

Waste Strategy

for Herefordshire and Worcestershire

**Managing waste
for a brighter future**



**The Joint Municipal Waste Management Strategy
for Herefordshire and Worcestershire 2004 - 2034
First review August 2011**

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Foreword

Not so many years ago, waste was not the issue it is today. We did not create the volume of waste we do now, and all that went in the bin was mainly ash, kitchen waste and some packaging - which ended up on the local tip. Now we live in changing times. The advent of consumerism and a more affluent and throwaway society has led to changes in our lifestyle and the way goods and materials are packaged.

In 2009/10 the cost of dealing with municipal waste in the two counties of Herefordshire and Worcestershire was £52 million and the costs are increasing. Landfill tax is currently set at £56 per tonne and with a year on year increase will reach £80 per tonne from April 2014. New treatment facilities are needed to treat our waste so that we can meet the changes in legislation. We must make tough decisions as to how to tackle the problem.

Driven by Government and European legislation and a higher social awareness, we all need to rethink how we deal with our waste.

This reviewed Joint Municipal Waste Management Strategy for Herefordshire and Worcestershire sets out the problems, looks at our success to date, where we are now and how we can move forward.

As communities, we must reduce the amount of waste that is produced. This is a key element to our strategy. We must reduce, re-use, recycle and compost more. We must also think of waste as being a resource from which as much value as possible should be recovered.

This reviewed Strategy has been developed by the Strategic Waste Management Board made up of elected representatives from all the local authorities in Herefordshire and Worcestershire.

The successful introduction of household recycling schemes across the two counties has shown we can all play our part. Together we can make a difference.

Councillor Anthony Blagg
Chairman of Strategic Waste Management Board August 2011



1.0 Introduction

1.1 Why do we need a Strategy?

- 1.1.1 The next two decades will continue to see waste management in the United Kingdom transformed. The challenges presented by climate change, along with ever more stringent Government targets and new UK and European legislation will drive these changes. At the same time the service expectations of our customers continue to rise year on year. If the transformation is to be successful and actively engage our communities there needs to continue to be a well thought out local Strategy in place to guide all important decisions and commitments.
- 1.1.2 The need to achieve efficiencies in the delivery of public services has also made it increasingly important for all partners to work together through an integrated Strategy which encompasses collection and disposal functions. The purpose of this first revision is to clarify key issues, give clear direction on waste management in the two counties and set out and co-ordinate general principles, policies and targets across all authorities in Herefordshire and Worcestershire.
- 1.1.3 The aim of this Strategy is to decrease waste production and increase the recovery of value from waste (to re-use it, recycle it, compost it, or recover value in other ways) by treating waste as a resource.
- 1.1.4 The Strategy will also encourage and ensure that partnerships continue to be developed between all the parties involved in the management of municipal waste in the two counties of Herefordshire and Worcestershire, decreasing reliance on landfill and ensuring that waste management is sustainable and provides value for money for local communities, tax payers and fee paying customers.

1.2 How has the Revised Strategy Been Developed?

- 1.2.1 This first revision, replaces the original Joint Municipal Waste Management Strategy for Herefordshire and Worcestershire published in 2004.
- 1.2.2 This Strategy has been prepared by the Strategic Waste Management Board which represents the eight local authorities across Herefordshire and Worcestershire.
- 1.2.3 In reviewing the Strategy we have looked at the wide range of options available to us, for example preventing and re-using waste, recycling and composting waste and dealing with any remaining waste that cannot be re-used or recycled.
- 1.2.4 The possible environmental effects of the Strategy have been considered by undertaking a systematic appraisal known as a 'Strategic Environmental Assessment'. The results of this process have ensured that the Strategy addresses all of the relevant environmental issues. The Strategic Environmental Assessment is included as Annex F.

1.3 Consultation

- 1.3.1 Successfully implementing the Strategy is not just a matter for Local Authorities. Everyone within our communities has an active role to play and we have sought the views and support of everyone who has a stake in this process including householders, local businesses, the Environment Agency, the waste management industry, the community, voluntary sector and the waste management contractors partnering the Councils. Annex H contains full details of the consultation process and outcomes.



*"The council have made it easier by providing two wheelie bins, it is like they are organising you. I could have done it before but didn't."
Wychavon resident.*

- 1.3.2 The consultation process proved invaluable in developing a revised Strategy. Focus Groups enabled us to seek the views of residents that without this opportunity may not have provided us with their valuable input. We received an excellent response to the public postal survey with a response rate of over 20%. We were also pleased to receive responses from a variety of stakeholders and interested parties who provided us with detailed and challenging comments reflecting a range of views and issues. We would like to thank everyone who took the time to get involved and respond. This input has helped us to develop a more relevant and robust Strategy.
- 1.3.3 The Strategy is available via the internet and in order to minimise environmental impact, hard copies will only be provided on request.

1.4 What This Strategy Does Not Cover

- 1.4.1 Firstly, this Strategy does not consider the location of any waste management facilities. For Worcestershire this will be covered by a new Waste Core Strategy which is now being prepared by the County Council and in Herefordshire by the Local Development Framework (LDF). The Joint Municipal Waste Management Strategy focuses on what needs to be done in order to make decisions about what processes, technologies and facilities are needed in order to meet the challenges over the next two decades.
- 1.4.2 Other than the relatively small amounts of commercial waste collected and disposed of by the Waste Collection and Disposal Authorities in Herefordshire and Worcestershire, the revised Strategy does not cover other waste types such as industrial or construction wastes. The collection, treatment and disposal of these are not the responsibility of the Local Authorities that have prepared this document. The priority at this stage is to develop a Strategy for wastes for which we do have a statutory responsibility – i.e. municipal waste. The Waste Core Strategy and LDF will, however, deal with the planning issues relating to all controlled wastes.

1.5 Period Covered by the Strategy

- 1.5.1 The Joint Municipal Waste Management Strategy covers a period of thirty years (2004 – 2034) and will continue to be reviewed at least every five years, taking into account any new guidance, targets or changes in legislation and new technology or other significant development.

1.6 Other documents

A series of annexes accompany this headline document:

Annex A	Waste Growth
Annex B	Waste Prevention Options Appraisal
Annex C	Recycling & Composting Options Appraisal
Annex D	Residual Waste Options Appraisal
Annex E	Scoping Report to inform Strategic Environmental Assessment
Annex F	Strategic Environmental Assessment
Annex G	Achievements so Far
Annex H	Consultation process and outcomes
Annex I	Action Plan
Annex J	Glossary



2.0 Our Principles for Municipal Waste

Over the next 20 – 25 years we aim to change the way that municipal waste is managed in Herefordshire and Worcestershire. Our principles are as follows:

Principle One

Meeting the challenge of Climate Change by viewing waste as a resource

What we do about waste is a significant part of how we treat our environment. Cutting down on the amount of waste produced, reducing our use of natural resources, recycling materials and recovering energy from those we can no longer use, is a vital part of moving us towards more sustainable living. The Partnership will view waste as a resource and seek to maximise the resource potential of waste. We will understand the environmental impacts of any decisions and aim to ensure policies, collection and treatment methods reduce the impact of resource depletion and Greenhouse Gas emissions.

Principle Two

Commitment to the Waste Hierarchy of which Waste Prevention is the top

The principle upon which the Strategy is built is that of waste prevention, the top of the Waste Hierarchy as in Waste Strategy for England 2007. Through making opportunities available, designing appropriate collection systems and raising awareness, the Partnership will endeavour to ensure that everyone in our communities can play an active role in ensuring that the amount of waste is reduced before it enters the waste stream.

The Partnership will continue to promote waste prevention through a variety of campaigns and initiatives that will be reviewed to ensure that the most effective campaigns, targeting key waste streams such as food waste, are implemented.

Principle Three

Influencing Government, Waste Producers and the Wider Community

The Partnership will lobby Government to do more to combat the production of excess waste material. Where possible we will work with waste producers to understand what can be achieved together in reducing the amount of waste that is produced. We will endeavour to influence commercial waste producers in an attempt to marry up the increasing recycling, composting and waste prevention performance in municipal waste management with that of commercial waste.

The Partnership will prioritise awareness raising and engagement as a means to increase the performance of waste prevention and recycling/composting initiatives. We see this as a vital tool to engage all stakeholders. Targeted and co-ordinated campaigns will ensure consistency across the authorities.

The Partnership will ensure its officers and Members are fully aware of the aims and objectives (through the principles, policies and targets) of the Joint Municipal Waste Management Strategy.

Principle Four

Continued Commitment to Re-use, Recycling and Composting

The Partnership will continue to improve the efficiency and operation of its core recycling service. We will adopt a pooled target for re-use, recycling and composting, however there will be a minimum performance level that each authority will need to meet. We will aspire to achieve the long term national recycling and composting targets, however, we will not compromise the environmental and economic performance of schemes just to meet notional, non statutory targets.

Principle Five

Minimising The Use Of Landfill

The Partnership has recognised that the landfilling of wastes is at the bottom of the Waste Hierarchy and for good reason. This waste of resources will be avoided where other options are environmentally and economically beneficial. If utilising waste treatment capacity beyond our own borders is more economically viable and environmentally sound than landfilling waste within our counties, then this will be looked at as an option.

Principle Six

Partnership

The Partnership will ensure knowledge, best practice and experience are shared and will work together to ensure that this Strategy is implemented. We will aim to adopt a common approach across the counties in areas of waste policy.

The Partnership cannot carry out the Strategy alone. We will actively develop partnerships with all sectors.

Principle Seven

Monitoring and Review

The Partnership will ensure that it keeps up to date in implementing the best possible management systems that are needed to deliver this Strategy using a flexible and integrated approach to the waste treatment methods used. We will ensure we understand the material we collect and the impacts of the services we provide.

The Strategy will be reviewed at least every five years to determine progress and update it in the light of new legislation, new technology or other significant developments. Regular communication with partners and the public will take place to ensure that all stakeholders are aware of progress and involved in changes made.

Principle Eight

Customer Focus

As part of the development and implementation of this Strategy, the Partnership will continue to engage with local people and other partners about the way in which waste is managed in Herefordshire and Worcestershire. We will design the services that we provide around the customers that we serve seeking to balance the longer term need to reduce the amount of waste generated and disposed of with the range and type of services necessary to meet our customers needs.

Principle Nine

Value for Money

The Partnership will work to deliver the Joint Municipal Waste Management Strategy in the most effective, efficient and economic way. We will aim to view waste collection and disposal costs holistically to ensure they provide best value and a cost benefit to the Partnership and our customers.

Principle Ten

Consideration of Social, Environmental and Economic Impacts

The Partnership will consider the holistic business case in terms of social, environmental and economic impacts in its approach to waste management across the counties.

3.0 Policies, Targets and the Way Forward

3.1 General Policies

- 3.1.1 Through the consultation, an overwhelming majority of people felt that dealing with waste and recycling is everyone's responsibility and that it is important for the councils to spend money on waste and recycling services.
- 3.1.2 This chapter sets out the policies and targets that we have agreed to achieve our principles. We have developed a number of general policies which relate to the overarching principles of our Strategy as below:

Policy 1

Local Authorities in Herefordshire and Worcestershire will adopt the following Waste Hierarchy as a template for their approach to Waste Management, ensuring that waste is prevented wherever possible first before considering other options.



Policy 2

The Local Authorities will ensure that waste management in Herefordshire and Worcestershire provides good value for money to local communities, taxpayers and fee-paying customers.

Policy 3

The Local Authorities will design the services that they provide around the customers that they serve seeking to balance the longer term need to reduce the amount of waste generated and disposed of with the range and type of services necessary to meet our customers needs. This will include a range of core kerbside services for commingled recyclables and residual waste together with additional services for other waste streams that may be provided on a charged for basis.

Policy 4

The Local Authorities are committed to achieve existing and future waste targets set within the local area.

Policy 5

The Local Authorities will seek to adopt and implement sustainable procurement policies and practices for goods and services (including waste management services) that they buy that actively seek to minimise waste and support the use of re-used and recycled materials.



*"The council should collect a wider range of plastics for recycling"
Bromsgrove resident.*

Policy 6

The Local Authorities will continue to work towards a consistent and transparent approach in developing and monitoring performance.

3.2 Climate Change

- 3.2.1 Reducing the carbon footprint of waste management activities within the two counties will be achieved through our obligation under the Landfill Allowance Trading Scheme and target 1 below.
- 3.2.2 Through the consultation, the majority of people felt that there was a link between how waste is dealt with and Climate Change.



Policy 7

The Local Authorities will actively seek to provide waste management services in a manner that minimises greenhouse gas emissions and other impacts that contribute to Climate Change.

Target 1

In order to ensure that this target is robust, we are currently developing a meaningful target that will enable us to monitor our carbon footprint and set targets for reduction.



3.3 Waste Prevention

- 3.3.1 As a result of the waste prevention measures introduced as part of the Strategy in 2004, the growth in municipal waste arisings in the two counties has stopped and waste is now starting to decline (see 2.3 in Annex G for municipal waste growth from 2000/01 to 2007/08). In future years to 2034, it is estimated that municipal waste will only grow in line with the increase in the number of households across the counties identified in the Regional Spatial Strategy (see Annex A).
- 3.3.2 An important way of reducing residual waste will be through a combination of alternate weekly collections and/or decreasing container capacity over time. This is now referred to as the 'Core Collection Service'.

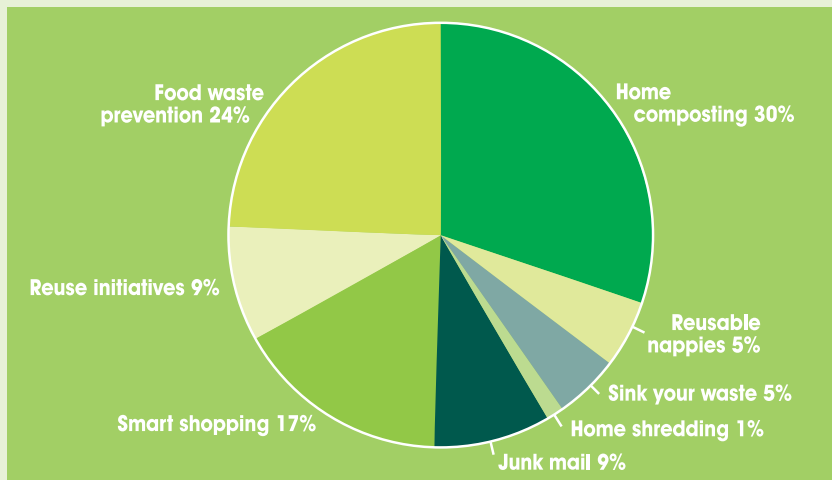
Policy 8

The Core Collection Service:

1. All authorities will collect the same materials for recycling through a commingled collection;
2. All authorities will prevent waste and increase the amount recycled through restricting:
 - a) Collection frequency and/or
 - b) Container capacity



- 3.3.3 An assessment of options for waste prevention has been carried out and is included as Annex B. The diagram below shows the potential relative contribution of Prevention and Re-use measures to total avoidable waste at 2020/21 levels:



- 3.3.4 The assessment of options indicates that home composting, food waste prevention, 'smart shopping', and both re-use and junk mail initiatives could have the biggest impact in terms of reducing both waste collection and disposal costs.

Policy 9

The Local Authorities will implement uniform waste prevention initiatives across the counties to reduce the kg/household of waste collected and disposed of but not recycled, composted or re-used as a minimum in line with the aims of National Waste Strategy for England 2007.

- 3.3.5 Home composting continues to provide the single most effective potential prevention measure. Our approach is to promote home composting to reduce the environmental impacts of disposing of compostable waste. We will continue to promote home composting through the sale of subsidised compost bins and provide advice to residents through the 'Master Composter' scheme. Home composting also reduces collection and disposal costs and ensures that value is recovered from the waste material.
- 3.3.6 The authorities are working with agencies on national campaigns to prevent waste such as Waste Resource Action Programme's food waste reduction and 'Shop Smart' campaigns. We are also working at a local level to develop initiatives such as recruiting and training volunteers to promote waste prevention and give advice.
- 3.3.7 Herefordshire and Worcestershire continue to be innovative in developing and promoting the 'Sink your Waste' campaign for food waste disposers and thus preventing food waste from entering the municipal waste stream.

Policy 10

The Local Authorities will continue to develop and implement the most sustainable ways of processing green and kitchen waste within the household.

- 3.3.8 We will seek to minimise the amount of unsolicited mail that we receive and deliver and we will continue to promote the 'Jilt the Junk Mail' campaign to raise awareness of the issue and encourage



people to register with the Mailing Preference Service and Royal Mail's door-to-door service in a bid to help them reduce the amount of unsolicited mail that they receive.

- 3.3.9 The European Union Packaging Directive encourages producers to reduce packaging and recycle and recover packaging waste and now most bottles, jars, cans and plastic containers are lighter than they were before 2000. However, there is still a problem of excess packaging around many products. The Government is also working with the retail sector, primarily through the Courtauld Commitment which aims to design out packaging waste growth, deliver reductions in packaging waste and identify ways to reduce food waste. The Authorities will seek to minimise packaging in the procurement of goods, continue to lobby for reduced packaging and support local initiatives to reduce the usage of disposable carrier bags through local organisations and initiatives.



Policy 11

The Strategic Waste Management Board will lobby for measures to combat waste growth in areas such as product design, packaging and other producer responsibility issues, which are most effectively pursued at the national and international levels.

- 3.3.10 We need to continue to build upon the success of current waste prevention initiatives where practicable and financially viable, ensuring that they continue to deliver effective results. Our approach will be to encourage and achieve waste prevention. The Waste Prevention team employed by Herefordshire and Worcestershire Councils promotes these initiatives in partnership with all the authorities.
- 3.3.11 Our Waste Prevention Target is:

Target 2

To achieve the national reductions in household residual waste (waste not re-used, recycled or composted) of 35% by 2015 and 45% by 2020, based on 2000 levels.

Achieving the target:

The aim of the target is to achieve reductions in the amount of household waste that is not re-used, recycled or composted as set by the Government in Waste Strategy for England 2007. This will be done by concentrating on waste prevention, i.e. limiting the amount of non recyclable waste collected, promoting re-use and home composting and maximising on the amount recycled and composted through collection and disposal systems.

Authority	Kg per household 2000	2009/10 performance	Target March 2015	Target March 2020
Herefordshire	1,077	640	700	592
Worcestershire	1,075	614	699	591

Value foods have lots of packaging but there is no choice but to buy them because of the cost of alternatives” Herefordshire resident.

3.4 Re-use

- 3.4.1 We will continue to actively encourage, develop and promote re-use initiatives wherever practicable and financially viable. We acknowledge the strengths of the Third Sector in helping to deliver our objectives and that if the market can deal with "waste", costs to the authorities can be reduced. We will continue to support the work of the charitable and not-for-profit sector, in particular those Third Sector organisations which are involved in the Social Enterprises Waste and Recycling Forum (SEWAR) which has been set up by the Waste Prevention team.
- 3.4.2 We acknowledge the role of other sectors in supporting these operations and this continues to be supported through payment of re-use credits.
- 3.4.3 'Freecycle', and other internet-based waste exchange initiatives are an ideal way for local residents to exchange unwanted goods. We will continue to promote this volunteer led project by conducting training sessions on how to register and use this website and by raising the profile of Freecycle.
- 3.4.4 We will continue to promote alternative ways of disposing of unwanted furniture and appliances.
- 3.4.5 We are looking at the option of providing two recycling/re-use centres in Worcestershire. These could accept a full range of materials for recycling and re-use. Where practicable re-use facilities will be provided at all Household Waste Sites.
- 3.4.6 The authorities will investigate ways in which material collected through bulky waste collections can be diverted to re-use organisations and will continue to promote re-use organisations at the point of bookings for bulky items being made.
- 3.4.7 Textiles are collected by third sector agencies, charity shops, bring banks and at Household Waste Sites. The Authorities will not be collecting textiles as part of the Core collection service and therefore wherever possible we will work with the Third Sector to enable them to continue to provide bring banks and kerbside collections of textiles.



"Children should be educated about recycling so it becomes part of their lives"
Wychavon resident.

Policy 12

The Local Authorities will work with both the Third Sector and contractors to provide routes for goods and materials to be re-used.

3.5 Recycle/Compost

- 3.5.1 Recycling and composting are the gateways to changing attitudes as they enable communities to play their part. They ensure that valuable natural resources are recovered and reduce the demand for virgin materials. The ultimate aim of the Local Authorities is to have a fully integrated collection system that meets the needs of customers and is complementary to the waste treatment and recycling methods used.



- 3.5.2 Our approach is to provide a common core waste collection service with commingled recycling collected from the household and sorted at our EnviroSort Material Reclamation Facility in Worcestershire. Recycling collections will be adapted to suit local priorities and delivered according to need.
- 3.5.3 The commingled recyclate will include glass, paper, card, cartons, cans and plastics. This range of materials will be extended if and when possible in accordance with recycling market demand.
- 3.5.4 We will actively support the market to stimulate demand for additional types of recycled plastics and glass through our procurement of goods.
- 3.5.5 In addition to the core collection service some authorities have introduced chargeable garden waste collections according to identified local customer demand in order to increase the amount of waste recycled and composted. Authorities may choose to operate paid for collections of garden waste where both additional collection and disposal costs will be considered and agreed prior to service implementation. However, the Partnership's preferred approach is to promote home composting.
- 3.5.6 Outside of Wychavon there are no current plans to introduce separate collections of food waste.
- 3.5.7 Treatment processes may separate some of the material left in the residual waste stream so that it can be recycled.
- 3.5.8 We are actively exploring ways of recycling street sweepings.



Policy 13

The Local Authorities are committed to achieve targets set within this Strategy and have regard to the national targets set out in Waste Strategy for England 2007 for recycling, composting and recovery.

- 3.5.9 With the provision of the EnviroSort facility the authorities will seek to expand recycling services to the commercial sector. In line with Waste Strategy 2007, the Authorities are keen to explore options for encouraging businesses to recycle waste and to introduce chargeable recycling collection services to them wherever possible.
- 3.5.10 Bring recycling sites still have a significant part to play, even where there is substantial kerbside collection. There is certainly a need for these facilities where it is not possible to provide a kerbside collection – for example in remote rural or hard to reach urban areas. Bring recycling sites may also offer the best opportunity for collecting other materials not collected through kerbside schemes e.g. textiles.
- 3.5.11 We acknowledge the role of other sectors in supporting these operations and this continues to be supported through payment of recycling credits.
- 3.5.12 The authorities will work to have standardised products collected through bring recycling sites and will look at the option of contracts covering wider areas.



Policy 14

The Local Authorities will continue to provide and enhance bring recycling sites, where considered beneficial, and to supplement kerbside collection schemes and facilities provided at Household Waste Sites.

- 3.5.14 To emphasise the recycling aspect at all Household Waste Sites, they will all be re-branded as **Household Recycling Centres**.
- 3.5.15 Household recycling centres play a significant role in diverting waste away from landfill for recycling and composting and are a key interface with the public. They provide a local facility where the public can recycle a wide range of materials.
- 3.5.16 Household recycling centres will continue to provide facilities for residents to dispose of garden waste for composting and a place where they are also able to buy back the composted material as soil conditioner.



*"There are no recycling facilities at the flats where I live"
Redditch resident.*

Policy 15

The Waste Disposal Authorities, in conjunction with their partners, will maximise the potential of Household Recycling Centres to make sure that they provide a quality service and enable maximum recycling/re-use wherever possible.

- 3.5.17 Our Re-use, Recycling and Composting Targets are:

Target 3

To work towards achieving national recycling/composting levels of household waste of 45% by 31st March 2015 and 50% by 31st March 2020.

Achieving the Target:

The aim of the target is to achieve the minimum recycling and composting levels that the Government has set in Waste Strategy for England 2007. The Authorities have committed and will continue to commit funding and set their fees and charges in order to reach the targets through a combination of approaches including promotion, communication, collection and treatment processes

The Partnership has set a target of 43% recycling/composting before 31st March 2014. As new collection and treatment methods are introduced, the Partnership will review its ability to exceed this target in line with the 2015 national target of 45%

Target 4

To continue to meet the requirements of the Household Waste Recycling Act 2003.

Achieving the Target:

The aim of the target is to meet the requirements of the Household Waste Recycling Act 2003, which requires all Local Authorities in England to provide a kerbside collection of at least 2 recyclable materials from all households by 31st December 2010 unless the cost of doing so would be unreasonably high or comparable alternative arrangements are available. This is an essential part of the overall Strategy to achieve Government targets and diversion from landfill.

3.6 Recovery

- 3.6.1 We live in a changing world, with new technologies emerging that should deliver more sustainable waste management solutions. The Partnership needs to ensure that this Strategy is flexible so that we can take advantage of these new technologies, as well as established and proven technologies, thereby enabling us to meet the challenging targets for the future.
- 3.6.2 The residual options appraisal (Annex D) examines a range of options for the introduction of residual waste treatment capacity for Herefordshire and Worcestershire. These strategic options were appraised against a number of environmental, social and economic criteria in order to identify the option(s) that perform best overall. The Partnership has examined these options and the conclusions of the appraisal and agrees that they should inform the decision on any application for planning permission for a waste treatment solution for Herefordshire and Worcestershire. The appraisal will be reviewed in the light of any decisions on the waste treatment solution for Herefordshire and Worcestershire.
- 3.6.3 Recovering value from waste includes recycling, composting and treatment methods which produce a useful by-product, such as energy.
- 3.6.4 Through the consultation, an overwhelming majority of people felt that any left over waste which cannot be recycled, composted or re-used should be used as fuel to produce energy such as electricity. Minimising the impact on the environment was highlighted as the most important consideration in deciding what to do with left over waste.

"People need more information about the options for treatment that recovers value, such as energy, from waste"
Herefordshire resident.



Policy 16

Waste management methods will promote sustainable waste management by considering and balancing environmental, social and economic impacts. Both established and emerging technologies will be considered to enable a flexible approach to the waste treatment methods that will be adopted.

- 3.6.5 Our Recovery Target is:

Target 5

By 2015 or earlier if practicable, we will recover value from a minimum of 78% of municipal waste.

Achieving the Target:

The aim of this target is to achieve the Best Practicable Environmental Option (BPEO) for Herefordshire and Worcestershire that was identified in July 2003 through a portfolio of treatment options- i.e. a minimum of 33% of municipal waste to be recycled and/or composted, a maximum of 22% landfilled and the remainder for energy recovery. Whilst recognising that the BPEO is no longer part of planning guidance, it remains as an adopted policy within Herefordshire and Worcestershire.



