



UNITED KINGDOM WITHOUT INCINERATION NETWORK

BRIEFING ON DEFRA'S WASTE REVIEW (JUNE 2011)

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Contact Details:

Shlomo Downen
National Co-ordinator

shlomo.downen@gmail.com
(01623) 640134

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1. Introduction

In June 2010 Defra launched a Call for Evidence to inform their Waste Review. UKWIN contributed an 87-page submission¹. Starting on Tuesday 14th June 2011 Defra released a series of documents as part of their Waste Review. The following documents were released by Defra in June 2011:

- Government Review of Waste Policy in England 2011 (WR)
<http://www.defra.gov.uk/publications/2011/06/14/pb13540-waste-review/>
- The Economics of Waste and Waste Policy
<http://www.defra.gov.uk/publications/2011/06/14/pb13548-economics-waste/>
- Government Review of Waste Policy in England 2011 Action plan
<http://www.defra.gov.uk/publications/2011/06/13/pb13542-waste-policy-action-plan/>
- Review of Waste Policies – Impact Assessment
<http://archive.defra.gov.uk/environment/waste/documents/ia-review-waste-policy.pdf>
- Guidance on applying the Waste Hierarchy
<http://www.defra.gov.uk/publications/2011/06/15/pb13530-waste-hierarchy-guidance/>
- Applying the Waste Hierarchy: evidence summary
<http://www.defra.gov.uk/publications/2011/06/15/pb13529-waste-hierarchy-summary/>
- Anaerobic Digestion Strategy and Action Plan
<http://www.defra.gov.uk/environment/waste/business/anaerobic-digestion/>

2. Action Plan Highlights

Excerpts from the Government Review of Waste Policy in England 2011 Action Plan

Number / Action	Detail / Link to Waste Review document [WR]
07 Develop a National Waste Prevention Programme	In line with the revised Waste Framework Directive, develop a National Waste Prevention Programme setting out detailed actions to be taken to enable better resource efficiency and Waste prevention [by December 2013]. <WR Para 76>
13 Explore whether there are opportunities for re-use collection facilities to be provided at civic amenity sites	Explore how local authorities can work with civil society and communities to provide space for re-use collections where possible at civic amenity and similar sites [by December 2012]. <WR Paras 72 – 75>
23 A new Local Authority Recycling & Waste Services Commitment	Produce a new Local Authority Waste and Recycling Services Commitment (including better customer engagement and communication, service design to make it easy for households to do the right thing, proportionate enforcement, re-use facilities at civic amenity sites, etc). <WR Principal Commitments and Paras 125 and 126>
24 Funding for reward and recognition trial schemes	Defra is committed to working with local authorities and other partners to develop new ways to reward people for doing the right thing with their waste. <WR Paras 135 – 138>
25 Developing a Business Waste & Recycling Collection Commitment	Linked to the development of a Waste and Recycling Services Commitment, Defra will work on a specific Business Waste and Recycling Collection Commitment, which sets out principles of how local authorities can help businesses meet their waste management responsibilities, make it easier for businesses to recycle, and listen and engage with business customers. <WR Paras 160 and 161>
31 Food Waste – collections	The Government will encourage local authorities to sustainably manage their food waste, providing technical support and advice on collections and appropriate treatment options. <WR Paras 202 – 206>
32 Waste collections	The Government will work with local authorities to increase the frequency and quality of rubbish collections, making it easier for householders to recycle, while tackling measures that encourage councils specifically to cut the scope of collections. We will also work with WRAP to monitor service levels to understand whether and how they are changing. <WR Paras 119 – 126>

¹ Available from http://www.ukwin.org.uk/files/pdf/UKWIN_DEFRA_Submission_4_October_2010.pdf

