



Department
for Environment
Food & Rural Affairs

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Waste Management Plan for England

Post Adoption Statement

December 2013

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The Waste Management Plan for England

The Government Review of Waste Policy in England 2011¹ (hereafter referred to as the Waste Review 2011) evaluated waste management policies for England and their delivery to ensure that the policies were fit for purpose, meeting society's expectations while reflecting the Government's ambitions for a zero waste economy.

This Waste Management Plan for England and associated documents, combined with equivalent plans being produced by the devolved administrations in Scotland, Wales and Northern Ireland, and Gibraltar, together with local authorities' local waste management plans will fulfil the requirement in Article 28 of the revised Waste Framework Directive² (WFD). Article 28 requires that Member States ensure that their competent authorities establish one or more waste management plans covering all of their territory.

The Waste Management Plan for England is a high level document which is non – site specific. It provides an analysis of the current waste management situation in England, and evaluates how it will support implementation of the objectives and provisions of the revised WFD. National planning policy on waste is currently set out in Planning Policy Statement 10, 'Planning for Sustainable Waste Management'³. This provides the planning framework to enable local authorities to put forward, through local waste management plans, planning strategies that identify sites and areas suitable for new or enhanced waste management facilities to meet the waste management needs of their areas. This document is currently being updated and has been subject to public consultation.

The Waste Management Plan for England was designated for the purposes of Article 28 of the revised Waste Framework Directive and adopted for the purposes of the SEA Directive on 12th December 2013. Copies of the Waste Management Plan for England and the accompanying documents are available free of charge at www.gov.uk.

¹ Department for Environment, Food and Rural Affairs (2011) *Government Review of Waste Policy in England 2011*, June 2011, www.gov.uk/government/uploads/system/uploads/attachment_data/file/69401/pb13540-waste-policy-review110614.pdf

² The European Parliament and the Council of the European Union (2008) *Waste Framework Directive 2008/98/EC*, 2008, <http://ec.europa.eu/environment/waste/framework/>

³ Office of the Deputy Prime Minister (2005) *Planning Policy Statement 10: Planning for Sustainable Waste Management*, 2005, https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/11443/1876202.pdf

Strategic Environmental Assessment (SEA)

The Environmental Assessment of Plans and Programmes Regulations 2004⁴ introduced a requirement for an SEA to be produced for a number of statutory plans and programmes, including Waste Management Plans.

The SEA process aims to identify the main environmental implications of a plan, and key alternatives, before it is adopted, and its provisions are implemented. This allows the environmental impacts of proposals to be identified and addressed whilst at the development stage, enabling consideration of possible alternatives in advance of implementation. SEA therefore facilitates the development of plans that take account of the environmental impacts (positive and negative), allowing full consideration of them, and identifying options for mitigation of impacts where they have the potential to arise.

*'A Strategic Environmental Assessment (SEA) is intended to increase the consideration of environmental issues during decision making related to strategic documents such as plans, programmes and strategies. The SEA identifies the significant environmental effects that are likely to result from the implementation of the plan or alternative approaches to the plan.'*⁵

The Environmental Report accompanying the Plan appraises the significant environmental impacts of the waste management plan. In doing so, the document complies with the requirements of the Environmental Assessment of Plans and Programmes Regulations 2004⁶.

The individual elements making up this Plan have each been subject to public consultation and where relevant, an impact assessment has been carried out before the policy has been implemented. At the time they were implemented, the policies did not constitute a Waste Management Plan for England and were not, therefore, subject to an SEA process. Given that the individual policies do now constitute a Plan document which falls within the requirements of the SEA directive, an SEA has been undertaken which has looked at the Plan as a whole and understands the significant environmental impacts arising from it.

⁴ SI 2004/1633

⁵ Environment Agency. Available at: <http://www.environment-agency.gov.uk/research/policy/32901.aspx>

⁶ A Practical Guide to the Strategic Environmental Assessment Directive. ODPM (2006) Available at: http://www.communities.gov.uk/documents/planning_and_building/pdf/practiceguidesea.pdf

In the context of the Environmental Report, 'the Plan' refers to the Waste Management Plan for England excluding national planning policy on waste, which has been subject to separate consideration under the 2004 SEA Regulations. The Government has taken account of the findings of the SEA and the public consultation before designating the Waste Management Plan for England.