3.7 Disposal

3.7.1 It has long been recognised within the two counties, that reliance on landfill is not a long term, sustainable option and our principle is to reduce use of landfill as much as we can. However landfill will continue to play a part in the way waste is managed within Herefordshire and Worcestershire as landfill is the only suitable disposal route for certain waste streams and process residues. Whatever other treatment methods are used, the Partnership will aim to recycle and recover the maximum amounts possible and reduce reliance upon landfill in line with the BPEO target.



Policy 17

The Local Authorities will increase recovery and diversion of biodegradable waste away from landfill in line with the EU Landfill Directive to ensure we achieve, as a minimum, the requirements of the Landfill Allowance Trading Scheme.

3.7.2 Our Disposal Target is:

Target 6

To reduce the amount of biodegradable municipal waste landfilled in order to meet the yearly allowances set by Government under the Landfill Allowance Trading Scheme. In particular in target years as below:

102,684 tonnes during April 2012 to March 2013
71,851 tonnes during April 2019 to March 2020

The trading scheme will be used to buy and sell allowances where this is appropriate.

Achieving the Target:

The aim of the target is to ensure that the Authorities meet the requirements of the Landfill Directive, which requires that the amount of bio-degradable waste that is sent to landfill is reduced. The introduction of the Core collection service waste prevention and the new residual waste treatment processes will enable these targets to be met.



3.8 Awareness Raising

3.8.1 Building on past success the Partnership will continue to raise awareness of waste issues with Elected Members and our communities. We also need to continue to effect behavioural change through delivery of the Core collection service. Raising awareness of the efficiency of our services is also an important part of our promotional activities.

3.8.2 Whilst it is important that there is collaboration and joint working to share good practice and be more cost effective, it is also important that the Local Authorities continue to develop their own initiatives and publicity programmes to accommodate local needs.

3.8.3 The Partnership recognises the importance of continuing to build on good media relationships to ensure that opportunities for awareness raising and publicity are used to maximum effect wherever possible.



- 3.8.4 The development and promotion of web sites and consistent use of web based material and enquiry portals also offer an important way of raising awareness, providing information and dealing with customer enquiries.
- 3.8.5 The next generation will be living with the effects of Climate Change and it is important to influence their behaviour now. Schools through their work with young people and the wider community have a vital role working towards a more sustainable future, both in educating the young people themselves and through their parents and the wider family. The Partnership will continue to provide recyclable collections to schools and increase the amount of schools that have a recycling collection wherever practicable.

Policy 18

The Local Authorities will continue to work together on waste prevention, re-use and recycling schemes and raise awareness of the links between these and Climate Change.

Policy 19

The Local Authorities will continue to raise awareness of resource management issues and link with national campaigns and promotions where appropriate to achieve maximum impact and results.

3.9 Partnerships

- 3.9.1 Joint working between local authorities is becoming increasingly important as a means of delivering quality services to residents and meeting the UK's Landfill Directive obligations at affordable cost. This approach is particularly important in two-tier areas, where responsibilities for waste collection and waste disposal are split between different authorities. As new, more sustainable ways of managing waste are introduced, it is becoming increasingly important to integrate collection and disposal which also brings the potential to generate efficiencies.

"If people knew what happened to recyclables then they are likely to recycle more" Malvern Hills resident.



- 3.9.2 In Herefordshire and Worcestershire, the local authorities have adopted a partnership approach to joint working through the Strategic Waste Management Board and the Senior Officer Group, which work very successfully and have developed this Strategy. The Strategic Waste Management Board will continue to consider future governance arrangements as new guidance is produced and any changes in legislation are announced. Delivery of the Strategy will require that the authorities continue to work together in order to meet objectives in the most effective, efficient and economic way.
- 3.9.3 The Third Sector, voluntary and community groups have a valuable role to play and can be innovative and bring a fresh perspective to waste management issues. The expertise and experience that some of these groups have in collecting and re-using materials and in education and awareness raising will have an important part to play in delivering the Strategy.



"A charge for collection of garden waste would encourage people to compost at home"
Herefordshire resident.

Policy 20

Re-use and recycling of waste materials by the commercial, voluntary and community sector will be actively encouraged and in appropriate circumstances supported and facilitated including through the use of partnership working.

3.10 Planning and Economic Opportunities

- 3.10.1 The economics of waste is changing. As the landfill tax increases, other waste treatment options become more cost effective for both local authorities and their partners, businesses, schools and any organisation that produces or handles waste. As new markets develop we will look to adopt alternative ways of dealing with waste which are more sustainable and cost effective.
- 3.10.2 Opportunities for more sustainable waste management, such as through the installation of food waste disposal units and provision of compost bins, will be explored through the local planning process for new housing developments wherever possible.

Policy 21

Opportunities for more sustainable waste management will be actively sought in all new developments as part of the planning process. Where necessary representations to Government will be made through the appropriate channels to seek amendments to planning legislation to support this and the other aims of this Strategy.

Policy 22

The Strategy will be aligned with key spatial and planning policies as they develop to ensure they are mutually supportive.

3.11 Transport

- 3.11.1 Efficient use of transport is a key factor in developing and implementing a sustainable waste management strategy. Currently, wherever practicable and cost effective, the transportation of waste and recycled materials is minimised through provision of local sites and by compacting materials. In the short to medium term, waste may need to be transported to national facilities in order to ensure that we meet the requirements of the Landfill Directive.
- 3.11.2 Adoption of a carbon footprint approach to transport where 'waste miles' are measured will support the decision making process for the provision of the core and local services.



Policy 23

The Local Authorities will design and operate collection, transfer, associated transport and treatment systems to minimise the overall carbon emissions (including "waste miles") arising from these elements of waste management activities and measured through target 1 of the Strategy.

3.12 Other Waste Streams

- 3.12.1 The authorities have a duty to collect certain other materials such as clinical waste and street sweepings. The Action Plan for these waste streams will be included in Annex I.

Policy 24

Individual policies will be prepared for specific waste streams where this is considered the best approach to preventing, re-using, recycling and recovering value from waste arising in these streams.



Managing waste for a brighter future



**The Joint Municipal Waste Management Strategy
for Herefordshire and Worcestershire 2004 - 2034
First review August 2011**

Annex A

Waste Growth



The Joint Municipal Waste Management Strategy
for Herefordshire and Worcestershire 2004 - 2034

First review August 2011

Waste Growth

In developing the Joint Municipal Waste Management Strategy (JMWMS) for Herefordshire and Worcestershire it is important to try and predict the future waste tonnages that will have to be managed. The amount and type of waste will be dependent on a number of factors including:

- The number of additional dwellings. In the period 2006 to 2026, the current Regional Spatial Strategy allocates more than 16,000 dwellings in Herefordshire and more than 36,500 dwellings in Worcestershire.
- Government policy and legislation.
- The economic climate.
- The effects of climate change.
- Demographic structure.

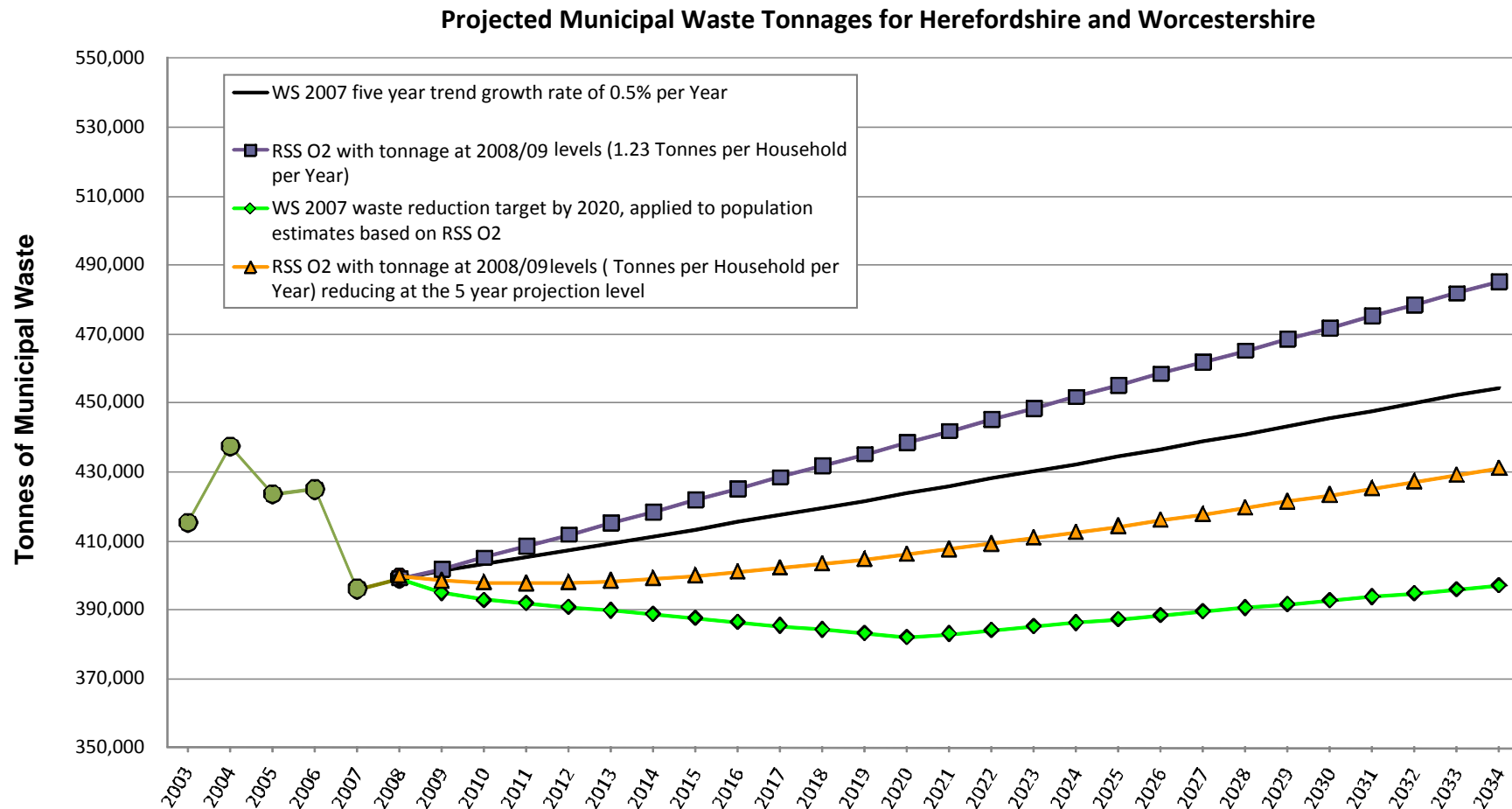
The amount of Municipal Solid Waste (MSW) produced in Herefordshire and Worcestershire has levelled off and started to fall over the last four years. A number of different growth scenarios have been investigated to try and show how this might change in the future and this will help determine the expected tonnage that will require disposal.

- **Scenario 1** - a top end estimate of the average MSW growth rate for the last five years, as quoted in the Waste Strategy for England 2007.
- **Scenario 2** – a forecast of MSW growth based on the latest (2008/09) tonnages for Herefordshire and Worcestershire, with rates of production per household remaining constant, but with the number of households growing in line with option 2 from the Regional Spatial Strategy
- **Scenario 3** – a forecast of MSW growth based on the objectives from the Waste Strategy for England 2007 to reduce household waste not re-used, recycled or composted to 225kg/head by 2020. So with a 50% re-use, recycling and composting rate that means total household waste arisings will be 450kg/head. The growth in population associated with option 2 of the Regional Spatial Strategy has been applied to the total household waste arisings of 450kg/head. Non-household waste arisings have been assumed to remain static.
- **Scenario 4** – a forecast of MSW growth based on a profile of the MSW arisings in Herefordshire and Worcestershire from the last five years but with the number of households growing in line with option 2 of the Regional Spatial Strategy.

Table 1 and Figure 1 show the expected future growth of MSW under these different scenarios.

Scenario	Tonnes MSW in 2010	Tonnes MSW in 2015	Tonnes MSW in 2020	Tonnes MSW in 2034	Difference 2008/09 to 2034
1 - 0.5% growth	403,202	413,383	423,822	454,473	58,480 tonnes annual increase
2 - 2008/09 kg/hh with RSS option 2	405,139	421,817	438,496	485,197	89,204 tonnes annual increase
3 - WS 2007 with RSS option 2	392,889	387,574	381,886	397,007	1,014 tonnes annual increase
4 - 5 year projection with RSS option 2	397,886	399,929	406,109	430,976	34,983 tonnes annual increase

Figure 1 – Projected Municipal Solid Waste Growth Scenarios for Herefordshire and Worcestershire



- The Regional Spatial Strategy has a number of options for annual build rates of new dwellings and the one that Worcestershire are proposing to adopt is option two. This would give approximately an extra 1,900 dwellings per annum in Worcestershire.

Conclusion

The planned level of house building in the Regional Spatial Strategy means that the number of households in Herefordshire and Worcestershire is expected to grow considerably over the next 20 years. It is therefore essential that this be taken into account when growth scenarios for Herefordshire and Worcestershire are considered.

To ensure greater deliverability, this Strategy and the Waste Core Strategies for Herefordshire and Worcestershire need to be aligned.

Sensitivity Analyses of the effect of differing growth rates will be explored during development of the Strategy.

Quantitative examples of how reductions in MSW arisings can be achieved will be fully explored in the waste minimisation options appraisal report.

The waste growth scenario used for the review of the JMWMS is scenario 2, where rates of production per household remain constant at 2007/08 levels but the number of households grows in line with option 2 from the Regional Spatial Strategy. The reason behind this choice is that although we are intending to concentrate our efforts on waste minimisation we are also implementing paid for green waste collections in some local authority areas. Our experience shows that new green waste collections actually generate an increased overall tonnage of MSW, it is our belief that this will balance the waste minimisation efforts and thus waste growth will be due only to the growth in the number of households

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1. ASSESSMENT OF OPTIONS FOR WASTE PREVENTION

Benefits of waste prevention and re-use

Numerous benefits may be gained from reducing the amount of waste generated within the community. The Government's aim is "to break the link between economic growth and the amount of waste produced and to drive the management of waste up the waste hierarchy". (see note 1, p28) Waste prevention and re-use sit at the top of the waste hierarchy and guidance provided by Defra advises that as a result of this these options should be considered first in the process of evaluating options for managing waste. (see note 2, p28)

A push towards focusing on the waste hierarchy and thus waste prevention and re-use, is supported by the following benefits, as highlighted by the National Resource and Waste Forum (see note 3, p28) :

- reducing demands on finite natural resources and the often 'hidden' adverse environmental impacts of resource extraction and harvesting;
- reducing the transport impacts that are often significant in overall environmental impact terms (as shown by life cycle assessment methods);
- meeting the demands of EU legislation, particularly the biodegradable municipal waste (BMW) diversion targets of the Landfill Directive translated into the Landfill Allowance Trading Scheme;
- reducing the cost of waste management by reducing the need for waste collection, disposal, treatment and landfill levies; and
- encouraging social inclusion and economic development through creating jobs and training opportunities often for the most disadvantaged in society.

Additional benefits exist that are specific to the waste prevention and re-use options. These are presented in the relevant sections below.

2. WASTE PREVENTION INITIATIVES

2.1 CURRENT (September 2008) WASTE PREVENTION INITIATIVES WITHIN HEREFORDSHIRE AND WORCESTERSHIRE

A number of waste prevention schemes have been in place in Herefordshire and Worcestershire since June 2000 and have played an important role in reducing the amount of waste sent to landfill. In Herefordshire and Worcestershire a 'Waste Challenge Team' have been employed by both Herefordshire Council (HC) and Worcestershire County Council (WCC) to cover the whole of the two counties for the purposes of promoting and developing waste prevention initiatives; with support from district council officers. Current (September 2008) schemes within the counties are listed in *Table 2.1* below, and discussed in more detail in *Section 3* of this report.

Table 2.1 Existing (September 2008) Initiatives

Activity	Coverage / Summary
Commercial Vehicle and Trailer (CVT) Permits	Across the whole of Herefordshire and Worcestershire; very comprehensive coverage.
Residents permits	Introduced in 2 districts only to date.
Home Composting	Project Development Officer (Composting) employed since 2005. Very comprehensive, with good participation across all districts. 40 Master Composters are in place across Herefordshire and Worcestershire to support home composting.
Love Food Hate Waste Campaign	Began promotion in 2007 alongside WRAP's national campaign, promotion to date includes Billboards, adverts in press and roadshows.
Re-use Initiatives	Project Development Officer (Re-Use) employed in 2005. Good working relationship with third / voluntary sector. Social Enterprises involved in Waste and Recycling Forum (SEWAR) facilitated by Re-use Officer. Payment of re-use credits introduced in Worcestershire in 2007.

Activity	Coverage / Summary
Sink Your Waste Project	Project Development Officer (Organics and Home Wood Chipping) employed in 2005. HC and WCC offer a cash-back scheme to residents fitting a kitchen food waste disposer. Reasonable take-up across Herefordshire and Worcestershire
Home Shredding – ‘Shredderman’	Project Development Officer (Organics and Home Wood Chipping) as above. Home wood chipping service run in 3 districts of Worcestershire since 2004. Initially a free service, charges were introduced to customers from January 2007.
‘Jilt the Junk Mail’ campaign	“Jilt the Junk Mail” pack developed detailing how residents can reduce unwanted mail. No comprehensive promotions have taken place other than the launch of the “Jilt the Junk Mail” pack. The pack is promoted alongside other campaigns at public events.
Real Nappy Project and Real Nappy Incentive Scheme	A limited Real Nappy Project has been run across Herefordshire and Worcestershire since 2003/04. In March 2007 the Real Nappy Incentive Scheme was launched across Herefordshire and Worcestershire. The Incentive Scheme is administered by Green Nappies, a social enterprise working with adults with learning difficulties. 10 ‘Nappaccino’ events are run each month across Herefordshire and Worcestershire.
Waste collection policies e.g. side waste restrictions	Some Waste Collection Authorities (WCAs) have policies restricting or forbidding side waste, in order to limit the amount of waste collected from residents and to encourage waste reduction, re-use and recycling.

3. Waste Prevention Options Appraisal

This section details the options appraisal. The appraisal has been conducted to help the authorities establish where resources can best be allocated to ensure the maximum reduction of waste materials entering the Municipal Solid Waste (MSW) stream.

3.1 METHODOLOGY

An introduction to each initiative option is provided, including a list of risks and benefits. Prevention options are explored, including current (September 2008) approaches being undertaken in the area and further development of the initiatives. Finally a cost/benefit summary involving the determination of whether Herefordshire and Worcestershire will achieve a net benefit through development and implementation of waste prevention programmes is provided.

The aim of this section of the report is to guide the authorities in their future plans when allocating funds to schemes and resources. It intends to present the authorities with examples of ways to push waste prevention schemes to the maximum and is by no means intended to be prescriptive. The options provided show the potential tonnage diversion that could occur if, for example participation rates in home composting were increased or if 'smart shopping' behaviours were adopted by householders, and intends to be an indicative selection of options that will help to guide the authorities when making future plans.

The options provided also show the potential tonnage diversion that could occur if, for example participation rates are increased or coverage of the initiative or scheme is expanded.

Discussions were held with waste prevention officers and waste management staff in order to obtain detailed information relating to current (September 2008) and potential waste prevention schemes, and to agree assumptions regarding potential waste diversion and cost benefit estimates.

The options discussed above have been assessed against a variety of criteria. Consideration was given to the:

- percentage of the waste stream that the waste type constituted;
- potential reduction / diversion (percentage) of the waste stream;
- target levels for the population;
- arisings (tonnage) of MSW diverted from landfill;
- savings in disposal and collection costs;
- costs of initial infrastructure and ongoing programme costs; and
- financial benefit of implementing the prevention or re-use initiative.

A number of assumptions have been made in order to carry out the waste prevention options appraisal which are highlighted in the appraisal for each option. All costs have been based on present (September 2008) costs, with no uplift for inflation, or for example the increasing cost of disposal to landfill and landfill tax. Cost information is provided for comparison purposes only and is not an accurate reflection of 'real' cost or benefit to the authorities, resulting from the implementation of the waste prevention options.

Commercial Vehicle and Trailer (CVT) Permit Scheme

In 2007 a comprehensive CVT scheme was implemented throughout all Household Waste Recycling Centres in Herefordshire and Worcestershire, to actively discourage illegal trade waste deposits into the Municipal Waste Stream. The scheme allows residents to apply for a permit (at no charge) which enables them to use small vans, trailers and lorries to deposit household waste. Site staff have the power to stop vehicles and refuse entry if they suspect that the contents are not household waste.

This scheme is considered to be very successful and the potential for further impact on waste prevention may be minimal. Therefore, this scheme has not been included in the assessment of potential prevention measures and initiatives within this report.

3.1.1 Home Composting Program

Home composting prevents garden and vegetable waste from entering the waste stream, and, as such, is an important contributor to targets for the diversion of biodegradable municipal waste (BMW) from landfill and helping to achieve the Landfill Allowance Trading Scheme (LATS) obligations. Home composting does not as yet contribute to meeting LATS obligations, although may well do so in the future. *Table 3.1* highlights benefits and risks associated with initiating further home composting programmes.

Table 3.1 Home Composting: Benefits and Risks

<ul style="list-style-type: none"> • Reduced need to buy peat-based composts. • Further public engagement/awareness. • Reduced costs for collection and disposal. • Avoidance of LATS penalties. • Reducing resource/energy use. • Reduced volumes of BMW to be sent to landfill, therefore reduced landfill costs. • Reducing weight of residual waste. • Reduced pollution due to fewer car journeys to HWRCs, landfill sites and composting facilities, and reduced collection vehicles on the roads. • Social inclusion through community composting projects. • Convenience 	<ul style="list-style-type: none"> • Quantities of waste diverted may not reach expected levels due to low demand /participation rate resulting from lack of knowledge, cost of bins and lack of space. • Image- it is not perceived to be relevant or attractive to some groups. • Composting is considered by some to be smelly and unpleasant. • Potential for pests, such as rats, to make their homes in compost bins. • Householder cannot always afford to buy compost bins (the WRAP national home composting programme will not continue to subsidise bins). <p>Residents can lose interest after bins become full and need emptying.</p>
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In order for home composting schemes to be successful, the householder needs to play an important role in the uptake of the scheme. The individual authorities are responsible for awareness raising, making the scheme more accessible and for assisting residents where necessary, but a significant change in behaviour from residents is necessary for participation to increase.

The individual authorities have adopted the promotion of home composting initiatives as a means of reducing the amount of household waste collected and disposed of in Herefordshire and Worcestershire. Comprehensive campaigns have been running since approximately 2004 to promote home composting across the two counties. A Project Development Officer (Composting) was put in post by HC and WCC in 2005 to further the Home Composting Programme across the two counties.

HC and WCC have been partners in the Waste and Resources Action Programme (WRAP) Home Composting Programme since April 2004. From April 2004 – end July 2008 over 79,000 compost bins were sold via this scheme.

HC and WCC also have a Master Composter Scheme in place, whereby a number of volunteers actively encourage and support residents to compost at home. This scheme has been in place since April 2006.

Road shows and Compost Clinics are run periodically to support existing composters.

There are further opportunities for the authorities in Herefordshire and Worcestershire to increase the level of home composting by ensuring householders continue to use their existing bins and promoting home composting to new users.

Due to the high number of established home composters and the number of bins already sold to residents in the two counties, it is likely to become increasingly difficult to convert remaining householders to home composting. That said, a significant proportion of remaining MSW is biodegradable and can be composted at home. A focused approach to identify those households who have gardens but who are not already composting should be considered.

A support package for composters will help to deliver maximum diversion rates throughout the life of the compost bins sold to date, and bins provided in the future. There is scope to provide further support by expanding the Master Composter Scheme.

There may also be an opportunity to reduce the amount of biodegradable waste sent to landfill and reduce the amount of green waste entering HWRCs by encouraging community groups to start up community composting sites.

Table 3.2 summarises an assessment of the potential for diversion of garden and kitchen waste from households with gardens. (see note 4, p28) If 65% of households with gardens throughout Herefordshire and Worcestershire participate in home composting by 2020/21, it has been estimated that up to 4.37% of total MSW arisings can be prevented. This however will require a significant increase in participation through education and incentive campaigns. In theory, over 60% of household waste (by weight) is biodegradable and therefore can be composted. (see note 5, p28) However, in practice, 30% of household waste can be composted easily at home, or in the community (see note 6, p28) (equating to approximately 360kg per household).

Table 3.2 Targets for home composting

Year	Max Target No. of households with Gardens	No. of bins distributed (cumulative)	No. of additional bins required**	Target % of hholds with space home composting	Number of households based on Target %	Potential for diversion tonnes / yr (at 140Kg / hhold) at 70% participation)
2007/08	-	76,485	-	-	*108,860	-
2010/11	277,100	120,982	44,497	45%	124,695	12,220
2013/14	285,000	167,843	46,861	50%	142,500	13,965
2020/21	303,450	278,031	110,188	65%	197,243	19,330

Assumptions

Diversion tonnages are based on data taken from the Household waste Prevention Toolkit relating to individual authorities that suggest home composting quantities typically range from 100 – 200 kg per household per year (see note 7, p28). Recent communication with WRAP who are currently (September 2008) undertaking a review of the toolkit has resulted in a suggested figure of 140kg per household. We have assumed that the percentage of households with gardens (including detached, semi-detached, bungalow and terrace) is 85% (this figure has been supported by WRAP and compares well to census data for 2001, suggesting that 87.5% of households in Herefordshire and Worcestershire had gardens).

* The base figure of 108,860 households' home composting in 2007/8 is calculated using data supplied by WRAP relating specifically to Herefordshire and Worcestershire. This assumes that 29% of households in Herefordshire and Worcestershire were actively home composting before bins were available from WRAP and Herefordshire / Worcestershire partnership, and that 67,500 households received compost bins from the WRAP and Herefordshire / Worcestershire partnership (up to 2007/8). Of those households receiving bins from the partnership up to 2007/08; 50% were already home composting. (see note 8, p28)

** The number of additional bins requiring distribution, and to have been put into use by each of the target years in *Table 3.2* has been calculated by assuming that each additional household which adopts home composting will require 1.2 compost bins (1.2 is the average number of compost bins per household adopting home composting; this figure was provided by WRAP), and that all home composting bins purchased up to 2010/11 will be replaced by 2020/21 (this is based on the assumption that a compost bin has a 10 year useful life).

Cost and Benefit

Costs involved in this programme include the infrastructure such as composting bins, promotional and advertising costs and the support staff to manage the programme and volunteer support. the overall cost impacts can be seen in *Table 3.1*. local authority can expect cost savings of £10.20 per tonne based on avoided costs of collection and disposal, and factoring in the compost bins, promotion and support work. (see note 9, p28)

We have estimated based on today's figures, an annual benefit, taking account of initiative costs and avoided disposal (see note 10, p28) of £1,044,495 in 2020/21.

