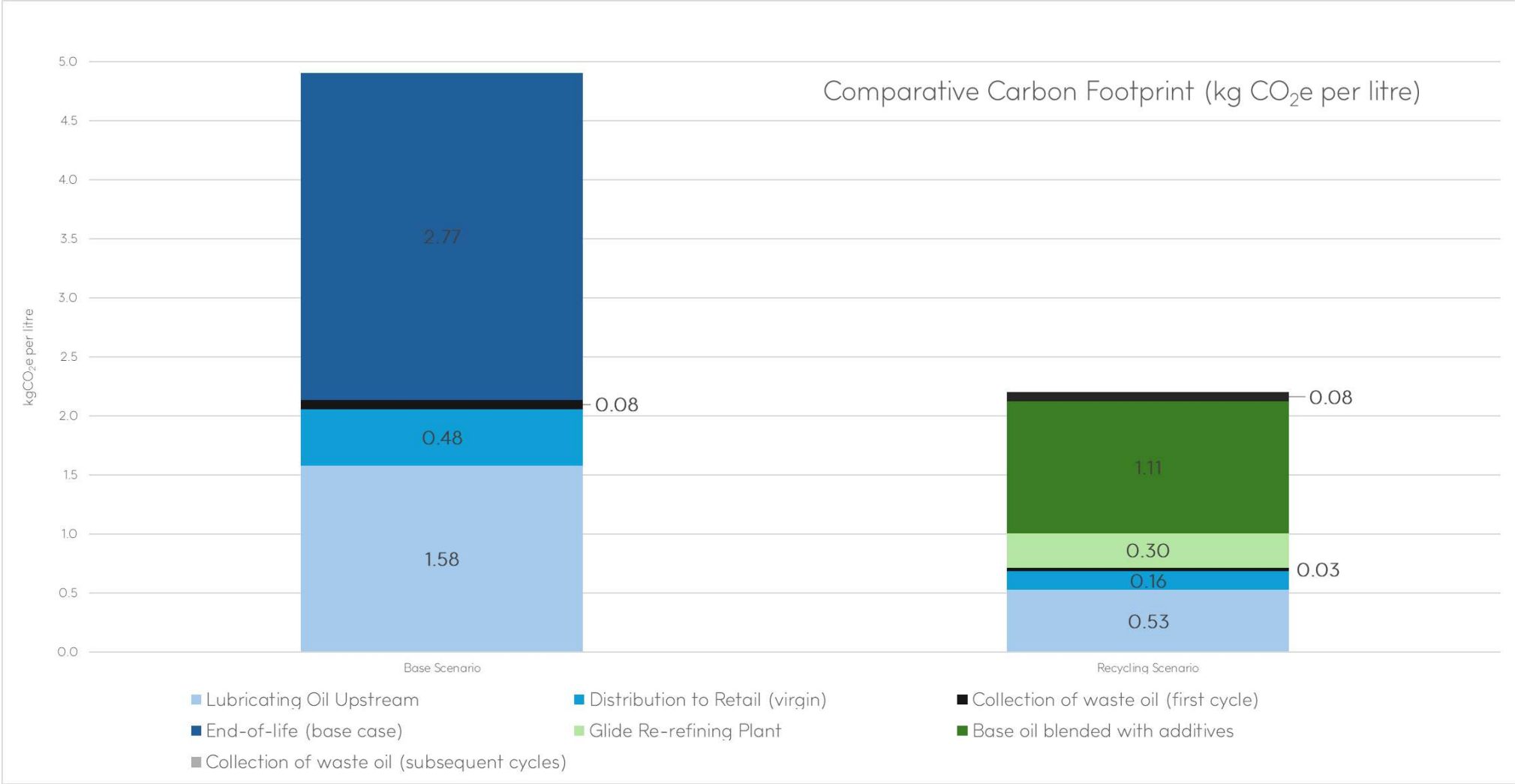
(transport)

