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# Thinking outside the bin - towards a new strategy for waste

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**Sustainability First**

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## I. Introduction and key conclusions

1.This paper seeks to provide a commentary on the issues clearly set out in the Government's consultation document reviewing the waste strategy. It starts from the proposition that waste management is a crucial but under recognised part of environmental protection and combating climate change. The paper describes the context and issues, identifies in particular a lack of strategic direction, and proposes some possible ways forward- including institutional changes- for further discussion and debate among interested parties. It therefore broadly endorses the Government's thinking, but in some areas suggests taking that thinking further. The paper's key conclusions are :

- There is a need to better focus on the major waste streams and sectors as a whole, identifying relevant risks, and not just household waste.

- The Government needs to highlight the link between climate change and waste and educate the public about this. It should set targets and incentives for minimisation and re-use rather than exclusively for recycling. A strong government backed sustainable consumption and production strategy is now essential.

- There is a need to develop a set of measures that would produce a market climate that encourages investment.

- The waste industry needs strategic direction both in policy terms and institutionally. There is a case for a new National Sustainable Waste Board- on a statutory basis- with functions including investment facilitation, correction of market failures, and promotion of sustainability.

- There is a need to encourage market transformation so that waste becomes a resource.

## II. Context – the industry and its regulatory system

2. The UK produces some 400m tons of waste a year. Of this around 33% is construction and demolition waste, much of it recycled. Only 9% is household waste, though, in large part as a result of targets in the EU Landfill Directive, this stream receives disproportionate political attention (DEFRA, Key facts about Waste and Recycling, December 2005). For every kilogram of waste generated by households, 13.5 kilograms of waste from commercial, industrial, construction, agricultural, mineral, and other sources is also created, together with a further 6.5 kilograms of fuels, and water use.

3. The UK consumes on average over 10 tonnes of raw material for every one tonne of output purchased at point of sale by private individuals. The UK Food & Drink processing industry consumes annually 56MT of ingredients and wastes 5.8MT plus 8.6MT of water.[1]

4. Waste is a £6 billion industry in a £1 trillion economy. The Environmental Protection Expenditure by Industry Survey 2003 states that industry spent a total of £3.4 billion on environmental protection measures in that year. The biggest proportion of this – 46% or £1.56bn- was spent on solid waste. The next biggest cost to industry was on wastewater, which took up 27% of environmental protection spending.[2]

5. This is a highly regulated industry. Its historical roots lie in local government, as a collector, disposer and regulator of waste. This has changed with a much stronger role for the private sector and with regulation in the hands of the Environment Agency and local authorities. The Government's Waste Strategy document contains policy largely developed on a European basis- in particular the diversion targets contained in the Landfill Directive. The consultation document just published continues to lay great stress on those diversion targets.

6. The transport of waste may have a greater environmental impact than any other aspect of waste management. Proximity, a central plank of environmental strategies, may be a key factor, provided that all relevant costs are taken into account.

## III. The link with climate change

7. Climate change and global warming are now mainstream and urgent issues. To reduce carbon production will require more efficient resource use. Waste and resource management strategies must therefore be an integral part of sustainability and climate change strategies. Yet waste tends to be of a lower profile in the environment debate as compared to countryside, energy, carbon emissions, or global warming. The relationship between waste management and these policy areas must be clear so that people, services and companies can see that they are supporting the overarching strategies by managing resources and waste better.

8. Few waste disposal routes are free of climate change effects. Landfill produces methane, although more than 90% can be captured for energy recovery in modern landfills. Incineration produces CO2 and many pollutants, including dioxins (although virtually no dioxins are released into the atmosphere). Recycling requires energy inputs. But it is generally better not to produce the waste in the first place - to design waste out at

1 [1] United Kingdom Food & Drink Processing Mass Balance, Biffa, p1-2.
[2] Letsrecycle.com, UK industry spends £1.5bn to protect environment from waste, 08.07.05

the production stage. Recycling will not be appropriate for all waste. New methods of disposal are also needed.