3.1.2 Real Nappy Project

Using reusable nappies instead of disposables can contribute to the diversion of waste from landfill. In order for reusable nappy initiatives to be successful there needs to be a change in behaviour and attitudes towards the use of these nappies from householders. Authorities need to increase awareness of available schemes (e.g. laundry services) and some subsidise or incentivise schemes to encourage their uptake; however, these schemes do rely on behavioural changes from householders in order to be effective. *Table 3.3* highlights benefits and risks associated with expanding reusable nappy diversion schemes.

Table 3.3 Real Nappy project: Benefits and Risks

Benefits	Risks
<ul style="list-style-type: none">• Greater participation in schemes will ensure ongoing availability.• Reducing resource/energy use• Once purchased, real nappies can be kept and used for subsequent children.• A baby typically gets through 5,000 to 6,000 nappies, weighing around 1 tonne. In comparison, a baby only needs around 20 to 30 modern washable nappies. (see note 11, p28)• Using real nappies can save parents money.	<ul style="list-style-type: none">• An initial investment in the nappies is required which can be an economic barrier to some families.• Participation may be dependant on environmental debates regarding the costs and benefits of real nappies.

Herefordshire and Worcestershire currently (September 2008) have a Real Nappy Project which operates across the two counties. This includes a Real Nappy Incentive Scheme which gives parents the opportunity to either receive £30 cash-back when they purchase £50 worth or more of real nappies (excluding accessories) or claim a free pack of 'prefold' nappies worth approximately £15 from 'Green Nappies', a social enterprise working with adults from disadvantaged groups. The scheme is administered by Green Nappies. A network of volunteers has also been mobilised as part of this scheme who run 'Nappaccino mornings' (informal networking events) and give first hand advice to parents who are looking to use real nappies, or who are struggling with real nappies.

Table 3.4 summarises an assessment for the diversion of disposable nappies from the household waste stream. If 35% of parents with babies use 'real' reusable nappies by 2020/21, up to 0.67% of total MSW arisings can be reduced.

Table 3.4 Targets for the promotion of real nappies

Year	Estimated No. of babies in the sub-region	Target % babies in reusables	Target No. of babies in reusables	Potential for diversion (tonnes)
2007/8		4% (see note12, p28)	954	334
2010/11	23849	15%	3614	1,265
2013/14	24096	25%	6085	2,130
2020/21	24339	35%	8717	3,051

Assumptions

The number of babies in Herefordshire and Worcestershire has been calculated by determining the percentage of the population in the 0-4 age category (which is 5.2% of the population across Herefordshire and Worcestershire) and multiplying this by 0.625 ($1/4 * 2.5$) to ascertain the proportion of the population between the ages of 0 and 2.5. This figure was used instead of the number of babies born in Herefordshire and Worcestershire, as babies not born within the two counties would not be included in such calculations if they moved into the area. Likewise, this portion of the population may change if babies move out of the area.

Recent studies have estimated that babies generally wear nappies for 2.5 years. During this time, a baby will use approximately 3796 nappies (4 per day). (see note 13, p28) This equates to a range of approximately 205kgs – 350kgs per child per year over the 2.5 years of estimated use. (see note 14, p29) Based on these estimates, potential reductions have been calculated, as shown in *Table 3.4*.

Cost and benefit

The costs involved for this programme require a small contribution to the salary of a Local Authority coordinator and the costs required to support an incentive scheme (including campaign materials and expenses) focused on waste prevention and re-use. The current (September 2008) scheme is also reliant on the goodwill of a number of volunteers who run the Nappaccino mornings and give first hand advice to parents who are looking to use real nappies, or who are struggling with real nappies. This time is invaluable but it is difficult to quantify. The overall impacts can be seen in *Table 3.17*.

3.1.3 Sink Your Waste

Herefordshire Council and Worcestershire County Council began promoting the use of kitchen food waste disposers in 2005 by offering a cash-back incentive for residents who fitted a food waste disposer. Kitchen food waste disposers provide a means by which residents can dispose of waste food without it entering the household waste stream. Disposers are particularly useful for residents who cannot compost at home and for disposing of inedible food and cooked food leftovers which should not be composted e.g. meat and fish bones.

It is understood that there are no other local authorities promoting and supporting the cost of food waste disposal units to the householder as a means of diverting biodegradable food waste from the MSW stream. It is commonly thought that sewage undertakers / water companies do not approve of disposal in this way, and to this end the two authorities are stakeholders in a three year collaborative research programme with the Water Research Centre (WRc). Whilst internationally the results of studies into food waste disposers are broadly favourable, there is a growing consensus that if biogas is effectively utilised from the anaerobic digestion of sewage sludge to generate heat and power, the addition of food waste will not compromise the operation of sewerage systems or waste water treatment facilities.

Table 3.5 Sink Your Waste: Benefits and Risks

<ul style="list-style-type: none"> • Further public engagement/awareness of the need to take responsibility for your own waste. • Reduced costs for collection and disposal. • Provides residents with a choice of disposal options for their food waste. • Compliments home composting by providing a method of disposal for getting rid of un-compostable items e.g. meat/ fish bones. • Supports alternate weekly residual collections for those that do not want food waste in their bin for up to two weeks. • Avoidance of LATS penalties. • Reduced volumes of BMW to be sent to landfill, therefore reduced landfill costs. • Reducing resource/energy use. • Reduction in residual waste per household help meet NI191. 	<ul style="list-style-type: none"> • Quantities of waste diverted may not reach expected levels due to low participation rate resulting from lack of knowledge or residents being unable to afford to fit kitchen food waste disposers. • Risk of water companies disapproving of the project due to increased load, operating costs, Animal Bi-products Regulations, Increase in BOD (Biological Oxygen Demand), rodents, blockages causing foul flooding and increased water usage. Household maintenance and replacement costs may be prohibitive for some.
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The Sink Your Waste scheme offers residents of Herefordshire and Worcestershire a rebate of £20 - £80 against the purchase and fitting of a food waste disposal unit. Informal partnerships have been developed with manufacturers and distributors of disposal units to promote this initiative. The total number of 'cash back' rebates and corresponding units installed up to the end of 2007/8 was 1469. This represents approximately 0.5% of total households in the two authority areas.

Road shows are periodically held in shopping centres, market towns and supermarkets and at public events to demonstrate the use of disposal units to the householders.

Table 3.6 summarises an assessment of the potential for diversion of food waste from the household waste stream. If the number of units installed increased to 5% of total households by 2020/21, this scheme would divert an estimated 0.73% of MSW.

Table 3.6 Targets for the Sink Your Waste Food waste disposal unit initiative

Year	Target No. Households (cumulative)	Target % Households (of total in the sub-region)	Potential for diversion (tonnes / yr)
2007/8	1469	< 0.5%	264
2010/11	3260	1%	587
2013/14	10050	3%	1,809
2020/21	17850	5%	3,213

Assumptions

It has been assumed that each disposal unit on average diverts 1.44 tonnes of waste from the MSW stream over its 8 year life; corresponding to approximately 180 kgs per unit each year. (see note 15, p29) The potential diversion as shown in table 2.7 has been estimated on this basis.

Cost and benefit

The cost to the two authorities per unit, including staff costs and promotional activities has been an average of approximately £145 (up to 2007/8). It is understood that the budget for promotional activities has been reduced, however this average cost up to 2007/8 has been used to approximate ongoing costs. The overall net benefit of this initiative can be seen in Table 3.17.

3.1.4 Home Shredding : Shredderman

WCC has been operating the 'Shredderman' service for a number of years. The main objective of this service is to encourage residents to retain their garden waste at home and use it as a resource. A Shredder vehicle and operative visits homes to shred large woody garden waste for use in the householders own grounds. Residents may otherwise have taken this waste to Household Waste Recycling Centres (HWRCs) for composting. This scheme aims to divert garden waste from HWRCs and thus avoid associated treatment and disposal costs.

Table 3.7 Home Shredding - Benefits and Risks

- Reduces tonnage of green waste entering Household Waste Recycling Centres.
- Converts garden waste into a valuable resource and encourages residents to use this at home.
- Demonstrates the proximity principle of dealing with waste as near as possible to point of origin.
- Compliments home composting by providing an option for being able to compost larger woody items at home.
- Provides an alternative to separately collected green garden waste.
- Further public engagement/awareness of the need to take responsibility for your own waste.
- Reduced costs for collection and disposal.
- Reduced numbers of vehicles on roads as residents no longer need to visit Household Waste Recycling Centres to deal with green garden waste.
- Shredderman contributes towards the national waste strategy target of reducing household waste to 450kg per person pa in 2020.
- Quantities of waste diverted may not reach expected levels if the service is not fully booked.
- Mechanical failure / breakdown which leads to curtailment of the service.
- Income generated may have peaked leading to unsuitability of future price increases to the customer.
- Service is currently (September 2008) dependant on co-operation of Redditch Borough Council landscaping and cleansing department.
- Residents may still take shredded by material to a HWRC, resulting in the authority paying twice for treatment and disposal.

Shredderman was initially a free service for residents; however since 2007 a charge has been introduced. To date (September 2008) this service has been run as a trial only in the Wychavon, Worcester City and Redditch districts. This service has not been extended into Herefordshire due to the rural nature of the county and the large distance between homes, which would increase travel times and costs for the operation of the service.

Additional promotion of 'home shredding' by residents has been conducted, to encourage residents to purchase a garden shredder and shred woody garden waste at home. Promotions have been on a relatively small scale.

Table 3.8 summarises an assessment of the potential for diversion of garden waste from the household waste stream as a result of an expansion of the Shredderman service. If the number of customer visits was increased to 2700 per year in 2020/21 (roughly doubling the impact of the current (September 2008) service) this scheme would divert an estimated 0.2% of MSW.

Table 3.8 Targets for home shredding: Shredderman

Year	Target No. customer visits	Customer growth (from 2007/8 base visits)	Potential for diversion (tonnes / yr)
2007/8	1350	-	462
2010/11	1688	25%	577
2013/14	2025	50%	693
2020/21	2700	100%	923

Assumptions

It has been assumed, that based on the operation of the current (September 2008) service, a maximum of 1350 customer visits is possible each year, and on average 342kgs of waste are diverted for each customer visit (this is based on the annual tonnage diverted in 2007/8, divided by the number of customer visits).

Cost and Benefit

Costs have been based on the actual running cost (which includes staff time and associated promotional costs) for 2007/8 and the income from customer charges. When the potential avoided cost of disposal is considered (see note 16, p29) the net cost of this service operating in 2020/21 is estimated at £9,589.

3.1.5 Junk Mail Prevention: Jilt the junk mail campaign

Unwanted mail, including advertising materials and free newspapers, accounts for around 3% of household waste. (see note 17, p29) Preventing unwanted mail relies on householders refusing handouts/free papers and by committing to the mailing preference service to limit postal promotions. In order for householders to be aware of these schemes, authorities need to raise awareness and provide relevant information. Benefits and risks associated with initiating a Mailing Preference Service promotional campaign across the sub-region are summarised in *Table 3.9* below.

Table 3.9 Junk Mail Prevention - Benefits and Risks

Benefits	Risks
<ul style="list-style-type: none"> Once a household has committed to the Mailing Preference Service, reductions will be observed after 3-4 months. Where commingled recycling services are offered, the reduction of this waste stream will allow more capacity within kerbside boxes / wheeled bins. Reducing resource/energy use. Could potentially divert BMW away from landfill. 	<ul style="list-style-type: none"> To achieve maximum reduction, householders will need also to commit to reducing unwanted mail by refusing handouts, flyers and free newspapers and magazines. Reduce quantity of material for recycling.

The “Jilt the Junk Mail” campaign has been promoted throughout Herefordshire and Worcestershire; however opportunities do exist to extend promotional activity further. A “Jilt the Junk Mail” pack has already been produced and could be used more extensively and built upon in future.

Table 3.10 summarises an assessment of the potential for prevention of unwanted mail from household waste. If 50% of households actively participated in a prevention programme by 2020/21 up to 1.26% of the total MSW stream could be prevented.

Table 3.10 Targets for reducing Junk Mail within the MSW Stream

Year	Participating Households	Potential diversion (tonnes / yr)
2007/8	5%	487
2010/11	20%	2,034
2013/14	25%	2,613
2020/21	50%	5,569

Assumptions

The quantity of unwanted mail generated within households was estimated at 3% (or 0.6kgs per household per week). (see note 18, p29)

Cost and benefit

There is limited data available to support estimated costs for such a promotional scheme; however costs should include contribution to the salary of Local Authority staff and the association promotional and campaign materials. For this exercise we have assumed a promotions and campaign cost of £2 per household (inclusive of all associated costs) to be split equally between Junk Mail, Smart Shopping and Food Waste prevention initiatives. Taking account of this cost and the potential avoided cost of disposal, the net benefit of this initiative in 2020/21 is estimated to be £183,559. The overall net benefit of this initiative can be seen in *Table 3.17*.

3.1.6 Smart Shopping

Householders can influence waste arisings through informed purchasing to reduce waste entering the home and then the municipal waste stream. Waste can also be reduced through buying more durable goods, or reusing and repairing products in the home. This includes for example householders taking their own plastic bags or reusable bags to supermarkets, choosing products that use less packaging, buying products made of recyclable materials and buying refills (generally available for products such as fabric conditioner and washing powders). Local authorities, such as Surrey County Council and the London Borough of Richmond have implemented smart/sustainable shopping programmes or Shop SMART (Save Money and Reduce Trash). HC and WCC have touched upon the principle of Shop Smart through the Mission Impossible action pack but there is potential to run more comprehensive campaigns in future. Consumer purchasing decisions can impact upon more than 60% of waste generated from purchased goods. (see note 19, p29)

Benefits and risks associated with initiating a shop smart re-use campaign across Herefordshire and Worcestershire are summarized in *Table 3.11*.

Table 3.11 Smart Shopping - Benefits and Risks

Benefits	Risks
<ul style="list-style-type: none">• Campaign may have wider benefits in raising environmental awareness• Reducing resource / energy use	<ul style="list-style-type: none">• Difficult to achieve major reductions in waste without industry cooperation and government intervention such as a plastic bag tax, indirect / direct charging for waste collection and disposal.

Targeting various stakeholders will be essential to ensure the success of a smart shopping programme. Encouraging industry to further reduce retail packaging materials will also assist.

Incentivising prevention programmes may assist with reducing waste within the community. Ultimately, educating the community to consider the impact of their choices on the environment is likely to lead to long-term behaviour change and thus greater success regarding waste prevention.

It is important to stress that behavioural changes are essential for smart shopping programmes to be successful. Householders, supermarkets, authorities and packaging manufacturers/suppliers all need to be involved in changing current practices in order for packaging to be reduced and for more informed purchasing to be undertaken. Raising awareness through advertising is an important way to change current shopping habits.

Currently (September 2008), there are no waste aware (smart) shopping schemes in Herefordshire and Worcestershire, therefore, the potential impact of introducing a scheme if successful is likely to be great. *Table 3.12* summarises an assessment of the potential for diversion of shopping/packaging waste within the two counties. Packaging/shopping waste makes up 60% of the total waste arising in the household waste stream. If 35% of households reduce their shopping/packaging waste by just 10% by 2020/21, over 10,500 tonnes of waste could be diverted (this represents 2.38% of total MSW arisings).

Table 3.12 Targets for reduction of shopping waste within the MSW stream

Year	Estimated achievable reduction of household waste	Households participating in behaviour change	Potential exclusion (tonnes / yr)
2007/8	10%	5%	1,357
2010/11	10%	10%	2,788
2013/14	10%	20%	9,960
2020/21	10%	35%	10,516

Assumptions

This analysis is based on studies (see note 20, p29) that have calculated that:

- shopping waste constitutes 60% of the household waste stream; and
- a 10% reduction of waste in each household can be observed.

Cost and Benefit

There is limited data available to support estimated costs for such a promotional scheme. The costs involved for this programme require contribution to the salary of a number of Local Authority coordinators in addition to campaign materials, promotional costs and expenses focused on smart shopping.

For this exercise we have assumed a promotions and campaign cost of £2 per household (inclusive of all associated costs) to be split equally between Junk Mail, Smart Shopping and Food Waste prevention initiatives. Taking account of this cost and the potential avoided cost of disposal, the net benefit of this initiative in 2020/21 is estimated to be £555,919. The overall net benefit of this initiative can be seen in *Table 3.17*.

3.1.7 Re-use initiatives

Re-use involves passing on used goods (with or without sorting / refurbishment) to those who can make further use of them. Re-use presents Herefordshire and Worcestershire with a low cost opportunity to increase tonnages diverted from the waste stream.

One study has found that 77% of upholstered furniture and 60% of domestic appliances disposed at HWRC sites could theoretically be refurbished and re-used. (see note 21, p29) Furthermore, HWRC sites committed to re-use have been found to generally have higher recycling rates, as a result of increased public awareness and improved staff motivation. (see note 22, p29) Other schemes such as Freecycle, a web-based free trading system, have proven successful at allowing the community to benefit from re-use opportunities. To maximise the re-use potential of the waste stream, a forum has been established across the two counties; the Social Enterprises involved in Waste and Recycling Forum (SEWAR) was formed in 2005. A Re-use Officer is in post to support awareness raising of the Re-use organizations operating in the two counties and to increase participation. *Table 3.13* highlights benefits and risks associated with initiating re-use campaigns across the area.

Table.3.13 Re-use Schemes - Benefits and Risks

Benefits	Risks
<ul style="list-style-type: none"> • Creation of jobs and training opportunities particularly for disadvantaged groups. • Provision of low-cost goods for low income families, schools and charities. • Help to meet requirements of the WEEE Directive. • Second-hand and charity stores can distribute reusable materials and raise money. • Reducing resource/energy use. • Hazardous waste reduction such as electrical equipment and paint. • Diverts waste from landfill. 	<ul style="list-style-type: none"> • Poor public image/pre-conceived negative images of used goods can become a barrier to establishing a successful scheme. • Concerns include security (eg computers), liability (H & S), and selling items and keeping money on-site (HWRCs). • Goods donated to charitable organizations which are not accepted or cannot be sold may be returned to HWRC sites.

Re-use in the community and the home offers the potential to reduce arisings of many items of waste including packaging, electrical equipment, furniture, wood, textiles, books, CDs, bicycles, tools, and paint. A number of re-use charities and organisations have been working in Herefordshire and Worcestershire for many years. These are well-established and known to residents for donations of second-hand furniture and domestic appliances, and some offer a free collection service from peoples' homes. The effect may be relatively localised in a neighbourhood or, in the case of some larger organizations, initiatives have an impact throughout Herefordshire and Worcestershire.

Table 3.14 Re-use initiatives in Herefordshire and Worcestershire

Re-use scheme	Details
Project Development Officer (Re-use)	A full time member of staff was put in place to manage the Re-use Project across Herefordshire and Worcestershire in 2005.
Social Enterprises involved in Waste and Recycling Forum (SEWAR)	WCC facilitates the forum, which has met regularly since July 2005. This has improved relationships between the LA and the third sector.
Re-use credits	The forum has seen the introduction of re-use credits in Worcestershire, a fair system of financial rewarding and incentivising the diversion of waste from landfill. Payment of re-use credits in Herefordshire is beginning to be implemented.
Community Grants for Re-use and Recycling	A community grant scheme to support organisations involved in re-use activities was introduced in April 2007. This is planned to be an annual activity.
Re-use Guide	A local directory of re-use organisations has been produced to signpost public donations.
Furniture and electrical appliances	HC and WCC work well with several well-established furniture and electrical appliance re-use organisations. Furniture and electrical appliances are donated to them by members of the public, some offer collection services.
Business waste – Scrapstore	The main focus has been on household waste, however, the authorities work with a local “scrapstore” who take in business waste and then offer it to the community as art resources
Freecycle	The Officer responsible for Re-use has worked with Freecycle moderators to further awareness of the movement and maximise usage
Swap Shops	The Project Development Officer (Re-use) introduced Swap Shops in 2008 and is assisting community groups in running their own events

Re-use scheme	Details
Bicycle Re-use	WCC works closely with a number of social enterprises involved in bicycle re-use, who engage with disaffected teenagers and adults with disabilities
Computer Re-use	Work with local charities who re-use and recycle computers and help to provide employment for adults with learning difficulties
Re-use at Household Waste Recycling Centres	This is fairly limited at this stage however possibilities are being explored for introducing re-use at sites in the two counties
Charity Shops	HC and WCC encourage members of the public to donate to/ buy from charity shops

Residents are currently able to contact the Waste Collection Authorities for a bulky waste collection of larger items (in most districts of Worcestershire this is a charged service; excluding Wychavon). The majority of waste collected is sent to landfill with the exception of white goods which are subject to the requirements of WEEE legislation. Herefordshire have an agreement with a re-use organization who handle their bulky waste collections and select items for re-use. There is scope for a similar scheme in Worcestershire.

The new National Indicator (NI 192) includes re-use as a measurable outcome which gives more incentive to support re-use, particularly exploring opportunities to develop re-use at Household Waste Recycling Centres, alongside recycling.

Efforts can be increased amongst the authorities to re-use goods that would otherwise become waste. *Table 2.16* summarises the potential for diversion of re-usable items from the MSW stream. If 25% of households re-used goods by 2020/21, up to 1.25% of total MSW arisings could be diverted.

Table 3.15 Targets for re-use of waste

Year	Target proportion of households participating	Target diversion assuming 2% reusable (tonnes / yr)	Target diversion assuming 5% reusable (tonnes / yr)
2007/8	+5%	-	1,327
2010/11	10%	817	2,042
2013/14	15%	1,255	3,139
2020/21	25%	2,209	5,523

Assumptions

In general, estimates lie between 2% and 5% (see note 23, p29) of total MSW material arising that can be re-used. These figures have been used to calculate the lower and upper bounds of what might be achieved through further focus on re-use. Further in-depth waste composition analysis particularly of bulky waste streams will allow the potential for diversion and prevention through re-use to be better understood.

Cost and Benefit

The costs involved in a re-use programme include establishing re-use facilities (e.g. as part of a HWRC site), staff costs, payment of re-use credits and promotion costs. Costs for running and supporting re-use initiatives in Herefordshire and Worcestershire have been based on the actual costs in 2007/08 which equate to approximately £77 per tonne. When the potential avoided cost of disposal is considered (see note 24, p29) the net cost of this service operating in 2020/21 is estimated at £9,555. The overall benefits of re-use initiatives can be seen in *Table 3.17*.

3.1.8 Food Waste Prevention : Love Food Hate Waste Campaign

The waste compositional analysis carried out across Herefordshire and Worcestershire in 2007/08 by Resource Futures highlights that approximately 25% waste entering the household collected waste stream is food waste. Some food waste is inevitable, for example, meat bones and vegetable peelings. However, currently a lot of the food which gets thrown away is perfectly edible.

Herefordshire Council and Worcestershire County Council are running projects to help reduce the amount of inedible food waste entering the waste stream by implementing home composting and food waste disposer initiatives.

Households can reduce the amount of food waste that they produce through making better informed purchases and by knowing how to store and prepare food to gain the maximum potential from the food they buy whilst producing minimum waste.

Herefordshire Council and Worcestershire County Council have already begun encouraging residents to consider and act on the amount of food that they waste by supporting the WRAP, Love Food Hate Waste initiative. However, this is only a start and far more work needs to be done to reduce the amount of food waste, one of the single biggest elements contributing to the household waste stream.

WRAP studies, issued in 2007, found that UK households create 6.7 million tonnes of food waste each year, accounting for some 19% of municipal waste. Research suggests that most of this could have been eaten if it had been managed better (stored correctly, used in time and cooked in the correct quantities). (see note 25, p29)

The potential for further food waste reduction is likely to be impacted by a growth in home composting, smart shopping behaviours and the use of food waste disposers already discussed in this report. It is therefore difficult to accurately determine the impact of a campaign alone on extra diversion.

Table 3.16 summarises an assessment of the potential for further diversion of food waste through a targeted and sustained promotion and education campaign.

Table 3.16 Targets for Food Waste Prevention

Year	Total diversion via home composting and Sink Your Waste scheme (tonnes / yr)	Additional prevention target for remaining food waste within MSW	Potential additional prevention diversion (tonnes / yr)
2007/8	6,505	2%	1,212
2010/11	8,066	10%	6,235
2013/14	10,359	15%	9,300
2020/21	15,030	25%	15,516

Assumptions

Recent reports suggest that approximately 216kgs of food waste are produced each year per household. (see note 26, p29) This is equivalent to 17% of MSW in Herefordshire and Worcestershire which is broadly consistent with the figure of up to 19% reported as part of the WRAP *love food hate waste campaign*.

We have assumed that each household participating in home composting will divert 60kgs of food waste per year via home composting (see note 27, p29), and that the diversion via food waste disposers outlined in *Table 3.6* is achieved. The remaining fraction of food waste in MSW can be targeted.

Cost and benefit

There is limited data available to support estimated costs for such a promotional scheme; however costs should include contribution to the salary of Local Authority staff and the association promotional and campaign materials. For this exercise we have assumed a promotions and campaign cost of £2 per household (inclusive of all associated costs) to be split equally between Junk Mail, Smart Shopping and Food Waste prevention initiatives. Taking account of this cost and the potential avoided cost of disposal, the net benefit of this initiative in 2020/21 is estimated to be £932,269. The overall net benefit of this initiative is can be seen in *Table 3.17*.

3.2 PREVENTION AND RE-USE ACTIONS AND OPTIONS IN PERSPECTIVE

This section of the report considers the net benefit of prevention and re-use initiatives and presents the contribution of individual initiatives to the overall waste prevention potential. It is important to note that Herefordshire and Worcestershire authorities have been running waste minimisation schemes for some time. Both authorities have experienced a below average waste growth rate (1%) per annum and at present (September 2008) the levels of waste are decreasing not growing.

The net benefit of prevention and re-use programmes needs to be considered when deciding on the most effective course of action and to allow decision makers to apportion resources appropriately. *Figure 3.1* highlights the maximum diversion rates that might be expected if the targets discussed in the preceding section are achieved. A combination of prevention and re-use programmes is recommended so the general message of the need to reduce waste is reinforced.

Figure 3.1 *Relative Contribution of Prevention and Re-use Measures to total 'Avoidable' Waste at 2020/21 levels*

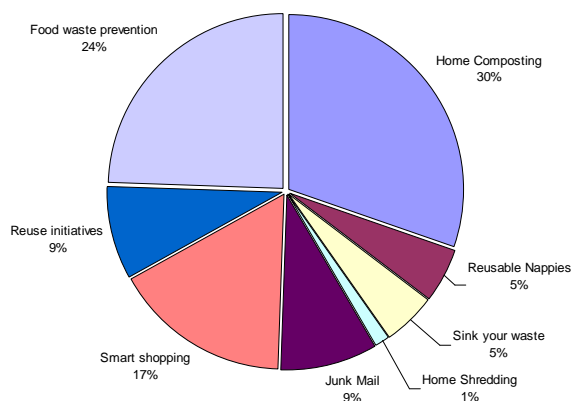


Table 3.17 gives indicative details (see note 28, p29) of the likely impact of the waste prevention and re-use campaigns. The data shows the potential tonnage diverted and illustrates which scheme is most beneficial financially through the use of a ranking system.

