

# A question of 'environomics'

## Why sorting, compacting and recycling waste makes sense, both environmentally and economically.

As the EU's consumption of food and drink grows, so does the amount of waste we generate. And, while we can view this mounting waste as a sign of the EU's growing wealth, it also presents a serious environmental problem – both in handling and disposing of it.

In response, regulatory measures have been adopted throughout the EU to encourage environmentally sound and viable waste handling conduct by business and industry. The EU has introduced a legal framework, which suggests a range of measures and means to reduce the amount of waste and to handle it effectively. There has, however, been considerable variety in the way that individual EU member states have adopted this framework, resulting in very different environmental legislation. In a number of countries the problem is taken very seriously, and is solved by strict controls and fees, such as landfill taxes and incineration fees, to promote better environmental responsibility on the part of the companies. In other countries, efforts seem less vigorous. Whatever the case may be, the legislative tools consist of more sticks than carrots and, on top of this, economists and environmentalists continuously argue cost-benefit versus environment-before-money.



Mil-tek, a leading manufacturer of air-powered balers and waste presses, believes it is important to protect the environment while still considering the cost-benefits, hence the slogan 'cut the cost of waste handling and get the benefits'. The idea is that it is possible to have both the environmental as well as the economic benefits, something the company has termed 'environomics'.

### The environmental problem

That increasing consumption creates more and more waste is undeniable. Wanting to reduce the amount is commendable and trying to reuse the waste produced is logical, but how do you do this in the most environmentally friendly way?

Does the cost of solving the waste problem exceed the benefits, both economically and environmentally? For example, transporting the waste is both polluting and expensive. By focusing on sorting and recycling, waste management strategies neglect the essential process of compacting the waste to become truly environmental.

**Table 1: The concept of environmental waste handling**

Action	The environment	The company
Sorting the waste =	Compliance with legislation	Savings on waste fees and taxes
<b>Compacting the waste =</b>	<b>Less volume =</b> <ul style="list-style-type: none"> <li>• Less transport with trucks</li> <li>• Less pollution from diesel</li> </ul>	<b>+ Savings on</b> <ul style="list-style-type: none"> <li>• Container rentals &amp; emptying</li> <li>• Internal handling</li> </ul>
Recycling the waste =	Reusing resources	Revenue on waste

Maintaining a public system (as some municipalities do) with a large number of people employed in transporting and sorting waste might be considered a good employment policy, but it is bad environmental policy. By compacting the waste at the source, external transport is drastically reduced (see Table 1), which benefits the environment and saves companies a lot of money. In this way both business and society gets the best of both environment and economy.

### Environomical waste handling

Caring for the environment and incorporating this care into every aspect of business conduct should be something that every company does, even if it doesn't pay off directly in terms of cost savings. It should not be something that only appears in a company's 'mission' or 'vision' statement, especially so in the food industry.

For companies in the EU today facing the challenges of global competition, customers who are increasingly environmentally conscious and ongoing environmental policy and legislative harmonisation, the only viable way to manage their waste is through environmental waste management.

Mil-tek's model of environomical waste management consists of three steps: analysis, optimisation and implementation (see Table 2).

While compacting waste in a baler doesn't reduce the amount of

**Table 2: The process of environmental waste management**

Analyse	Optimise	Implement
<b>Types and amounts of waste</b>	<b>Sort and compact the waste</b>	<b>Right types of balers</b>
<b>Internal logistics</b> <ul style="list-style-type: none"> <li>• Unpacking</li> <li>• Collection</li> <li>• Storage</li> <li>• Discarding</li> </ul>	<b>Reduce internal transport</b> <ul style="list-style-type: none"> <li>• Sort and compact at the source</li> <li>• Collect compacted waste</li> <li>• Reduce number of containers and bins</li> <li>• Reduce number of pick-ups</li> </ul>	<ul style="list-style-type: none"> <li>• Balers close to waste sources</li> <li>• Compact the waste at the source</li> <li>• Reduce number of containers and bins</li> <li>• Keeping workplace neat and tidy</li> </ul>
<b>Handling the compacted waste</b>	<b>Recycling</b> <ul style="list-style-type: none"> <li>• Best for the environment</li> <li>• Generates revenues</li> </ul>	Contact to local recyclers

# Environmentally-friendly balers

While Mil-tek supports environmental awareness and caring for the environment, it doesn't believe in environmental crusades. It also believes that caring for the environment should make good business sense, which is why it produces what it believes are the most environment-friendly balers on the market. A Mil-tek baler runs on air and contains no electrical components or oil, making it safe and easy to use and easy to clean. It is also a low energy consumer.