New Zealand

- Retail
- Use
- Collect
- Re-refine

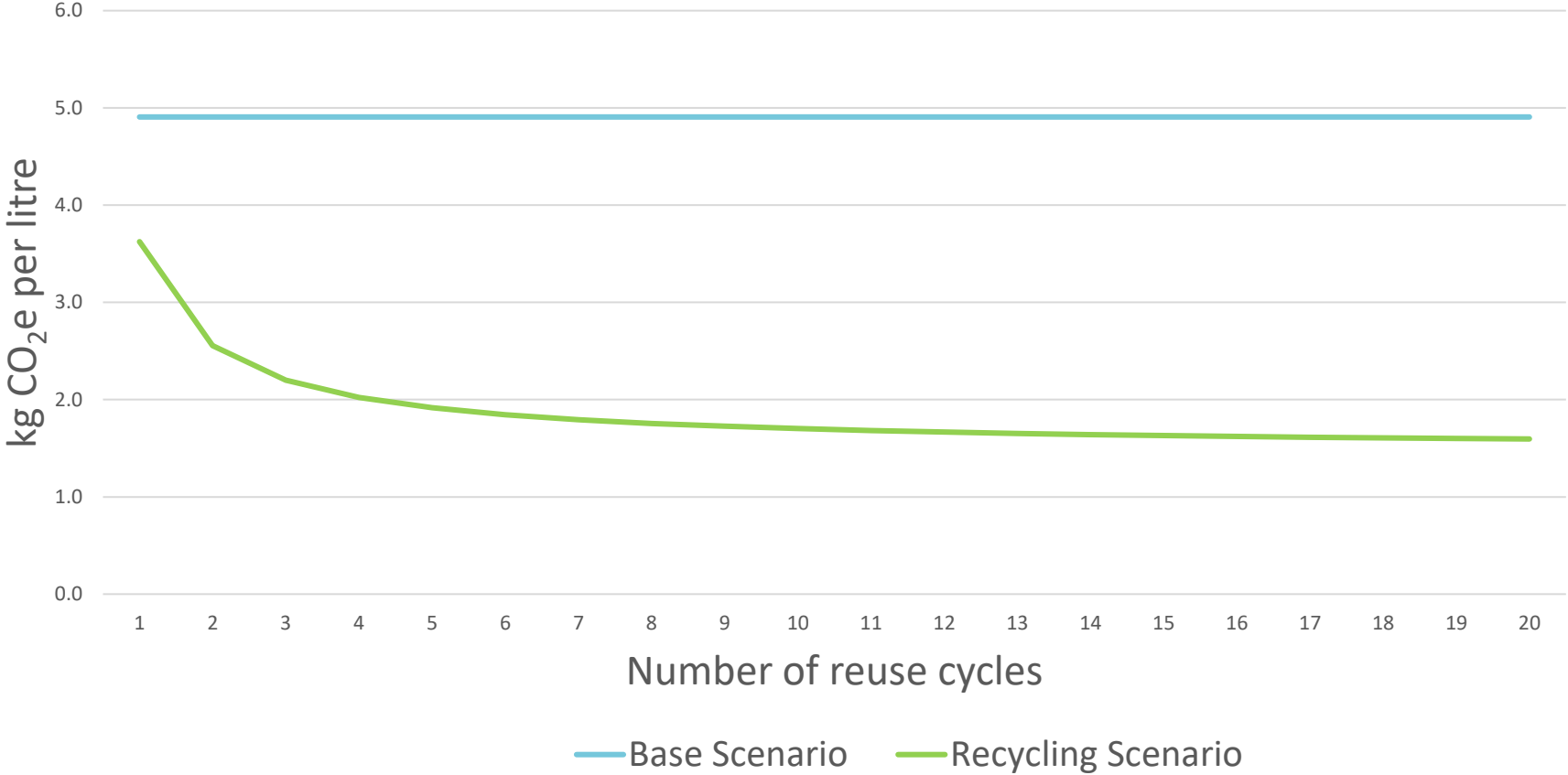


Results (3 x Cycles of Re-Refining)