9. More people and organisations are actively engaged in recycling and waste minimisation as an everyday activity than in any other consciously sustainable activity. As a result of local authorities introducing waste collection systems, recycling has become personal, immediate and easy. It is a life style choice. Other potentially sustainable but less popular activities such as eating less energy-intense food, less flying, less driving and slower driving, using public transport, using less energy, or generating less carbon-emitting energy are more challenging and are not being adopted in the same way. However the contribution that they could make is potentially much more substantial.

10. Further work is needed to analyse the climate change implications of waste management options. For example current targets focus on weight and mean that a lot of waste paper is recycled although it is a renewable resource. Glass is returned to sand, losing the energy in the glass container, whilst highly valuable plastic is recycled although it is a non-renewable resource. The Severn Trent plc Carbon Report is a good example of the kind of analytical work needed.

11. The argument that many of these new and difficult policy goals, such as sustainable development and sustainable production and consumption, are not being implemented in a truly "joined up" manner is now largely accepted by the UK government. In Chapter Five of "Securing the Future UK Government Sustainable Development Strategy" the government acknowledges that it needs to work to join up its own policies, strategies and targets.[3] The waste strategy consultation document contains numerous proposals aimed at providing a more joined up approach in the relevant policy areas.

12. The public needs to understand the links between waste and climate change, and the ways in which its behaviour can have a substantial and beneficial impact. We do not think the Government is putting sufficient stress on this aspect. People need to be incentivised to minimise the waste they produce. For example Rotterdam issues a smart card to reward sustainable citizens with free access to products and public facilities.[4] More initiatives of this kind could be undertaken by public authorities in the UK. An example is the idea of Domestic Tradable Quotas for carbon emissions.

[3] The UK Government Sustainable Development Strategy, HMSO 2005

[4] Carrots not Sticks, Maxine Holdsworth & David Boyle, NEF & NCC, p3.

## IV. The waste industry

13. The private sector waste industry is small, yet it accounts for a substantial part of climate change drivers, and is a key element of the solution to waste.

14. Government focuses on the diversion of municipal waste from landfill, packaging recovery and producer responsibility as required by EU Directives. But this is not a comprehensive or coherent overall policy approach and so the industry is not given clear strategic goals. The consultation document rightly recognises this.

15. Common and consistent regulatory standards are critical for new processes, for creating certainty and a level playing field enabling industries to invest. Investing in new facilities to treat waste that currently does not have to be recycled is risky. There are no common approaches to the control frameworks and traded permit regimes are incoherent from one product chain to the next. Companies, with their shareholders' interests in mind, properly wait for the Government to finalise standards before investing. For example they face further delay after Government has again deferred implementation of the EU WEEE Directive.[5] The Government needs to give greater leadership in Europe to align economic and environmental regulation.

16.There are said to be just seven companies in the waste industry capable of managing modern large local authority waste management contracts and just three of them capable of both collection and disposal. There are few new entrants to the sector and local authorities sometimes fail to attract healthy competition. Northumberland County Council is considering abandoning the PFI approach for its new waste management contract, following the withdrawal of two of three companies in the running.[6]

17. While some have suggested that the waste industry has insufficient capacity or direction for modern waste management, the balance of opinion seems to be that the problem is on the demand rather than the supply side. The industry argues that there is no shortage of capital strength in the waste sector and certainly venture capitalists seem willing to invest.. But there are real obstacles in the way of efficient commercial operation in this market. The implementation of waste investment projects is sometimes too slow to be economically viable and the land use planning system can often veto or delay projects that are fully in line with Government and EU waste policy. Regulations can change unpredictably and while the landfill tax stays low, despite the £3 pa escalator, new technology and recycling projects will not compete with landfill on a substantial scale until 2008/09. Where local authority contracts are in principle bankable they can suffer from the risks of planning, technology and regulation change being borne by the contractor so that they are less bankable. These factors give the waste industry an unnecessarily high-risk profile for investors, and risk transfer is not properly understood. Returns are not

[5] Business as Usual, John Vidal, Guardian, 17 August 2005, p10.
[6] Letsrecycle.com, Northumberland considers abandoning PFI process for waste, 20.07.05

good enough to overcome the fact that the costs of regulation change or of mistakes can be high.