## A case study: Fonterra, New Zealand

Fonterra is the largest milk exporter and the sixth largest dairy company in the world. The company has introduced an eco-efficiency programme to significantly reduce the environmental impact of waste produced, through initiatives such as increased recycling of materials, redesign of operational systems and reusing non-recyclable materials. The goal is to create an organisational culture that promotes waste minimisation; such a culture will realise operational, social, economic and environmental benefits not only to Fonterra and its staff but also to the wider community.

The key element in this programme has been the formation of close partnerships between the company, the waste-management provider and the service provider.

Instead of the traditional view of waste minimisation and removal as an extra cost, the emphasis is now on reducing waste generated at the source and then recycling. This has also meant the introduction of a sorting operation to recover the vast amounts of cardboard, plastic and paper being generated in the waste stream. This new focus on sorting at the waste source has led to the establishment of an on-site sorting centre at the plant.

An important part of this eco-efficiency programme has been the introduction of more than 40 Mil-tek baling units in several different environments throughout Fonterra sites. Fonterra's National Eco-Efficiency Manager, Spring Humphreys, said about the choice of Mil-tek's baling solutions: "At Fonterra, we were looking for baling solutions that were high quality, safe and easy to use, and Mil-tek was able to deliver this. An added advantage for us was the dual ability to be run off our site compressed air supply as well as a portable compressor. This has many advantages over the hydraulic alternatives, which are noisy, messy and not particularly cost-effective."

On the importance of compacting and baling the waste at the source, Humphreys explains: "The Mil-tek balers are being used in several different environments throughout our sites, including critical hygiene areas. They enable waste to be confined and disposed of in an efficient manner, i.e. we do not have dirty smelly bins in areas requiring stringent hygiene control."

The balers are used predominantly to bale plastic, cardboard and paper, which Fonterra now enjoys a healthy revenue return on, rather than incurring costs by sending it to landfill. The other benefit, of course, is the recycling/reusing of valuable resources. According to Humphreys, the system of sorting and baling on-site has generated some outstanding results. Several Fonterra sites have reduced their landfill by 75 percent and saved over US\$100,000 in the process. Truly environmental results.

An additional benefit of the Mil-tek solutions was found to be "an improvement generally on-site house-keeping, which can be directly attributable to the level of acceptance by staff of the whole concept of baling the waste at source," Humphreys concludes.

waste, it does the next best thing by reducing the volume by up to 90 percent. More waste can then fit into fewer containers, which means less transport of containers is needed. It's not magic, just good environmental business.

## The key to success – internal logistics

A key element of environmental waste management is optimising internal logistics; more precisely by reducing internal transport. The less handling and transport of the waste the better. This means:



- **One stop jobbing** – ideally by unpacking raw materials as close to the working area as possible, therefore placing the waste straight into the baler.
- **Small is better** – several small balers placed strategically are better than one big central compactor, and also much cheaper.

The savings in labour costs are substantial, as are improvements in the working environment. As no waste is left lying around on the floor, everything is kept neat, tidy and, more importantly, safe.

## Waste or valuable resource?

In EU terminology, waste is waste no matter if it's burnt, buried or reused. Debates are ongoing between economists and environmentalists about which method of discarding waste is best for the environment.

Since the 1970s, the EU has adopted a so-called 'waste hierarchy' listing the recommended ways to discard waste. Reducing the amount of waste tops this hierarchy. Reuse is recommended over recycling, while the least recommended method is incineration and landfill.

This list is reflected in the newly amended EU directive on packaging waste. Recycling is generally accepted as the best solution from an environmental point of view, and many recyclers demand that the waste is sorted and compacted before they will accept it. Additionally, when sorted and compacted the waste will sell at a higher price, thus turning it into a valuable resource. ■