35 Food Waste – incentives	Defra will explore further the role of incentives in both reducing food waste and ensuring it is managed in the most sustainable way possible. <WR Paras 202 – 206>
36 Supporting and encouraging Community Composting	Defra will work with community composters, along with WRAP and the Environment Agency, to consider issues around appropriate quality standards and regulatory requirements. <WR Paras 170 – 172>
38 Develop effective fuel monitoring and sampling systems to allow waste derived energy to be measured accurately.	DECC will work with Defra, industry and delivery partners to develop effective fuel monitoring and sampling systems which allow the renewable content of mixed wastes and waste derived energy to be accurately measured to help facilitate an effective market. Ofgem are continuing to work with industry as to the viability of using Carbon-14 measurement for the purposes of biomass energy content. They are aiming to reach a final decision on industry proposals by summer 2011. <WR Paras 236 – 239>
39 Publish a EFW Guide	Defra will work to identify and communicate the full range of recovery technologies available and their relative merits – right fuel, right place and right time. As part of this we will publish a guide on energy from waste to help all involved make decisions best suited to their specific requirements [by Autumn 2011]. <WR Paras 236 – 239>
41 Incentivisation of community buy in to hosting waste infrastructure	Defra will work with all involved to identify commercially viable routes by which communities can realise benefits from hosting recovery infrastructure, e.g. community incentives, to help support community acceptance. <WR Paras 236 – 239, and Impact Assessment Para 61>
42 Review the biowaste policy and regulatory framework	Defra will be working with the Environment Agency, WRAP and others to look at the policy and regulatory framework for biowastes, and will explore options for making improvements in its consistency and application. <WR Biowaste insert on page 61>
45 End the Landfill Allowance Trading Scheme (LATS)	To further reduce burdens on local authorities Defra will end the Landfill Allowance Trading Scheme (LATS) at the end of the 2012/13 scheme year. <WR Paras 143 and 144>
47 A new National Waste Management Plan	The revised Waste Framework Directive requires each Member State to have one or more waste management plans in place. These must comply with the requirements set out in Article 28 of the Directive. Defra will be taking forward work to produce a National Waste Management Plan for England which will replace WS2007 as the “national waste management plan” for these purposes [by Spring 2012]
51 Wood waste landfill restriction	Defra will consult on a wood waste landfill restriction. We will work with key stakeholders to examine how this can best be achieved in practice. <WR Paras 240 – 244>
54 Review the case for Material specific landfill restrictions	Defra will review the case for restrictions on sending other materials to landfill over the course of the Parliament, including looking specifically at textiles and biodegradable waste. <WR Paras 240 – 245>
56 Review the future of Joint Municipal Waste Management Strategies	Defra will consider removing the statutory duty on local authorities to produce Joint Municipal Waste Management Strategies (JMWMS). <WR Paras 143 - 145> also see <Impact Assessment Para 38>
58 Development of a carbon metric	Defra and WRAP will develop a carbon metric to report on waste management at a national and local level, sitting alongside existing weight based reporting. <WR Paras 147 and 148>
59 Infrastructure: Publish data on likely waste arisings and treatment capacity	Defra will work with the Environment Agency, local authorities and industry to draw together and publish data on likely waste arisings and treatment capacity in future years [by Spring 2012] <WR Paras 267 and 268>
Addressing market failures	“Provide the necessary framework to address market failures in delivering the most sustainable solutions, while remaining technology neutral” <WR Page 62, Impact Assessment Paras 10 - 12, and elsewhere, but not included in Action Plan>

3. Initial Observations and Analysis

- 3.1. One Planet Living relates to using only one's fair share of the Earth's resources². The Waste Review (WR) does not mention One Planet Living, which was a key goal of Waste Strategy 2007. Similarly, the WR fails to address either Persistent Organic Pollutants (POPs) or issues associated with incinerator bottom ash (IBA) toxicity. However, the WR does frequently refer to 'zero waste', which is one of the 10 key principles of One Planet Living³, and reference is made to ensuring natural resources are not used unsustainably⁴.
- 3.2. The Government has taken 'zero waste' to mean deriving the maximum value from resources (including potentially via incineration), defining a 'zero waste economy' as one where: "material resources are re-used, recycled or recovered wherever possible, and only disposed of as the option of very last resort"⁵, and where: "resources are fully valued - financially and environmentally; one person's waste is another's resource; over time, we get as close as we possibly can to zero landfill; and a new public consciousness in our attitude to waste"⁶.
- 3.3. Unsurprisingly, the Waste Review falls well short of providing a detailed roadmap towards achieving the reduction, recycling and reuse required for a sustainable zero waste economy. The Review is target light⁷, relying instead on setting a general direction and hoping that all concerned will do the right thing. Furthermore, one could argue that the WR uses the concept of zero waste to promote practices that are unsustainable, such as incineration.
- 3.4. It should be noted that the WR is not intended to replace Waste Strategy 2007; instead, the Government's stated intention is to introduce a new National Waste Management Plan by Spring 2012 and to develop a National Waste Prevention Programme by December 2013 (see Actions 7 and 47 in the Action Plan excerpts, above, and WR Para 76).
- 3.5. The Government also intends to publish a guide to energy from waste technologies by Autumn 2011 (see Action 39, and WR Paras 236 – 239), and PPS 10 will be replaced as part of the National Planning Policy Framework. Various other plans, policies and strategies are being formulated, for example DECC is working with other departments to develop a Bioenergy Strategy⁸.
- 3.6. From UKWIN's perspective, one of the most important principles introduced in the WR is the Government's statement that: "Our aim is to get the most energy out of genuinely residual waste, not to get the most waste into energy recovery"⁹.
- 3.7. One of the key themes of the Waste Review is that the Government should intervene to address 'market failures' but should otherwise adopt a 'light touch' approach¹⁰.
- 3.8. Two of the market failures identified indicate the potential both for an incineration tax on the combustion of non-biogenic / fossil-based material (e.g. plastics and synthetic textiles) and a reduction in landfill tax for waste that has been appropriately bio-stabilised (e.g. via Mechanical and Biological Treatment). These matters are addressed in Section 4 of this Briefing.