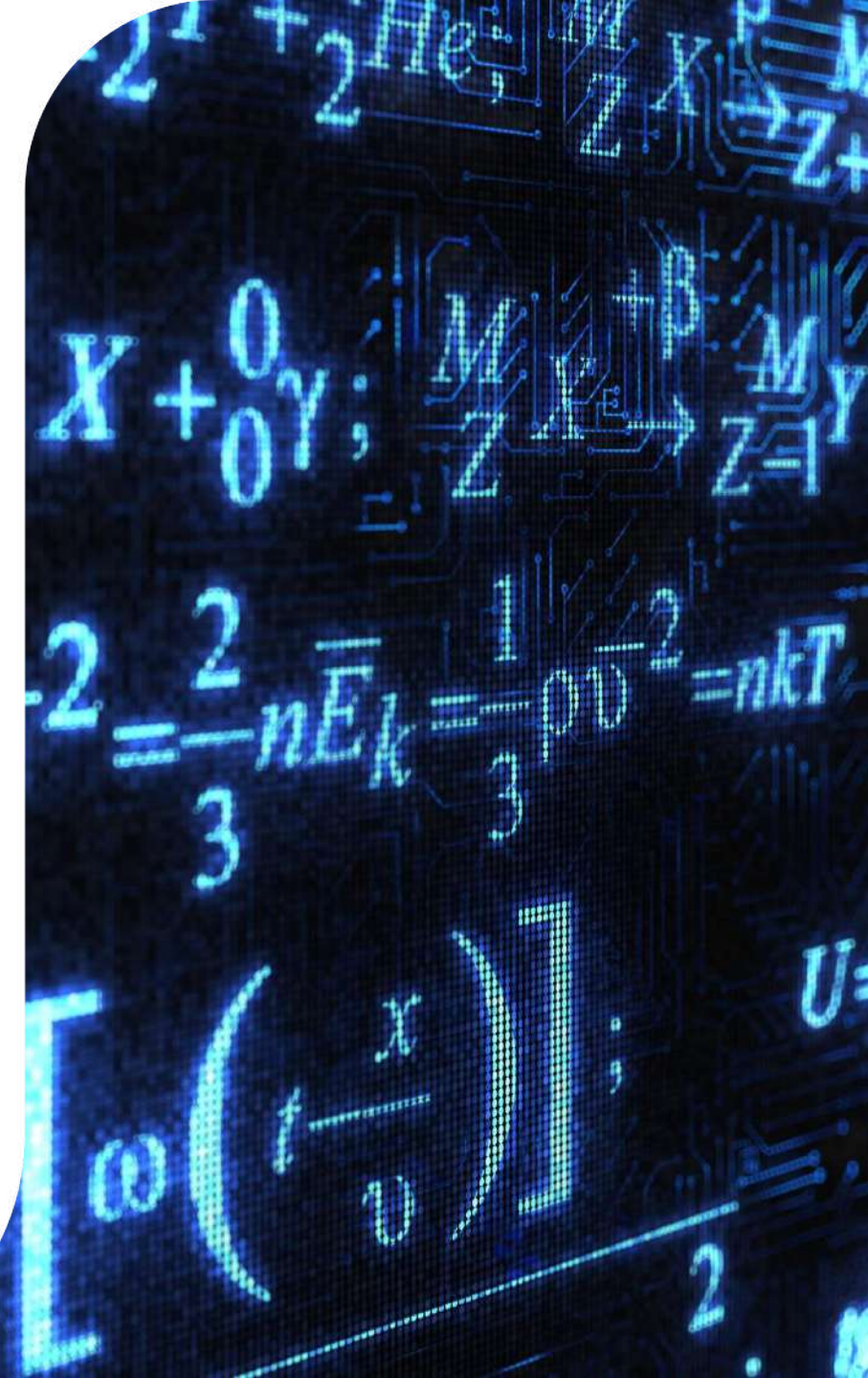
Results

kgCO₂e per litre of oil over 20 reuse cycles



Assumptions & Limitations

- Theoretical study was done before the new plant was operational
- For full circularity assessment traceability of oil is lacking
- Embodied carbon in plant infrastructure was excluded
- Conceptual approach to number of reuse cycles
- Results are consistent with comparable international studies



Issues and Opportunities

- Collection of waste oils across South Pacific
- Development of local industry to reduce need for products to travel internationally
- Substitution of fossil based oils with bio-based alternatives
- Substitution of waste oils used in industrial heating for more sustainable alternatives
- Electric engines reduce overall needs for hydraulic oils