Consultation

The SEA was also subject to consultation; initially at the scoping stage with SEA statutory consultees, and later, when the full SEA and associated Environmental Report was produced for public consultation. These consultations provided opportunities for a wider audience to feed in concerns over environmental issues. Where appropriate, comments from consultees have been taken into account. A summary of the relevant processes and consultations is presented below.

Purpose of this Post-Adoption Statement

Article 9(1) (b) of the SEA Directive⁷ requires that when a plan or programme is adopted, it should be accompanied by a statement summarising:

- how environmental considerations have been integrated into the plan or programme;
- how the environmental report has been taken into account;
- how opinions expressed in response to public consultations on the draft plan or programme and the environmental report have been taken into account; and
- the reasons for choosing the plan or programme, as adopted, in the light of other reasonable alternatives dealt with.

This Statement is designed to fulfil these requirements.

⁷ See also regulation 16(3) of the Environmental Assessment of Plans and Programmes Regulations 2004.

How environmental considerations have been integrated into the Waste Management Plan for England

Defra aims to support a strong and sustainable green economy, resistant to climate change, while at the same time helping to enhance the environment and biodiversity to improve the quality of life.

How we deal with our waste is important for our society. It affects the availability of materials and energy needed for growth as well as our climate change and environmental objectives. Our principal commitments to work towards a longer term vision of a zero waste economy – and the challenges in doing so – are set out in the Waste Review 2011. This focuses on sustainable use of materials and on improving services to householders and businesses, while delivering environmental benefits and supporting economic growth. Further information can be found in the [Waste Review 2011](#)⁸

We are working towards moving beyond our current throwaway society to a ‘zero waste economy’ in which material resources are reused, recycled or recovered wherever possible and only disposed of as the option of last resort. It means reducing the amount of waste we produce and ensuring that all material resources are fully valued – financially and environmentally – both during their productive life and at ‘end of life’ as waste. The benefits will be realised in a healthier natural environment and reduced impacts on climate change as well as in the competitiveness of our businesses through better resource efficiency and innovation – a truly sustainable economy.

Waste management is defined by the revised Waste Framework Directive as —the collection, transport, recovery and disposal of waste, including the supervision of such operations and the after-care of disposal sites, and including actions taken as a dealer or broker. Waste management in England (and the UK) has undergone a rapid period of development which has continued through to the current time.

Prior to the turn of the century the vast majority of waste produced in the UK had been land filled, at a minimal (financial) cost and recycling was in its relative infancy. For example only 7% of household waste was recycled in England in 1997/8. Since that time the rate of recycling of household waste has risen rapidly to 36.3% in 2007/08 and to over 40% on the most recent figures.

⁸ <https://www.gov.uk/government/publications/government-review-of-waste-policy-in-england-2011>

Similarly, in the industrial and commercial sectors, less waste is generated, less waste sent to landfill and more recycled than in the past. In total, 47.9 million tonnes of commercial and industrial waste were generated in England in 2009, compared with 67.9 million tonnes in 2002-3. A total of 25 million tonnes (52%) of commercial and industrial waste was recycled or reused in England in 2009, compared with 42% in 2002/3. A total of 11.3 million tonnes (24%) of commercial and industrial waste were sent to landfill in 2009, compared with 41% in 2002/3.

This has been driven by a combination of regulatory, policy and financial measures such as recycling targets, landfill tax, and targeted financial support. From lagging well behind, the UK has now reached a comparable level of performance with many countries in the EU.

The Environmental Report provides assurance that the Waste Management Plan for England includes the high standards of environmental protection referred to in the SEA Directive. Annex I of the SEA Directive requires that the assessment should include information on the:

“likely significant effects on the environment, including on issues such as biodiversity; population; human health; fauna, flora; soil; water; air; climatic factors; material assets; cultural heritage; and landscape”.