A simple assessment of impact on householder behaviours has also been included, based on the Defra 4 E's (see note 29, p30) model which includes the initiative or scheme ability to:

- Enable;
- Engage;
- Exemplify; and
- Encourage.

Table 3.17 Indicative Impacts of Implementation of Waste Prevention Initiatives and Schemes

Initiative	Potential % reduction in MSW tonnage 2010/11	Potential % reduction in MSW tonnage 2020/21	Potential diversion tonnes / yr 2010/11	Potential diversion tonnes / yr 2020/21	Potential avoided cumulative disposal costs (rank)	Total cost (-) / benefit 2020/21 (see note 30, p30)	Influence over household behaviours	Overall net benefit (see note 31, p30)
Home composting	2.99%	4.37%	12,220	19,330	1 st	£1,044,495 (see note 32, p30)	****	★★★★★★★★
Real nappy project	0.31%	0.69%	1,266	3,051	7 th	-£28,862	***	★★
Sink your waste	0.14%	0.73%	587	3,213	6 th	£96,813	**	★★★
Home Shredding	0.14%	0.21%	577	923	8 th	-£9,589	*	★
Junk Mail prevention	0.50%	1.26%	2,034	5,569	4 th	£183,559	***	★★★★★
Smart shopping	0.68%	2.38%	2,778	10,516	3 rd	£555,919	***	★★★★★★
Re-use initiatives	0.50%	1.25%	2,042	5,523	5 th	-£9,555	****	★★★★★
Food waste prevention	1.53%	3.51%	6,235	15,516	2 nd	£932,269	***	★★★★★★
TOTAL	6.79%	14.40%	27739	63641	-	£2,765,049	-	-

4. CONCLUSIONS

It is evident from the information presented in the previous sections that Herefordshire and Worcestershire council's currently (September 2008) operate a significant number of successful waste prevention schemes and these help to reduce the amount of waste being sent to landfill. A 'Waste Challenge Team' has been established, with officers supporting many initiatives. The work of this team in conjunction with WRAP and various partners is recognised as very good practice, particularly with respect to, home composting initiatives. However, it is difficult to predict accurately what specific impact many schemes have had or will have if further developed. So, ongoing monitoring of such waste minimisation and prevention schemes will ensure that more accurate data is available for this purpose in the future.

Some waste minimisation schemes require a high initial capital expenditure but result in higher cost savings and higher diversion tonnages. It is evident that some schemes provide better value for money than others. This report should help guide the authorities' decisions when choosing to invest further in existing (September 2008) schemes and start up future initiatives.

From this appraisal it is clear that a number of campaign led schemes; focussing on Junk Mail, Smart Shopping and Food Waste prevention can have a large impact on diversion (together accounting for over 40% of the potential diversion by 2020/21).

Home composting, whilst already successful to a large degree, continues to provide the single most effective potential prevention measure in Herefordshire and Worcestershire (30% of the potential diversion assessed by 2020/21).

It is important to note that the assessment intends to be a guidance document to provide suggestions on how to increase waste prevention and re-use in Herefordshire and Worcestershire. It does not intend to set specific targets for the authorities.

The success of waste prevention relies on bringing about behavioural changes in householders, waste producers (such as packaging manufacturers) and retailers as well as better education and awareness raising, advertising and general assistance from authorities in getting the messages across. It is essential that these groups work together more effectively in order for these schemes to divert significant amounts of waste from landfill.

The results of this report have helped us prioritise which waste prevention initiatives the Partnership will focus on in the future. Resources will be focussed as a priority on enhancing home composting and food waste reduction initiatives with some additional effort directed to increasing junk mail prevention, promoting smart shopping and enhancing re-use initiatives.

END NOTES:

- (1) Defra (2005) *Guidance on Municipal Waste Management Strategies*, July 2005, p. 7.
- (2) <http://www.defra.gov.uk/environment/waste/localauth/practice-guidance/pdf/infosheet10.pdf> p. 1. (Accessed October 2008)
- (3) *National Resource and Waste Forum / WRAP Household Waste Prevention Toolkit 2006 (currently under revision October 2008)*
- (4) *It was assumed that households defined as detached, semi-detached, terrace or bungalows have gardens. Data for H&W was taken from the National Statistics Web Site: www.neighbourhood.statistics.gov.uk Household growth projections for each district have been taken from Communities and Local Government data: www.communities.gov.uk*
- (5) *Defra Strategy Unit Report - Waste not Want not (2002)*
- (6) *National Resource and Waste Forum/ WRAP Household Waste Prevention Toolkit 2006 (currently under revision October 2008)*
- (7) *National Resource and Waste Forum/ WRAP Household Waste Prevention Toolkit 2006 (currently under revision October 2008)*
- (8) *Discussions with WRAP officers October 2008.*
- (9) *National Resource and Waste Forum/ WRAP Household Waste Prevention Toolkit 2006 (currently under revision October 2008)*
- (10) *Disposal costs are assumed to be £75.27 per tonne (un audited), which is the weighted average of the BV87 figure for the two authorities reported in Waste Challenge Team Evaluation Report, September 2008.*
- (11) *National Resource and Waste Forum/ WRAP Household Waste Prevention Toolkit 2006 (currently under revision October 2008)*
- (12) *Research by the EA (2004) determined that the market share of reusable nappies was less than 4% - Life Cycle Assessment of Disposable and Reusable Nappies in the UK, May 2005.*
- (13) *An updated lifecycle assessment study for disposable and reusable nappies (Defra, WRAP) 2008.*

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- (14) *The updated assessment referred to above includes a range of soiled disposal weights (page 13, table 2.2), with WRAP providing the highest based on a recent sampling exercise. We have used the highest weight for this exercise*
- (15) *Weight data taken from an Environmental Impact Study of Food Waste Disposers for Herefordshire Council and Worcestershire County Council by Dr Tim Evans 2007*
- (16) *Disposal costs are assumed to be £71.68 per tonne (unaudited), which is the BV87 figure for the Worcestershire reported in Waste Challenge Team Evaluation Report, September 2008.*
- (17) *National Resource and Waste Forum/ WRAP Household Waste Prevention Toolkit 2006 (currently under revision October 2008)*
- (18) *National Resource and Waste Forum/ WRAP Household Waste Prevention Toolkit 2006 (currently under revision October 2008)*
- (19) *National Resource and Waste Forum/ WRAP Household Waste Prevention Toolkit 2006 (currently under revision October 2008)*
- (20) *National Resource and Waste Forum/ WRAP Household Waste Prevention Toolkit 2006 (currently under revision October 2008)*
- (21) *Anderson (1999) Recycle, re-use, burn or bury?*
- (22) *Cameron-Beaumont, Bridgewater & Seabrook (2004). National Assessment of Civic Amenity Sites: maximising recycling rates at civic amenity sites. Future West, Network Recycling. Chapter 3.3*
- (23) *Cameron-Beaumont, Bridgewater & Seabrook (2004). National Assessment of Civic Amenity Sites: maximising recycling rates at civic amenity sites. Future West, Network Recycling. Chapter 3.3*
- (24) *Disposal costs are assumed to be £75.27 per tonne (un audited), which is the weighted average of the BV87 figure for the two authorities reported in Waste Challenge Team Evaluation Report, September 2008.*
- (25) *WRAP - Dealing with Food Waste in the UK, March 2007*
- (26) *WRAP - Dealing with Food Waste in the UK, March 2007*
- (27) *(WRAP - Dealing with Food Waste in the UK, March 2007*
- (28) *Based on data provided by the National Resource and Waste Forum Waste Prevention Toolkit, 2006. Data, where relevant, have been increased to account for the number of households and tonnages provided by the local authorities in comparison to the examples used in the Toolkit.*

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- (29) *Securing the future, UK sustainable development strategy 2005*
- (30) *This has been assessed through an amalgamation of the estimated capital and running costs plus the avoided disposal costs for the year 2020/21.*
- (31) *This is a simple summary assessment of the over all benefit of the initiative; taking account of the diversion, cost / benefit and influence over behaviours. The highest number of stars represents the scheme with the greatest overall benefit.*
- (32) *This cost has been adjusted to assume a £15 additional cost per compost bin provided in 2020/21 to cover the cost of retail and supply of bins and incentives to householders as support and grants cannot be guaranteed in future*

Annex C

Recycling and Composting Options Appraisal



The Joint Municipal Waste Management Strategy
for Herefordshire and Worcestershire 2004 - 2034

First review August 2011

Recycling and Composting Options Appraisal

1.0 Introduction

- 1.1 In line with its commitment to sustainable development, Waste Strategy for England 2007 aims to change the way waste is managed. Government policy seeks to break the link between economic growth and the amount of waste produced and to drive management of waste up the Waste Hierarchy. Where waste is produced it should be viewed as a resource to be put to good use; disposal should be the last option for dealing with it.
- 1.2 The aim of this study is to look at the impact of various options for the Partnership as a whole. This study looks at the overall effect that these options might have in helping the Partnership as a whole to meet its landfill diversion requirements by increasing the amount of waste recycled and composted, rather than examining impacts at an individual authority level.
- 1.3 The study intends to help guide the Partnership in choosing the most practical and cost effective means of increasing levels of recycling and composting across the counties.
- 1.4 This appraisal considers recycling and composting options in order to:
- Set achievable targets for recycling and composting
 - Enable the authorities to plan future service changes

2.0 Current Situation

2.1 **Table 1** – Recycling and composting performance for each authority.

Waste Collection Authority (WCA)	Combined BVPI Recycling and Composting for 2007/08		Predicted performance for Re-use, Recycling and Composting National Indicator in 2008/09 (%)
	Target (%)	Performance (%)	
Bromsgrove	20	43.41	43
Malvern Hills	20	25.50	26
Redditch	20	32.00	33
Worcester City	24	33.00	35
Wychavon	21	23.75	31
Wyre Forest	20	29.00	28
Worcestershire	30	38.01	40
Herefordshire	21	30.50	32
Combined	-	-	37

2.2 Table 2 - Waste Collection Authorities – existing collection schemes at January 2009

WCA	Residual Waste Collection		Recycling Collection		Garden Waste Collection for composting	Food Waste Collection for composting	Bulky Waste Collection	Commercial Waste Collection
	Weekly	Fortnightly	Weekly	Fortnightly				
Bromsgrove	-	W	-	Bo	F	x	✓	✓
Malvern Hills	Ba	-	-	Ba	x	x	✓	✓
Redditch	-	W	-	W	x	x	✓	C
Worcester City	-	W	-	W	x	x	✓	✓
Wychavon	Ba	-	-	Ba/Bo	P	✓	✓	✓
Wyre Forest	-	W	Bo	-	x	x	✓	✓
Herefordshire	Ba	-	-	Ba	x	x	✓	✓

Key

Ba - Bag; Bo - Box; C - Contracted out; F - Free;
P - Paid for; W - Wheeled bin; ✓ - Service provided; x - Service not provided

* For current post consultation collection schemes (November 2009) see appendix 1 of this document.

2.3 Household Recycling Centres

2.3.1 The following materials are currently separated at one or more of the Household Recycling Centres in Herefordshire and Worcestershire for recycling or composting:

- Food and drink cans/aerosols
- Scrap metal
- Garden waste
- Household and automotive batteries
- Paper and cardboard
- Soil and rubble
- Timber
- Textiles
- LPG bottles
- Shoes
- Glass bottles and jars
- Waste Electrical and Electronic Equipment (WEEE)
- Oil
- Aluminium foil
- Plastic bottles
- Mobile phones
- Printer cartridges
- Household chemicals

As there is currently an extensive range of recyclables collected at the Household Recycling Centres there are no plans to expand the range of materials recycled. However where not all these materials are accepted for recycling the range will be expanded wherever possible as Household Recycling Centres are refurbished.

2.4 Street Sweepings

2.4.1 All street sweepings collected by the WCA's are currently landfilled. Street sweepings consist of material collected through street cleansing operations and includes a large amount of detritus made up of grit, silt and other organic material, which is mainly removed through mechanical sweeping operations.

3.0 Planned collection changes to increase levels of recycling/composting

- 3.1 A Core Collection Service has been identified and agreed across the Partnership as outlined in Policy 8:

Policy 8	
The Core Collection Service	
1.	All authorities will collect the same materials for recycling through a commingled collection;
2.	All authorities will prevent waste and increase the amount recycled through restricting either: a) Collection frequency and/or b) Container capacity

- 3.2 There are a number of planned changes to collection services, which will also increase levels of recycling and composting over the next two years as listed below:

3.2.1 Bromsgrove

The 'Core Service' introduced with a fortnightly residual waste collection in a wheeled bin and fortnightly collection of commingled recyclables in a wheeled bin on an alternating weekly basis with an expanded range of recyclables.

From March 2009 Bromsgrove will replace their existing free of charge garden waste collection service with an opt in paid for garden waste collection service for 9 months of the year (March to November).

3.2.2 Malvern Hills

Consultation on the future arrangements for the kerbside recycling and waste collection service is currently being undertaken.

A paid for garden waste collection service is being introduced from Spring 2009. This will operate for 9 months of the year (March to November inclusive).

3.2.3 Redditch

No changes are currently planned other than the introduction of bespoke recycling services to a small number of properties, which were unsuitable for the Core Collection Service (e.g. flats). Considering introduction of paid for collection of garden waste from April 2010.

3.2.4 Worcester City

No changes are currently planned. Considering introduction of paid for collection of garden waste during 2009.

3.2.5 Wychavon

Between September 2008 and March 2009 Wychavon will phase in the 'Core Service' of fortnightly residual waste collection in a wheeled bin and fortnightly collection of recyclables in a wheeled bin on an alternating weekly basis with an expanded range of recyclables.

Between September 2008 and March 2009 Wychavon will phase in a weekly food waste collection service where one week the food waste will be added to the residual waste stream and go to landfill and on the other week it will be taken to an in-vessel composting facility for treatment to create a soil conditioner. A paid for garden waste collection service began in April 2008 to 7000 properties.

3.2.6 Wyre Forest

Wyre Forest are currently reviewing a range of options for the future of the waste collection service.

3.2.7 Herefordshire

From November 2009 Herefordshire will introduce a weekly sack collection of residual waste and a fortnightly wheeled bin collection of recyclables to the whole of the county.

4.0 Planned disposal changes to increase levels of recycling/composting

4.1 In order to deliver the recycling commitment of the Core Service, the Disposal Authorities are constructing a new Materials Reclamation Facility 'EnviroSort'. This facility will be able to sort an increased range of commingled recyclables including glass bottles and jars, cans, paper and cardboard, foil, mixed plastics and waxed cartons.

4.2 The commingled collection is already in place in Redditch and Worcester City and is proven to result in high levels of coverage, participation and capture of material.

5.0 Options for increasing Recycling and Composting

5.1 The table below summarises how the Partnership will achieve 43% recycling by 2013/14

WCA	Contribution to Target (NOTE this is the modelled NI 192 value expected for each authority)
Bromsgrove	44.0%
Malvern Hills	38.3%
Redditch	39.8%
Worcester City	37.6%
Wychavon	41.6%
Wyre Forest	35.00%
Herefordshire	40.7%
Worcestershire	43.80%
Combined	43.1%

5.2 The recycling and composting options were identified through consultation with the Officer Waste Forum. Workshops were held to identify the options as listed below:

1. Introduce paid for collection of garden waste
2. Introduce free collection of garden waste to all households
3. Introduce compostable kitchen waste collections to all households
4. Commingled collection of recyclables to all households
5. Introduce collection of textiles working in partnership with the Third Sector to all households
6. Reduce the number of bring sites and/or range of materials collected
7. Increase recycling and composting at Household Recycling Centres to 75%
8. Increase recycling and composting at Household Recycling Centres to 80%

5.3 The number of options was then reduced to those that were considered to be deliverable in terms of cost and performance. Those that were discarded and the reasons why are outlined below:

5.3.1 Introduce free collection of garden waste to all households

This option was discarded as it would result in a significant increase in the amount of municipal waste handled and the cost for both collection and disposal would be significant. The current JMWMS promotes home composting as the key way for dealing with garden waste.

5.3.2 Introduce collection of textiles working in partnership with the Third Sector to all households

Detailed modelling was not completed on this option, however it is recognised that this idea is worth considering and will be carried forward to the Strategy Action Plan.

5.3.3 Reduce the number of bring sites and/or range of materials collected

Bring sites still have a significant part to play, even where there is substantial kerbside collection. However, this option has been discarded until we have rolled out the Core Service across all authorities and are able to assess its impact.

5.3.4 Increase recycling and composting at Household Recycling Centres to 75% or 80%

The majority of Household Recycling Centres are currently achieving recycling/composting levels in excess of 70%, which is in line with the best performing sites in the country. Capacity for recycling/composting facilities at the sites has been reached and there would be a significant cost in developing these sites further. Therefore this option was discarded as a practical and cost effective way of increasing levels of recycling and composting.

5.4 During the Workshops, additional options of recycling street sweepings and commercial waste were identified and these have been carried through to the appraisal below.

6.0 Assessment of Options

6.1 Costs and performance benefits against each of the options were modelled. As part of this, we were able to explore the impacts of options in different scenarios – for example increasing numbers of households receiving a service, or excluding a whole district area. The findings for each option are outlined below.

6.2 Paid for garden waste collections for composting

6.2.1 Wychavon is currently the only WCA providing a paid for garden waste collection. This is available all year round, to all residents, but is dependent on there being space on the particular collection round the resident is on. Bromsgrove currently offer a free garden waste collection service to all residents. This will change to a paid for collection from March 2009 for nine months of the year.

6.2.2 Malvern Hills will be introducing a paid for garden waste collection from Spring 2009. Worcester City are considering the introduction of a paid for garden waste collection during 2009.

6.2.3 It is important that in order to avoid any confusion between neighbouring authorities a consistent approach is considered across the partnership. Differences in the existing

plans can already be seen in both Wychavon and Bromsgrove, where although the cost to the resident is the same the period of the service differs i.e. one is for 9 months and the other is for 12 months.

WCA	Currently offering or considering offering service	Proposed annual fee (£)	Period	
			9 months	12 months
Bromsgrove	✓	30	✓	
Malvern Hills	✓	60	✓	
Redditch	✓	30	✓	
Worcester City	✓	30	?	✓
Wychavon	✓	30		✓
Wyre Forest	✗	-	-	-
Herefordshire	✗	-	-	-

6.2.4 If this option is implemented as specified in the table above it is projected that it will deliver approximately 14,200 tonnes of garden waste replacing the current level of approximately 8,300 tonnes collected by Bromsgrove. This would give rise to a 0.95 percentage point increase in performance in household waste recycling over and above the introduction of the 'Core Service'. As this option is for a charged for collection service there are no additional costs to the WCA's. However, working on the assumption that, as has happened previously, this is all additional material the cost of processing it would be in the region of £350,000 per annum.

6.3 Food waste collections for composting

6.3.1 Wychavon is the only WCA currently offering a food waste collection service and due to the expense of implementing such a system it is unlikely that any of the other WCA's will want to offer their residents a similar service. Based on the costs experienced by other authorities that have implemented separate food waste collections, the collection costs for a Partnership wide scheme could be in the region of £4,900,000 per annum. From the disposal point of view as the material is currently landfilled, if the alternative solution is cheaper than paying the landfill tax, this would be financially beneficial to the disposal authorities. If this option was adopted it would result in an increase in household waste recycling performance of 5.12 percentage points over and above the introduction of the 'Core Service'

6.3.2 Although this option could significantly raise the recycling performance of the partnership it is felt that the most suitable area to invest in for this waste stream is in minimisation as it will save the resident money on collection costs via the Council tax and also enable them to reduce their spending on food so they are better off in two ways. This means that with Wychavon being the only authority offering this collection service the contribution to the recycling performance will be an improvement of 0.41 percentage points over and above the introduction of the 'Core Service'.

6.4 Commercial waste recycling

6.4.1 The WCA's have been pushing for the opportunity to offer a recycling collection to their commercial customers. Now that we have a Partnership wide approach to recycling of household waste with the revised service in the process of being delivered, commercial waste recycling is an area that can now be investigated further.

6.4.2 The two most common materials that have been identified are glass and cardboard. There are a number of issues that need to be resolved before commercial recycling collections can be implemented and these include:

- Billing arrangements. The two materials mentioned have significantly different densities so the current arrangements would need to be revised.
- Delivery point for the materials. If they are to be collected separately in order to charge by weight then there is no point in putting them through the new EnviroSort facility.
- Do we want to concentrate on just two materials or expand it to more?
- Is it an opportunity to work more closely together to provide cross district collections?
- Is it an opportunity to use some of the vehicles that are being replaced as the household recyclables collections change?
- Do we want to offer an incentive for the commercial sector to recycle?

6.4.3 Any changes in this area will not improve the household waste recycling rate of the Partnership but would potentially reduce the amount of biodegradable municipal waste landfilled, thus reducing the likelihood of fines under the LATS regime.

6.5 Street Sweeping recycling

- 6.5.1 It is believed that this could be a quick win for the Partnership as this material is already available separately for processing. The main issue is finding a suitable facility to process the material. Initial investigations suggest that approximately 50% of the material collected could be recycled, this equates to approximately 5,200 tonnes per annum. Should this be possible then implementing this option would give rise to an increase in performance of 1.45 percentage points over and above the introduction of the 'Core Service'. The collection cost implication is minimal and could involve delivery of the material to an alternative destination. From the disposal point of view as the material is currently landfilled if the alternative solution is cheaper than paying the landfill tax then this would be financially beneficial to the disposal authorities.

7.0 Preferred options

7.1 The partnership believes that the best way forward for their residents is:

- Implementation of the 'Core Service' across all collection authorities
- Maintain the current range of recyclables available at Household Recycling Centres, expanding the range at smaller sites as they are rebranded
- Implementation of paid for garden waste collections where appropriate
- Implementation of street sweeping recycling if a suitable processing point can be found locally
- Food waste is dealt with through waste minimisation, but Wychavon continue to collect from their residents
- Commercial waste recycling is investigated further and if the issues can be resolved then it should be implemented where appropriate.

7.2 It is believed that if this mix of options is implemented it would give rise to a collective household waste recycling rate in excess of 43%, which is an increase of approximately 7 percentage points on the current level of 36.39%. This gives rise to Target 3 as below:

Target 3

To achieve national recycling/composting levels of household waste of 40% by 31st March 2010 as a minimum and work towards achieving 45% by 31st March 2015 and 50% by 31st March 2020.

Achieving the Target:

The aim of the target is to achieve the minimum recycling and composting levels that the Government has set in Waste Strategy 2007. The Authorities have committed and will continue to commit funding and set their fees and charges in order to reach the targets through a combination of approaches including promotion, communication collection and treatment processes.

The Partnership has set a target of 43% recycling/composting before 31st March 2014. As new collection and treatment methods are introduced, the Partnership will review its ability to exceed this target in line with the 2015 national target of 45%.

Appendix 1

WCA	Residual Waste Collection		Recycling Collection		Garden Waste Collection for composting	Food Waste Collection for composting	Bulky Waste Collection	Commercial Waste Collection
	Weekly	Fortnightly	Weekly	Fortnightly				
Bromsgrove	-	W	-	Bo	P	x	✓	✓
Malvern Hills	Ba	-	-	Ba	P	x	✓	✓
Redditch	-	W	-	W	x	x	✓	C
Worcester City	-	W	-	W	P	x	✓	✓
Wychavon	-	W	-	W	P	✓	✓	✓
Wyre Forest	-	W	Bo	-	x	x	✓	✓
Herefordshire	Ba	-	-	Ba	x	x	✓	✓

Key

Ba - Bag; Bo - Box; C - Contracted out; F - Free;
P - Paid for; W - Wheeled bin; ✓ - Service provided; x - Service not provided

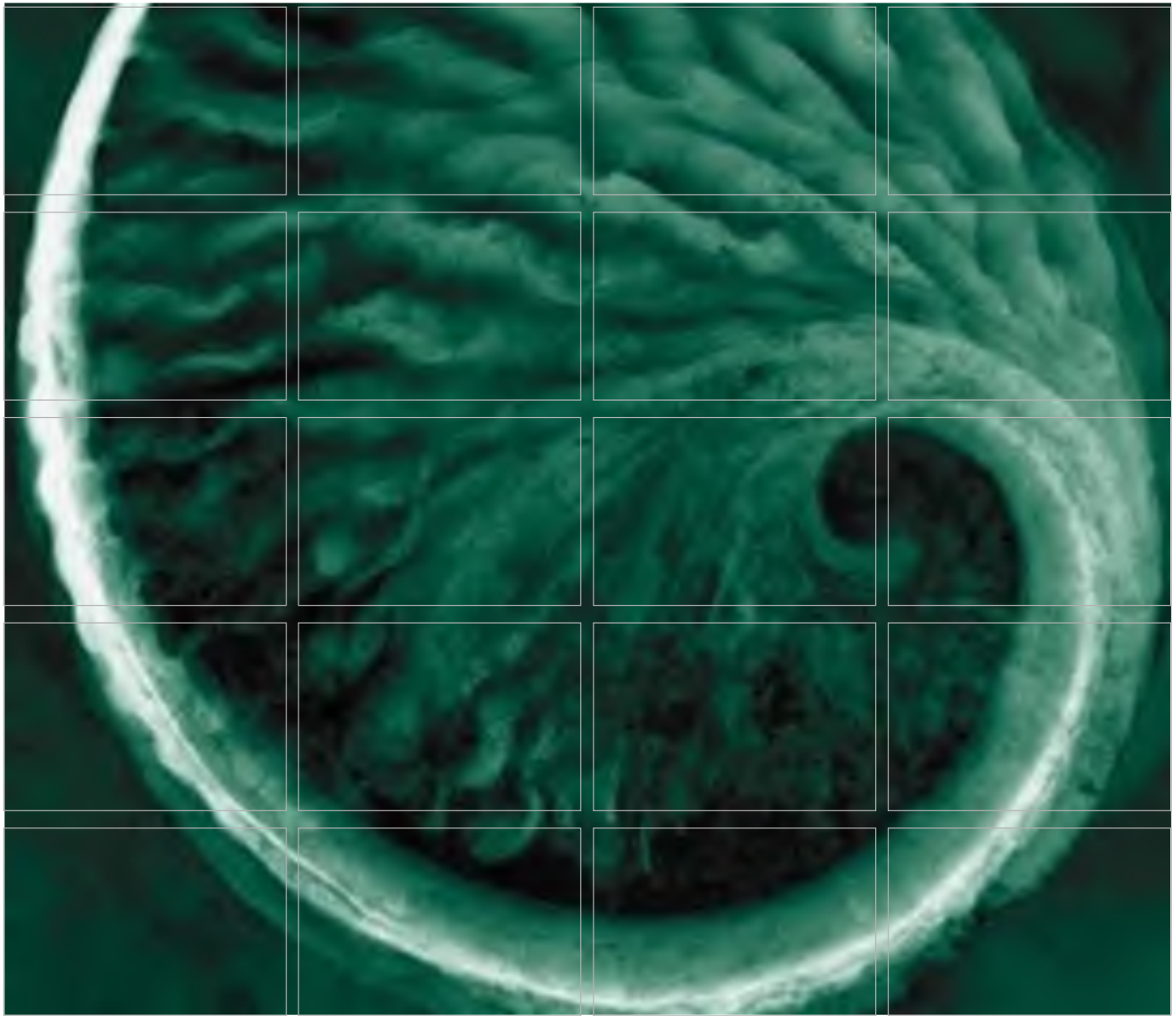
Annex D

Residual Waste Options Appraisal



The Joint Municipal Waste Management Strategy
for Herefordshire and Worcestershire 2004 - 2034

First review August 2011



Annex D Residual Options Appraisal July 2009

**Updated with Appendix C January
2010**

Environmental Report

January 2010

Worcestershire County Council

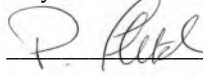
Annex D Residual Options Appraisal July 2009

Updated with Appendix C January 2010

Environmental Report

January 2010

Prepared by Natalie Maletas

For and on behalf of Environmental Resources Management
Approved by: Paul Fletcher _____
Signed:  _____
Position: Partner _____
Date: 15 th January 2010 _____

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EXECUTIVE SUMMARY

INTRODUCTION

The Joint Municipal Waste Management Strategy (JMWMS) is currently being reviewed by the waste disposal authorities of Worcestershire and Herefordshire, in partnership with their constituent waste collection authorities (the Partnership).