² For more about One Planet Living see: <http://www.oneplanetliving.org/index.html>

³ See <http://www.bioregional.com/oneplanetliving/what-is-one-planet-living/>

⁴ "...an efficient waste policy helps to mitigate risks to longer-term sustainable growth, by helping to ensure that natural resources are not unsustainably used today, and contributing to GHG emission reduction targets"
<Economics of Waste, Page 5>

⁵ <WR Para 28>

⁶ "The Government envisages that amongst others, the zero waste economy will have the following characteristics: resources are fully valued – financially and environmentally; one person's waste is another's resource; over time, we get as close as we possibly can to zero landfill; and a new public consciousness in our attitude to waste."

<<http://archive.defra.gov.uk/corporate/consult/waste-review/100729-waste-review-background.pdf>>

⁷ See, for example, WR Para 151

⁸ <WR Para 219> also see:

http://www.decc.gov.uk/en/content/cms/meeting_energy/bio_energy/strategy/strategy.aspx

⁹ <WR Para 22>, also described as: "Our aim is to get the most energy out of waste, not to get the most waste into energy recovery" <WR Page 62>

¹⁰ "By and large the proposals put forward in the Review are either non-regulatory, de-regulatory or voluntary in nature. The Review has adhered to the Government's belief that it should only intervene through regulation where absolutely necessary, and where market failures or barriers are identified, act as a facilitator" <Impact Assessment, Page 1>

- 3.9. The Government appears to be moving towards a carbon centred approach to waste management¹¹, however there is a failure to recognise either the negative impact of biogenic carbon or the various shortcomings of WRATE.
- 3.10. The WR emphasises energy efficiency and the need to consider greenhouse gas (GHG) impacts of various waste management options¹², and promotes the use of carbon metric reporting¹³ (that could be linked to wastedataflow¹⁴).
- 3.11. The WR promotes Combined Heat and Power (CHP), noting that: “Without heat offtake, the lower efficiencies achievable from electricity only generation could waste valuable opportunities to help decarbonise the heat sector”¹⁵.
- 3.12. WR, Page 62, includes a Government commitment to supporting “the development of effective fuel monitoring and sampling systems to allow the renewable content of mixed wastes to be accurately measured”. This will presumably replace the deeming provisions with “real data” showing the biogenic and non-biogenic fractions of waste for carbon accounting, and could provide the basis for subsidies and/or taxation.
- 3.13. The WR reaffirms the Government’s commitment to the new waste hierarchy, as expressed in the revised Waste Framework Directive (rWFD). This includes a commitment to per-stream (life cycle) thinking¹⁶.
- 3.14. The WR explains that the rWFD “allows for deviation from the waste hierarchy where it can be clearly demonstrated there is a better environmental outcome from doing so...”¹⁷. See Briefing Annex for Defra’s current per-stream waste hierarchy guidance¹⁸.
- 3.15. The WR and associated documents set out the Government’s position in relation to food waste and wood waste, and could potentially be useful in making a case that landfilling of plastics that are not currently recycled is preferable to incinerating these plastics.
- 3.16. One deviation from the waste hierarchy promoted by the WR is food waste, where there is a clear preference for separate collection of food waste to AD, followed by composting, followed by incineration with energy recovery¹⁹.
- 3.17. There is some evidence of the Government’s intention to support weekly collection of food (“smelly”) waste²⁰, but not indication that this would be mandatory.
- 3.18. A document jointly produced by Defra, the EA and WRAP, makes clear that only those incinerators that exceed the R1 Formula threshold (as set out in Annex II of the rWFD) should, within the context of the waste hierarchy, be treated as recovery, and that all other incinerators should be treated as disposal²¹.
- 3.19. Several measures designed to address the Government’s desire to help proposals for waste infrastructure to secure planning permission are included in the WR and associated documents. For example, Central Government is to take responsibility for projecting future waste arisings (possibly using the ARIMA and REEIO models for LA-collected and C&I wastes respectively)²².