In order to ensure that relevant aspects of the current state of the environment, and the likely evolution thereof, were addressed as part of the SEA, the initial scoping report included a review of existing plans, programmes, policies and strategies to help identify any relevant environmental protection objectives which needed to be taken into account during the preparation of the Waste Management Plan for England.

Table 1 shows the objectives, sub-objectives and guiding questions that were used to assess the Plan. It also identifies the main topics covered as required under the SEA Regulations, thus providing a check to ensure that all required elements will be dealt with at an appropriate level.

Table 1: Objectives and Assessment Criteria

Ref	Objectives	Sub-Objectives	Key Questions	Main SEA Topics Covered
1	Protect natural material assets		What is the likely effect of the plan on the total demand for materials (including energy carriers)?	Material Assets
2	Reduce Air Emissions contributing to global problems	To reduce emissions of greenhouse gases To reduce emissions of ozone depleting substances	What are the impacts on climate change and the ozone layer from the waste policies presented?	Climatic Factors Air
3	Reduce Air Emissions of local relevance	To reduce air pollution emissions including acidifying emissions	How does the plan affect emissions to air with a localised impact? What is the potential impact on health of these emissions? Will there be any impact on property (including historic buildings) arising from the emissions?	Air Human Health Population Cultural Heritage/ Historic Environment

4	Protect & enhance biodiversity	To minimise the negative impact on global resources, wildlife, flora and fauna	What is the effect on Total Material Requirement as a result of the policies presented? (Total Material Requirement can be used as a proxy for the impact on global wildlife flora and fauna).	Materials Balance Biodiversity Flora & Fauna
5	Conserve water resources & water quality	To minimise water use To reduce harmful emissions to water bodies	What is the likely impact of the plan on water use, on water quality and on protected water bodies?	Water
6	Conserve and improve soil quality	To minimise negative impacts on, or improve, soil quality To preserve the “best & most versatile” agricultural land	What is the likely impact on soil quality as a result of the Plan?	Soil
7	Protect and enhance landscape & historic environment		What is the likely impact on landscape and historic environment as a result of the Plan?	Landscape Cultural Heritage/ Historic Environment

Engagement With Stakeholders

Consultation has been integral to the SEA process, as engagement with stakeholders has helped to identify and refine relevant environmental issues.

The formal statutory consultation exercise was supported throughout by informal engagement across government departments and with key stakeholder specialists and agencies.

Table 1: Summary of SEA Development Processes and Consultations

Development and Consultation of the SEA	Purpose
Preparation of and consultation on the SEA Scoping Report (Spring/Summer 2013)	The aim of this consultation was to inform interested parties of the approach that Defra proposed to take to the Plan and to seek to identify issues that needed to be addressed in the Environmental Report.
Preparation of the Environmental Report and associated non-technical summary	To consider the alternatives and assess the effect of the Waste Management Plan for England
The formal consultation took place between 15 th July 2013 and 9 th September 2013. Interested parties were invited to provide comments on the draft Environmental Report and associated non-technical summary.	The aim of this consultation was for interested parties to provide comments on the findings of the draft environmental report and associated non-technical summary.
Post Adoption Statement	To take on board, as appropriate, comments made at consultation

The Environmental Report and how its recommendations have been taken into account

This section sets out how the recommendations contained in the Environmental Report are taken into account in the Waste Management Plan for England.

The SEA Directive requires a description of *‘the measures envisaged to prevent, reduce and as fully as possible offset any significant adverse effects on the environment of implementing the plan’*.

The introduction of the Waste Management Plan for England itself is not considered to have any significant impact on the environment relative to the current situation since the Plan implies a continuation of existing policies. As such, strictly speaking, no description of additional mitigation measures would appear necessary.

That having been said, for completeness, we consider a range of possible approaches to address impacts against the criteria used to evaluate the Waste Management Plan for England.