18. The problem appears to lie in the lack of joined-up Government at central and local level and the lack of a clear, consistent and well-directed policy and regulatory framework for both pollution standards and cost/ price mechanisms within which major investment can take place. The Government has rightly recognised that stronger machinery is needed to achieve focused action and change culture and attitudes.

## V. The investment conundrum

19. It is clear that modernising the waste management process is essential in the resource minimisation and climate change context, but that the policy framework for encouraging and facilitating the necessary investment programme is not in place. Why is this?

20. Under the EU Landfill Directive the UK must reduce biodegradable municipal waste landfilled to 75% of that produced in 1995, to 50% by 2013 and to 35 % by 2020. To achieve this will require a substantial investment in new capacity and there are various estimates of the actual amount of capacity required and its likely costs.

- One new 40K tonnes capacity facility, every week for the next 40 years (Parliamentary Environmental Audit Committee).
- 200 new facilities to meet the Directive (Environment Agency - EA).
- The cost of building the facilities has been estimated at £6-7Bn over 10 years (Ernst & Young 2001) and £1Bn pa (Policy Studies Institute 2003).

21. There must be a question over whether there are enough suitable and affordable sites available and whether the sector has the capacity to create and run these facilities in this timescale. There is no current coherent way of funding such an investment programme, through trading or otherwise, nor of locating the land and gaining the necessary planning approvals within a commercially acceptable timescale, never mind within the Directive's timetable. In relation to municipal waste, Local Authorities have a variety of funding streams: council tax, PFI credits, DEFRA grants, EPCS grant, charging, market income. But they are not adequate for the task individually, and not brought together into a coherent integrated programme. There is a lack of appetite from the banks and investment institutions to invest in the waste industry because such investment cannot be justified in terms of risk.

22. Without a positive and effective minimisation strategy, and stronger well directed policy and regulatory processes, the diversion targets are unlikely to be met. The Government's document recognises this, certainly in the longer term.

23. A funding mechanism needs to be established for a defined multi-year investment programme, which enables facilities to be commissioned not just for municipal waste but also for commercial & industrial, and construction waste. The Government, in considering fiscal measures in this area, needs to have an ongoing programme of financial support for the building and commissioning of new sustainable waste facilities. The Government may also need to drive investment by introducing statutory recycling, re-use or minimisation targets on commercial and industrial companies. The consultation document certainly envisages this. Currently economics push companies to seek the cheapest (in the short term) waste management option rather than the most sustainable long term option as well as passing the costs onto local authorities. This undermines the waste industry's ability to invest in new sustainable facilities with adequate financing. This is in part why many Waste Disposal Authorities do not accept responsibility for commercial and industrial waste within their County waste strategies.

## VI. Regulation, strategic direction and the role of government

24. Regulation can be a positive force for industry and a driver of higher standards provided it is efficient and correctly incentivises the private sector. Society wishes to encourage sustainable treatment of waste – minimisation, reuse, recycling & disposal - but requires that those treatments are economic and consumer friendly. Commerce and industry will only treat its waste sustainably if it accepts that to do so is in its shareholders interest - that is, profitable low risk short term investment or where longer term financial commitment is possible on a whole life basis because of a stable longer term policy environment.