¹¹ Prioritise efforts to manage waste in line with the waste hierarchy and reduce the carbon impact of waste <WR Principal Commitments>

¹² See WR Paras 2, 22, 39, 40, 209, 212, 214 and 230 and Impact Assessment Paras 10 – 12

¹³ Impact Assessment, Para 41

¹⁴ WR Para 148

¹⁵ WR Para 237

¹⁶ See, for example, WR Paras 2 and 209

¹⁷ <WR Para 209>

¹⁸ Also see *Applying the Waste Hierarchy: evidence summary*, Pages 6 – 12, 17,19, 21, 23 and RW Beck (2004) Anaerobic Digestion Feasibility Study; Iowa Department of Natural Resources

<http://www.iowadnr.gov/waste/policy/files/bluestem.pdf> and WRAP (2010) Environmental Benefits of Recycling – 2010 updated http://www.wrap.org.uk/wrap_corporate/publications/benefitsrecycling.html

¹⁹ <WR Paras 193 – 196>

²⁰ <WR Paras 3, 119 – 121, 202 – 206 and Actions 31 and 32>

²¹ See *Applying the Waste Hierarchy: evidence summary*, Page 5, Figure 1, Note 2

²² <WR Para 268 and Economics of Waste Appendix A>

- 3.20. According to the Impact Assessment: "...The Waste Review maintains the right of householders to have a say in the development of any local waste infrastructure and explores options for incentivising the acceptance by local community of infrastructure in their area"²³.
- 3.21. Such statements do little to resolve the apparent conflict between the Government's commitment to localism and to the presumption in favour of granting planning permission to "sustainable development" as expressed in the emerging National Planning Policy Framework²⁴.
- 3.22. Following the principle that for the "majority of cases, decisions on delivering... infrastructure should remain at the local level" the Government is not lowering "the 50MW threshold at which planning applications for energy from waste go through the central major infrastructure planning process"²⁵, however, the WR fails to address the asymmetry in the current planning appeal system²⁶.
- 3.23. Local Authorities are to be encouraged to sign a new Recycling & Waste Services Commitment, setting out the principles they will follow in delivering local waste services²⁷.
- 3.24. A more detailed explanation of Government policy on waste infrastructure will be set out in the revised National Infrastructure Plan (NIP), due to be published in Autumn 2011²⁸. This is likely to reflect the Government's view that "[Waste] infrastructure must be responsive to changing waste streams, and make the best use of innovations in science and technology"²⁹. Note the use of the words "must" and "best".
- 3.25. In relation to supporting new technologies the WR points out that: "DECC has provided grant funding for anaerobic digestion and advanced gasification projects and is currently considering options for possible future bioenergy/energy from waste demonstration programmes based on technology needs assessments"³⁰.
- 3.26. Paras 250 and 257 of the WR address certain criticisms of the existing planning system, which is described as "confrontational", "remote" and "adversarial"³¹.
- 3.27. There is no requirement for individual authorities to be self sufficient in terms of waste infrastructure. Transporting waste to existing infrastructure to deliver the best environmental solution should not be considered a barrier³².
- 3.28. The WR contains some recognition of the shortcomings of current contract procurement processes, and the need to improve "procurement skills"³³.
- 3.29. The Landfill Allowance Trading Scheme (LATS) is to end by 2013, in part to remove a perceived barrier for Local Authority trade (business) waste collection³⁴.
- 3.30. Government favours a voluntary approach to extending producer responsibility³⁵.

²³ <Impact Assessment Para 61>, also see WR Para 26, and: "The Waste Review also identifies that proposals for energy from waste infrastructure can produce very emotive negative responses from local communities where such infrastructure is proposed and this is often re-enforced by public perceptions of energy for waste technology being shaped by outdated or incomplete information. The Review commits Defra to working with all involved to **identify commercially viable routes by which communities can be incentivised to host recovery infrastructure**. It is likely that the outcome of this work will be the further provision of guidance. If an Impact Assessment is required then one will be produced in due course." <Impact Assessment Para 51>

²⁴ Details of the Government's policy towards the presumption in favour of sustainable develop can be found at: <http://www.communities.gov.uk/planningandbuilding/planningsystem/planningpolicy/presumptionfavour/>

²⁵ <WR Para 265>

²⁶ See UKWIN's NPPF submission at: http://ukwin.org.uk/files/pdf/UKWIN_NPPF_%20February_2011.pdf

²⁷ <WR Principal Commitments>

²⁸ <WR Para 254>

²⁹ <WR Para 256>

³⁰ <WR Para 218>

³¹ Also note WR Para 261: "...The waste management industry, working with local authorities, must strive even more to understand the needs of the communities it serves across the whole waste hierarchy through direct engagement with the whole community... ensuring there are real options available; and being transparent about these options and compromises required to meet community desires, for example between cost and scale..."