Mitigation Relating to Objective 1 (Material Assets)

There are no straightforward approaches to mitigating impacts associated with material assets because much of the extraction of materials for primary production occurs overseas. Potentially, more efficient resource extraction processes may lead to a reduction in ancillary and excavated material flow. While there may be potential to increase the efficiency of extractive industries in England, this is generally out of the control of Government in respect of overseas operations. Voluntary agreements may have an impact on supply chains in this regard.

Mitigation Relating to Objective 2 (Global Air Emissions)

In many cases it will be difficult to avoid those climate change impacts at the level of the individual waste management facility which arise through direct emissions to air of the greenhouse gases. There may, however, be some scope for mitigating the impacts of facilities which produce energy through improving energy generation efficiency (including the utilisation of heat), as well as improving the efficiency with which materials are recovered for recycling from residual waste facilities.

Further potential for reducing the climate change impacts exists through the targeting of specific materials known to have a significant impact. Thus increasing the separation of plastics from the residual waste stream – either at the kerbside, or through the use of some form of pre-treatment such as occurs at a Mechanical Biological Treatment (MBT) facility – would result in a reduction in the climate change impacts associated with residual waste incineration, as this element of the waste stream contributes significantly to the overall climate change impacts associated with the latter method of waste treatment.

Mitigation Relating to Objective 3 (Local Air Emissions)

There is likely to be some potential for mitigating the air pollution impacts of waste management through an increase in recycling and waste prevention. In many cases it is difficult to determine the local benefits associated with waste prevention initiatives as these will be dependent in part upon the location of primary manufacture of the product concerned. In the case of food waste prevention, however, evidence from WRAP suggests that a significant proportion of avoidable food waste relates to goods manufactured in England, suggesting local benefits are likely to result from increased food waste prevention. An increase in organic waste recycling is similarly likely to reduce local air pollution impacts.

For dry recyclate, local benefits will depend on the relative locations of the primary and secondary manufacturing facilities. In many cases both will be located overseas. Where this is the case, there may still be some benefit from the avoided disposal of the material, although this will be dependent upon the material and the disposal route.

The use of MBT may also allow for the mitigation of local air pollution and health impacts associated with disposal, even where the fuel produced by the MBT process is used locally (as opposed to being shipped to a designated R1 facility overseas).

Where local air pollution is concerned, mitigation of the impacts is also influenced by the type of abatement equipment installed and the discharge conditions of any emission. This is particularly the case for incineration facilities, where use of SCR rather than SNCR offers opportunities to further reduce NO_x emissions.

Mitigation Relating to Objective 4 (Biodiversity)

Mitigation of negative impacts on biodiversity, both in England, elsewhere in the UK, and overseas (by reducing total material requirement) can best be achieved through moving towards the top of the waste hierarchy. Across all sectors,

increases in waste prevention (including reuse), preparation for reuse, and recycling have the potential to deliver major positive impacts.

However, if this cannot be achieved, an alternative is to consider offsetting enhancements for biodiversity, which might include habitat restoration. In order to mitigate the direct impacts on biodiversity that may be associated with specific facilities, sites should be selected with due consideration of biodiversity impacts – this will generally be an issue to be considered by the local planning authorities.

Mitigation Relating to Objective 5 (Water Resources)

Impacts on water resources and quality can best be mitigated through treating waste at the highest possible point on the hierarchy. Across all sectors, increases in waste prevention (including reuse), preparation for reuse, and recycling have the potential to deliver major positive impacts.

Where this is not possible, offsetting enhancements, such as wetland creation could be considered. These are more likely to be developed in response to a specific facility. However, most of the negative impacts on water are overseas, so wetland creation in England would be likely to only partially mitigate wider impacts.

Ensuring that conditions in a facility's Environmental Permit are sufficiently rigorous would appear to be the best way to mitigate localised impacts on water resources and quality.

Mitigation Relating to Objective 6 (Soil Quality)

Many of the impacts on soils associated with consumption of goods in England occur overseas. However, by managing waste in line with the hierarchy, negative impacts, largely associated with primary production, can be mitigated. Across all sectors, increases in waste prevention (including reuse), preparation for reuse, and recycling have the potential to deliver major positive impacts.

