

## SCIENTIFIC AFFAIRS

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Dear Sir or Madam,

<p style="text-align: center;"><b>DETR CONSULTATION PAPER : 'A WAY WITH WASTE' – a draft waste strategy for England and Wales</b></p>
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The following submission has been prepared under the aegis of the Environment, Health and Safety Committee of the Royal Society of Chemistry.

The Society's Royal Charter obliges it to serve the public interest by acting in an independent advisory capacity and we are happy for this submission to be put into the public domain.

The Society welcomes the opportunity to comment on the DETR Consultation Paper 'A Way with Waste'. Most of these comments refer to Part 1 of the report, to which the section numbers apply unless otherwise indicated.

### GENERAL COMMENTS

This document is a considerable improvement on previous consultation papers in this area and it is to be welcomed that many of the problems are now being recognised. However, although the document represents a move in the right direction, the logic appears to have been distorted by political considerations and the cost implications are largely ignored. In addition, many of the proposed solutions are simplistic and may be based on unscientific appraisals.

Overall the document is very good at setting targets, indeed it is liberally sprinkled with them. However targets do not themselves constitute a strategy. The document purports, in Chapter 4, to describe an action plan to achieve the visionary targets. However, this is less a plan of action than a reiteration of what has already been done, often with relatively little effect. In addition the chapter contains a wide range of exhortation to other actors to 'do something'. Where are the action plans, the detailed description of policies that will be implemented?

This looks like an exercise in which a rudimentary analysis that 'something must be done' has led to the establishment of arbitrary targets with little or no rational basis and with little thinking as to how these targets might be achieved.

The government has set ambitious targets to reduce the amount of waste disposal. However, its proposed waste strategy stands little chance of delivering the targets suggested for the following reasons:

- Waste re-use - is likely to have only a minor impact
- Waste recycling - its extent and effectiveness will always be controlled by market forces, either by price, availability or quality requirements. In a democratic society we cannot make people use recycled products.
- Energy from waste - will face major public opposition that should not be underestimated, even if opposition is eventually overcome the delays involved will have a major impact on the achievement of the target.
- Waste incineration - has the same problems as energy from waste but exacerbated by a lack of benefits.

The only method that might deliver the targets, and even then the time scales are probably inappropriate, is by waste reduction. It is unfortunate that in Part II para. 4.4 this aspect was dismissed for end of life products, but this misses the most important point. Products may need to be completely re-thought to avoid end of life waste production, not just in terms of design for disassembly and recycling, but more fundamentally in terms of full cost accounting procedures, life cycle assessments, service versus sales activities, etc.

## **Recycling**

The promotion of recycling needs to be undertaken with care, assuming that the objective is sustainable development and not just waste reduction. Life Cycle Assessment [LCA], although still in its infancy is a necessary discipline to decide whether particular recycling schemes actually provide environmental benefit. The Government could take action by stimulating additional research in this area.

## **Incineration**

The strategy relies on the construction of a large number (>100) of waste incinerators over the next 10 years. However, public opinion has turned against incineration over the last 10 years to the extent that such an expansion of capacity is likely to be politically impossible. There is no evidence in the documents that the Government either has an alternative strategy or a plan/process to reassure the public that incineration properly undertaken is a safe disposal option.

## **Waste Disposal**

It should be borne in mind that 'natural' systems can cope with controlled amounts of waste material. From a scientific point of view it is untrue to say that landfill only has environmental costs [Part 2, p145]. Landfill can have the benefits of land reclamation after mineral extraction and opportunity cost-benefits in that it can be lower in net energy costs than other options.

The document seems to accept that biodegradation in landfill is bad whereas biodegradation in composting is good. This appears to ignore the fact that both produce equal amounts of greenhouse gases. In fact it is arguable that the slower release from landfill may be the more desirable as it better matches natural absorption mechanisms.

More generally it should also be emphasised that any treatment method will only transfer a problem from one part of the environment to another. This means that as far as disposal is concerned we should be looking at the ability of various parts of the environment to deal with extra fluxes of material, from whatever source they arise. It is not sensible to exclude one environmental segment completely. This is likely to lead to an overloading of the remaining segments.

## DETAILED COMMENTS

1.11 suggests that “we need to do things differently”. Most thinking around sustainable development indicates that major paradigm shifts are necessary leading towards this goal. This document is remarkably short on new thinking.

1.12 states waste should be recognised as a potential resource. It would be better if waste was seen as an inefficient (and costly) use of raw materials.

Use of recycled materials should not be seen as a panacea for a number of reasons. First recycling needs to be subjected to LCA to ensure that more harm than good does not ensue. Second, recycled materials will only be used where they are fit for purpose, there is little point in using a low quality recyclate if this leads to poor performance and subsequent early replacement and hence more waste. Third, insufficient attention is being given to the potential hazards of using recyclates. For example in the box on p106 of Part II, reference is made to the incorporation of sewage sludge into blocks and bricks for construction purposes. Apart from the potential aesthetic sales problem, this might lead to a real or perceived risk to future residents from contaminants that would inevitably be found in the sludge. Similarly, the pharmaceutical industry uses virgin packaging in order to ensure product integrity (Part II P155 para. 19)

2.17 The packaging regulations are a bureaucratic nightmare which has so far had relatively little impact on the amounts of waste being recycled.

3.4 This recommends setting a target for average waste produced per person per year in household waste. It is difficult to see what this would achieve and it would involve substantial efforts to monitor effectively. Individual households actually have very little control over their waste disposal other than by altering their consumption habits. For example it may be very difficult to obtain products that use less unnecessary packaging. Waste disposal agencies can have a substantial impact by providing households with the means to segregate waste, but this can add to transport needs in terms of separate collection.

3.9 We are not aware of any evidence that the landfill tax has resulted in significantly less waste being sent to landfill in the first two years of its operation. It has, however, increased fly tipping throughout the length and breadth of the UK and has increased industry costs. The idea that a 15% reduction on a 1998 base year will result from this instrument is therefore not well founded.

3.18 Why are only kerbside collections being considered? For example for small scale products such as batteries a ‘bring system’ encouraged by a refundable deposit scheme would be more appropriate.

3.19 The medium term construction of 100 - 200 incinerators in the current NIMBY environment is likely to be extremely difficult. The bland reassurances contained in Part II Chapter 3 will not solve the problem that people in general are unwilling to have incinerators built in their vicinity. There must be a government strategy to encourage people to accept waste facilities. This might involve informing, educating, and or compensating them, or use of other suitable measures.

## Conclusion

DETR must accept that fundamental changes in resource use are likely to be required to reach the target that is thought to be desirable. Mere tinkering around the edges of the waste hierarchy, although desirable will be insufficient.

It is essential that the government begins to implement 'joined up thinking' on these issues. Its principal role must be to ensure that all the behaviour drivers operate in the right direction and it must seek to remove or reverse perverse incentives. For example, utility companies such as electricity, gas and water are all price regulated by the government, yet they still make all their profits by selling units of output. Thus they have no incentive whatsoever to encourage efficient use of resources, this simply leads to lower profits. Restructuring the profit profile so that they made profit from resource efficiency would dramatically change the use of energy and water since both supplier and user would benefit.

The biggest and fastest waste reductions will come from gearing the power of the market to the process by finding the correct driver to stimulate the change

Yours sincerely

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Chairman, Environment, Health and Safety Committee of the Royal Society of Chemistry

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