The JMWMS aims to promote waste minimisation but, inevitably, some residual municipal solid waste (MSW) will continue to be generated and will need to be managed. Residual waste managed by the Partnership is mostly disposed to landfill at present but this cannot continue due to changing legislation, the rising cost of landfill and a lack of capacity. Furthermore, the Partnership wishes to address the challenges of climate change and believes that, wherever possible, waste should be viewed as a resource.

A long list of possible options for treating the residual waste was developed for the Partnership to review. After consideration, the following final short list of options to be appraised was agreed:

- Option A – a single Energy from Waste (EfW) facility
- Option B – a single EfW facility with combined heat and power (CHP)
- Option C – two Mechanical Biological Treatment (MBT) facilities, located on two separate sites, one with on-site combustion.
- Option D – two MBT facilities each with off site combustion
- Option E – a single autoclave
- Option F – two autoclaves, located on separate sites
- Option G – EfW located out of county

The options listed above were assessed against a range of environmental, social and economic criteria. A workshop was held with both Officers and Members of the Partnership to agree the criteria and to ensure that any specific concerns that an authority had were identified.

The required capacity for the residual waste treatment facility(ies) is assumed to be 250,000 tonnes per annum. This is based on an assumed growth rate; predicted recycling and composting performance; and sending 10% of untreatable residual waste directly to landfill.

Assessment of the different options against the environmental criteria was undertaken using the Environment Agency's life cycle assessment tool - Waste and Resources Assessment Tool for the Environment (WRATE). The assessments against the remaining criteria were undertaken using both quantitative and qualitative appraisal methods.

The results of the appraisal are summarised below.

ENVIRONMENTAL CRITERIA

Criteria	Results Summary
<i>Resource Depletion</i>	Resource depletion potential estimates the amount of extraction of scarce minerals and fossil fuels. Option D was found to be the best performing option in terms of resource depletion because of the offsetting of fossil fuel used in the cement kiln. Option B performs well due to the conversion of waste into electricity and heat energy.
<i>Freshwater Ecotoxicity</i>	Freshwater aquatic ecotoxicity potential is a measure of the detrimental effects to aquatic organisms from exposure to toxic substances such as heavy metals. The results suggest that the recycling performance of the facilities is closely coupled with a favourable ecotoxicity score and options C-F score very well for this reason.
<i>Greenhouse Gas Emissions</i>	Global warming potential assesses the amount of carbon dioxide and other gases emitted into the atmosphere that cause global warming. Due to the increased efficiency of the plant in option B, it is by far the best option and although options E and F perform well in terms of reduced greenhouse gas emissions due to increased recycling, this is counter-balanced by the impacts associated with the actual treatment technology.
<i>Air Acidification</i>	Acidification potential relates to the release of acidic gases, such as sulphur dioxide, which can form 'acid rain' and damage ecosystems. Increased recycling in options E and F is again significant and these are the best performing options against this criterion. Option G is the worst performing due to the high impact of the treatment technology for this option.
<i>Eutrophication</i>	Eutrophication potential reflects the amount of nitrate and phosphate released. High concentrations of these compounds in water can encourage excessive algal growth, thereby damaging ecosystems through reduced oxygen supply within the water. Again, recycling strongly influences the result and options E and F are the best performing options in this assessment. The greater amounts of materials landfilled in options C and D results in lower scores against this criterion.

SOCIAL CRITERIA

Criteria	Results Summary
<i>Health</i>	Human toxicity potential is a measure of the impacts on human health and the results indicate that the majority of options have a beneficial impact, which can be accredited to increased recycling and the offsetting of burning fossil fuels. Options E and F perform best because they recycle the most. The creation of energy from waste in option B is also highly beneficial.
<i>Transport</i>	This accounts for the associated risks/impacts of transporting waste and assumes that the waste is moved by road. The greater the distance travelled, the worse the score, as more distance increases the risk of accidents, congestion and has a greater impact on local communities. Owing to the low levels of onward transport from the facilities, options A and B score well while option F performs the worst.

FINANCIAL AND RISK CRITERIA

Criteria

<i>Costs</i>	The financial cost associated with each waste management option has been considered. Capital (CAPEX) and operational (OPEX) costs, landfill tax and the costs of landfill and hazardous landfill were all included in this assessment. CAPEX typically includes civil engineering works, all external works and all process plant costs while OPEX includes labour, maintenance, consumables, insurances and overheads. Option C has the largest total cost, closely followed by option D.
<i>Reliability of Delivery</i>	Newer types of waste treatment technology that are largely untested in the UK may face problems with both implementation and funding. Facilities that have not been shown to work at large scale in the UK are therefore given lower scores. Options E and F were the only options not to achieve the top score.
<i>Planning Risk</i>	The options involving the use of two sites are considered to incur the greatest risk as they require two Planning Permissions. Hence options C and D are considered to be the worst options in terms of planning risk. There are already planning approvals in place for two autoclave facilities within the authorities and so options E and F are assumed to have a low planning risk. A sensitivity analysis has been carried out to reflect the fact that the planning permissions for the autoclave facilities have since lapsed.
<i>Compliance with Policy</i>	This criterion assesses how closely each of the options matches national waste policy in terms of how the waste is managed. Government policy seeks to drive the management of waste up the waste hierarchy and the JMWMS aims to maximise value from the residual waste and use it wherever possible as a resource. Taking this into account, option B performed the best, followed closely by options E and F, due to the management of waste at or near the top of the waste hierarchy. In contrast, option C was found to be the worst because it involves a large amount of waste being sent for disposal.
<i>Flexibility</i>	The options were assessed for their flexibility in terms of ability to accept waste with differing compositions. This is important because waste composition can change in the short term, for example due to seasonal variations, and in the longer term due to potential changes to packaging material etc. Options A, B and G are the better performing options and can accept a relatively large range of waste compositions. Options C and D, on the other hand, require stricter controls over the mix of materials for their input. In terms of flexibility to varying quantities of input, option C performed well because additional capacity can be added in a modular fashion. Options D, E & F perform less well than C because they would typically require a minimum supply contract for the RDF and autoclave fibre. The worst performer against this criterion was option G.
<i>End Product Liability</i>	The options with the least liability associated with their end products, and therefore the best performing, are options A and B. Due to the relatively high risk associated with finding a market for the autoclave fibre, options E and F have the highest liability.

OVERALL RESULTS AND CONCLUSIONS

The appraisal has assessed each of the options against fourteen criteria. A ranking has been devised based on the performance against all of these criteria. The ranked order of options is shown in *Table 3.1*.

Option B scores the best overall; however the criteria were not weighted, so no criteria are assumed to be more important than any others. Members of the Partnership highlighted cost, reliability and resource depletion as the most important criteria. With the exception of cost, option B scored well against these key criteria. If the potential income from the heat generated by option B is also taken into consideration, this option will also have a lower overall cost than assumed by this assessment.

Option E was ranked second overall and scored well against many of the environmental criteria, however it did not score well against the resource depletion or reliability criteria and was scored as average against cost.

Option D performed very well in terms of resource depletion and reliability, but poorly in terms of cost. The overall ranking for option D was sixth, reflecting lower performance against compliance with policy, cost and some of the environmental criteria.

Option A also performed well against two of the key criteria - cost and reliability. It also finished third against resource depletion, the other key criterion, and finished third in the overall scoring. This was due to a lower performance against some of the environmental criteria.

Option G is the worst performing option. The reliance on an out of county facility means the option performed badly in relation to flexibility in terms of quantity of throughputs and also against the transportation criterion. This option also performs poorly against the environmental criteria. This is partly as a result of assessment assuming this option is similar to the Coventry EfW, rather than a new, more efficient, EfW technology. To assess the impact of this assumption, a sensitivity analysis was undertaken. This further analysis did change slightly the results of option G (moving it from 7th to 6th place). However, it didn't result in any significant changes to the top performing options.

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1.1 *INTRODUCTION*

The waste disposal authorities of Worcestershire and Herefordshire, in partnership with their constituent waste collection authorities (the Partnership), are currently reviewing their Joint Municipal Waste Management Strategy (JMWMS).

A key principle of the JMWMS is to focus on waste minimisation and to promote the management of waste up the waste hierarchy. However, despite these efforts, there will continue to be an element of residual municipal solid waste (MSW) requiring management.

Currently the majority of residual waste managed by the Partnership is disposed to landfill. There are three primary reasons why this can not continue:

- **Legislation** - The Waste and Emissions Trading Act (2003) introduced the Landfill Allowance and Trading Scheme (LATS), under which challenging targets for the diversion of biodegradable municipal waste from landfill have been introduced for each waste disposal authority (WDA) in England. In the event of a WDA failing to meet its targets directly, they may purchase allowances from the other WDAs, if available, or borrow against future capacity.
- **Finance** - Landfill has historically been a relatively cheap option for WDAs however this situation has changed dramatically over recent years. Landfill tax is increasing to £48 per tonne from 2010. This, on top of gate fees increasing due to high demand plus the unknown costs of LATS allowances, means that the long term cost of landfill is no longer viable for many authorities and alternative treatment technologies are becoming price competitive.
- **Lack of Capacity** - The amount of landfill void space, suitable for residual MSW, is reducing across England. In simple terms, we are running out of holes to fill up. This is particularly the case in Worcestershire and Herefordshire, with local void space expected to run out by Summer 2023 ⁽¹⁾.

Beyond the three reasons above, there is another key driver to divert waste away from landfill being highlighted by the JMWMS. This is to **address the challenges of climate change and viewing waste as a resource.**

In response to this challenge, a series of options for the introduction of residual waste treatment capacity for Worcestershire and Herefordshire have

(1) Based on 3.5 m3 current void remaining and an infill rate of 19,000 tonnes per month (October 2008)

been developed. These options are not intended to be prescriptive, and are not directly related to any site specific proposal. The purpose of this report therefore is not to identify 'the best option' but to provide information on the advantages and disadvantages of various treatments to help guide and inform future strategic decisions regarding the treatment of residual MSW.

Having identified strategic options, methods were developed to appraise them objectively against a number of environmental, social and economic criteria. The purpose of this rigorous approach to options appraisal is to assist the Partnership with the strategic decision making process by identifying the potential environmental, social and economic benefits of each option.

1.2 *DEVELOPING THE CRITERIA*

A technical options appraisal requires that the performance of alternative options be assessed against key objectives, reflected through a range of criteria, in order to identify the option (or options) that perform best overall.

The criteria were not only used to indicate the environment and social impacts of the options, but also to demonstrate how they perform in relation to deliverability and cost.

As a basis for criteria selection, the draft Key Principles of the JMWMS and the Strategic Environmental Appraisal Objectives produced during development of the SEA of the JMWMS were reviewed. Some of the latter concerned more site specific issues, and thus were not appropriate for a strategic level assessment.

A workshop was held with both Officers and Members of the Partnership on 22 September 2008. This provided the opportunity to identify appropriate assessment criteria for Worcestershire and Herefordshire and ensured any authority specific concerns were identified.

The agreed criteria to be used for the assessment of the different options are as shown in *Table 1.1*.

Table 1.1 **Criteria**

Criteria Type	Criteria
Environmental Criteria	Resource Depletion Air Acidification Greenhouse Gas Emissions Freshwater aquatic ecotoxicity Eutrophication
Financial and Risk Criteria	Financial Costs Reliability of Delivery Planning Risk Compliance with Policy Flexibility End Product Liability
Social Criteria	Transport Health

It is essential that the chosen criteria help both to differentiate between the options and are able to be assessed in a robust manner. It is for these reasons that the issue of public acceptability has not been identified as a separate criterion. Any proposal for new infrastructure will be expected to generate an element of public opposition. This is particularly the case with waste management development. This is obviously a key concern to local authority Members and could cause delay in deliverability.

However, there is no evidence to demonstrate that the public are more or less accepting of any particular waste management technology. Opposition for new infrastructure is more often on the grounds of development of a certain site or related to local amenity issues (for example increased traffic) associated with the proposal rather than a focus on a particular technology type. For this reason it would not be possible for to differentiate between the options in this assessment.

A robust planning framework, and appropriate community engagement programmes, can help address misplaced perceptions and assist deliverability.

1.3 **DEVELOPING THE OPTIONS**

A facilitated workshop was held with the Partnership officers on 24 September 2008 to develop the list of residual waste options to be appraised and considered in the JMWMS.

1.3.1 **Developing a Long List**

A long list of generic technology types was initially identified. These are listed below:

- Mass burn incineration;

- Energy from Waste (EfW);
- Mechanical Biological Treatment (MBT) with Anaerobic Digestion (AD);
- MBT producing Refuse Derived Fuel (RDF);
- Gasification and pyrolysis (Advanced Thermal Treatment (ATT));
- Plasma Arc; and
- Autoclave.

1.3.2 *Developing a Short List*

The JMWMS aims to view waste as a resource and generate the most out of the residual waste it produces. For that reason mass burn incineration (combustion of waste without the generation of energy or heat) was not considered an option worth taking forward to the assessment.

Advanced Thermal Treatment (ATT) of untreated residual MSW has not been proven on a large scale in either the UK or Europe. It is essential that any option identified by the Partnership works and can be delivered. Therefore, it was considered to review the performance of ATT only in conjunction with a pre treatment technology (MBT) rather than in isolation. Plasma Arc technology was also felt to be in early development thus not suitable for further consideration at this stage.

In addition, the workshop considered the number and scale of facilities required. It is estimated the total residual treatment capacity required by the Partnership is ~ 250,000 tonnes per annum (tpa) ⁽¹⁾.

Options were considered for provision of: one, two, or three or more facilities. The proposal for three or more facilities was dismissed as it was not considered appropriate for the capacity required in terms economies of scale and the risks associated with site availability and deliverability.

Currently the Partnership export ~ 30,000tpa of residual waste to the energy from waste facilities in the West Midlands. There are a number of operating and planned waste treatment facilities in the areas surrounding Worcestershire and Herefordshire. It was therefore deemed necessary to assess an option that utilises waste treatment capacity outside the Partnership area.

In consideration of all the issues identified above, the following final list of options to be appraised was agreed.

- Option A - 1 site EfW
- Option B - 1 site EfW with CHP
- Option C - 2 site MBT with on site combustion

(1) This figure is based on information provided in Annex A - Waste Growth Paper and Annex B - Recycling & Composting Assessment of the JMWMS

- Option D - 2 site MBT with off site combustion
- Option E - 1 site autoclave
- Option F - 2 site autoclave
- Option G - Out of county EfW

2.1 KEY ASSUMPTIONS

The waste minimisation and recycling & composting appraisals undertaken by the Partnership (Annex B & C of the JMWMS) as part of the review of the JMWMS provided the backdrop for this assessment.

Although a Key Principle of the JMWMS is to maximise diversion of waste from landfill, there will always be an element of residual waste not suitable for treatment and thus requiring landfill. For the purpose of this appraisal, it is assumed 10% of the residual waste will be untreatable.

The overall assumed residual treatment capacity required for the life of the JMWMS is 250,000 tonnes per annum. This based on the assumed growth rate; recycling and composting performance; and sending 10% of untreatable residual waste directly to landfill.

This assessment considers performance of a range of waste management options based on tonnage forecast to be produced in the year 2020. For the assessment of the environmental criteria, using WRATE, it is necessary to identify a specific year to assess. 2020 was identified to ensure full LATS obligations were acknowledged.

2.1.1 Residual Waste Composition

The composition of the residual waste is shown in *Table 2.1*.

Table 2.1 Residual Waste Composition as Forecast in 2020

Material	%
Paper and Card	16.28%
Plastic Film	7.30%
Dense Plastic	6.27%
Textiles	3.27%
Absorbent Hygiene Products	4.31%
Wood	0.56%
Combustibles	0.65%
Non Combustibles	6.62%
Glass	3.87%
Organic	46.86%
Ferrous	1.82%
Non Ferrous	0.66%
Fines	0.70%
WEEE	0.57%
Special Household Hazardous Material	0.25%
Total	100.00%

*Data calculated from recycling and composting model outputs provided by Worcestershire County Council (U131.02.02.02.01 081001 - Waste Analysis NI192 43.13percent.xls)

2.2

ENVIRONMENTAL CRITERIA

Assessment against the environmental criteria was undertaken using the Waste and Resources Assessment Tool for the Environment (WRATE). WRATE is a model, developed by the Environment Agency and promoted by Defra. Although WRATE is a useful tool to compare and assess waste treatment options, and every effort is made by the Environment Agency to update and verify data included within it, it is a model and therefore the results should be read with appropriate consideration.

Appendix A presents an explanation of WRATE and the assumptions used within the WRATE modelling.

2.2.1

Resource Depletion

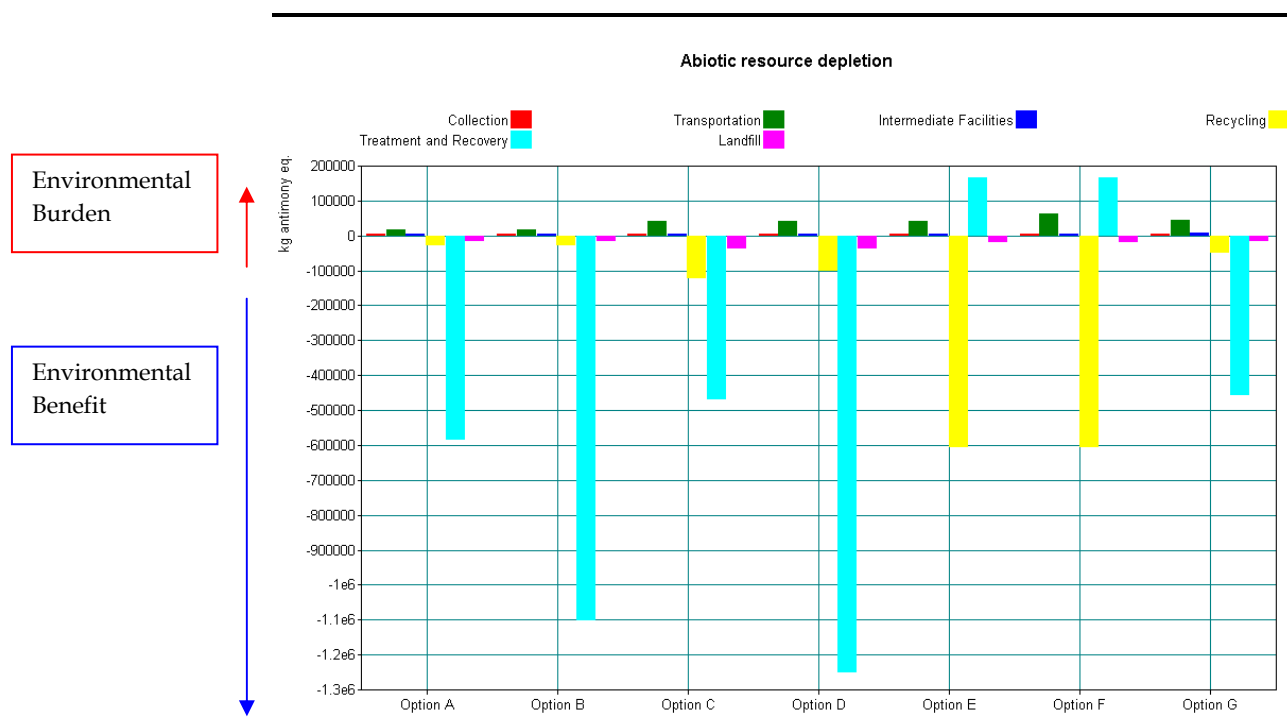
Resource depletion potential estimates the extraction of scarce minerals and fossil fuels. An abiotic depletion factor is determined for the extraction of each mineral and fossil fuel based on the remaining global finite resource reserves and their rates of extraction. The measurement used is kilograms of antimony equivalents. The results of this assessment are presented in *Table 2.2* and *Figure 2.1*.

Table 2.2 *Resource Depletion Results*

	Unit	Option A	Option B	Option C	Option D	Option E	Option F	Option G	
Abiotic resource depletion	kg antimony eq.	-601,000	-1,120,000	-578,000	-1,336,000	-405,000	-384,000	-462,000	
Rank			3	2	4	1	6	7	5

NB: negative numbers represent an environmental benefit. The larger the negative number, the larger the environmental benefit.

Figure 2.1 Resource Depletion Results Chart



The table and chart above show that option D is the best performing option against the resource depletion criterion. This is due to the use of the RDF from the MBT facility as a fuel at a cement kiln. WRATE scores this favourably as it offsets the use of fossil fuels in the kiln. Option B performs well due to the conversion of waste into electricity and heat energy. Options E and F perform very well for the level of recycling that is carried out, however the impact associated with the treatment due to the heating of the waste, means that they do not perform as well as options A-D.

2.2.2 Freshwater Ecotoxicology

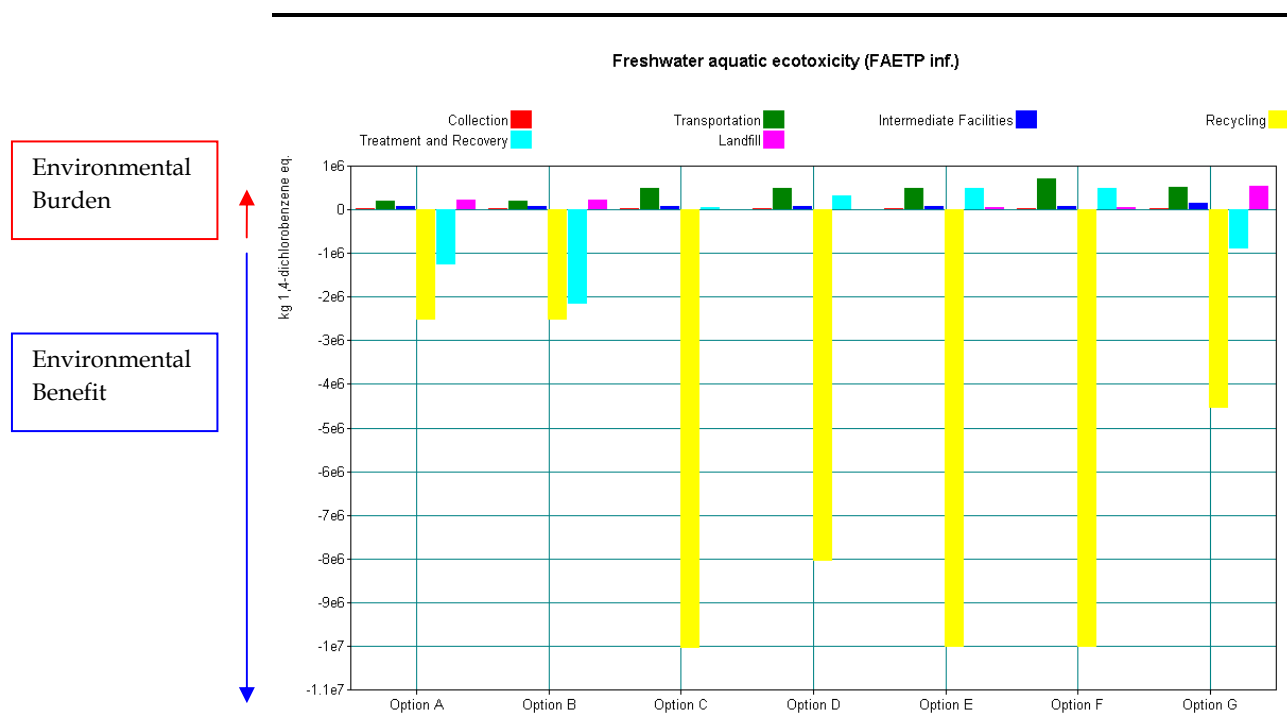
Freshwater aquatic ecotoxicity potential is a measure of the adverse effects to aquatic organisms that result from being exposed to toxic substances. It is well known that fish can 'bioaccumulate' concentrations of mercury and other toxins. Mobile heavy metals are extremely toxic to aquatic life, so activities that reduce releases of heavy metals will be favourable in this assessment.

Table 2.3 Ecotoxicity Results

Unit	Option A	Option B	Option C	Option D	Option E	Option F	Option G
Freshwater aquatic ecotoxicity kg 1,4-dichlorobenzene eq.	- 3,260,000	- 4,158,000	-9,396,000	-7,114,000	- 8,877,000	- 8,639,000	- 4,203,000
Rank	7	6	1	4	2	3	5

NB: negative numbers represent an environmental benefit. The larger the negative number, the larger the environmental benefit.

Figure 2.2 Ecotoxicity Results Chart



The results for ecotoxicity are closely linked to the recycling performance of the facilities. This is due to the avoided burdens of primary production of virgin materials as these are replaced by recovered materials. Non-ferrous metals have a particularly large effect due to the high levels of energy used to extract the virgin materials. Options C-F score very well due to the increased level of recycling in these options. Option D does not score as highly as there is no output of bottom ash to be recycled from the cement kiln.

