

Greening the Future

Why recycling makes cents

Joint winner – Companies and organisations with innovative environmental strategies that improve business performance:

EnviroServ Polymer Solutions

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Even as a seasoned “greenie” with an eye on recycling initiatives, I didn’t realise you could recycle Tetra Pak cartons – the containers in which you can buy long-life milk, juice and similar products.

These cartons are composites, made of three layers – paper, aluminium and polyethylene – so they would previously have required peeling and separation into three different recycling bins.

Not any more, thanks to EnviroServ Polymer Solutions (ESP). The company recycles Tetra Pak cartons lock, stock and barrel into pallets to transport, well, more Tetra Pak cartons. It’s an elegant solution.

In 2007 EnviroServ Waste Management (EWM) acquired a controlling stake in Ply-Pak, now called EPS. Ply-Pak was established in 2000 to manufacture plastic composites using traditional plastic extrusion methods and identified a potential developing market for plastic composite pallets to replace wood.

EWM manages the waste for Tetra Pak South Africa and many of its customers. EPS actively recycles Tetra Pak waste. It’s a virtuous triangle.

EPS partnered Diamond Facet Board to develop commercially via-

ble extrusion methods to combine Tetra Pak’s liquid packaging board and plastic polymers into a highly durable new composite.

And not a moment too soon. Wood has been the traditional material for pallet manufacture in South Africa and 95% of all pallets for materials handling and storage are still manufactured from wood. But wood is getting scarcer and more expensive. Wood prices have increased by 40% in the past 18 months and continue to rise. As cheaper cuts of wood are used, so the structural integrity of the pallet decreases.

Composite pallets solve a lot of problems. They are made of plentiful waste-stream materials, are more durable, easier to clean and are more UV-resistant.

Composite pallets don’t harbour microbes, as wooden pallets potentially do, so they do not need to be heat-treated for the export market. Heat treatment makes the pallets brittle.

The initial green pallet prototypes developed were heavy and it was necessary to reduce their weight without compromising the strength or durability of the pallets. This resulted in a further alliance with Novara Profile Extrusions, which developed a pallet made of 100% recycled materials and



EnviroServ Polymer Solutions recycles Tetra Pak cartons into pallets such as those above

was called BidPal.

Unfortunately, the price gap between timber and plastic pallets is still huge. Wooden pallets average from R90 to R160; plastic pallets cost from R400 to R800.

But EnviroServ came up with a smart plan: rather than selling the BidPal pallets, it rents them out.

During the development and rollout of the pallet model, it became apparent that a logistics partner would be needed to manage, track and transport the pallets. An associ-

ated company, Rennies Distribution Services, now has a rental pool of BidPals and carries the costs associated with their maintenance, repair, cleaning, storage and circulation, plus the associated risks.

One of the major risks of renting out the pallets is keeping track of their movement. The solution was to microchip them.

So now we have green pallets, made of rubbish, yet carrying high-tech radio frequency identification devices. EPS aims to increase production

and market demand to 30 000 new pallets a month. This will save 680 tons of Tetra Pak a month, or the equivalent of 2.4-million beverage cartons, that would otherwise go into the landfill.

“Being part of the team working on the BidPal model has been an exciting challenge,” says Belinda Berry, EnviroServ Strategic Growth GM. “This model incorporates groundbreaking technology that has long-term economic value and the potential to make an impact, both locally and internationally.”

The *Greening the Future* judges praised this project for setting new benchmarks in making recycling and energy-saving part of its core business. It had established admirable partnerships and provided an inspiring model of how eco-friendly innovation could improve business performance, they said.

The company seized an opportunity to move from traditional management of waste sent to landfill to create new uses for waste polymers, the judges said.

PLASTIC MAKES PERFECT

- Recycling just one plastic bottle saves enough energy to power a 60W light bulb for six hours.
- Plastic production uses 8% of the world’s annual oil production, 4% as feedstock and 4% during manufacturing.
- Recycling one ton of plastic can save between 1.5 tons and two tons of carbon.
- Plastics require 100 to 400 years to break down in landfills.
- Producing new plastics or products from recycled materials uses two-thirds of the energy required to manufacture it from virgin polymers.