25. Government can regulate and/or act through market based instruments to change the price signals in the market to encourage the desired behaviour. The landfill tax is an example of positive moves in this direction. But without stronger regulatory signals - e.g. a presumption in favour of planning permissions for recycling centres and disposal; more user friendly and nationally consistent collection arrangements - the private sector is unlikely to invest what is needed. EU objectives should be implemented in a fully costed whole life sense including externalities. At present they lead to prioritising heavy materials over those that make most sustainable sense to recycle.

26. Government must also improve the strategic direction which it gives to the waste management process and industry, as past of its wider energy and agricultural strategies.

27. It is appropriate here to examine the various parts which Government plays in relation to any industry sector. Government has 3 roles: sponsor, regulator and procurer. These are muddled in respect of waste. Sponsorship of the waste industry and producer

responsibility schemes are with DTI but the main policy rests with DEFRA. Regulation is partly with Europe, partly with DEFRA, and partly with the EA and local authorities. Procurement and waste management rests with individual Departments which understandably have no detailed expertise in this area and cannot be "intelligent clients". Procurement of recycled products needs to be an integral part of sustainability plans for all Government Departments with a view to giving leadership and so creating markets through market transformation incentives. Finally the ODPM has an overview of relevant land use planning issues.

28. The EA and local authorities share responsibility for regulating different parts of the industry. Regional agencies are also involved in spatial development and have a major bearing on site availability for waste disposal facilities. However, none of these bodies has any real and direct role in the economic regulation of the industry (which is largely left to pure market forces) and nor do they have a remit to produce a long term national strategy, backed by Government action and fiscal/ tax instruments, which could establish a benign investment climate. Efforts at data capture and collection of statistics in the past has been sporadic and poorly aimed. Imprecise definitions of waste and weak data and statistics undermine regulation and planning for industry, commerce and waste management. More work is desperately needed in this area. The consultation document is too optimistic about progress.

29. Transposing EU directives into national law offers the opportunity to reconfigure the investment into the waste industry and it is now apparent that longer term objectives are beginning to emerge, across Europe, and that international investors will invest longer term in the UK if the investment climate is right. However there are still regulatory barriers. For example there is little intellectual consistency in the application of rules. Hazardous waste regulations have increased costs substantially for industry and commerce yet the rules ignore an equivalent tonnage of materials entering non hazardous sites as "domestic/ municipal" waste!

30. Waste is a highly regulated function, arising from its potentially hazardous properties. However this may well be overdone for many largely inert and therefore non hazardous waste streams. There is a question whether the system is over insuring against risk in seeking to provide society with greater safety against a perceived threat. The industry encounters problems arising from over zealous or confused application of definitional rules. There is a serious job here for the Better Regulation Task Force to tackle the Government's wish to reduce the burden of regulation on business. The consultation document's acceptance of this problem is welcome. There is now a need to make specific improvements and simplifications.

31. Both the waste industry and Government recognise that recycling is not possible on a large scale unless the loop is closed between collecting waste materials and buying products made from them. Waste management must be designed into the manufacturing

process; cars provide a good example with a high degree of recyclability built in. Unless the waste issue is fully incorporated into production in an integrated way waste will always be treated as a residual rather than as a key resource.

## VII. A possible way forward

32. The above analysis suggests that structural changes are needed both in policy and in the institutional framework to make waste management fully sustainable and a contributor to carbon reduction. The consultation document makes clear that the Government has reached the same conclusion. The question is how best to focus strategic policy formation and action.

### Waste minimisation

33. To begin with, the focus must be on ALL waste and particularly commercial and industrial waste, not just the minority household element, important though this is politically. The consultation document makes a welcome step in this direction by proposing targets for landfill of commercial and industrial waste and sets higher targets for recycling household waste. The consultation document suggests that it is too difficult to set targets for waste minimisation or prevention but notes that a number of other countries have done so. The Government should be more ambitious and set targets and incentives for minimisation and re-use rather than exclusively for recycling. This is crucial since recycling is not always the best option. Successful sustainable practice should be encouraged by persuasion, publicity campaigns and social/ economic incentives. And re-processing materials should be seen as a manufacturing activity requiring the same encouragement as other manufacturing sectors. A strong government backed sustainable consumption and production strategy is now essential.