2.2.3 Greenhouse Gas Emissions

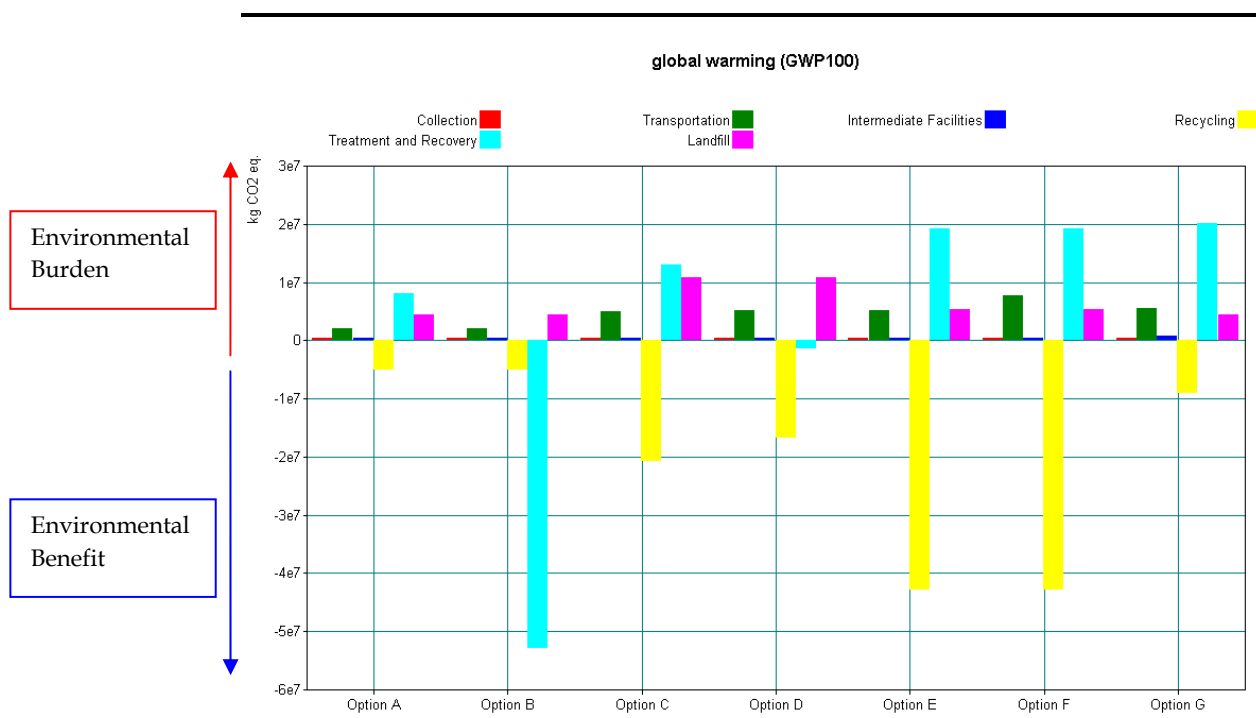
Global warming potential is an assessment of the amount of carbon dioxide and other gases emitted into the atmosphere that cause global warming. Apart from CO₂, the other major greenhouse gas is methane, which is 23-times more potent than CO₂. The measurement used in this assessment is CO₂ equivalents.

Table 2.4 Global Warming Results

	Unit	Option A	Option B	Option C	Option D	Option E	Option F	Option G
global warming potential (GWP100)	kg CO ₂ eq.	10,555,000	-50,573,000	8,851,000	-1,150,000	-12,265,000	-9,809,000	22,486,000
Rank		6	1	5	4	2	3	7

NB: negative numbers represent an environmental benefit. The larger the negative number, the larger the environmental benefit.

Figure 2.3 Global Warming Results Chart



Option B is by far the best option in terms of global warming potential due to the increased efficiency of the plant which produces heat energy as well as electricity. Options E and F also perform well in terms of reduced greenhouse gas emissions. The increased level of recycling under these options is the driving force for this result; however this is tempered by the impacts associated with the treatment technology itself.

2.2.4 Air Acidification

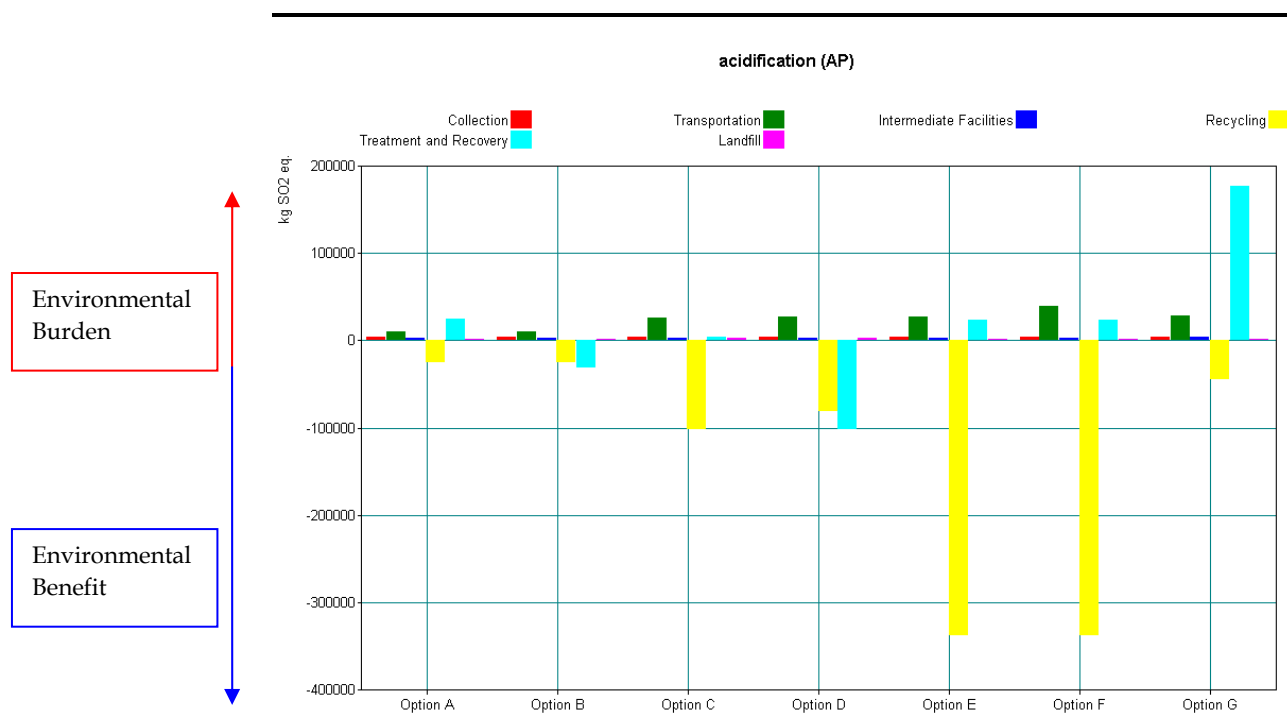
Acidification potential relates to the release of acidic gases such as sulphur dioxide. These have the potential to react with water in the atmosphere to form 'acid rain', causing ecosystem impairment. Kilograms of sulphur dioxide equivalents is used as the unit of measurement in this assessment.

Table 2.5 Acidification Results

Unit	Option A	Option B	Option C	Option D	Option E	Option F	Option G
acidification (AP) kg SO2 eq.	17,000	-38,000	-63,000	-148,000	-279,000	-266,000	170,000
Rank	6	5	4	3	1	2	7

NB: negative numbers represent an environmental benefit. The larger the negative number, the larger the environmental benefit.

Figure 2.4 Acidification Results Chart



Options E and F are the best performing options in this assessment; the increased recycling having a significant impact once more in this criterion, again due to the avoided burden of extracting raw materials and the use of recovered materials instead. Option G is the worst performing option with a high impact relating to the treatment technology specific to that option (Coventry EfW).

2.2.5 Eutrophication

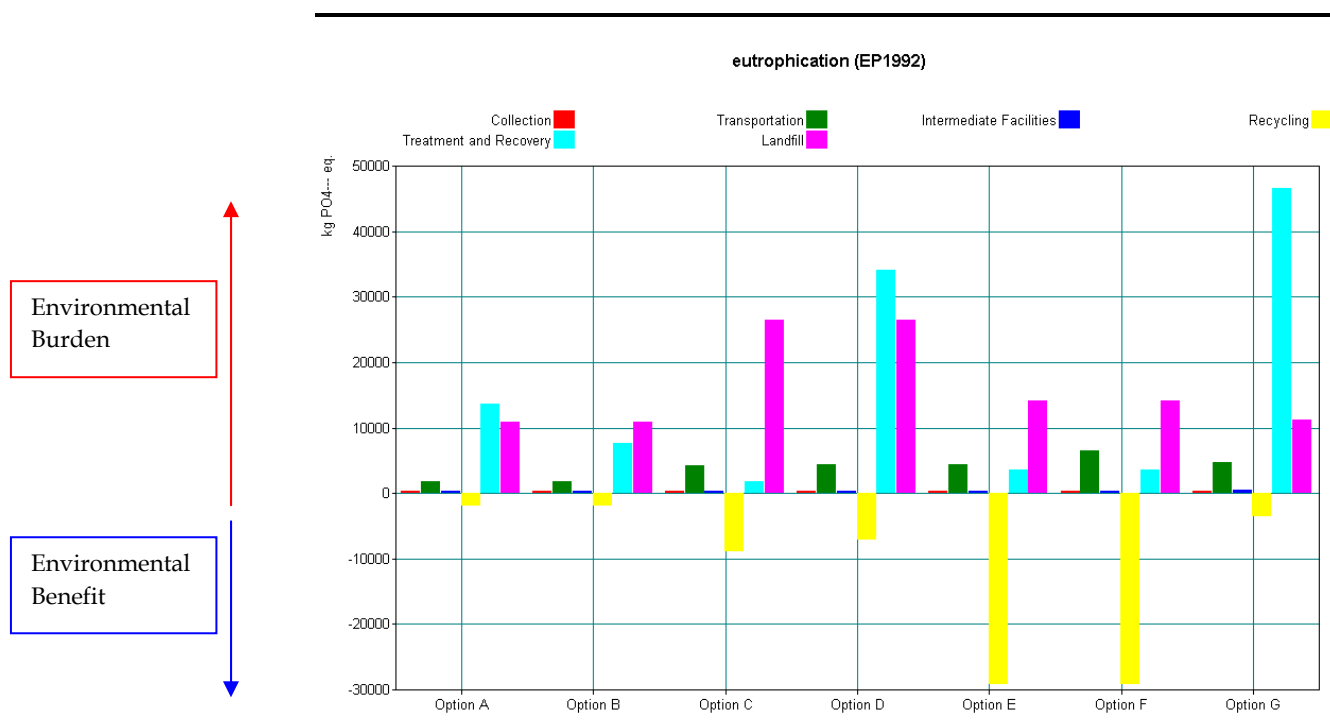
Eutrophication potential is a reflection of the amount of nitrate and phosphate released. Nitrates and phosphates are essential for life but increased concentrations in water can encourage excessive growth of algae, reducing the oxygen within the water and causing damage to ecosystems.

Table 2.6 Eutrophication Results

Unit	Option A	Option B	Option C	Option D	Option E	Option F	Option G
eutrophication kg PO4-- (EP1992) - eq.	25,000	19,000	24,000	58,000	- 6,000	- 4,000	60,000
Rank	5	3	4	6	1	2	7

NB: negative numbers represent an environmental benefit. The larger the negative number, the larger the environmental benefit.

Figure 2.5 Eutrophication Results Chart



Options E and F are again the best performing options in this assessment; the increased recycling appearing to be the deciding factor once more. The higher level of landfill has a significant negative impact on options C and D.

2.3 SOCIAL CRITERIA

2.3.1 Health

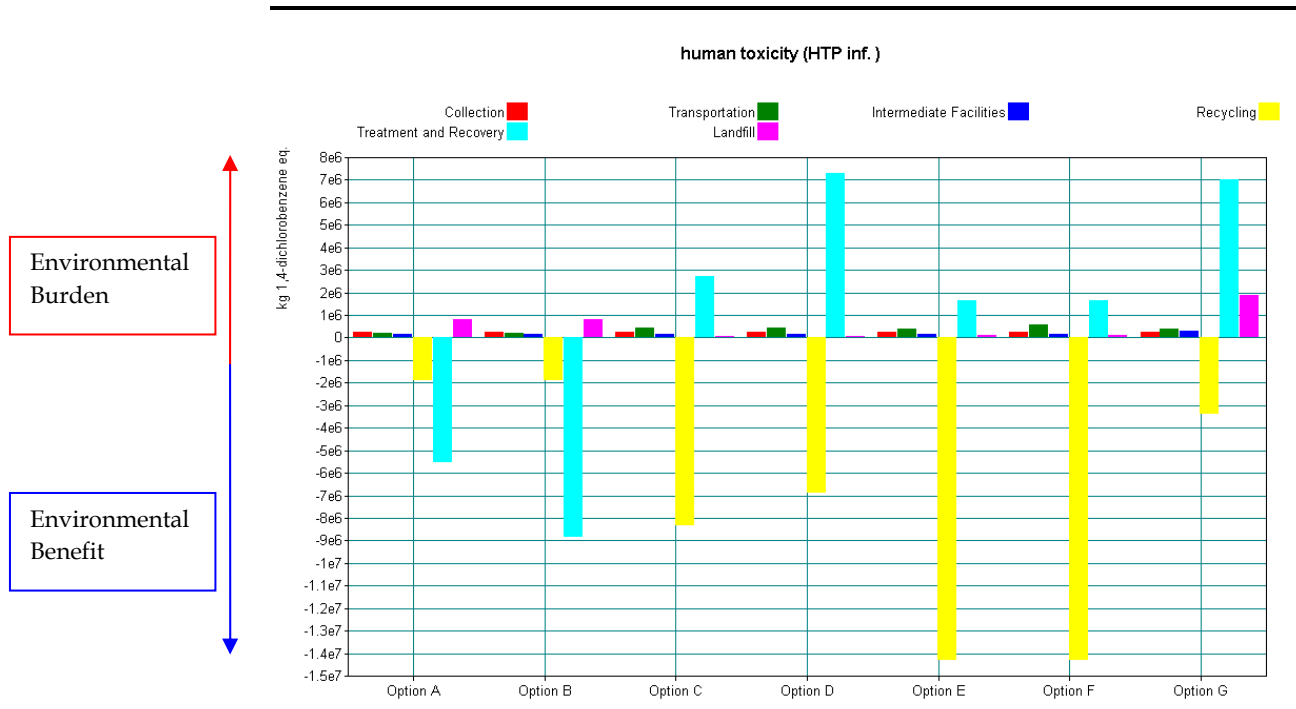
Human toxicity potential is a measure of the impacts on human health. Characterisation factors, expressed as Human Toxicity Potentials (HTP), describe fate, exposure and effects of toxic substances for an infinite time horizon. WRATE is also used to compare the different options against this criterion.

Table 2.7 Health Results

Unit	Option A	Option B	Option C	Option D	Option E	Option F	Option G
Human toxicity potential kg 1,4-dichlorobenzene eq.	-6,002,000	-9,315,000	-4,687,000	1,358,000	-11,753,000	-11,543,000	6,487,000
Rank	4	3	5	6	1	2	7

NB: negative numbers represent an environmental benefit. The larger the negative number, the larger the environmental benefit.

Figure 2.6 Health Results Chart



The health criterion is often an emotive issue and is one that requires clear interpretation. The method used in this assessment is only a (partial) indicator. The results show that the majority of options have a beneficial impact on human health. This is due to the avoided health impacts associated with increased recycling and the offsetting of burning fossil fuels. Option E and F are the best performing as they are the options that recycle the most. Option B also has a highly beneficial effect due to the offsetting of burning fossil fuels by creating energy from waste instead. The results from this assessment are indicative and are based on an impact assessment method from *CML (1999) Problem oriented approach HTP inf. (Huigbregts, 1999 & 2000)*. Any technologies that were to be procured by the Partnership would need to adhere to strict EA emission standards and as such the impacts highlighted in this assessment are within those standards.

2.3.2 Transport

This criterion takes into account the associated risks/impacts of transporting waste. All of the options assessed assume that waste is moved by road because the alternatives of rail and water transport are not considered feasible in the medium term. The comparison is therefore measured in annual kilometres travelled by the vehicles used in each scenario, this is provided by WRATE. WRATE takes the amount of waste being moved per year, divides it by the payload of the vehicle and then multiplies this by double the assumed 'one-way' distance. This gives the number of kilometres needed to be covered annually to move the waste under each option. The higher the number of kilometres travelled, the worse the score, as more kilometres means greater risk of accidents, increased congestion and a greater impact on local communities.

The specific location of the new facility/facilities is currently unknown and therefore, for the purpose of this assessment, indicative locations have been used. Once specific site/s are indentified, a more detailed, site specific, transport appraisal will be undertaken. *Appendix A* gives details of the assumptions behind the transport distances used in WRATE and thus this assessment. *Table 2.8* presents the results of the transport assessment.

Table 2.8 *Transport Results (Total Annual Kms)*

	Upfront	Transfer	Onward	Total	Rank
Option A	631,532	896,297	447,573	1,975,401	1
Option B	631,532	896,297	447,573	1,975,401	1
Option C	953,687	1,186,134	2,874,519	5,014,340	3
Option D	953,687	1,186,134	3,139,231	5,279,052	4
Option E	631,532	896,297	4,155,863	5,683,691	5
Option F	953,687	1,186,134	6,056,223	8,196,044	7
Option G	1,161,047	4,215,895	748,085	6,125,027	6

Options A and B score well in this assessment and this is due to the low levels of onward transport from the facilities in comparison to the other options. Option F leads to much higher levels of transport overall because the recycle separated from the process needs to be transported for onward reprocessing. This, coupled with the fact that there are two facilities assumed in this option, one of which is quite far from the assumed destination for the fibre recycling facility (where much of the output from the Autoclave goes), gives a high level of transport attributed to this option. Options C, D and E are all very similar, and considerably less than option F. A new transfer station is assumed to be built at site A (used in the one site options) to bulk waste from the districts prior to delivery to the EfW for option G.

2.4 *FINANCIAL AND RISK CRITERIA*

2.4.1 *Costs*

The financial cost associated with any waste management option is obviously a key consideration for the Partnership. The authorities have a responsibility to deliver value for money services to their residents and to make the most of the council tax funds available to them.

The costs in this assessment are not necessarily indicative of actual costs currently being incurred for ongoing contracts but do provide representative costs for comparison of the technologies being considered here for new contracts.

CAPEX and OPEX have been established from a review of publically available sources (e.g. Defra Waste Strategy 2007 and New Technology Demonstrator programmes, Local Authority PFI and Procurement documents and published reports), and by obtaining information directly from operators of existing facilities.

Capital and operating cost data in the public domain for each technology varies significantly, and is dependant on the specific plant configuration, design and local circumstances. We have used a variety of sources and example costs where available for each option, and produced costs based on an average of these sources. Where cost sources are not current (financial year 2008) an uplift has been applied to reflect inflation.

The approach taken has used the standard Discounted Cash Flow (DCF) techniques as set out in HM Treasury Green Book and costs are presented as Net Present Value. Capital costs are based on either facilities of a > 200,000 tonne per year capacity, or two > 100,000 tonne per year capacity as indicated in *Table 2.9*.

CAPEX generally includes:

- civils
- external works
- all process plant

OPEX generally includes:

- labour
- maintenance
- consumables
- insurances
- overheads

Table 2.9 Capex and Opex Costs – over 25 year period

Option	Technology	Capex £million	Opex £million
A	EFW (200K TPA)	74	101
B	EFW + CHP (200K TPA)	118	113
C	MBT – gasification (100K TPA)*2	65	244
D	MBT – cement kiln (100KTPA)*2	62	229
E	Autoclave (200K TPA)	56	143
F	Autoclave (100K TPA)*2	56	143
G	WTS	4	11
G	EFW Gate Fee Only	0	216

The costs in *Table 2.9* only include CAPEX and OPEX and do not account for transportation, disposal of residuals and income from recycling.

2.4.1.1 Gate Fees and Landfill Tax

Prices shown in *Table 2.10* are based on current gate fees. In real terms, these costs are likely to increase.

Landfill tax is assumed to be £48 / tonne which is the maximum figure already announced by Defra and thus most relevant for the assessment year.

Table 2.10 Gate Fees and Landfill Tax

	Current (£ per tonne)
Landfill Gate Fee	£21.00
Hazardous Landfill Gate Fee	£150.00
Energy from Waste Gate Fee	£71.00 ⁽¹⁾
Landfill Tax	£48.00 ⁽²⁾

2.4.1.2 Overall Option Comparative Costs

Each option will have an overall cost to the Partnership. The following table does not provide an accurate projection of the actual charges to the Partnership, but allows over the project lifetime (25 years) the different options to be compared. The costs in *Table 2.2* include the costs associated with the disposal of residues from the facilities for each option. There are no additional costs for option G as it is assumed that all costs are incorporated into the gate fee for this facility. The Capital cost and operating costs of a Waste Transfer Station with a capacity of 110K tpa is included in option G. Transportation costs and potential income from heat, energy and recycle are not included in these figures.

(1) WRAP Gate Fees Report 2008

(2) Current Defra figure for 2010/11

Table 2.11 Option Costs (£million)

Option	CAPEX	OPEX	Landfill Costs	Haz Landfill Costs	Landfill Tax	Total	Rank
A	74	101	0	13	4	192	1
B	118	113	0	13	4	248	5
C	65	244	12	0	28	349	7
D	62	229	12	0	28	331	6
E	56	143	7	0	17	223	2
F	56	143	7	0	17	223	2
G	4	227	0	0	0	231	4

2.4.2 Reliability of Delivery

To get financial backing for a waste management facility, there needs to be security for the lender that the technology proposed can work on the scale proposed in the bid. It is therefore important to consider to what extent each of the options is ‘proven’.

2.4.2.1 Method and Assumptions Used

There is a danger that a ‘new’ technology being presented to the market place in the UK may face problems with implementation and funding. However, such technologies should not be disregarded. Whilst it is difficult to consider unknown risks, it is still prudent to account for them.

In addition, it is often harder to secure financial backing for facilities that have not been proven in the UK; that have not been shown to work at large scale; or which have only been used on feedstock with different characteristics from the intended waste stream.

Table 2.12 shows the different scores band on how ‘proven’ any particular technology is.

Table 2.12 Points Attributed to Proven Technologies

Development Sate	Score
Proven on a large scale in the UK	4
Proven on a large scale in Europe	3
Proven on a small scale in the UK	2
Proven on a small scale in Europe	1

*A large scale plant is a plant greater than pilot or experimental scale

2.4.2.2 Results

Due to the initial shortlisting of the options, all of the options assessed are of a reasonably proven nature. Only two options did not score the top score of 4 for being proven on a large scale in the UK, and these are options E and F. Autoclaving of residual MSW is not as yet proven on a large scale in the UK or Europe, and thus only scores a 2 for being proven on a small scale in the UK.

There is a merchant facility in Rotherham working with a capacity of 100,000tpa operated by Sterecycle who have plans for four more in the UK, however, currently this would be classed as relatively small scale operations. *Table 2.13* shows the scores assigned to each option for this assessment.

Table 2.13 *Option Scores*

Option	Proven Technologies Score	Rank
A	4	1
B	4	1
C	4	1
D	4	1
E	2	6
F	2	6
G	4	1

Worcestershire and Herefordshire Councils currently have a PFI contract with Mercia Waste Management for the disposal of residual waste. The original PFI framework was set to deliver energy from waste capacity for the authorities. However, with the appropriate contract variations, it would be feasible to delivery any of the technologies listed through the existing contract. It should be noted that any contract variations would be expected to incur additional cost.

2.4.3 *Planning Risk*

One of the greatest risks to any waste facility project is planning. The development of this assessment has compared the options in terms of number of sites required for each option. As previously stated, the public acceptability of the options will be considered outside this appraisal. Options therefore fall into three categories; one site options (A, B and E), two site options (C, D and F) and the export option (G).

The two site options are considered to incur the greatest risk. To ensure the JMWMS is successfully delivered, the authorities would need both sites to be successful through the planning process. For this reason the one site options are considered to have less planning risk associated with them.

Option G, the export option, assumes the designated facility is already established and thus the delivery of this option does not rely on obtaining additional planning permissions. This option however does incur an additional risk in relation to availability of spare capacity out of county.

Planning permissions have been granted for two autoclave facilities, one at Madley in Herefordshire and the other at Hartlebury in Worcestershire. Therefore, options E & F are assumed to have lower planning risk associated with them. However, these permissions are due to expire during 2009. If development doesn't begin before the expiration of the permissions then the facilities would be subject to obtaining new planning permissions, and their risk would therefore increase. A sensitivity analysis has been carried out to

assess the impact of these planning permissions expiring, and the subsequent change in planning risk. This can be found in *Appendix B*.

A ranking of the options is provided in *Table 2.14*.

Table 2.14 *Planning Risk Rankings*

Option	Description	Planning Risk Ranking
A	One site EfW	4
B	One site CHP	4
C	Two site MBT (on site burning)	6
D	Two site MBT (off site burning)	6
E	One site Autoclave	1
F	Two site Autoclave	1
G	Out of County EfW	1

2.4.4 *Compliance with Policy*

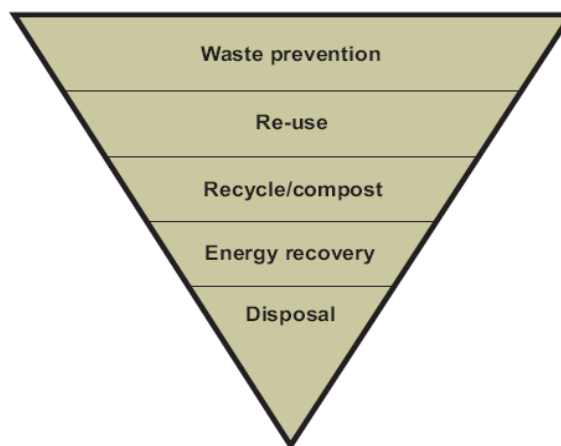
This criterion assesses the ability of each of the options to manage waste in accordance with national waste policy.

Government policy seeks to drive the management of waste up the waste hierarchy. The waste hierarchy represents a prioritisation of waste management options in which waste reduction is deemed to be the most preferable, followed by re-use, recycling, composting, recovery and finally disposal. Where waste is produced, it should be viewed as a resource to be put to good use and disposal should be viewed as the last option for dealing with it. The waste hierarchy is the overarching policy for both European and national legislation.

