ECOLOGICAL AND ECONOMICAL NECESSITY OF WASTES RECYCLING

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Waste policy has become one of the most keenly contested areas of environmental politics. The prime mover has been a new awareness of the pollution caused by the disposal of waste. This has been, and still is, the entry point for communities and governments becoming involved in what has hitherto been an untouchable issue. But there is now also a recognition of the significance of waste for two other major environmental issues – climate change and resource depletion. For policy makers the question of what to do about the targets reached at the Kyoto summit on climate change is also a question of what to do about waste.

Throughout the twentieth century, waste was the terminus of industrial production. Some of the debris had value and was recycled. Most was deposited in former mines, gravel pits and quarries or, via incinerators, was «landfilled in the air».

Landfills and incinerators have highlighted the problems of the toxicity of waste and how it has traditionally been managed. In landfills the decomposition of waste leads to emissions from many of the 100,000 chemicals now in use in modern production, while the acidifying process of biological degradation leaches out dangerous substances. With incineration, a core problem has been with those materials known to be particularly toxic when burnt (such as chlorine-based products, batteries and brominated flame-retardants). In each case the dangers associated with particular hazardous materials are compounded when their disposal is part of a general waste stream. As these effects have been recognised, the response has been increased regulations and improved technology. Modern landfills are required to be lined, and to treat the leachate and burn the gases emitted from the sites. Incinerators in Europe have had to be upgraded with new flue gas treatment technologies, which have cut toxic emissions to air. In this, the policies to control pollution from waste are part of the wider regulatory history of pollution abatement which characterised environmental policy in the last quarter of the twentieth century.

From the perspective of pollution, the problem is a question of what waste is. From the perspective of resource productivity, it is a question of what waste could become. As a pollutant, waste demands controls. As an embodiment of accumulated energy and materials it invites an alternative.

The one is a constraint to an old way of doing things. The other opens up a path to the new. Any discussion of waste policy, of local waste plans and of their economic consequences must start from these three issues: pollution, climate change and resource depletion.

Among the efforts to slow the potential for climate change there must be measures to reduce emissions of carbon dioxide from energy use, reduce methane emissions and change forestry practices.

The policy question is how to reduce the intensity of resource use faster than the countervailing pressure of the growth of demand. Part of the answer lies in the way primary production is carried out (through the reduction of artificial fertilisers and pesticides in agriculture, for example, or clear cut logging); part in the dematerialisation of production and in changes in consumption. But there is also the question of the reduction and reuse of waste. At any one time, waste accounts for the majority of material flows. Until recently it was treated as a leftover from useful production. But it is clear that any strategy to reduce resource pressures has to address the volume of waste and what is done with it.

It has to be either reduced or 'revalorised' through recycling. Waste – both in its process of generation and its treatment – thus takes a central place in strategies to reduce the material footprint of industrialised economies. Every aluminium can recycled not only means that the need for new aluminium is reduced, but that the waste (and energy) associated with bauxite mining, as well as alumina and aluminium production, is also avoided. These are referred to as the upstream benefits of recycling. They represent avoided materials production, avoided wastes and avoided energy.

Improving materials productivity through recycling conserves materials as well as the energy embodied in them. The Dutch Government forecasts that half of the energy efficiency gains it will make up to 2010 will be the result of improved materials productivity. The researchers estimate that materials reduction in Western Europe – following increases in penalties for carbon use – would contribute emission reductions of 800 million tonnes of CO2 equivalent (compared to the current European emission level of 5.1 billion tonnes).

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