Where this is not possible, offsetting enhancements, such as further protection of peat bogs could be considered. However, most of the negative impacts on soil are overseas, so peat bog protection in England would be likely to only partially mitigate wider impacts.

The most appropriate way to mitigate localised impacts on soil quality would be to ensure that conditions in a facility's Environmental Permit are sufficiently rigorous.

Mitigation Relating to Objective 7 (Landscape and Historic Environment)

The impact on landscape and the historic environment from the plan and alternatives are largely attributed to the design of the individual waste management facilities and the location of siting. The local planning frameworks will be critical to providing sufficient controls to ensure that any negative effects on landscape and the historic environment are minimised.

Mitigation against negative impacts in these circumstances could include adapting the topographical design to reflect the local landform, landscape planting, fencing and earth bunds, appropriate use of cladding and colour treatments.

Conditions within planning permissions/ Environmental Permits granted could include measures to ensure that site restoration, particularly in the case of landfill, will complement the surrounding landscape.

Policies at a national level to reduce littering (for example through enforcement of anti-littering legislation and the provision of adequate bins etc) could also help to reduce the level of littering which has a negative impact on landscape and the historic environment.

How opinions expressed during public consultation have been taken into account

The consultation on the draft Waste Management Plan for England was undertaken between 15th July and 9th September 2013. A Government Response to that consultation has been issued, which identifies the main concerns and responds to them.

We raised a specific question on the Environment Report and the associated non-technical summary in the consultation. The question and a summary of the consultee comments are summarised in Box 1.

Box 1: Responses to the Consultation

Question

**Do you agree with the conclusions of the Environmental Report?
If not, please provide appropriate evidence to support your view.**

Summary of Responses and Corrective Actions

- 54 respondents replied to this question.
- 25 (46%) of those that responded agreed with the conclusions of the Environmental Report and 9 (17%) disagreed.
- 20 (37%) responses were neutral, that is the respondents did not express a clear view one way or the other.

The majority of the responses that agreed with the conclusions of the Environmental Report considered that the Plan would not have any significant impact on the environment given that no new policies on waste are being introduced by the Plan.

In the following headings we have outlined a summary of the issues outlined by respondents who disagreed with the findings and outlined the corrective actions undertaken.

Radioactive waste and waste waters

A small number of responses raised concerns about the omission of impacts from particular aspects of waste management, these included:

- radioactive waste (including nuclear waste) and
- waste water associated with fracking activities.

Such impacts are omitted from the Plan, as they are not included within the scope of the revised Waste Framework Directive. Both the Environmental Report and Non-Technical Summary have been amended to make this clear.

Presentation of the analysis

A single respondent queried the question marks (?) populating the matrices in relation to impacts of increasing or decreasing the amount of materials dealt managed through 'Other Recovery' methods. The question marks indicate uncertainty about the impact. This is due to the different methods covered by

'Other Recovery', including incineration and anaerobic digestion of food waste. These methods do not often have the same environmental impact, hence the impact is uncertain. The Environmental Report and Non-Technical Summary have not been amended as the justification is already clearly explained.

Plastic bags

A concern was raised by a single respondent regarding the lack of policy recommendations for single-use plastic bags. As explained in the 'Preferred Option' Section below, the Waste Management Plan for England should be a compilation of existing and planned policies. Reasonable alternatives, in relation to their outcomes, were assessed, but it is not the function of the Environment Report to include policy recommendations. However, it is noted that the Government intends to introduce a 5p single-use carrier bag charge from autumn 2015.⁹

Local impacts of waste management

Local impacts are an issue also raised by a small number of respondents. It must be emphasised that the Plan deals with waste management on a strategic level only and that any local impacts, such as from incineration, is not covered, as these are covered by the Planning Policy Statement "Planning for Sustainable Waste Management" which is currently under review. The Non-Technical Summary has been amended to emphasise this point.