The waste hierarchy is shown schematically in *Box 2.1*.

Box 2.1 *The Waste Hierarchy*

The waste hierarchy



Waste Strategy for England 2007. Defra. May 2007.

The hierarchy encourages the removal of the need for treatment or disposal through waste recycling and composting, and recovery. This hierarchy has been used to determine the performance of each option.

The Keys Principles of the JMWMS include the wish to maximise value from the residual waste and use it wherever possible as a resource. To this end ERM has devised a method that allows the benefit of gaining value from waste to be quantified.

2.4.4.1 *Method and Assumptions Used*

ERM compared the options based on the tonnages of material handled by each of the following management methods:

- the amount of waste landfilled;
- the amount of mass lost during treatment;
- the amount of waste used to generate electricity;
- the amount of waste used to generate heat; and
- the amount of waste recycled.

The score for each option was based on the relative tonnages for each management method, and multiplied by a weighting factor to represent the preference for each of these in the waste hierarchy. These weightings are presented in *Table 2.15*.

Table 2.15 *Compliance with Policy Weightings Factors*

Management method	Weighting Factor
Recycling / Composting	1
CHP generation/ recovery	2
Electricity generation / recovery	3
Diversion from Landfill (no generation)	4
Landfill	5

The weighting factor for landfill is greater than that for the other waste management methods located higher in the waste hierarchy. The greater the tonnage of waste landfilled, the higher, and therefore 'worse' the score. Recovery, recycling and composting receive a lower, and therefore 'better' weighting for the tonnage of material managed by that method. For each option, the amount of waste (tonnage) that is managed by each of the four methods is multiplied by the method weighting and these individual scores are then summed to give an overall score for the option. The options are then ranked according to these overall scores.

All of the incinerator bottom ash (IBA) associated with EfW is assumed to be diverted from landfill and recovered on site for recycling as a construction material. However, it is assumed that hazardous fly ash resulting from the process needs to be landfilled. The waste hierarchy score associated with landfill is therefore applied to this material. Any waste that is 'lost' during the

process and a not direct output from the facility is assumed to be recovered and classed as either electricity or CHP recovery, or recovery with no generation of electricity or heat.

The lowest scoring option employed treatment facilities that manage waste at the top of the waste hierarchy, and has therefore been awarded the highest overall rank (1). The option that scored least well (highest score) relies on managing waste lower down the waste hierarchy and was allocated the lowest rank (7). All other options were ranked according to their position within this range.

2.4.4.2 *Results*

Table 2.16 shows the scores for each option. The four categories (recycling/composting, CHP, electricity generation and landfill) are listed for each option, with the tonnage that is sent to each of these destinations. The tonnages are then multiplied by the score weighting (1-5) to give the overall score for each option against this criterion.

Table 2.16 Waste Hierarchy Scores

Scenario	Waste Hierarchy	Weight (tonnes)	Weighting	Total (score)	Rank
A	Recycling/Composting	43,218	1	723,644	5
	CHP Generation		2		
	Electricity Generation	174,735	3		
	Recovery (no Generation)		4		
	Landfill	31,244	5		
B	Recycling/Composting	43,218	1	548,910	1
	CHP Generation	174,735	2		
	Electricity Generation		3		
	Recovery (no Generation)		4		
	Landfill	31,244	5		
C	Recycling/Composting	12,447	1	925,696	7
	CHP Generation		2		
	Electricity Generation	99,714	3		
	Recovery (no Generation)	71,074	4		
	Landfill	65,963	5		
D	Recycling/Composting	42,052	1	866,487	6
	CHP Generation		2		
	Electricity Generation	70,109	3		
	Recovery (no Generation)	71,074	4		
	Landfill	65,963	5		
E	Recycling/Composting	161,413	1	560,303	2
	CHP Generation		2		
	Electricity Generation		3		
	Recovery (no Generation)	40,034	4		
	Landfill	47,751	5		
F	Recycling/Composting	161,413	1	560,303	2
	CHP Generation		2		
	Electricity Generation		3		
	Recovery (no Generation)	40,034	4		
	Landfill	47,751	5		
G	Recycling/Composting	76,882	1	672,464	4
	CHP Generation		2		
	Electricity Generation	132,997	3		
	Recovery (no Generation)		4		
	Landfill	39,318	5		

This criterion identifies option B as the best performing option. This is largely due to the generation of heat in that option. Options E and F score highly and come in joint second due to the high level of recycling attributed to this technology.

2.4.5 *Flexibility*

2.4.5.1 *Flexibility to Composition Variations*

The options were assessed for their flexibility in terms of ability to accept waste with differing compositions arising from seasonal variations, potential changes to packaging material etc.

2.4.5.2 *Method and Assumptions Used*

This criterion was assessed qualitatively by ERM, using professional judgement based on our knowledge of the different technologies and experience of previous technical options appraisals. The methods employed in all these appraisals have been used previously in studies that have been approved by Defra.

2.4.5.3 *Results*

Options A, B, and G are the better performing options. EfW can accept material of a wide ranging calorific value. Autoclave also has the ability to accept a wide ranging feedstock. However, the output of the Autoclave will dictate what needs to be processed to provide a quality product to the end user. MBT options (C and D) require stricter controls over the material mixture of the input.

Table 2.17 *Flexibility of Technology to Accept Variations in Composition*

Option	Rank	Commentary
A	1	<ul style="list-style-type: none"> Relatively large range of Calorific Value (CV) is acceptable - large bunker enables flexibility to mix loads
B	1	<ul style="list-style-type: none"> Relatively large range of CV is acceptable - large bunker enables flexibility to mix loads
C	6	<ul style="list-style-type: none"> The contract for the RDF would require a relatively consistent composition and strict quality protocol
D	6	<ul style="list-style-type: none"> The contract for the RDF would require a relatively consistent composition and strict quality protocol
E	4	<ul style="list-style-type: none"> Can run on a wide range of composition effectively Contract for outputs will determine what scope of input is acceptable
F	4	<ul style="list-style-type: none"> Can run on a wide range of composition effectively Contract for outputs will determine what scope of input is acceptable
G	1	<ul style="list-style-type: none"> Relatively large range of Calorific Value (CV) is acceptable - large bunker enables flexibility to mix loads

2.4.5.4 *Flexibility to Accept Variations on Tonnage Throughputs*

The purpose of this criterion is to assess the flexibility of the option in terms of varying tonnage changes. This may be through seasonal variations or more significant changes through unexpected waste growth / decline etc over time.

2.4.5.5 *Results*

Options C performs well due to the potential to add additional capacity in a modular fashion. It is also unlikely to have a supply contract for output material. This means that without disrupting the performance of the original facility, providing planning and finances allow, extra capacity can be added to deal with more waste, should the need arise over time. Option D, E & F perform less well than C because one would expect there to be a minimum supply contract for RDF & Fibre.

Table 2.18 Effectiveness to be able to Manage Changes in Tonnage Throughputs

Option	Rank	Commentary
A	2	<ul style="list-style-type: none"> All can operate at slightly lower capacity but costs will increase Possibility of burn through* if considerably less Can't add additional small modules easily although another line could be added to increase throughput
B	2	<ul style="list-style-type: none"> All can operate at slightly lower capacity but costs will increase Possibility of burn through* if considerably less Can't add additional small modules easily although another line could be added to increase throughput
C	1	<ul style="list-style-type: none"> All can operate at slightly lower capacity but costs will increase Potential to add modules of additional capacity if land is available Gasifier will require consistent amount as with EFW – possibility of lower efficiency if amount reduced
D	6	<ul style="list-style-type: none"> All can operate at slightly lower capacity but costs will increase Potentially will have a minimum contract to supply RDF Potential to add modules of additional capacity if land is available
E	4	<ul style="list-style-type: none"> All can operate at slightly lower capacity but costs will increase Potentially will have a minimum contract to supply fibre Potential to add modules of additional capacity if land is available. This is easier than with other technologies due to small nature of each module
F	4	<ul style="list-style-type: none"> All can operate at slightly lower capacity but costs will increase Potentially will have a minimum contract to supply fibre Potential to add modules of additional capacity if land is available. This is easier than with other technologies due to small nature of each module
G	7	<ul style="list-style-type: none"> Potentially will have a minimum & maximum contract to supply waste If site can not accept enough waste, further merchant capacity must be found. Worst case scenario waste may end up in landfill

* Burn through is when the entire backlog (waste awaiting processing) is processed, such that waste throughput is less than the design minimum thereby reducing efficiency

2.4.6 End Product Liability

This criterion considers the risks associated with finding a market for the end products arising from the technologies. Some waste management technologies have greater risks associated with the management of end products because the markets for these materials are unproven or under-developed. The method used to assess the likely risks associated with the markets for end products is outlined below.

ERM compared the options based upon the tonnages of each material end product arising from the technologies involved in each option.

The end product(s) from each technology have been assigned a coefficient based on the risks associated with finding a market for them. These risks have been based on ERM's knowledge and experience of the secondary materials market.

Table 2.19 presents the coefficient that has been awarded to end product markets. A high value (0.10) indicates a higher risk of finding a market willing to accept an end product. A low value (0.01) indicates that markets for end products are stable and well established. These coefficients have been applied to the end product tonnages to provide a score to determine the performance of each option.

Table 2.19 *End Product Liability Coefficient*

End Product & Destination	Risk of not Finding a Market	End Product Liability Coefficient
RDF for off-site combustion	HIGH	0.07
Market for Autoclave fibre	HIGH	0.06
Hazardous material to landfill	MED	0.05
Markets for IBA	MED	0.04
Markets for dry recyclables	MED	0.03
Non-hazardous material to landfill	LOW	0.02
On-site gasification	LOW	0.01

A high liability coefficient has been attached to RDF produced by treatment technologies for combustion off-site because there is, as yet, no guarantee that this material will be accepted at a reasonable gate fee.

The ban on co-disposal of hazardous waste with non-hazardous waste in the UK has severely reduced the number of landfill sites licensed to accept hazardous waste. However, there is a landfill site capable of accepting hazardous material in operation approximately 60 km from the proposed sites. The disposal of hazardous waste to landfill has been ranked as medium risk, as any problems at this landfill would require significant extra transport to the next nearest hazardous landfill site.

It is assumed that the EfW and EfW+ CHP options (options A&B) would only be developed on sites with suitable and secure outlets for the heat and/or electricity produced and therefore these outputs have not been included in this assessment.

Table 2.20 Option Scores

	All Recyclates	IBA	Autoclave fibre recycling	Hazardous Residues	Non-Haz Residues	RDF/fluff		Total*	Score	Rank
						RDF for Off-Site Burning	for On- Site Burning			
A	61	1,648	-	316	498	-	-	2,523	2.6	1
B	61	1,648	-	316	498	-	-	2,523	2.6	1
C	373	-	-	-	1,319	6,980	-	8,673	6.5	5
D	373	1,184	-	-	1,319	-	997	3,874	3.5	3
E	1,237	-	7,210	-	955	-	-	9,402	7.0	6
F	1,237	-	7,210	-	955	-	-	9,402	7.0	6
G	111	2,927	-	720	498	-	-	4,257	3.7	4

*Totals may not sum due to rounding

The options with the least liability associated with their end products, and therefore the best performing are option A and B. The EfW/CHP options perform well due to the limited number of outputs which are usually of low risk. The options with the highest liability related to them are options E and F. This is due to the relatively high risk associated with finding a market for the autoclave fibre. Option C also has a high element of risk associated with it due to the potential risks in finding a market for the RDF. Whilst this may not be the case in the areas surrounding Worcestershire and Herefordshire, in general this usually presents a significant risk.

The appraisal has assessed each of the options against fourteen criteria. A ranking has been devised based on the performance in all of these criteria. The ranked order of options is shown in *Table 3.1*. Option B scores the best overall; however, the criteria were not weighted, so no criteria are assumed to be more important than any others. Option B scores the best against global warming, transport, reliability, compliance with policy, flexibility and end product liability. The workshop held with the Partnership members prior to the completion of the appraisal included a session assessing the most important criteria to the Partnership. Whilst all the criteria assessed were seen as important, cost, reliability and resource depletion were seen as key criteria. The top scores against these key criteria were as follows:

- Cost – Option A, followed by Options E and F;
- Reliability – Options A, B, C, D and G were all equally reliable; and
- Resource depletion – Option D followed by Option B.

Option B scored well against these key criteria with the exception of cost, where it was ranked fifth. However there is potential income from the heat generated that has not currently been taken into consideration.

Option E was ranked second overall and scored well against many of the environmental criteria, however it did not score well against resource depletion or reliability and was scored as average against cost.

Option D performed very well against resource depletion and reliability, but poorly against cost. The overall ranking for option D was sixth, reflecting lower performance against compliance with policy, cost and some of the environmental criteria.

Option A also performed well against two of the key criteria - cost and reliability. It also finished third against resource depletion, the other key criteria, and finished third in the overall scoring. This was due to a lower performance against some of the environmental criteria.

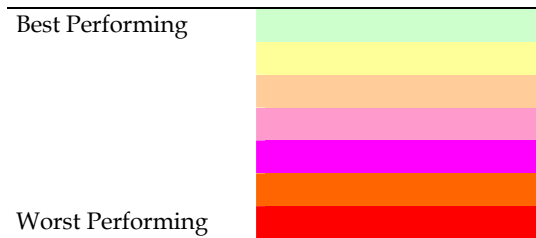
Option G is the worst performing option overall. This is partly as a result of assumptions made on facility type (see sensitivity analysis below). However, the reliance on an out of county facility causes the option to perform badly in relation to flexibility of tonnage throughputs and transportation.

Table 3.1 *Total Scores and Ranks*

	Resource Depletion	Global Warming	Ecotoxicology	Acidification	Eutrophication	Health	Transport	Cost	Reliability	Planning Risk	Compliance with Policy	Flexibility - composition	Flexibility - tonnage	End Product Liability	Average	Rank
Option A	3	6	7	6	5	4	1	1	1	4	5	1	2	1	3.36	3
Option B	2	1	6	5	3	3	1	5	1	4	1	1	2	1	2.57	1
Option C	4	5	1	4	4	5	3	7	1	6	7	6	1	5	4.21	5
Option D	1	4	4	3	6	6	4	6	1	6	6	6	6	3	4.43	6
Option E	6	2	2	1	1	1	5	2	6	1	2	4	4	6	3.07	2
Option F	7	3	3	2	2	2	7	2	6	1	2	4	4	6	3.64	4
Option G	5	7	5	7	7	7	6	4	1	1	4	1	7	4	4.71	7

KEY:

Option A	1 x EFW
Option B	1 x EFW + CHP
Option C	2 x MBT - gasification
Option D	2 x MBT - cement kiln
Option E	1 x Autoclave
Option F	2 x Autoclave
Option G	EFW out of county



4.1 OPTION G - CHANGE IN EfW REFERENCE PLANT

In assessing the options there were a number of assumptions that had to be made. One of these assumptions was the example facility that each option was based on. Worcestershire and Herefordshire currently send a proportion of their waste to EfW facilities in the West Midlands, including the Coventry EfW. Option G was therefore based on sending waste to this EfW. The results are therefore based on the performance of this particular plant. In reality there may be another, more recently built, EfW that could be utilised by the Partnership in the future. To assess this possibility the same plant that was used as the basis for option A was used in a sensitivity analysis (option G2). This allows the impacts of transporting the waste to Coventry to be easily identified as the treatment technology is now the same in options A and G2.

The results presented below for option G and G2 are for those criteria that have been affected by the change: environmental criteria, health, transport, compliance with policy and end product liability.

Table 4.1 Option G and G2 Results

	Compliance with policy	End product Liability	Transport	Health	Resource Depletion	Global Warming	Freshwater Ecotoxicity	Acidification	Eutrophication
Option G	672,464	4,257	6,125,027	6,487,000	-462,000	22,486,000	-4,203,000	170,000	60,000
Option G2 - sensitivity	723,644	2,523	5,923,948	-5,658,000	- 570,000	14,279,000	- 2,900,000	36,000	28,000

*Lower numbers are a better result for all criteria in this table

Option G2 is a better performing option than Option G when compared against the majority of the criteria that change. Option G2 performs marginally better overall with a total score of 4.50, compared to 4.71 for Option G. This only slightly alters the ranking for G2 which moves up from 7 to 6, so it still remains one of the worst performing options, replacing Option D in 6th position.

Option G2 performs well in the planning, reliability of deliver and end product liability criteria. However, when compared to option A (EfW in county) the option still performs less well in the majority of the environmental criteria. This is due to the additional transport required to transport the waste to the facility.

The introduction of option G2 does not affect the ranking of the top performing options against the three key criteria identified in *Section 3* and provided below for confirmation.

The top scoring options against these key criteria were as follows:

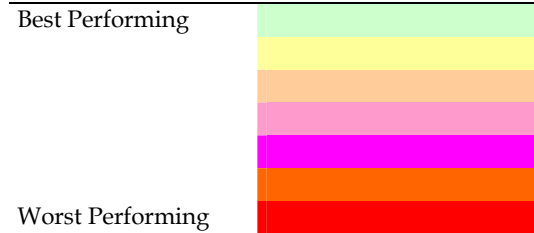
- Cost – Option A, followed by Options E and F;
- Reliability – Options A, B, C, D and G were all equally reliable; and
- Resource depletion – Option D followed by Option B.

Table 4.2 Total Scores and Ranks - Sensitivity Analysis

	Resource Depletion	Global Warming	Ecotoxicology	Acidification	Eutrophication	Health	Transport	Cost	Reliability	Planning Risk	Compliance with Policy	Flexibility - composition	Flexibility - tonnage	End Product Liability	Average	Rank
Option A	3	6	6	6	5	4	1	1	1	4	4	1	2	1	3.21	3
Option B	2	1	5	5	3	3	1	5	1	4	1	1	2	1	2.50	1
Option C	4	5	1	4	4	6	3	7	1	6	7	6	1	5	4.29	5
Option D	1	4	4	3	7	7	4	6	1	6	6	6	7	4	4.71	7
Option E	6	2	2	1	1	1	5	2	6	1	2	4	4	6	3.07	2
Option F	7	3	3	2	2	2	7	2	6	1	2	4	4	6	3.64	4
Option G2	5	7	7	7	6	5	6	4	1	1	4	3	6	1	4.50	6

KEY:

Option A	1 x EFW
Option B	1 x EFW + CHP
Option C	2 x MBT - gasification
Option D	2 x MBT - cement kiln
Option E	1 x Autoclave
Option F	2 x Autoclave
Option G	EFW out of county



Appendix A

WRATE Assumptions

A1.1.1 *How WRATE works*

WRATE is a Life Cycle Assessment (LCA) software tool for comparing different management systems treating Municipal Solid Waste (MSW). There are other LCA tools; however, none offer the same scope of waste technologies that are provided by WRATE or have the level of sophistication of technical development.

WRATE is designed for waste managers. It produces information on the environmental aspects of integrated waste management systems in a form that is accessible to financial and political decision-makers and stakeholders. WRATE calculates potential impacts stemming from all stages in the management and processing of municipal waste. These impacts include waste collection, transport, treatment and disposal activities, taking account of the associated infrastructure, together with the avoided burdens associated with materials recycling and energy recovery.

The software follows the “Gate to Grave” modelling approach. The system boundary is initiated when materials are discarded into a waste management system (the Gate), and the waste is followed to its point of recycling, recovery or final disposal (the Grave).

WRATE includes site process data collected by the Environment Agency’s Waste Technologies Data Centre (WTDC) for 40 waste treatment processes. The tool forecasts the environmental costs and benefits of processes and waste management systems in terms of resources used, transport and the operational impacts of materials, and energy treated downstream from WTDC processes. In addition, users are able to develop and evaluate new, user-defined processes on the basis of proposed designs or existing operations.

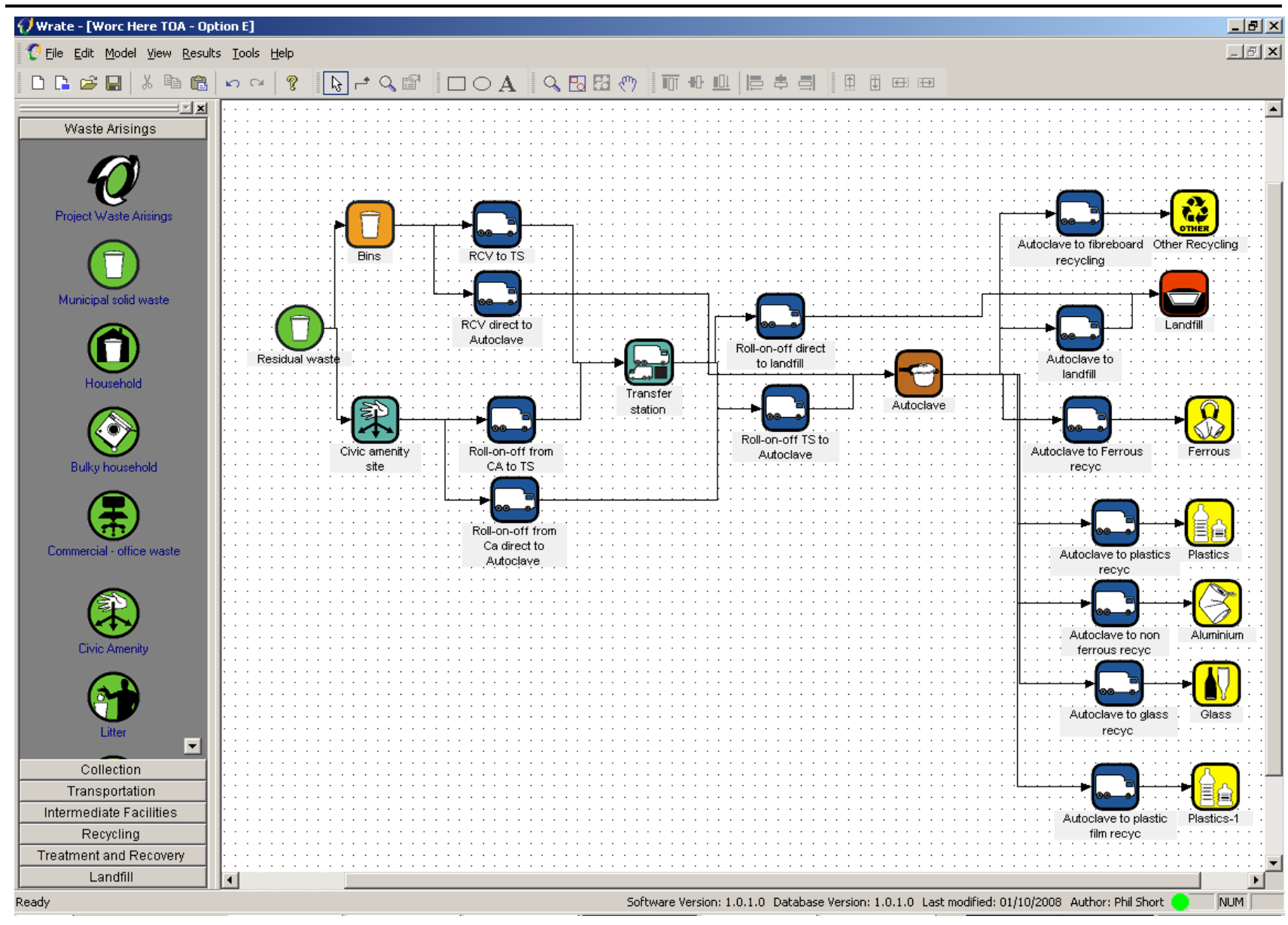
The WRATE methodology is composed of three main parts: the waste inputs, the calculation engine, and the results display and interpretation.

A1.1.2 *Waste Inputs*

Waste composition is defined by users, by waste streams (including household waste, street sweeping) and by waste fraction (including paper, plastic, textile, glass) and subfractions (for paper, newsprint, office paper among others). Each fraction and subfraction has a pre-defined chemical composition.

The system, or ‘Scenario’ is then defined, process by process, in a Graphical User Interface (GUI) by the user; for example: collection container, vehicle, collection round distance, intermediate transport and final recovery or disposal.

Figure 1.1 WRATE's Graphical User Interface



A1.1.3 Calculation Engine

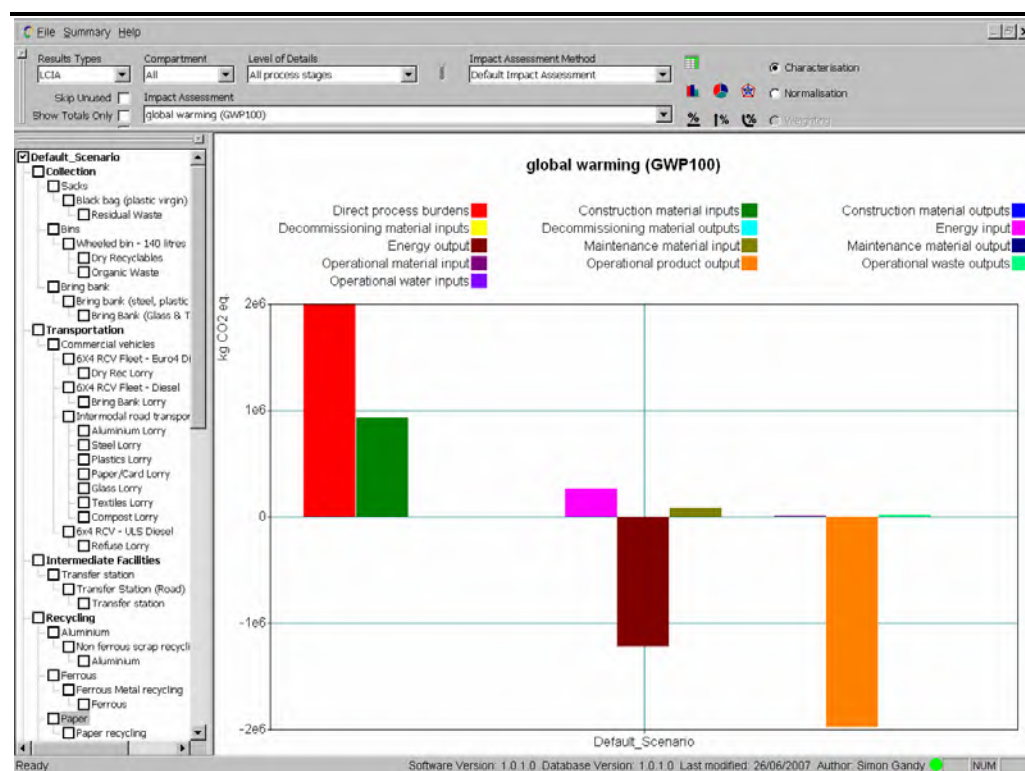
The basis for calculations is that each process in the waste management system places a burden on the environment. Each burden is described in the generic process structure per unit of waste processed.