### Contractual and investment considerations

34. Next, procurement of waste management needs to be examined. The drift towards bigger local authority waste contracts, encouraged by DEFRA, should be reviewed to discover whether different packaging will bring more capacity into the waste industry and provide more competition and choice for waste authorities. This needs to be developed in the context of regional governance systems.

35. The costs of tendering are too expensive. Tendering should be made shorter and less complex for both parties. Simplification of procurement could produce greater flexibility for the contracting parties to adapt to local circumstances and to change requirements over the period of the contract. Agreed standards on waste treatment methods would help to do this. Such changes would help optimise the costs of sustainable waste

management and make it more likely that companies would bid for more contracts and that new companies would come into this market.

36. Introducing greater competition might help optimise the costs of sustainable waste management which are currently threatening to exceed local authorities' ability to afford it. Costs should not be reduced to the detriment of standards. There is a need for a value for money approach which does not necessarily sell to the lowest bidder.

37. In view of the barriers and the need to reduce investment risk, it might be timely for local authorities to identify sites that would merit planning permission long before the beginning of the process to develop, build and operate waste facilities. This is a political risk and transferring it to the private sector is both expensive and pointless. Advance identification would help provide the necessary long term supply of sites for potential investors.

**Fiscal and regulatory issues**

38. Alternatively Government should incentivise commerce and industry by significantly increasing the cost of landfill by higher taxation which would make the cost of alternative waste management more competitive. In this case it would need to meet the increased cost for local authorities through higher funding or local taxation. Failure to do this would negate the benefits from the higher rate of tax, a factor which was recognised in the Chancellor's pre Budget statement.

39. Procurement of recycled products needs promotion. The consultation document acknowledges that the Government can lead by example. To do so it should set aspirational rather than minimal standards of sustainability and waste minimisation and ensure that all government departments follow them. It is a large enough player to influence the industry's performance and methods and to encourage the introduction of innovative production technologies. The Government should also consider tax incentives for manufacturers of products with recycled content. The Treasury should be asked to agree that in whole life costing terms a sustainable waste management policy represents value for money procurement. The recent response to the "Greening Government" enquiry was instructive.

40. It would be consonant with the Government's better regulation stance to seek to simplify the waste control system, both domestic and international. It is welcome that the consultation document contains this thought. The increase in recycling is introducing large amounts of materials for recycling into world markets. The waste trading regulations need modernising to recognise that collected materials are a resource not a waste matter. Freeing up international trade in this area could also, if carefully managed, benefit the developing world.

**Institutional issues**

41. The above proposals would provide much clearer financial and regulatory signals to the industry and local authorities. The remaining issue is how best to provide strategic direction from the centre. We note the Government's proposal of a Sustainable Waste Programme Board. But this suggestion is no more than an interdepartmental committee with some external advisers and no powers. It is an inadequate response to the problem.

42. As noted above, the current situation within Government is deeply fragmented. Placing the sponsorship of the industry in DTI and its regulation with DEFRA and its agencies and local authorities is bound to introduce confusing discontinuities at the interfaces- not to mention ODPM on planning. The Government machinery needs to ensure that a clear economic and fiscal market and regulatory framework is provided for policy and the industry to work within- and that the regulatory operation is efficient and proportionate. Many in the industry might feel this is not currently the case.

