



PROJECT OUTCOME

ALLVIRON

BACKGROUND (2004)

Allviron is a small, family owned business specialising in the production of plastic packaging, and based in Melbourne, Victoria. The company supplies to an Australia-wide market, producing approximately 70 tonnes of product per month. Allviron employs nine staff.

THE PROCESS



Allviron manufactures several grades of plastic film and plastic bags for use as packaging.

The plastic bags are manufactured using a polyethylene film which is produced on site. There

was a large amount of waste produced, in the form of defective product, during a recent bag production operation.

The bag machine was fully investigated and serviced by the technicians, but was found to be functioning normally. Using the technique of '6 Why's', which involves asking 'Why?' repeatedly to drill down to the root of the problem, it was discovered that the bag machine was not causing the problem, but rather the machine producing the film which was then fed to the bag machine.

Upon investigation of the machine that produced the defective film, it was discovered that a part of the machine, called a re-winder, was out of alignment with the main film tower (it had been nudged by the forklift). This was causing the film to have one slack side which was the cause of the faulty bags.

This was identified as the 'root cause' of the problem. When correctly aligned, the film produced improved significantly in quality and the scrap generated by the bag machine was greatly reduced. This saved labour, energy, raw product and disposal costs associated with the production of sub-standard product, consequently becoming waste.

Any polyethylene film scrap produced as a consequence of normal operations (for example end of roll or start-up waste) was sent to a re-processor for recycling back into the manufacturing process and hence used in production of film at Allviron. This both eliminated the need to dispose of the scrap film and reduced the cost of the raw product.

Timber pallets, single use, which are used to transport raw materials often became waste as their unusual size prevented internal reuse. Inquiries into used pallet suppliers revealed that often a standard pallet in good condition can be sold, but if in poor condition it will cost to be disposed of. Although the single use pallets were in good condition, their slightly larger size meant they were not immediately useful. A compromise was reached where by the current store of 60 pallets was collected at no charge.

The small number, but large volume, of ink and reducer drums used for raw materials was initially disposed of in accordance with prescribed waste regulations. This procedure was difficult



due to the small number of drums, despite their physical volume. After approaching the supplier, however, a collection of the empty drums was organised when delivering new product, providing the drums were completely empty and all caps and bungs were securely in place. The supplier can then dispose of these drums more efficiently.

Bulk bags arrive at Allviron carrying recycled polyethylene. Often these bags are already being reused, so the supplier was approached to take back the empties. They agreed to do this if the bulk bags were packed inside each other for ease of transport.

Cardboard cores were also a substantial waste stream at Allviron. An approach to the supplier of the cardboard cores to retrieve the off cuts for recycling was rebuffed. Investigation of paper recyclers revealed a charge for collection if the volumes were below a certain minimum.

During the conversation with the polyethylene recycler about the bulk bags, it was revealed they have significant cardboard scrap, for which collection was free. They agreed to collect Allviron's cardboard cores also, if packed securely into a bulk bag. A bulk bag has been positioned beside the core cutter for ease of collection of the unusable sizes. This bulk bag is full about every six weeks with these off cuts.

Since the recycling system was implemented, an employee's initiative has identified an internal reuse scheme for the cores, ensuring that a minimum number need to be recycled as most are now used on site.



BARRIERS

There were few barriers encountered in the implementation of the initiatives, other than finding a recycler for the bulk bags which are still going to landfill.

ACHIEVEMENTS AND SAVINGS

With total savings in excess of \$40,000 per annum in energy, water and product, the implementation of simple cleaner production techniques has meant significant savings for the business with no capital outlay.

CLEANER PRODUCTION INITIATIVE SAVINGS PER YEAR

	Costs before	Costs after	Savings
Production	\$1,800	0	\$1,800
Polyethelene recycling	\$177,660	\$138,180	\$39,480
Cardboard cores	\$144	0	\$144
Ink drums	\$72	0	\$72
Combined Total	\$41,864 = 2% of turnover		
Total cost of implementing	\$0 as improvements involved no capital expenditure		
Payback period	0 years		

LESSONS

A good lesson stemming from the achievements outlined above would be the value of looking (and indeed thinking) outside the square when investigating opportunities for improvements. Achieving this will identify areas and paths for positive change which may otherwise have remained hidden.

All outcomes for Allviron were production based, and the success is due to employees who knew the process, identifying improvements. Hence the initiatives are not highly technical, nor based on expensive operational changes.

CONTACT DETAILS

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