

Media Briefing



AN ANTI-GREEN MYTH INCINERATION BEATS RECYCLING

A handful of scientists in Britain and Sweden have recently suggested that incineration is better for the environment than recycling. Friends of the Earth says this is not true, and we are supported in this view by most environmental scientists. This issue was recently examined by the Government's Strategy Unit. Following a long and detailed study it concluded that the best way to deal with our waste was to dramatically improve our recycling rates. Here are some of the reasons why.

Energy use

Although 'energy from waste' incinerators produce energy, this is only a tiny fraction of the energy needed to make products from raw materials. To manufacture newsprint takes over two and a half times the amount of energy generated by burning it. Manufacturing glass takes 30 times the energy generated by burning it, and making aluminium 350 times the amount of energy generated when it is burnt [3].

Recycling also cuts out the energy consumption associated with the extraction and initial processing of raw materials. In addition, the recycling process itself is often more energy efficient than production from raw materials. In ten out of eleven studies on paper, recycling has been found to result in lower total energy use than incineration [5]. A study by the British Plastics Federation found that in energy terms recycling of plastic cups is preferable to incineration [6].

Some even claim that the energy produced by incinerators is renewable. The Government has decided that it is not: mass-burn incineration is not eligible for subsidy under the Renewables Obligation.

Greenhouse gas emissions

According to the US Environmental Protection Agency, there is "*little to choose*" between landfill and incineration in terms of greenhouse gas emissions [1]. A recent study for the Community Recycling Network found that landfilling and incineration of untreated waste were the worst ways of dealing with residual waste in terms of climate change [8].

In particular, burning plastic (although it has a high energy content) is equivalent to burning fossil fuels. Landfilling plastic – and some kinds of paper – is in fact better than burning, because it locks the carbon into the ground instead of releasing it into the atmosphere [1]. In fact, incineration produces only slightly less carbon dioxide per kilowatt-hour of electricity than gas-fired power stations [7].

Recycling is a better option in terms of greenhouse gas emissions than incineration (even with energy recovery). A recent study for the European Commission found that separating waste at source followed by recycling (for paper, metals, textiles and plastics) and composting or anaerobic digestion (for putrescible wastes) gives the lowest net flux of greenhouse gases, compared with other options for the treatment of bulk

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municipal waste [4]. Recycling of paper helps to protect habitats and reduces greenhouse gas emissions. It is supported by the Intergovernmental Panel on Climate Change, which says "*paper recycling is another strategy with the potential to reduce harvest levels [of timber] and promote greater carbon conservation.*" [2]

Health impacts

Recent EU legislation (the Waste Incineration Directive, implemented by the UK in December 2002) tightened up incinerator emissions. But there are uncertainties about the exact effects of air pollutants and no formal air quality standards for some of the chemicals emitted by incinerators. It makes sense to take a precautionary approach. Given the extreme toxicity of dioxins and the recognised impacts of particulates, any extra burden would be unacceptable. Incineration can have a specific local health impact – for example if nitrogen oxide levels are already high from road traffic, incinerator emissions could push them even higher.

Dioxins are extremely toxic, with a wide range of possible effects. They are also very long-lived and can be deposited (including on food sources) over a very wide geographic area. A 'tolerable daily intake' standard (including dioxins ingested with food) has been proposed. The standard is marginally lower than the current intake of the average citizen – thus we are already exposed to more dioxin than desirable. The unborn and infants are the most susceptible groups. Further sources of dioxins, including new incinerators, should not be encouraged.

Preventing waste reduction

Incinerating waste can hamper waste reduction and recycling. Because building an incinerator has such high capital costs, incinerator operators typically require contracts with local authorities to supply them with a minimum amount of waste to burn over a long time – 25 to 30 years. In some cases, if the local authority does not supply the full amount of waste required it has to pay the incinerator operator compensation. Guaranteed return on investment is a logical from the incinerator operators' point of view, but once incineration becomes an area's mode of waste management, the incentive on the local authority will be to ensure enough waste is produced, not to ensure that it's reduced.

In 1995, Cleveland County Council signed a contract with a waste company to supply at least 180,000 tonnes for incineration and 80,000 tonnes for landfill each year. There was a shortfall of 12,000 tonnes in the first year of the contract, and the authorities incurred penalties of £147,000. The Associate Director of Environmental Services at Stockton Borough Council called this "waste maximisation".

Municipal Waste Recycling Bill

The Municipal Waste Recycling Bill has been introduced to Parliament by Joan Ruddock MP. If it becomes law it will oblige the Government to ensure that 50 per cent of our domestic waste is recycled by 2010. On 14 March, MPs overwhelmingly supported its Second Reading. It will now be looked at by a Committee of MPs.

For more information on the Recycling Bill and Friends of the Earth's waste campaign see www.foe.co.uk

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[3] Sound Resource Management Group Inc (1992) Recycling Versus Incineration. Canada, Pollution Probe Ontario; and Morris, J (1996) Recycling v incineration: an energy conservation analysis. Journal of Hazardous Materials 47, 277-293.
[4] AEA Technology (2001) Waste Management Options and Climate Change: Final Report.
[5] Leach et al (1998) Critique of 'A systems approach to materials flow in Sustainable Cities; a case study of paper', Friends of the Earth; International Institute for Environment and Development (1996) Towards a Sustainable Paper Cycle.
[6] ENDS Report (1996). Two life cycle analysis studies were carried out for the British Plastics Federation and the plastic bottle reprocessor Reprise. December, 1996.
[7] Energy Technology Support Unit (1999) Supporting analysis from New and Renewable Energy Enquiries Bureau for the DTI's New and Renewable Energy: Prospects for the 21st century.
[8] Community Recycling Network (2002) Maximising Recycling Rates, Tackling Residuals.

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