

ELIMINATING COAL AND DELIVERING GHG REDUCTIONS:

Oji Fibre Solutions

Transforming Tasman Mill

With backing from the Oji Group we have invested more than \$63 million to secure a sustainable future for the Mill.

Tasman Mill has been the centrepiece of the Kawerau community since it was opened in 1953. With more than 250 employees, it is currently the single largest employer in the Eastern Bay of Plenty.

Situated within the Kawerau Geothermal System – the world’s largest industrial

geothermal area – the Mill’s location has many strategic advantages.

Renewable energy is already the main source of energy used at the Mill delivering 88% of total energy requirements in 2018.

Over three years, we have refocused our product mix and substantially changed the Mill’s energy systems through three major projects:

1. Ceasing the manufacture of bleached products
2. Making efficient use of biofuels
3. Increasing our use of clean geothermal steam.

~870,000 GJ
reduction in energy requirements pa

~10,000 tCO₂-e
reduction in emissions expected pa

5%
production increase

Coal eliminated

53%
reduction in colour discharge to the Tawarewa River since the closure of the bleach plant.

Bleaching eliminated

Iwi partnership
with Ngāti Tūwharetoa Geothermal Assets.



We are committed to ensuring the long-term viability of the Tasman Mill in a way that reduces our environmental burden and make the Mill a safer operation – for employees and the community.”

Terry Skiffington
Chief Operating Officer
Pulp and Paper

A more sustainable operation

The Transformation makes the Mill more commercially sustainable as well as more environmentally and socially sustainable.

It is part of a wider focus to improve production reliability and environmental outcomes of our two Central North Island mills: Kinleith and Tasman.

Ceasing the manufacture of bleached products

In January 2019, we ceased making bleached pulp. This project involved focusing on our world-class K25™ Fibre Cement Pulp (FCP) and other Unbleached Kraft Pulp (UKP) grades.

The Mill pioneered the manufacture of FCP, which is used internationally to reinforce cement-based building products with cellulose fibres. FCP replaces asbestos fibre.

Our paper-grade UKP is ideal for the

production of containerboard and kraft paper. Customers have welcomed its strength, shade and cleanliness.

We are in the process of developing other UKP products targeting the electrical insulation and filtration markets.

Our UKP also opens opportunities to supply those innovating in developing new products with cellulose fibre.

These changes have also:

- Improved the colour of the effluent discharge into the Tarawera River.
- Eliminated the loss of bleaching chemicals to the environment
- Improved process safety by reducing the storage of bleaching chemicals.
- Decreased total energy use, delivering GHG reductions.

Making efficient use of biofuel energy

We installed a new evaporator system to increase the use of black liquor as a biofuel.

In essence, the evaporator is used to concentrate the wood lignin material produced when wood chips are digested to form pulp. It removes water, so the black liquor can be burnt in the recovery boiler.

This project also removes a bottleneck to increase production capacity by around 5% to make more efficient use of biofuel.

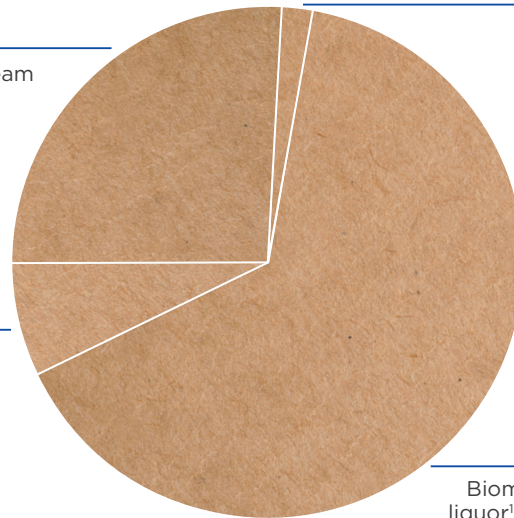
EXPECTED ENERGY MIX

26%

Geothermal steam

7%

Fossil fuels: natural gas, waste fuel oil, diesel.



2%

Electricity

65%

Biomass: kraft black liquor¹, wood residues

1. Black liquor is the substance that binds wood fibre (cellulose) and is generated as a waste when removing fibres for the pulp manufacturing process

Partnering with Ngāti Tūwharetoa Geothermal Assets to increase our use of clean geothermal steam

We have partnered with Ngāti Tūwharetoa Geothermal Assets to unlock the potential to increase the use of clean geothermal steam and have been able to close a power boiler. While the main fuel source for the power boiler is biomass (wood residues), this typically needs to be substituted with waste oil or coal.

This project eliminates the use of coal and significantly reduces the use of waste oil.

About 26% of the Mill's annual energy requirements will be met by clean geothermal steam, when the project is completed in late 2019.

Moreover, wood residues no longer required at the Tasman Mill can be used as biofuel at the Kinleith Mill.



Oji Fibre Solutions

One of Australasia's leading producers of market pulp, paper and fibre-based packaging, we are committed to delivering smart, sustainable products. Our operations include the Kinleith and Tasman Mills located within New Zealand's central North Island, Fullcircle recycling service and ten paper-based packaging facilities across New Zealand and Australia.