Incinerators and nano-particle pollution

Concern surrounding the emission of nano-particles from incinerators (defined as having a particle size of less than 0.1 microns) has been raised by a small number of respondents. Abatement equipment installed in incinerators is aimed at tackling particulates (up to 10 microns in size) but may be less effective at the removal of these very small particles, although there is evidence that at least some of the ultrafine particles are effectively removed by the installed filter systems (e.g. Walser et al, 2012). There are a number of uncertainties in the evidence base for the emission and health effects of nano-particles, in our consideration of the health impacts of incineration, the Environmental Report is focussed on an area where both the evidence on emissions and the evidence of the health impacts is far more robust – i.e. on the emissions of NOx.

⁹ Defra and Deputy Prime Minister's Office (2013) *Plastic Bag Charge Set to Benefit the Environment*, accessed 29 October 2013, <https://www.gov.uk/government/news/plastic-bag-charge-set-to-benefit-the-environment>

Assessment of alternatives

A number of comments were made regarding the lack of alternative policies proposed in the Environmental Report. As stated in the Environmental Report, the aim of the SEA was to provide an assessment of alternative outcomes, rather than alternative policies and plans, as a number of different policies and plans could conceivably result in the same environmental outcomes. This has been emphasised with additional text in the Non-Technical Summary.

Novel waste treatment technologies

A small number of respondents provided information about waste treatment technologies not covered in the Environmental Report and queried their omissions (this included non-AD food waste treatment and alternatives to incineration). These alternatives have been omitted due to the uncertainties relating to the environmental impacts of both new and relatively little used technologies.

Reasons for choosing the Waste Management Plan for England

As required by the SEA Directive, Section 8 of the Environmental Report includes an outline and Section 11 an assessment of reasonable alternatives to the Waste Management Plan for England.

Process of Identifying Reasonable Alternatives

The development of the Waste Management Plan for England and the reasonable alternatives was an iterative process, based on the SEA guidance¹⁰ which states that only “reasonable, realistic and relevant” alternatives need to be put forward, and that it is helpful if they are sufficiently distinct to enable meaningful comparisons to be made of the environmental implications of each.

Reasonable Alternatives Considered for the Waste Management Plan for England

Following consultation with the statutory consultees, given the nature of the Plan, the alternatives have been specified in terms of increases in, or a reduction in, the quantity of waste managed at each level of the waste hierarchy (as defined in the revised Waste Framework Directive). In other words, relative to the proposed plan, alternatives are assessed which imply changes in the amount of waste being:

- A. Prevented;
- B. Sent for preparation for re-use;
- C. Recycled;
- D. Sent for other forms of recovery; or
- E. Sent for disposal.

The alternatives are considered independently of each other and against the existing Plan (or baseline). They are considered in respect of the environmental outcomes which might be expected to result from them.

The alternatives considered are shown in Table 3. These show a matrix of alternatives for the principal waste stream classifications – household, commercial and industrial (C&I) and construction and demolition (C&D) waste. For example, Alternative 3C represents higher recycling of C&I waste than in the baseline.

¹⁰ Office of the Deputy Prime Minister (ODPM)(September 2005) A Practical Guide to Strategic Environmental Assessment Directive, London HMSO.

Table 3: Proposed Alternatives for Consideration in SEA

Stream	Waste Prevention (A)	Preparation for Re-use (B)	Recycling (C)	Other Recovery (D)	Disposal (E)
All Streams					
The Plan	Existing and planned policies	Existing and planned policies	Existing and planned policies	Existing and planned policies	Existing and planned policies
Household					
Alternative 1	Above Baseline levels (less waste)	Above Baseline (more sent for prep for reuse)	Above Baseline (more recycled)	Above Baseline (more recovered)	Above Baseline (more disposed)
Alternative 2	Below Baseline levels (more waste)	Below Baseline (less sent for prep for reuse)	Below Baseline (less recycled)	Below Baseline (less recovered)	Below Baseline (less disposed)
C & I					
Alternative 3	Above Baseline levels (less waste)	Above Baseline (more sent for prep for reuse)	Above Baseline (more recycled)	Above Baseline (more recovered)	Above Baseline (more disposed)

