

Wood waste fuelling Bricks



WISP worked with Cabrico and Pallet Cycle to find a sustainable solution to 4.6 tonnes of wood waste in a batch exchange

Background

Pallets greatly improve the logistics and convenience of handling goods by making it easier to pack, transport, store and protect them. Pallets are made from various materials, most commonly from wood and plastic. Wooden pallets are often discarded when they are broken or reach end-of-life. Even good pallets are occasionally disposed of to make way for new incoming pallets. In these cases, pallets are then often landfilled.

However, there are companies that upcycle unused and old pallets back into new pallets leading to a substantial diversion from landfill. The recycled pallet manufacturing business involves collection, recovery, sorting, dismantling and repair/remanufacturing of pallets. There are wood discards generated in the upcycling process, including off-cuts, wood chips and sawdust, which are usually disposed of at landfill.

The Organisations

Pallet Cycle is a family-owned business in Cape Town which uses recycled timber to manufacture pallets. The company collects timber packaging waste (whole or broken pallets, crates, bins, cable reels to ply-packing etc.) and remanufactures the material into new wooden pallets for re-sale. Wood off-cuts and timber that cannot be salvaged are treated as waste. This waste is stored on site, taking up much needed storage space.

Cabrico is a 25-year-old family-owned clay brick manufacturing company that manufactures genuine clay face brick and pavers and supplies all regions in South Africa. In their efforts to develop higher quality and more affordable bricks that are also more sustainable, the industry, and Cabrico, has used various secondary materials as substitute raw materials/fuels. Cabrico can use untreated wood as a fuel for drying. Wood ash is also incorporated in brick manufacturing which provides benefits such as increased strength, reduction

in water absorption, and production of lighter bricks with better thermal properties. This method also results in a reduction in the use of virgin clay. The company is always looking for waste wood and has the capacity to take roughly 6000 m³ of untreated wood waste.

The Solution

WISP introduced Pallet Cycle to Cabrico in early 2020 which led to the offtake of 4.6 tonnes of wood waste by Cabrico. The wood waste was used as a substitute fuel to fire dryers and the Kiln. The synergy was temporarily stopped due to COVID-19, but will resume on a continuous basis once the two companies re-engage. Pallet Cycle finds the synergy convenient, due to ease of transporting the material and the benefit of then having more storage space for incoming raw materials. Cabrico benefits by saving on fuel and raw material costs, as well as reducing their carbon footprint.

The Benefits

Economic Benefits



- Cabrico can continue to make quality environmentally friendly bricks at low cost thanks to cheaper fuel and additional feed material obtained at less than cost price.

Environmental Benefits



- Sustainable solution for 4.6 tonnes of wood waste.
- A reduction of 1.7 tonnes in Green House Gas emission through the synergy.
- The use of wood as an alternative fuel means less reliance on fossil fuels like coal.



WISP

Western Cape Industrial Symbiosis Programme

Delivered by GreenCape

Connecting Industry Creating Opportunity

About WISP

The Western Cape Industrial Symbiosis Programme (WISP) develops mutually profitable links between companies from all industrial sectors, so that under-utilised resources such as energy and water, and/or materials from one company can be recovered, reprocessed and re-used by others.

Driven by Business

The programme uses actual business opportunities as the mechanism for encouraging resource efficiency. Its holistic approach sees it actively dealing with ALL resources including water, energy, materials, logistics, assets and expertise. The programme is based on the highly successful national programme in the UK (NISP), which demonstrated that industrial symbiosis has the potential to significantly reduce industrial and commercial waste and comprehensively lessen the adverse environmental impacts of business.

Free Membership

WISP is a free facilitation service funded by the City of Cape Town and delivered by the sector development agency GreenCape. WISP enables synergies to happen by filling the gaps that its members, especially SMEs, could experience due to the lack of time or dedicated expertise needed to identify and implement resource, waste and energy efficient practices. The diversity of the industries in which WISP operates, and the variety and size of its business members, means that WISP has the potential to generate significant economic, environmental and social benefits from the synergies and projects that it brings about.

Partnership with Purpose

WISP works hand in hand with leading trade associations, manufacturers and other organisations to add real value to business. We are working in collaboration with the City of Cape Town, International Synergies and the National Cleaner Production Centre (NCPC) and the Western Cape Government.

Contact us to become a member and get involved!

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WISP is delivered by

GreenCape

GreenCape was established to promote the development of the green economy in the the Western Cape Province. We assist viable green businesses and potential investors in the green economy to remove barriers to their establishment and growth. Our aim is to help unlock the investment and employment

potential of green business, technologies and manufacturing and put the province on course to become the green economy hub for Sub-Saharan Africa. This work, in turn, contributes to improving the resource efficiency, carbon intensity and resilience of the regional economy.

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