³² <WR Para 263>

³³ <WR Paras 140 – 142>

³⁴ <WR Paras 19, 21, 144, 153, 156, 247>

³⁵ <WR Para 93>

- 3.31. The cost of Local Authority waste management per household is described as “a key indicator to show that money is being spent effectively”³⁶.
- 3.32. The WR refers to the importance of community engagement, with Local Authorities expected to “remain responsive to the needs and wishes of their householders and actively seek their views when designing and delivering waste services”³⁷; and the forthcoming Recycling and Waste Services Commitment will include a commitment “to consult fully, to listen to and work with householders”³⁸.
- 3.33. Local Authorities will also be expected to sign a Business Waste and Recycling Collection Commitment that could give businesses greater access to Household Waste Recycling Centres, and an “industry-led Code of Practice” could serve to improve recycle quality through improved sorting at Material Recovery Facilities³⁹.
- 3.34. The WR offers qualified support for incineration, using phrases such as “genuinely residual”, “where appropriate” and “waste that cannot be recycled”⁴⁰.
- 3.35. WR Para 22 states: “Government supports efficient energy recovery from residual waste...Our aim is to get the most energy out of genuinely residual waste, not to get the most waste into energy recovery”, and goes on to describe Defra’s intention to publish a “guide to energy from waste”⁴¹.
- 3.36. From UKWIN’s perspective, one of the most important principles introduced in the WR is the Government’s statement that: “Our aim is to get the most energy out of waste, not to get the most waste into energy recovery”⁴².
- 3.37. The WR does however include Government support for increased use of SRF/RDF and biomass incineration, including incineration of lower grade waste wood⁴³.
- 3.38. Although the WR recognises that “... residual waste will eventually become a finite and diminishing resource...”⁴⁴, the WR goes on to say: “Even energy from the non-biodegradable component, whilst suffering from the negative climate impacts of other fossil fuels, has additional advantages in terms of providing comparative fuel security, provided it can be recovered efficiently”⁴⁵.
- 3.39. Although there is no explicit mention of incinerator over-provision, the WR does acknowledge the need “...to support increasingly efficient recovery that is flexible enough to adapt to changing feedstocks over time”⁴⁶ (also see WR Para 230, quoted below).
- 3.40. In a sub-section of the WR entitled *Renewable energy from waste* the Government makes the case for an increase in generating energy from waste (i.e. via “thermal combustion”, which includes SRF and “injection of biomethane into the gas grid”)⁴⁷.
- 3.41. At WR Para 219 we read: “The forthcoming Bioenergy Strategy forms the best opportunity to explore various bioenergy uses in more detail, and draw conclusions about Government’s role in promoting these”.

³⁶ <WR Para 51>

³⁷ <WR Para 123>

³⁸ <WR Para 126>

³⁹ <WR Paras 157 – 164>

⁴⁰ <WR Principle Commitments>

⁴¹ “To also help provide more up-to-date and complete information on the range of recovery technologies, the Waste Review also states that Defra will publish a **guide on the different recovery technologies**. The purpose of the guide will be to provide information only. We will consider as we draft the guide whether an Impact Assessment is needed to accompany this work.” <Impact Assessment Para 52>

⁴² <WR Page 62>.

⁴³ “In addition to the greenhouse gas benefits generated from the additional diversion of wood waste from landfill such a ban or restriction would allow the recovery of energy from the diverted wood waste thus contributing to UK renewable energy targets” <Impact Assessment Para 53>, also see WR Paras 2, 24 and 25.

⁴⁴ <WR Para 207>

⁴⁵ <WR Para 208>

⁴⁶ <WR Para 211>

⁴⁷ For details, see WR Paras 213 – 219.