43. There needs to be a comprehensive and holistic regulatory system for waste which ensures that spatial planning and investment routes are operating effectively and together in support of sustainable waste management and that best practice is identified and promoted. Thousands of sites for waste management need to be safeguarded and new ones found, planning permissions considered, regulations applied, waste management capacity built into new residential and commercial developments and financial resources found (perhaps through PFI) to build and commission facilities. These are highly detailed and intensive but critically important tasks. They need to be done soon. They are probably best done regionally alongside the regional planning of waste management. The likely optimum size of many facilities is regional alongside a network of smaller local facilities. Some small commissioning bodies need help with developing them. And none of this can happen within the present fragmented system- or only with great difficulty and inefficiency. It is essential that the path is made easy for investment proposals that are in line with sustainable waste policy.

44. The energy and water industry parallels are instructive. Based on their nationalised industry histories these industries developed a strong tradition of centralised resource and strategic planning functions reflecting the national importance of the services they provided. While privatisation has weakened these functions they have not disappeared: observe the functions of OFWAT, the Office of the Rail Regulator and OFGEM which were created to provide a fair market framework within which natural monopolies could operate profitably while giving their consumers a fair deal. No similar body exists in

respect of waste, and without monopolistic aspects an analogous economic regulator- an OFWASTE- would not be precisely appropriate. But there is a case for creating a body which will take responsibility for the sustainable waste management agenda, tasked with advising Government and other stakeholders on how the market place needs to be adjusted to provide optimum investment solutions- that is, to help provide a market place and climate friendly to investment..

45. We therefore envisage the setting up of a statutory National Sustainable Waste Board (NSWB). It would be a body providing science, research and economics based advice to Government with an underlying theme of promoting sustainable best practice. It would have powers and duties prescribed by statute, including a duty to promote sustainable development. Its members would be appointed by the Secretary of State- in practice probably several different Secretaries of State would appoint members. Its role would be to plan strategically, to develop innovative financing, tax and fiscal instruments that would improve the investment climate, to assemble and analyse relevant statistics and to act as a statutory consultee and honest broker in respect of waste planning applications. This could be organised regionally, through regional assemblies or RDAs, where the minerals model might be copied, lining up supply and demand. The body's overall role would be to enable intervention in the market to make it work more effectively, to correct market failures, and to provide a strategic framework for investment. It would also be able to intervene on site provision and on economic regulation. It might have some of the powers of an economic regulator. But it would not be able to intervene in operational matters. As we see it, the NSWB would provide the empowered focus and leadership for sustainable waste management which at present is lacking. It would have clear responsibility for advising on best practice and reporting policy or institutional shortcomings to central, devolved and regional Government.

46. It would be important to consider how the NSWB might best relate to existing waste bodies, such as DEFRA, DTI and WRAP. It is representing new functions and therefore a new body is justified. But it is possible that the new body might usefully take over some of the functions and resources of existing bodies, especially in respect of finance, economics and regulatory issues. It would also be important to bring people on to the Board who had private sector financial, economic and commercial expertise. Such arrangements could help to avoid wasteful duplication and achieve greater working efficiency.

## VIII. Conclusions

47. This paper is designed to provide a critique and commentary on the Government's consultation document, and to stimulate debate on the key strategies surrounding waste management, sustainability and climate change. The changes it proposes are intended to take business forward positively and improve both economic performance and climate change effects. But it is recognised that they need arguing through, developing, and testing in discussion with relevant stakeholders. In many respects they are on similar lines to the Government's own thinking, and this reinforces the view that these changes are right and essential for progress.

48. The paper's key conclusions are thus :

- There is a need to better focus on the major waste streams and sectors as a whole, identifying relevant risks, and not just household waste.

- The Government needs to highlight the link between climate change and waste and educate the public about this. It should set targets and incentives for minimisation and re-use rather than exclusively for recycling. A strong government backed sustainable consumption and production strategy is now essential.

- There is a need to develop a set of measures that would produce a market climate that encourages investment.

- The waste industry needs strategic direction both in policy terms and institutionally. There is a case for a new National Sustainable Waste Board- on a statutory basis- with functions including investment facilitation, correction of market failures, and promotion of sustainability.

- There is a need to encourage market transformation so that waste becomes a resource.