

EcoCentral Glass Pulverising Plant

BACKGROUND

EcoCentral commissioned Motovated Design & Analysis to redevelop their glass pulverising plant that was a key component of the company's Materials Recovery Facility.

There were three main issues with the existing plant:

1. The hopper suffered from jamming, requiring direct human intervention to monitor and clear any blockages. The health and safety risk from this operation was huge and unacceptable.
2. Small glass particles became easily airborne in the swirling winds that existed at the rear of the facility. This created a significant health and safety hazard and raised potential maintenance issues with the neighbouring weighbridge.
3. The existing plant output the glass in two streams: <3mm sand and 3–18mm chip. The disposal cost of the sand was lower than the chip and the chip carried approximately 1.5% by weight of contaminants. If that level of contamination was reduced consistently below 1%, the disposal cost would drop to the same as the sand product. But even better, if the chip contamination was as low as practicable it would become more useful as a stock feed for the Barmac crusher where it then had a *positive* rather than negative value.

SOLUTION

Motovated engineers worked closely with the EcoCentral team who had a very clear understanding of what would be required for the plant to be successful.

The budget for the project was tight and EcoCentral already had existing plant that they wanted to utilise wherever possible.

The use of existing plant allowed the team to minimise costs to EcoCentral.

RESULTS

The resulting plant managed to achieve all the required outcomes in terms of performance. These included:

- Eliminating the issue of stock jamming, thus removing the cost of extra personnel and equipment to monitor and clear the material, and reduced the health and safety risks.
- Improving the ratio of production of chip and sand; sand being the favoured product.
- Producing a chip that is below 1% by weight of contamination. In turn, this reduced disposal costs and ensured the chip was a suitable in feed stock for the Barmac crusher without producing high levels of fluff in the crushed glass products.
- Preventing wind blown glass fines, litter, and environmental contamination.
- Improving access to all processing equipment, thereby reducing health and safety risk and reducing maintenance costs.
- Standardising spare parts across the processing plant.
- Future-proofing the system by ensuring that screen sizing allows for further development should optical sorting of larger chip become economically viable.

MORE INFO Checkout www.ecocentral.co.nz

Case Study



Figure 1: EcoCentral Glass Pulverising Plant

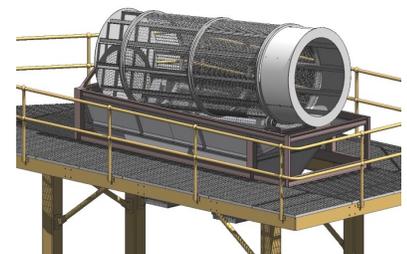


Figure 2: 4m Long Glass Sorting Trommel

“We’re thrilled to have been involved with such a meaningful project. Sustainability, preservation, and reuse of the world resources is something we take very seriously. This project provided for the repurposing and reuse of the recycled glass media in a number of arenas and industries. The team at Eco Central were fantastic to work with and Motovated was involved right from the development of the business model through to management of the install. This created a very open, collaborative team effort and we look forward to working together on the next development program”