- 3.42. And at WR Para 224: “Work is being carried out to establish baseline data on the quantities and location of available feedstocks and then to map these with current and potential projects”.
- 3.43. The WR sub-section entitled *Maintaining Innovation and Supporting Growth* (WR Paras 228 – 238) also contains statements that will be of interest to UKWIN members.
- 3.44. For example, Para 228: “Energy from waste continues to be a rapidly developing area, the need to reduce waste going to landfill and develop renewable energy sources as well as innovation in the sector provide a significant opportunity for growth. The Government’s role is to ensure this opportunity can be realised either indirectly through facilitating the development of infrastructure and continued growth in markets for outputs, e.g. heat and solid recovered fuel; or directly by avoiding unintended regulatory burdens”.
- 3.45. Para 230 states: “Waste infrastructure has a long lifetime and therefore changes in the composition and potential volumes of waste in the future cannot be ignored in the development and selection of technologies now...Maintaining the contribution of energy from waste to UK renewable energy generation will require the increased deployment of higher efficiency approaches such as combined heat and power (CHP)”.
- 3.46. WR Paras 231 – 233 are worth quoting in full:
- 3.46.1. 231. “The broad range of technologies covered by energy from waste and their place in the hierarchy are not well understood by the public, and perceptions are often shaped by outdated or incomplete information. These information gaps and the uncertainty they engender mean there can be very emotive negative responses to proposals for energy from waste infrastructure – particularly larger scale facilities – from the local community. These concerns act as barriers to the acceptance of energy recovery infrastructure and lead to objections and delays in planning and development”.
- 3.46.2. 232. “Overcoming these barriers is key to the development and growth of energy from waste and requires both significant community engagement and a strong, credible evidence base that puts any uncertainties into a meaningful context. Ensuring information is available, trusted and easily understood is a key step to gaining acceptance. This is particularly important in addressing concerns on health impacts where science by its nature is often unable to deliver the definitive answer, but can demonstrate relative risks to allow people to make informed decisions”.
- 3.46.3. 233. “There are roles for government, local authorities, waste management companies and developers in ensuring that clear, complete and trusted sources of information are available, and that the concerns of the community are addressed. Civil society can also help to address concerns and engage the local community”.

4. Addressing Market Failures

- 4.1. A noteworthy feature of the Waste Review and related documents is the Government’s commitment to addressing “market failures” associated with waste policy.
- 4.2. At WR Para 239, for example, the Government says they “will provide the necessary framework to address market failures and deliver the most sustainable solutions”.
- 4.3. The Government acknowledges “information failures”, i.e. “situations where businesses and consumers do not have the right information to make the best choices”, and their desire to address these. e.g. potentially through the demonstrator programme findings.
- 4.4. Perhaps more importantly, the Government appears to express a desire for the incentive hierarchy, i.e. the cost of waste treatment, to more closely mirror the waste hierarchy and the true social costs of waste management options.
- 4.5. In the words of the Impact Assessment (Paras 10 – 12):
- 4.5.1. 10. “Environmental externalities are the primary market failure here, where decisions to produce and consume do not take full account of the environmental consequences of waste generated as a result. There are several environmental impacts associated with waste management – greenhouse gases, air quality, water, noise,

groundwater, and land use. Whilst there may be specific impact categories associated with particular waste types – for example, hazardous wastes – the preponderance of waste related environmental impacts relate to greenhouse gas (GHG) emissions. Failing to price in the environmental cost and benefit of generating waste leads to inefficient production and consumption patterns, and excess waste being produced. It is better off for society to reduce waste as long as the benefits of doing so exceed the cost”.

- 4.5.2. 11. “...Without government intervention, waste treatment options with better environmental performance may be penalised relative to treatments with poorer performance. Accounting for the environmental impact requires that the costs of various treatment options and levels of the hierarchy fully reflect the costs to society of each option”.
- 4.5.3. 12. “For example, government intervention such as the landfill tax raises the cost of sending waste to landfill, reflecting the environmental externality of disposing waste in this way. However, it does not reflect the relative scale of the environmental impact of treatment and disposal methods further up the hierarchy; for example, the externality associated with incineration, recycling or re-use. Although the recycling rate has risen, further intervention is required to further move waste to an efficient level amongst the various management options”.
- 4.6. “Externalities” encompass situations where “the environmental cost of different options is not included in market prices”⁴⁸.
- 4.7. Thus, the Government is considering some form of incineration or combustion tax to address one market failure, and potentially considering a lower tax band for bio-stabilised material sent to landfill to address another market failure.
- 4.8. Although there is recognition of certain market *failures*, the Government does not seem to have addressed the market *distortions* arising from the large long-term Local Authority waste contracts mentioned at Para 271 of the Waste Review. This matter was raised by several WR consultees, including UKWIN⁴⁹.
- 4.9. The Waste Review acknowledges the issue of exclusivity clauses in long-term waste contracts, noting at Para 272 of the Waste Review that “the current structure of the market with significant quantities of waste tied up in long term local authority contracts can make it difficult for new entrants to secure sufficient feedstocks”, but the Government does not express any intention of intervening to address this issue.
- 4.10. It could be argued that such market distortions, e.g. take-or-pay clauses that have been promoted by Defra⁵⁰, undermine the Government’s apparent position that by internalising the externalities the invisible hand of the market will be sufficient to ensure that the optimal waste management solutions are achieved, so long as there are landfill bans and support for new technologies.
- 4.11. The Government explicitly states that: “Where appropriate, consideration will be given to taxes in waste policy that can support the implementation of the waste hierarchy – reflecting the environmental benefits of shifting waste up the hierarchy”⁵¹.
- 4.12. The Economics of Waste and Waste Policy “sets out the key principles for public policy interventions in waste. The aim of applying these principles is to ensure that: there is a reason for Government intervening in a particular market; interventions are cost-beneficial; and any interventions are done in the most cost-effective way”⁵².

