

A CONTINENT OF WASTE

Ever since mankind has lived on the earth we have produced waste materials. Early societies, living mainly on shellfish from the seashore and by hunting, fishing and gathering, produced waste which is of great interest to today's archaeologists. Our Viking ancestors accumulated waste in the towns, where it no doubt provided a ready supply of fertiliser for nearby gardens. However all of this waste would have been bio-degradable, or in today's terms "organic".

It was not until the advent of our technological society, with its power to synthesise chemicals hitherto unknown in nature, that the wastes we produce have become serious problems. Increasing numbers of people, rising material standards of living, and the materials we need to sustain the consumer society also contribute to the problems.

The EC produces 2.2 billion tons of waste annually, of which between 20 and 30 million tons are hazardous. The United States, the largest producer of waste, has to dispose of an estimated 560 million tons of hazardous waste each year. In Ireland we produce only 58,000 tons of toxic waste every year, according to figures supplied by the Department of the Environment. More than half of this amount, however, are organic solvents which can be recycled and reused. Also, about 66% of all toxic waste is disposed of on-site by the producer.

This still leaves very large quantities of toxic and hazardous wastes which are exported for incineration or recycling or are dumped annually into Local Authority landfill sites. While it is difficult to find clear evidence of such dumping, the "disappearance" of significant quantities of toxic wastes and numerous observations of lorries entering or leaving tips made by local people indicate that a potentially problem exists.

Not all of these wastes are produced by large-scale manufacturing or chemical industry: hospitals, schools, laboratories and small businesses also produce wastes which can be quite toxic or harmful. For example, fluorescent tubes, mercury lamps, integrated circuit boards from discarded computers or radios, hospital operating theatre wastes and small quantities of chemicals from laboratories all combine to make our domestic landfill sites into potential causes of serious pollution.

The danger of pollution from such landfills is all the greater because of the long-standing practice by local auth-

orities of selecting the cheapest and most easily available land for dumping. In most cases, the local authorities had no option -- the necessary funding was not given to them for site selection, purchase or management. Frequently therefore the sites selected were former quarries, cutaway bog areas, old sandpits and low-lying land close to rivers or in marshy areas.

These sites rarely fulfilled the criteria for good landfill, i.e., sheltered and visually screened sites, relatively remote from housing, with a thick underlying layer of impermeable clay, and with plenty of the same clay for covering the refuse on a daily basis. As a consequence, many of our landfill sites today give rise to wind blown litter, pollution of groundwater by leachate, smoke from the burning of refuse, vermin, odours and other problems. Only in recent years have landfill sites been chosen and designed with care to minimise these problems, e.g., by Westmeath County Council near Athlone.

Litter is also a serious and growing environmental problem, and is the cause of many adverse comments expressed by visitors to Ireland. Nearly fifty tons of rubbish have to be removed from Dublin's streets every day, and an average of 600 litter bins have to be replaced yearly by Dublin Corporation because of vandalism. In rural areas, domestic rubbish is frequently dumped illegally in scenic locations.

Go to any part of the Wicklow Mountains, Connemara, Kerry or any county in Ireland and it will not be too long before you will find the usual accumulation of plastic bags, discarded refrigerators and washing machines and the ubiquitous abandoned car. It is amazing how far into wilderness areas some of these abandoned vehicles have penetrated -- to such an extent that one wonders how their former owners have ever succeeded in getting them that far (perhaps they were dropped by helicopter !). Seriously however, this is a major problem for local authorities, primarily because the dumped rubbish is so widespread and difficult to collect.

Another form of litter which is particularly difficult to remove, and which causes concern to visitors and residents is the inevitable layer of grease found on pavements and roadsides outside the ever-growing number of fast food take-aways throughout Ireland. Clearly, there is need for some legislation by which the owners of these premises should be encouraged or forced to remove this material.

The answer to all of these problems must lie in cutting down the quantities of waste we produce, especially hazardous wastes. There is now growing support within industry for a policy long advocated by environmental organisations -- waste elimination at source. Chemical firms which have adopted

this policy have found that they actually save money by changing their raw materials or production processes so that the wastes generate are either much reduced, eliminated entirely, or emerge as non-hazardous, biodegradable or recyclable materials.

For the large quantities of domestic and municipal wastes, reduction and recycling also provide the only effective solutions. But to make re-cycling effective, especially in Ireland, we need changes in legislation and monetary policy. By international standards, our present levels of recycling are low, but we have made some significant advances during the last few years. These improvements include a near tripling of the proportion of glass recycled (from around 7 % to near 20 %) and an increase to 10 % in aluminium and steel can recovery levels from near zero in 1988.

The proposed EC Directive on Packaging will require us to attain much higher levels of recycling, and new approaches are being considered by the Department of the Environment. For example, in Denmark all soft drink manufacturers market their products in a series of similarly sized and shaped glass bottles; this uniformity facilitates re-use of bottles by any producer. In Ireland, this should be easy to achieve, but we will also need fiscal incentives to encourage more recycling initiatives.

At present, disposal to landfill of solid wastes by local authorities costs IR£ 7-8 per tonne (excluding collection costs). Recycling costs around £ 200 per tonne gross, and probably around £ 100 per tonne when the value of the recovered materials are taken into account. Clearly, it is not economic to recycle in a free market where the costs of disposal do not fall on the manufacturer, distributor or user. Additional factors hindering the growth of recycling in Ireland include landfill costs per tonne much cheaper than those in mainland Europe, a more dispersed population, and a more open economy. Thus we are more likely to need stronger incentives and a more innovative approach if we are to meet the necessary recycling targets.

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