An unmatched solution for New Zealand



Caring for the Environment

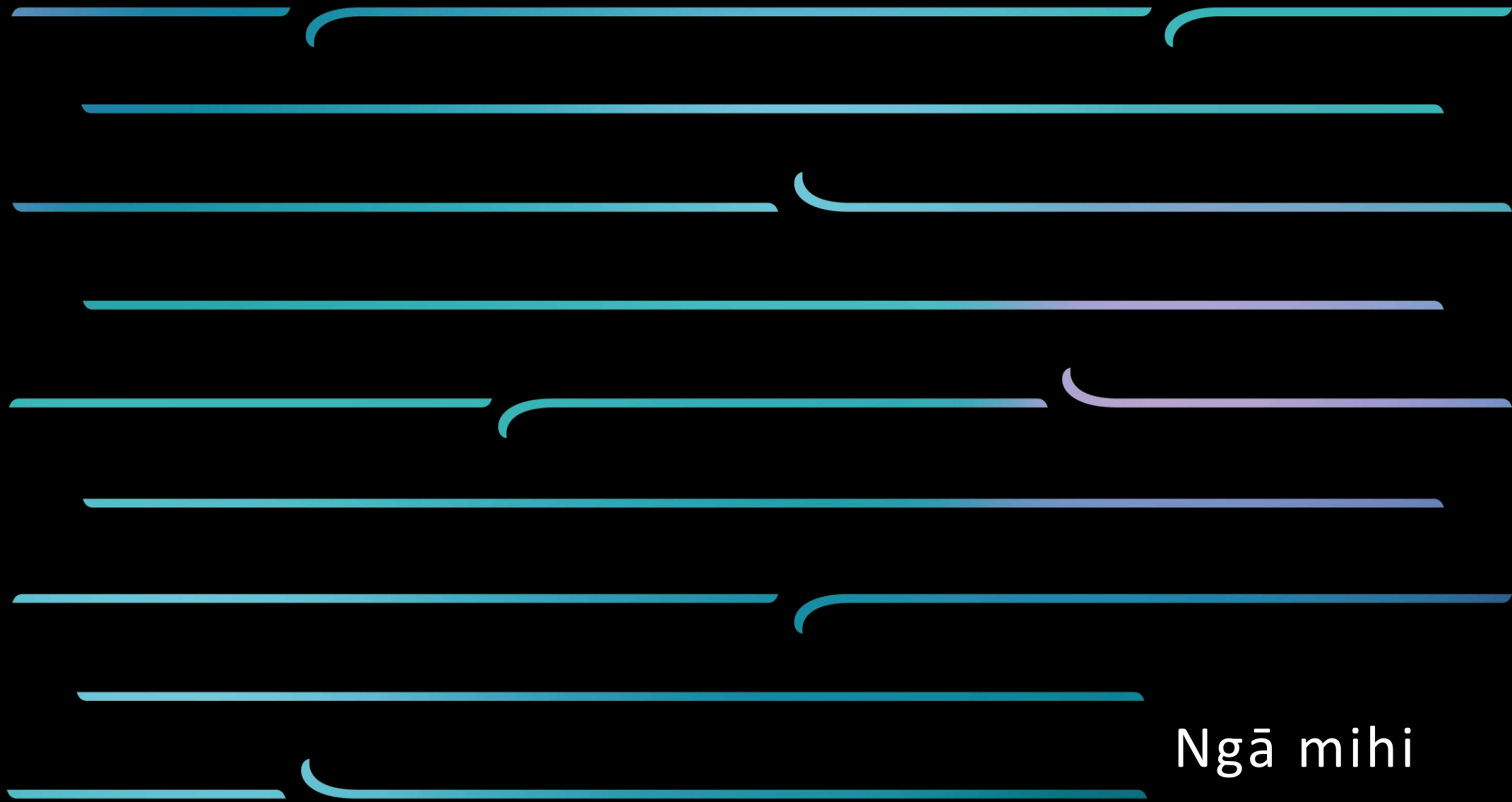
- Creating a cleaner future by re-refining dirty oil - over and over and over.
- Theoretically preventing over 100,000 tonnes of CO2 per year, like taking 40,000 cars off our roads.
- Collecting waste oil and recycling it into reusable, re-refined base oil.

Excellent Service

- Use our current infrastructure and collection experience to smoothly gather waste oil.

Our Unmatched Solution

- A valuable commodity will no longer become waste after use.
- Delivers verified carbon savings.
- We'll collect and thoroughly purify used oil, removing all contaminants to ensure it is clean and ready for reuse.



Ngā mihi