Stream	Waste Prevention (A)	Preparation for Re-use (B)	Recycling (C)	Other Recovery (D)	Disposal (E)
Alternative 4	Below Baseline levels (more waste)	Below Baseline (less sent for prep for reuse)	Below Baseline (less recycled)	Below Baseline (less recovered)	Below Baseline (less disposed)
C&D					
Alternative 5	Above Baseline levels (less waste)	Above Baseline (more sent for prep for reuse)	Above Baseline (more recycled)	Above Baseline (more recovered)	Above Baseline (more disposed)
Alternative 6	Below Baseline levels (more waste)	Below Baseline (less sent for prep for reuse)	Below Baseline (less recycled)	Below Baseline (less recovered)	Below Baseline (less disposed)

Preferred option

The Government's preferred option for the Waste Management Plan for England is that it should be a compilation of existing and planned policies. This reflects the fact that there is already a comprehensive system of waste management policy and legislation in England.

This system is kept under review; the most recent wide ranging re-evaluation was the Government Review of Waste Policy in England 2011.

We have concluded from the 2011 review and from evaluating the Plan itself that further policy measures are not needed to meet the key objectives of the revised Waste Framework Directive.

We take these objectives to be as explained in Article 1 of the Directive i.e. *“to protect the environment and human health by preventing or reducing the adverse impacts of the generation and management of waste and by reducing overall impacts of resource use and improving the efficiency of such use.”*

As the Environmental Report confirmed, there are a complex mixture of policy options available for waste management. These have varying outcomes in terms of environmental impact and costs.

We consider that the mix of policy options which have been taken in England meet the objectives of the Directive because:-

- There is a comprehensive regulatory framework for waste facilities and operations which is in place to prevent harm to the environment and human health.
- The Plan sets out a range of policy measures to encourage wastes to be treated in accordance with the waste hierarchy, thereby reducing the demand for and use of resources.

The Plan also analyses the effects of policy to date (for example in terms of recycling and landfill rates) and is forward looking in considering the likely need for future changes (e.g. investment in infrastructure).

For these reasons, the Government does not consider that further exceptional measures are necessary at this time beyond the already planned development of waste policy.

Monitoring

The SEA Regulations make clear the requirement to monitor the implementation of the plan with the purpose of identifying unforeseen adverse effects at an early stage and being able to undertake appropriate remedial action.

Monitoring should be an important factor in the implementation of any plan, and should occur over the course of implementation and beyond. In particular monitoring helps to answer the following questions:

- Is the Plan contributing to environmental sustainability in the way envisaged?
- Have there been any unforeseen impacts (positive or negative) that have arisen from the Plan? Do these impacts require remediation?

Since the Waste Management Plan for England does not introduce new policies, it is not expected to have the kind of significant environmental effects that require monitoring under the SEA Regulations. No new monitoring is, therefore, proposed (other than on waste prevention). However, there are existing monitoring systems, as set out below, which are expected to identify effects of the measures contained within the Waste Management Plan for England.

The sections below set out the approaches to monitoring against the objectives against which the Plan and alternatives have been appraised. It should be noted that in some cases the environmental impacts of specific policies may also be monitored. An example of this is the Waste Prevention Programme. In order to assess progress against the Programme, Defra proposes to measure the amount of waste produced per unit of economic activity (with 2009 as a benchmark year) and also carbon equivalent per unit of economic activity. This will allow us to assess efficiency within the economy, and provide an insight into breaking the link between waste arisings and the environmental impacts associated with the generation of waste. In the future, we also intend to assess how we could measure wider environmental impacts. As part of the programme we intend to work with local authorities, businesses and waste management companies amongst others to consider what metrics would be useful, affordable and practicable to develop going forward, to help us better measure success in waste prevention.

