

Recycling

MOST OF US have an instinctive belief that recycling is a positive process. We associate it in our minds with all the old-fashioned virtues of thrift which were part of our grandparents' daily lives, but which we have now largely discarded, and feel guilty about.

Re-using empty jam jars to store screws in the garage, or rooting seedlings in old yoghurt pots on the kitchen window sill, not only make complete sense in terms of the environment and saving resources, but they also make us feel less wasteful.

In addition to making us feel better, there are two very sound reasons to recycle: to reduce the overall amount of resources we use, and to reduce the amount of wastes needing disposal.

Before deciding to collect materials that would otherwise have been discarded, it is necessary to make sure that those materials *can* be recycled, that someone will want to buy them when they have been recycled, and that doing so does not involve the use of more resources than it saves.

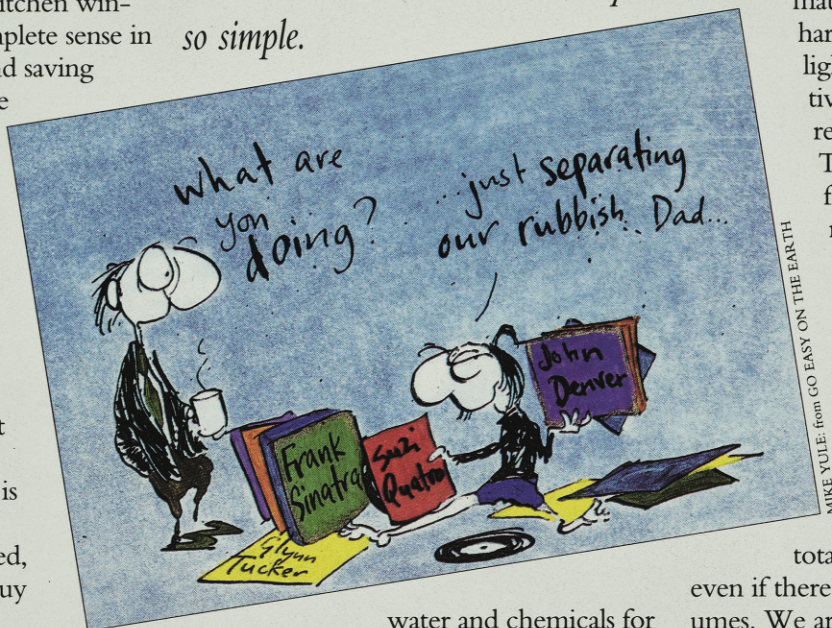
The last point is perhaps the most crucial, and certainly the most difficult to answer.

Quite often the terminology we use is wrong. We say we have "recycled" our glass or newspapers when what we have actually done is deposit them at collection points.

Recycling is really a lengthy circular process which has to include transporting those collected materials to a processing facility where they must be cleaned and sorted; the "new" raw material which is produced must then be manufactured into a new product which must comply with the same safety, health and hygiene regulations as a product made from virgin materials. The new products must then be distributed to wholesalers from where they are sent to retail outlets for sale. Only when the products have been purchased can we really say that the original item has been recycled.

These processes all involve energy, and the use of additional resources – maybe

We all feel that the recycling of rubbish is good thing. But why is more than one tonne of solid waste dumped each year for every New Zealander? As this article adapted from the British WARMER BULLETIN explains, the issues of waste collection and disposal, recycling and the environment are not always so simple.



water and chemicals for washing the collected glass, or for repulping the old newspapers, diesel fuel to drive the delivery trucks – even perhaps the metals needed to manufacture more trucks, and the rubber for their tyres. And those processes also all involve an environmental impact: exhaust fumes from the trucks, extra wear on road surfaces, waste water and chemical sludges from paper de-inking. Their energy use also has an environmental impact, as fossil-fuel-fired electricity production is one of the major sources of greenhouse gas emissions.

Once we have recognised that to recycle products also has an effect on our total use of materials and our potential to cause environmental damage, we then have to start to make the very difficult calculations to decide whether we should recycle or not. In many cases, the answer is yes. In some the answer will be no.

There is in addition a potential major conflict between the first "law" of waste management which seeks to reduce the amount of waste being created, with the demand for more recyclability. Manufacturers have already reduced the amount of

material they use, for economic rather than environmental reasons. Glass bottles now use only 40 percent of the glass used 30

years ago, and steel cans, too, are thinner. Plastic is one of the new materials designed to use less material in both manufacture and distribution energy. While making a bottle from less material is unquestionably a sound decision in both environmental and resource terms, it may mean that it is more likely to be broken in use and not reach a bottle bank. Making the bottle thicker-walled, and heavier, has the negative effect of requiring more fuel to transport it, as well as using more raw material, but may help to ensure that it is returned for recycling.

On the other hand, economies of material use can make products harder to recycle, because their light weight makes cost-effective collection and transport for reprocessing more difficult. This is the case with plastics for example. The plastics recycling problem is also compounded by their low cost and therefore the low value of the recycled material to a potential buyer.

We must not let our warm feeling about recycling cloud our judgment. If by recycling a product, we use more resources in

total, we should not recycle it, even if there is a reduction in waste volumes. We are not really running out of waste disposal sites, rather places where people will accept waste disposal sites.

Nor must we forget that household waste – on which most of the public concentration is focussed – makes up less than 40-50 percent of waste volumes overall in New Zealand. Industrial, agricultural, demolition and other sources make up the greatest proportion of wastes, but they are largely invisible to the general public. Recycling industrial and demolition waste could have much greater impact towards reducing waste disposal volumes.

Even assuming we were able to recover *all* the potentially valuable, recyclable materials in our household waste (an unlikely scenario), estimated to be 50 percent, we will still have the other 75-80 percent of our total waste which needs proper management.

Recycling is a part of the solution, and has an important contribution. But so do reducing our consumption in the first place, and secure, environmentally sound disposal methods, whether they be composting, anaerobic digestion, incineration or landfill. ♦