⁴⁸ <WR Inset on Page 12>

⁴⁹ See <http://ukwin.org.uk/knowledge-bank/waste-strategies/consultation-submission-archive/>

⁵⁰ “...where the Contractor is guaranteed a certain base level of income if waste tonnages delivered are less than the agreed threshold (always subject to satisfactory Contractor performance); alternatively a price banding mechanism may be used” <Standardisation of waste management PFI contracts: guidance on SoPC derogations , Para 3.2.2.1> available from: <http://archive.defra.gov.uk/environment/waste/localauth/funding/pfi/documents/guidance-SOPC3-wip.pdf>

⁵¹ <WR Page 13>

⁵² <Economics of Waste, Page 4>

- 4.13. The document explains that: “...an important rationale for Government intervention in the waste sector is because of the greenhouse gas (GHG) impacts. The management and disposal of waste produces GHG emissions, the full social cost of which is not taken into account in the production and consumption decisions which lead to the generation of the waste and how that waste is managed...”⁵³.
- 4.14. “...markets alone will not necessarily ensure that the efficient amount of waste is going to each level of the hierarchy...Without government intervention, waste treatment options with better environmental performance may be penalised relative to treatments with poorer performance due to higher costs. Accounting for the externality requires that the costs of various treatment options and levels of the hierarchy fully reflect the environmental externality of each option...A single pricing instrument, such as the landfill tax, can achieve the optimal mix of waste management in a ‘two-treatment world’, say landfill and recycling. Once we go beyond this world – to include energy recovery, recycling, re-use and waste prevention – additional instruments are required to ensure a cost effective waste management system”⁵⁴.
- 4.15. “The costs associated with various waste management options are both financial (collection, disposal fee), as well as environmental. Together these costs make up the social cost of different waste management options”⁵⁵.
- 4.16. The Government acknowledges that “Non-biodegradable, combustible materials (plastics, some textiles) cause significant GHG emission impacts when combusted”⁵⁶.
- 4.17. The Government also acknowledges that: “MBT (mechanical biological treatment)-landfill provides the best emissions performance in terms of the treatment/disposal of residual waste. It essentially involves landfilling somewhat stabilised wastes with some material recovery. The magnitude of the environmental impact depends on the extent to which the waste is stabilised...It is noticeable that the performance of some of the technologies is not much better than landfill. Moreover, as the assumed biodegradability of wastes falls in the future, landfilling may actually become more GHG-friendly than some other forms of residual waste treatment, according to these figures”⁵⁷.
- 4.18. On Page 25 of *The Economics of Waste and Waste Policy* we read: “The emissions from waste combustion of non-biogenic material (via any technology including mass-burn incineration) are also not comprehensively reflected in the price of disposal. Unless the installation in question is in the ETS (municipal solid waste incinerators are excluded [from the Emissions Trading Scheme]) a negative externality persists – such installations are creating GHG emissions without paying the relevant price...Where there remain un-priced environmental impacts in the management of waste, there are grounds for considering further intervention in the market to reflect these impacts...the landfill tax cannot reflect the differences in environmental performance between all levels of the waste hierarchy above landfill”.
- 4.19. This statement can be linked to the Government WR promise to provide the necessary framework to address market failures, including intervention “through a range of policy tools” including taxation⁵⁸.
- 4.20. Also note the WR summary relating to Energy from Waste: “Provide the necessary framework to address market failures in delivering the most sustainable solutions, while remaining technology neutral”⁵⁹ and “...we will provide the necessary framework to address market failures...” associated with energy recovery⁶⁰.