Monitoring Approach for Objective 1 (Material Assets)

The UK's Environmental Accounts¹¹ report material flows, i.e. the total mass of natural resources and products, used by the UK. It will therefore be possible to monitor the trend in UK material flows year on year. While a separate breakdown is not presented for the

¹¹ Office for National Statistics (2012) *UK Environmental Accounts 2012*, 27 June 2012. Available at: <http://www.ons.gov.uk/ons/rel/environmental/uk-environmental-accounts/2012/stb-ukea-2012.html>

individual countries, an estimate for material flows for England could possibly be derived on the basis of population, or regional GVA.

Monitoring Approach for Objective 2 (Climate Change)

Defra funds the annual UK greenhouse gas inventory which considers emissions from all sectors of the economy, including emissions from waste treatment facilities. This will assist in measuring performance against the government's carbon budgets. This only considers climate change impacts that occur within the UK – thus impacts relating to products consumed by UK citizens that were manufactured outside of the UK are not included. Benefits from waste prevention, product reuse, or recycling activities are unlikely to be fully captured by current monitoring arrangements where the associated reduction in primary manufacture occurs overseas.

Monitoring Approach for Objective 3 (Air Pollution and Health Impacts)

Local air pollution monitoring networks are operated on behalf of Defra, and measure emissions to air of key pollutants including NOx and PM emitted by some waste treatment facilities. This monitoring activity is not specific to the waste sector but monitors local air pollution in general. Environmental Permits also include controls on emissions and breaches in these controls will be monitored by the Environment Agency.

The level of monitoring of these impacts through both general and site specific monitoring should be sufficient for the purpose of the Plan.

It will be extremely difficult to properly consider local air pollution benefits associated with waste prevention, reuse and recycling activities as a result of the highly dispersed nature of the manufacturing activity that results in the production of goods consumed in the UK. Given the nature of the impacts, and the difficulty of monitoring, it is likely that attempting to monitor such activities specifically will be disproportionate.

Monitoring Approach for Objective 4 (Biodiversity)

The UK's Environmental Accounts¹² report material flows, i.e. the total mass of natural resources and products used by the UK. It will therefore be possible to monitor the trend in UK material flows year on year, which can act as a proxy for the impact on biodiversity.

While a separate breakdown is not presented for the individual countries, an estimate for material flows for England could possibly be derived on the basis of population, or regional GVA.

¹² Office for National Statistics (2012) *UK Environmental Accounts 2012*, 27 June 2012. Available at: <http://www.ons.gov.uk/ons/rel/environmental/uk-environmental-accounts/2012/stb-ukea-2012.html>

Monitoring Approach for Objective 5 (Water)

The UK's Environmental Accounts report the amounts of ground water and non-tidal surface water used by Industrial Sector in England and Wales for 2006-07. However, this does not account for the embodied water in food and items such as textiles that are imported, and is therefore not an appropriate indicator for measuring progress in respect of food waste prevention and textiles reuse.

Monitoring Approach for Objective 6 (Soil)

The Countryside Survey measures long-term changes in physical, chemical and biological soil quality in the UK, taking four core samples from each of the Survey's 629 (1km) squares. The last survey was in 2007, and cores were taken from plots adjacent to past sample locations in 1978 and 1998, to ensure compatibility with previous results.¹³

However, as approximately eight years elapse between surveys, this is of limited use in monitoring changes in waste management practices, notably in respect of waste prevention for food and textiles. Periodic surveys provide a fuller understanding of the overall level of food consumed (and wasted) in England and of textile product flows. Soil quality impacts can be attributed directly to these flows.

Monitoring Approach for Objective 7 (Landscape & Historic Environment)

The monitoring of impacts on landscape and historic environment from the Plan and alternatives will be extremely difficult since the impacts are almost entirely related to the specific location of the facility. That said the number of licenced facilities of each various type could be monitored, with this being used as a proxy indicator for impact on landscape and the historic environment. Indeed this data is already being captured by the Environment Agency for some waste facilities. Some information on land-take and the main dimensions of buildings could also be used.

¹³ Centre for Ecology and Hydrology (2010) *Countryside Survey: Soils Report from 2007*, 1 January 2010