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## Editorial

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### Waste management - what a load of rubbish!

EC Directive 75/442/EEC defines the term waste as "any substance or object .... which the holder discards or intends or is required to discard".

Waste is a by-product of our way of life. Its volume is growing all the time not to mention the problems to which it gives rise to - problems that are both specific and relatively complex. Today's average European produces about 1 kg of waste per day. This seemingly insignificant datum gives rise to some 4 billion tons of waste in Europe per year. We, Maltese, are responsible for over 900,000 tons!

Waste is not only a potential source of pollution - it can also constitute secondary raw material. Thus, we can also define waste as a misplaced resource, a resource in the wrong place at the wrong time. In fact, in the UK and in other countries, the authorities are commissioning the experimental 'mining' from closed landfills of discarded materials that a few years ago would have been considered without value.

In Malta in 1985 we produced approximately 239 kg of domestic waste per person per annum. In 1995 this rose to 346 kg and the trend is still towards an increase in this value. In the EU, in 1995, 420 kg of waste was generated per person per year.

Waste is a growing problem that we have repeatedly mismanaged to the point where it has reached problematic proportions - just have a look at Maghtab! Inconsistencies such as the failure to sustain the Household Waste Source Separation Programme, and the failure to identify sites for the building of further composting and sewage-treatment plants, have all contributed to our waste management problem. This current upward trend in waste must not only be halted but also reversed in terms of both volume and environmental hazard and damage.

The Maghtab Landfill has lately become a much reported upon and visited site, and rightly so. A succession of ministers and high officials from various departments have made solemn pronouncements about how the problem is going to be tackled. We even had the Prime Minister in the last Labbur administration landing on it by helicopter to emphasise government's commitment to tackle the problem effectively. Yet this foul smelling, smouldering mass continues to grow. Although waste management in most countries continues to be dominated by the cheapest available option - landfilling - in Malta we need to look for other options due to the limited available land mass. It is now increasingly recognised that waste prevention and minimisation are more environmentally desirable solutions for waste management. All waste streams would benefit from the application of cleaner

technologies and waste prevention measures.

The traditional waste hierarchy is dump and forget, dilute and disperse, treat and destroy. However, the emphasis today should be on waste minimisation at source.

A credible strategy includes a hierarchy of waste management options in which primary emphasis is laid on waste prevention, followed by promotion of recycling-and-reuse and then by optimisation of final disposal methods for waste which is not reused.

The principles of such a strategy could take the form of:

#### A) Prevention of waste production

- By technologies - clean technologies/lean production techniques
- By products - Eco-label and product criteria
- By avoidance - reuse
- By behavioural changes - producer and consumer

#### B) Recovery of the waste produced

- Segregation and sorting
- Separate collection
- Material recycling
- Energy recovery

#### C) Safe disposal

- Reduction of disposal
- Strict standards

This hierarchical strategy requires a concerted effort from both the domestic and the industrial worlds.

The domestic domain could be mobilised by the promotion of consumer information and education to influence consumption patterns. Support for private initiative in the segregation and recycling of waste streams is definitely an incentive but must be backed up by establishing and maintaining a reliable system of waste collection. A parallel waste data-collection system must be introduced to facilitate the formulation of adequate waste management legislation.

This reliable system must be extended to include the industrial domain. It would be wise to offer support for more widespread use of Eco-Audit schemes, as these act as a tool for industry to gauge its waste production and the effects it has on its economic viability and environmental impact.

In the long term, the gradual introduction of economic instruments to facilitate reuse, recycling and recovery schemes, will allow a transition to the higher rungs of the hierarchical ladder and, effectively, less waste production.

Although in Europe a variety of uncoordinated approaches are being used in an effort to tackle a waste generation problem that is running out of hand, in Malta it is not satisfactory for us to just follow *en suite* as we have now reached the Crisis point. The time for generating more reports by foreign consultants has been expended. Local expertise is available, even among members of the Malta Chamber of Scientists, who are able and willing to help the Authorities to prioritise the actions that need to be taken to lessen the impact that waste generation is having on our environment. Whether we like it or not, the challenge posed to our health and well-being by the ever-increasing mountain of waste needs to be faced today - not when we join the European Union - not in a year's time - but now!

P.S.: The problems mentioned above concern primarily solid wastes. There exists a whole range of liquid effluents and gaseous emissions that pose their own set of complex problems relating to waste management and environmental hazard.

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*This was an invited editorial. It reflects the views of the author and not necessarily those of the Malta Chamber of Scientists.*