⁵³ <Economics of Waste, Page 4>

⁵⁴ <Economics of Waste, Page 8>

⁵⁵ <Economics of Waste, Page 9, Footnote 7>

⁵⁶ <Economics of Waste, Page 12>

⁵⁷ <Economics of Waste, Page 14>

⁵⁸ <WR, Paras 22, 23 and 34>

⁵⁹ <WR, Page 62>

⁶⁰ <WR Para 239>

- 4.21. These statements, in turn, are consistent with the notion that: “The potential for greater use of environmental taxes to deliver better environmental and economic outcomes is recognised in the Government’s commitment to increase the proportion of revenues accounted for by environmental taxes...Where appropriate, consideration will be given to taxes in waste policy that can support the implementation of the waste hierarchy – reflecting the environmental benefits of shifting waste up the hierarchy”⁶¹.
- 4.22. The proposed sampling regime (mentioned in WR Para 239) would make rewarding the incineration of biogenic material, whilst penalising the incineration of non-biogenic material, more precise than the current practice of relying primarily on estimates (the “deeming provisions”).
- 4.23. Thus, the Government has outlined a rationale for internalising the externalities of the combustion of non-biogenic material such as plastics and synthetic textiles. One way of achieving this objective would be through the imposition of a tax on the incineration of non-biogenic material. Such a tax could potentially extend beyond mass burn incineration to include all facilities that are exempt from the Emissions Trading Scheme (ETS), i.e. the tax could also apply to SRF/RDF as well as gasification and pyrolysis.
- 4.24. The current banding system for landfill tax means that waste that is not exempt is taxed at the 'standard rate' (£56 per tonne from April 2011, and increasing with the escalator by £8 a year until reaching £80 per tonne) or the 'lower rate' (currently £2.50 per tonne). Bio-stabilised waste from MBT and/or AD is currently taxed at the standard rate, whilst incinerator bottom ash not sent to hazardous landfill is charged at the lower rate.
- 4.25. There are many types of waste treatment that can be described as a form of Mechanical and Biological Treatment (MBT). The degrees of stabilisation of the outputs from different MBT technologies differ, as do the social costs of these technologies.
- 4.26. The Government warns that: “There is particular uncertainty around the impact of MBT technologies – the behaviour of the stabilised wastes in landfill...”⁶², but it is less clear about how this uncertainty is to be addressed.
- 4.27. Thus, the market failure associated with MBT is described as follows: “Subject to proving its environmental performance, MBT-landfill does not have its environmental benefits reflected in the price of disposal”⁶³.
- 4.28. On Page 14 of *The Economics of Waste and Waste Policy* we read: “MBT (mechanical biological treatment)-landfill provides the best emissions performance in terms of the treatment/disposal of residual waste. It essentially involves landfilling somewhat stabilised wastes with some material recovery. The magnitude of the environmental impact depends on the extent to which the waste is stabilised”.
- 4.29. It would seem that one way of rectifying the MBT market failure, to ensure that the environmental benefits of MBT are reflected in the price of disposal, would be to subject some MBT outputs to a new middle band of landfill tax, to fall between the standard and lower rates.

⁶¹ <WR, Waste – The Economic Rationale for Action, Pages 12 and 13>

⁶² <Economics of Waste, Page 14>

⁶³ <Economics of Waste, Page 25>

Annex: Page 6 of Defra's Guidance on applying the Waste Hierarchy

Paper and Card	Food	Garden Waste	Textiles	Wood	Glass	Metals	Plastics±	WEEE	Tyres	Residual 'black bag'
Prevention	Prevention	Prevention	Prevention	Prevention	Prevention	Prevention	Prevention	Prevention	Prevention	Prevention
Preparation for re-use			Preparation for re-use	Preparation for re-use	Preparation for re-use	Preparation for re-use	Preparation for re-use	Preparation for re-use	Re-treading	
Recycling	Anaerobic Digestion	Anaerobic Digestion (dry) ²	Recycling	Recycling; energy recovery♦ (preferable to recycling for lower grade materials)	Recycling in a remelt process	Recycling	Closed loop recycling	Recycling (esp. suitable for metals and high quality plastic)	Recovery: use in road surfaces	Solid recovered fuel derived from MHT or MBT, where it replaces coal*
Energy recovery♦ (esp. suitable for short fibres or contaminated materials)	Composting; other energy recovery technologies	Composting; other energy recovery technologies			Other recycling		Other recycling	Energy recovery in cement kilns	Energy recovery through pyrolysis	Energy Recovery, all technologies (Heat Only)
			Energy recovery♦		Energy recovery♦	Recycling after energy recovery	Energy recovery♦	Energy recovery♦ (esp. suitable for non-hazardous mixed plastic)	Other recovery (eg drainage fill & sea defences)	Energy Recovery, all technologies (CHP)
									Gasification/incineration with EfW	Energy Recovery, all technologies (Electricity Only)
Disposal	Disposal	Disposal	Disposal	Disposal	Disposal	Disposal	Disposal	Disposal	Microwave treatment	MBT or MHT outputs used as fuel (but do not replace coal) or *
										Disposal

*the impact of CHP technology, which can improve the efficiency of each of these options, is not illustrated here

± the hierarchy may be different for some forms of bio-based plastics

♦'energy recovery' covers a range of technologies, some of which will be more environmentally beneficial than others. Future versions will differentiate between technologies as more scientific evidence becomes available.

*2009 AEA – Report to the Welsh Assembly Government: *Modelling of Impacts for Selected Residual Waste Plant Options using WRATE*