A process can range from a simple process, such as a bin, to a more complex process, such as a thermal treatment plant. All the outputs are calculated through allocation algorithms that link all the inputs to the outputs of a process. These can be dependent on the waste composition input (fractional or elemental composition), the total quantity of the waste or the properties of the treatment plant. The software does this by drawing on a series of databases, including the ecoinvent v1.2 database that is used to estimate the life cycle costs for the materials and energy that are used or recovered by processes.

A1.1.4 Results

Results can be provided at the process Scenario levels. A Life Cycle Inventory of all the environmental inputs and outputs caused by the modelled waste management system is calculated. To this several Life Cycle Impact Assessment methods can be applied (e.g. Global warming potential, acidification potential etc). Scenarios can then be compared and a number of results formats are produced, suitable for communicating to non-technical audiences.

Figure 1.2 Sample Results Screen Plot



A2 WRATE ASSUMPTIONS

A2.1 SITE ASSUMPTIONS

The seven options that have been assessed have used a combination of one and two site options. All options with one site are assumed to go to Site A, which is close to Worcester City on the M5 corridor. The two site option includes two sites that are assumed to be located at Hartlebury and Madley.

A2.2 WASTE COLLECTION ASSUMPTIONS

All waste has been assumed to go via two routes:

- Kerbside 240L wheeled bins, and
- Civic Amenity sites (large – with compaction)

Waste is then transported from these points either to a transfer station, or direct to one of the proposed facilities.

A2.3 TRANSPORT ASSUMPTIONS

A2.3.1 Waste Collection

All waste from CA sites (or Household Waste Sites, HWS) is assumed to go direct to the proposed facilities. This is as per current practice in which waste is compacted on each site, and therefore has no need to go via transfer stations for bulking.

Waste from kerbside collections goes either via transfer stations to the proposed facilities, or direct to the proposed facilities. The table below provides a basic view of the flows of waste from each local authority.

Table 2.1 Waste Flow - 1 Site Options

Authority		Destination
Worcester City		site A
Bromsgrove DC	Transfer	site A
Malvern Hills DC	Transfer 10%	site A 90%
Redditch BC	Transfer	site A
Wychavon DC		site A
Wyre Forest DC		site A
Hereford Council	Transfer	site A

Depending on whether the option has one or two proposed sites, there are differences in the waste flows.

Table 2.2 Waste Flow - 2 Site Options

Authority		Destination
Worcester City		site 1
Bromsgrove DC	Transfer	site 1
Malvern Hills DC	Transfer 10%	site 2 90%
Redditch BC	Transfer	site 2
Wychavon DC		site 1 (50%) site 2 (50%)
Wyre Forest DC		site 1
Hereford Council	Transfer	site 2

A2.4 DISTANCES

Each authority is assumed to produce waste at a single central point. These points were provided by Worcestershire County Council and constitute the centre of population in each district. The distances from each of these central points to the designated destination, or to the transfer station (if relevant), were averaged for that journey for the purpose of modelling in WRATE. This was weighted using the proportion of residual waste produced by each authority. For example, an average of the three weighted journeys from Worcester City, Wychavon and Wyre Forest to Site A were used in the one site options for the journey from waste collection to Site A.

A2.5 ONWARD TRANSPORT

Facilities currently used by the Partnership were used to estimate the onward transport of treatment residues/recyclates. These are presented below:

- Non haz landfill – Hill and Moor Landfill, WR10 2PW
- Haz landfill – Wingmoor Farm, Gloucestershire
- Cement kiln – assumed to be 100km away
- Glass recycling - T Berryman & Son Ltd, West Yorkshire, WF9 3NR
- Ferrous recycling – European Metal Recycling, Smethwick, B66 2PG
- Non ferrous recycling – Alutrade, Oldbury, B69 4NH
- Fibreboard manufacture - Hollands Recycling Ltd – Wednesbury, WS10 8LN
- Plastic recycling – Recoup Services (Broker), Peterborough, PE2 7UH

A2.6 FACILITY ASSUMPTIONS

In WRATE there are examples of different types of facility that are used as a proxy in the modelling. For this assessment the following facilities were used as representations of technologies in the various options.

- EfW – Chineham EfW;
- CHP – user defined CHP plant, (based on Chineham with added heat recovery);
- MBT – MBT (Bio-drying of MSW for RDF production) Ecodeco process
- Autoclave – Esstech process; and

- Out of County EfW – Coventry

A2.6.1

Comment on data quality

- The autoclave and gasifier models in WRATE are based on design data, rather than operational data;
- The heat recovery included in the CHP option (B) is an estimate based on data from an existing plant.
- Option G is based on the EfW at Coventry, as this is the assumed destination of waste under this option. However it could be the case that another facility would be used, and therefore, impacts relating to the process could be different, as could the impacts relating to transport.
- Health impact limitations:
 - Emissions (or saved avoided emissions) relating to each of the options assessed occur in a multitude of physical places across the life cycle, and there is not account of whether these are diffuse rather than point emissions.
 - It is worth noting that there have been many subsequent methods developed since the CML method, all have limited validity, since there are just too many uncertainties.
 - The practice guidance for WRATE suggests a formal Health Impact Assessment would be the only way to ever really compare options for Human health, outside a WRATE assessment.

Appendix B to Annex D

Planning Assumptions Sensitivity Analysis

B1.1.1 *Planning Risk - Sensitivity*

In *Section 2.4.3* of the Residual Options Appraisal report, the planning risk associated with each of the options was assessed. A key assumption in this appraisal was that planning permissions had been granted for two autoclave facilities: one at Madley in Herefordshire and the other at Hartlebury in Worcestershire. Therefore, options E & F were assumed to have low planning risk associated with their delivery.

However, these permissions have now expired and subsequently the planning risk associated with these options has increased. This section assesses the impact this change in assumption has on the overall options appraisal.

One of the greatest risks to any waste facility project is planning. The development of this assessment has compared the options in terms of number of sites required for each option. As previously stated, the public acceptability of the options will be considered outside this appraisal. Options therefore fall into three categories; one site options (A, B and E), two site options (C, D and F) and the export option (G).

The two site options are considered to incur the greatest risk. To ensure the JMWMS is successfully delivered, the authorities would need both sites to be successfully delivered through the planning process. Option F (two site Autoclave) fits within this category and is therefore assumed to have a planning risk ranking of 5. The one site options, including option E (one site autoclave), are considered to have less planning risk associated with them and have therefore been given a planning risk ranking of 2.

A ranking of the options is provided in *Table 1*.

Table 1 *Planning Risk Rankings - Sensitivity*

Option	Description	Planning Risk Ranking
A	One site EfW	2
B	One site CHP	2
C	Two site MBT (on site burning)	5
D	Two site MBT (off site burning)	5
E	One site Autoclave	2
F	Two site Autoclave	5
G	Out of County EfW	1

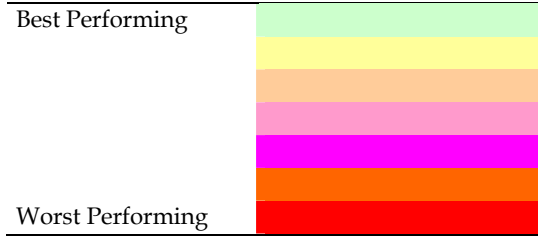
The impact these changes in planning risk have to the overall results is shown in the table below. The ranking of the options has not changed so Option B remains overall the best performing option. Some of the total scores have altered slightly as a result, but these are not significant enough to change the conclusions in the main report.

Table 2 Total Scores and Ranks – Planning Sensitivity

	Resource Depletion	Global Warming	Ecotoxicity	Acidification	Eutrophication	Health	Transport	Cost	Reliability	Planning Risk	Compliance with Policy	Flexibility - composition	Flexibility - tonnage	End Product Liability	Average	Rank
Option A	3	6	7	6	5	4	1	1	1	2	5	1	2	1	3.21	3
Option B	2	1	6	5	3	3	1	5	1	2	1	1	2	1	2.43	1
Option C	4	5	1	4	4	5	3	7	1	5	7	6	1	5	4.14	5
Option D	1	4	4	3	6	6	4	6	1	5	6	6	6	3	4.36	6
Option E	6	2	2	1	1	1	5	2	6	2	2	4	4	6	3.14	2
Option F	7	3	3	2	2	2	7	2	6	5	2	4	4	6	3.93	4
Option G	5	7	5	7	7	7	6	4	1	1	4	1	7	4	4.71	7

KEY:

Option A	1 x EFW
Option B	1 x EFW + CHP
Option C	2 x MBT - gasification
Option D	2 x MBT - cement kiln
Option E	1 x Autoclave
Option F	2 x Autoclave
Option G	EFW out of county



Appendix C to Annex D

Site Location Sensitivity Analysis

C1.1 LOCATION OF FACILITY IN ONE SITE OPTIONS – SENSITIVITY ANALYSIS

C1.1.1 Introduction

The Residual Options Appraisal undertaken in February 2009 (and published July 2009) aimed to provide a strategic level appraisal of alternative residual treatment options to inform the development of the *Joint Municipal Waste Management Strategy for Herefordshire & Worcestershire*. At the time this appraisal was undertaken, the specific location of any new facility/ facilities was unknown. Therefore, assumptions were made based on indicative locations to ensure the environmental and amenity issues associated with transport were not overlooked. Appendix A2 to the Residual Options Appraisal details the assumptions made.

Following the publication of the Residual Options Appraisal, an application for a scoping opinion on a specific residual treatment facility was submitted to Worcestershire County Council, by their waste disposal contractor Mercia Waste Management. This application provided details of a potential site location for a single residual treatment facility which aims to deal with municipal residual waste arising in Worcestershire and Herefordshire. The proposed site for the facility is on the Hartlebury Trading Estate, close to the A449 in Wychavon.

C1.1.2 Purpose of Sensitivity

The purpose of this sensitivity analysis is to understand how changing the assumed location of Site A impacts the results of the Residual Options Appraisal.

Table C1.1 Changes to Site Location Assumptions

Original Assumption	Site A = a site close to Worcestershire City on the M5 corridor
Sensitivity Assumption	Site A = the site proposed on Hartlebury Trading Estate, close to the A449 in Wychavon
NB All other transport, site and technical assumptions remain the same	

This assumption changes impacts upon the single site options only. The options considered in the Residual Options Appraisal where the site location has been changed include:

- Option A – 1 site EfW
- Option B – 1 site EfW with CHP
- Option E – 1 site autoclave

C1.1.3 Results of the Sensitivity Analysis

The results presented in *Table C1.2* below are for those criteria that have been affected by the site location assumption change. These are primarily the environmental criteria which change as a result of the changing transport distances. The criteria subject to change include: Resource Depletion, Global Warming, Freshwater Ecotoxicity, Acidification, Eutrophication, Health and Transport. *Table C1.3* presents the total scores and ranks.

Table C1.2 Sensitivity Results

Option	Resource Depletion	Global Warming	Freshwater Ecotoxicity	Acidification	Eutrophication	Health	Transport
Unit	kg antimony eq.	kg CO2 eq.	kg 1,4-dichloro-benzene eq.	kg SO2 eq.	kg PO4-- eq.	kg 1,4-dichloro-benzene eq.	km
A - Original	-601,000	10,555,000	-3,260,000	17,000	25,000	-6,002,000	1,975,401
A1 -Sensitivity	-600,000	10,698,000	-3,245,000	18,000	25,000	-5,986,000	2,098,232
B - Original	-1,120,000	-50,573,000	-4,158,000	-38,000	19,000	-9,315,000	1,975,401
B1 - Sensitivity	-1,118,000	-50,429,000	-4,143,000	-37,000	19,000	-9,299,000	2,098,232
E - Original	-405,000	-12,265,000	-8,877,000	-279,000	-6,000	-11,753,000	5,683,691
E1 - Sensitivity	-403,000	-12,121,000	-8,862,000	-278,000	-6,000	-11,737,000	5,806,522

* Lower numbers are a better result for all criteria in this table

As can be seen from *Table C1.2*, changing the assumed location of Site A has had a very small effect on the criteria assessed in this study.

In all cases, where a change in impact is discernible, the impact has increased slightly. The percentage change is however very small. *Table C1.3* shows the rankings of each of the options considered and demonstrates that although the location of Site A has changed, this has had no impact on the overall results of the Residual Options Appraisal. Therefore, the conclusions drawn in the original Residual Options Appraisal remain valid.

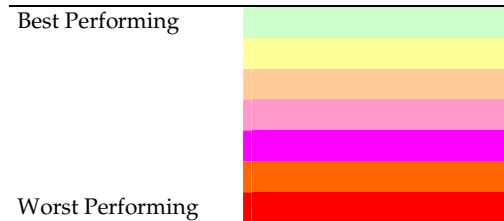
Table C1.3 Total Scores and Ranks - Site Location Sensitivity Analysis

	Resource Depletion	Global Warming	Ecotoxicology	Acidification	Eutrophication	Health	Transport	Cost	Reliability	Planning Risk	Compliance with Policy	Flexibility - composition	Flexibility - tonnage	End Product Liability	Average	Rank
Option A	3	6	7	6	5	4	1	1	1	4	5	1	2	1	3.36	3
Option A1 Sensitivity	3	6	7	6	5	4	1	1*	1*	4*	5*	1*	2*	1*	3.36	3
Option B	2	1	6	5	3	3	1	5	1	4	1	1	2	1	2.57	1
Option B1 Sensitivity	2	1	6	5	3	3	1	5*	1*	4*	1*	1*	2*	1*	2.57	1
Option C	4	5	1	4	4	5	3	7	1	6	7	6	1	5	4.21	5
Option D	1	4	4	3	6	6	4	6	1	6	6	6	6	3	4.43	6
Option E	6	2	2	1	1	1	5	2	6	1	2	4	4	6	3.07	2
Option E1 Sensitivity	6	2	2	1	1	1	5	2*	6*	1*	2*	4*	4*	6*	3.07	2
Option F	7	3	3	2	2	2	7	2	6	1	2	4	4	6	3.64	4
Option G	5	7	5	7	7	7	6	4	1	1	4	1	7	4	4.71	7

* - these criteria were not reassessed as part of the sensitivity study.

KEY:

Option A	1 x EFW
Option B	1 x EFW + CHP
Option C	2 x MBT – gasification
Option D	2 x MBT – cement kiln
Option E	1 x Autoclave
Option F	2 x Autoclave
Option G	EFW out of county



Annex E

Scoping Report to inform Strategic Environmental Assessment



The Joint Municipal Waste Management Strategy
for Herefordshire and Worcestershire 2004 - 2034

First review August 2011

**Herefordshire Council &
Worcestershire County Council**

**Sustainability Appraisal for the
Joint Municipal Waste Management
Strategy**

Scoping Report

Version 4

April 2008

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1. INTRODUCTION

- 1.1 All local development documents (LDD) are to be subject to the process of sustainability appraisal¹. The Worcestershire County Council Waste Core Strategy Sustainability Appraisal (SA) was published in 2005 and provides a framework for this document, the initial Scoping Report as part of the Sustainability Appraisal of the Herefordshire & Worcestershire Joint Municipal Waste Management Strategy (JMWMS). It also incorporates the requirements of scoping for the Strategic Environmental Assessment (SEA) Directive. It has been prepared in accordance with guidance from the Office for the Deputy Prime Minister published in 2005 (A Practical Guide to the Strategic Environmental Assessment Directive) and as this document suggests, integrates the required SEA for the JMWMS with other types of appraisal, in this instance the Sustainability Appraisal (SA).
- 1.2 In this Chapter we introduce the requirements of SA and provide an outline of how it will impact on the JMWMS. The succeeding chapters discuss:
- the main findings following the review of the pertinent policies, plans and programmes,
 - the key sustainability issues and the associated base line data,
 - sustainability objectives that will establish the framework for the assessment of the JMWMS in the following stages of the process,
 - the consultation arrangements for the scoping report and next stages in the process of undertaking SA of the JMWMS.

Sustainability Appraisal and Strategic Environmental Assessment

- 1.3 The objective of the Strategic Environmental Assessment Directive² is:

To provide for a high level of protection of the environment and to contribute to the integration of environmental considerations into the preparation and adoption of plans and programmes with a view to promoting sustainable development (Article 1)

- 1.4 The purpose of SA is:

to promote sustainable development through better integration of sustainability considerations into the preparation and adoption of plans (Sustainability Appraisal of Regional Spatial Strategies and Local Development Frameworks, 2005 , ODPM)

- 1.5 SA therefore requires an examination of not only the environmental effects of a plan but also the social and economic effects.
- 1.6 Although SEA and SA are separate legal matters, it is possible to meet the requirements of SEA as part of the more wider ranging SA process, subject to the environmental effects being addressed with sufficient rigour as required by the SEA.

¹ Section 19, Planning and Compulsory Purchase Act 2004

² Directive 2001/42/EC on the Assessment of the Effects of Certain Plans and Programmes on the Environment

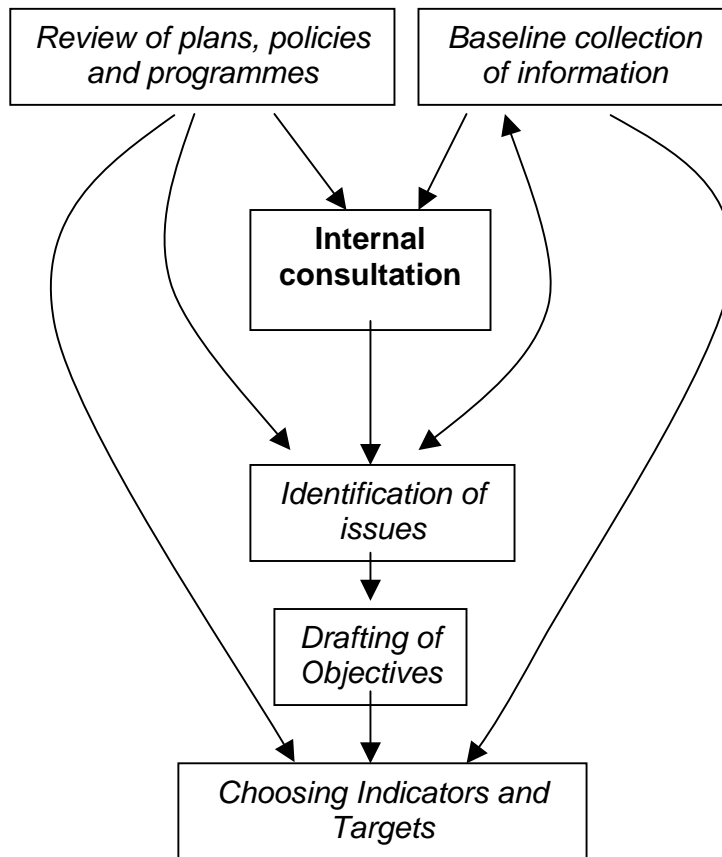
- 1.7 From hereon in reference to Sustainability Appraisal includes the requirements of Strategic Environmental Assessment. As part of a quality assurance process a checklist is reproduced in Appendix 1 that will be used to signpost where the SEA requirements are addressed within the SA process.
- 1.8 The appraisal process will culminate in the production of a Sustainability Report that will describe the process undertaken including potential alternatives; give reasons for any decisions made and state the predicted implications, positive and negative, of the preferred approach advanced within the JMWMS. The effects of the JMWMS upon each of the sustainability objectives, is to be considered in terms of its short, medium and long term nature as well as the secondary, cumulative and synergistic effects.
- 1.9 Although the Sustainability Report will not formally form part of the JMWMS, it does provide one of the key tests of soundness against which the JMWMS can be examined and it also informs the decision making on the contents of the Strategy. Working in parallel with plan preparation, the process of undertaking sustainability appraisal will provide a commentary on the potential social, environmental and economic effects arising from the JMWMS. This in turn will help develop waste policies that reflect the Government's principles for sustainable development as set out in the UK Government's Sustainable Development Strategy (March 2005) of:-
- Living within environmental limits
 - Ensuring a strong, healthy and just society
 - Achieving a sustainable economy
 - Promoting good governance
 - Using sound science responsibly

Methodology

- 1.10 The SA of the JMWMS is being led by Worcestershire County Council's Waste Management Unit. It has been prepared following guidance in the ODPM guidance 'Sustainability Appraisal of Regional Spatial Strategies and Local Development Documents.
- 1.11 The process of undertaking sustainability appraisal of the JMWMS will comprise of five stages:
- (A) The gathering of information via a review of plans, policies and programmes to establish the sustainability issues of concern for Herefordshire & Worcestershire and establishing the objectives and indicators against which to consider the performance of the plan towards achievement of sustainable development.
- (B) Appraisal and then consultation of the emerging options for the review of the JMWMS.
- (C) Preparing the sustainability report including the details of the findings from the appraisal and how the JMWMS has been informed and influenced by the process.
- (D) Joint consultation on the SA report and the preferred JMWMS.

- (E) Monitoring of the sustainability credentials of the plan and responding to adverse effects should they arise.
- 1.12 Although the process has a series of separate stages, the actual undertaking of the process is one whereby there is likely to be a cycle of continuous review and refinement as more baseline information is obtained and as more sustainability issues and options are identified.
- 1.13 This report represents the culmination of the work undertaken as part of stage A and provides the scope and level of detail against which the JMWMS will be appraised and reported upon in the Sustainability Report.
- 1.14 Stage A of the process for the Waste Core Strategy Scoping Report upon which this document is based began preparation in December 2004 with the review of plans, policies and programmes to establish the sustainability policy context, which helped to distil the key sustainability issues. Upon identification of key issues an internal reference group of Worcestershire County Council staff was established with representation from relevant departments with specialisms, interests in or responsibilities for those areas to be addressed by the SA. This group was used as a sounding board following preparation of each section of the scoping report. The scoping report also received input from consultants ERM, who assisted the Council in the preparation of the Waste Core Strategy. To provide independent comment on the scoping report, a third party in the form of the environmental charity Forum for the Future, were also asked to review the appraisal process advocated within the scoping report. This Worcestershire County Council led working group have established a generic SA Framework as a basis for developing Scoping Reports.

1.15 The process of Stage A is summarised in Figure 1 below.



Commenting on this initial report

1.16 This is the initial scoping report and comments are being sought on how it could be improved or clarified. This draft report has been forwarded to the Environment Agency, Natural England and English Heritage to obtain their views on the soundness of the report from an environmental perspective with advice to the appraisal process proceeding to the next stage. The consultation has been supplemented with an invitation to those stakeholders that the Councils consider to be appropriate such as Worcestershire Wildlife Trust, Herefordshire Nature Trust, H&W Chamber of Commerce, Primary Health Care Trusts and the Health Protection Agency. To assist in making responses and amendments, the following questions may usefully be considered:

- Have there been any significant omissions of plans, programmes and policies relevant to the scoping of this report?
- Do you agree with the selection of key sustainability issues for Herefordshire & Worcestershire?
- Do you agree that the types of baseline data that have been, or will be, collected are relevant and of sufficient detail to support the appraisal?
- Are there any key baseline data available that are or could be used in support of the issues that have not been identified?
- Are you aware of any appropriate targets that are not currently included that the report should cite?

- Do the sustainability objectives provide a sound framework against which to assess the sustainability credentials of the JMWMS?
- Can you propose additional indicators and targets for the objectives?

The Herefordshire & Worcestershire Joint Municipal Waste Management Strategy and Best Practicable Environmental Option (BPEO)

- 1.17 The Herefordshire & Worcestershire JMWMS will set out a strategy for sustainable waste management to enable the adequate provision of waste management facilities throughout the County. It will not identify land allocations, this being a task of other development plan documents.
- 1.18 The Best Practicable Environmental Option (BPEO) was undertaken jointly for Herefordshire and Worcestershire in 2003. The BPEO process considered the relative merits of various waste management options, , to help identify the “best” option for the two Counties, taking into account the conservation of the environment across land, air and water. The outcome of the process was endorsed by Worcestershire County Council in July 2003 as forming the basis for preparing the Development Plan.

2. REVIEW OF POLICIES, PLANS AND PROGRAMMES

- 2.1 As part of the evidence-gathering for the SA all relevant Policies, Plans and Programmes (PPP) were identified with a view to helping to establish the key sustainability issues for Herefordshire & Worcestershire which the JMWMS may affect.
- 2.2 PPPs have been considered at a national, regional and local level, although it is assumed that national and European PPPs have been incorporated into the strategic direction and content of locally based documents. Only national documents of most direct relevance to the JMWMS and sustainability have been reviewed.
- 2.3 This is a dynamic process and as new PPPs emerge or are revised, they will be reviewed and any conflicts or inconsistencies will be addressed. Policy context continually shifts as new plans are adopted and/or take the place of former plans. The full list of reviewed policies, plans and programmes can be found in appendix 2. The PPP Review ensures that the JMWMS is prepared after having regard to the requirements of other relevant plans and strategies.

Results of the Review

- 2.4 The purpose of the review is to detail the key implications for the SA. It is not to highlight every detail from every document selected. The findings of the review are shown in tables in appendix 3. For each document reviewed, the table sets out the name of the document, key objectives and targets, and implications for the SA. In addition to extracting information to inform the issues stage (discussed later) this process enables relevant indicators and targets from the reviewed plans to be fed into the indicators and target as demonstrated in Figure 1. In doing so it is not proposed to create targets for the SA report, but to include targets already devised in other documents.
- 2.5 The key points emerging from the review that the SA needs to address are as follows:

Social

- (1) Access to services is a key issue, particularly for people living in rural areas.
- (2) Promote and improve access to education.
- (3) Enable communities to participate in and contribute to the issues that affect them.
- (4) Pockets of deprivation exist in the region.
- (5) Provision of decent affordable housing for all.
- (6) Promote communities that are healthy and support vulnerable people.
- (7) Address health inequalities.
- (8) Tackle crime, fear of crime and anti-social behaviour

Environmental

- (9) Encourage and enable waste minimisation, reuse, recycling and recovery, in order to meet national, regional and local targets.

- (10) Prevent or reduce the negative effects of waste management on the environment.
- (11) Target of 10% reduction in gas emissions that cause climate change by 2010 and 20% by 2020.
- (12) Improve energy efficiency and increase use of renewable energy. 10% of the UKs electricity should be coming from renewable energy sources by 2010 and 20% by 2020 (PPS 22).
- (13) Development should be focused in, or next to, existing towns and villages with previously developed land used in preference to Greenfield.
- (14) Encourage and promote land use activities which will lead to an improvement in the quality of its natural resources.
- (15) Development should be informed by and sympathetic to the landscape character of the locality.
- (16) Protection of the natural and cultural heritage of the area.
- (17) The area is subject to potential flooding from, in particular, the Rivers Severn, Teme, Avon, Stour and Wye.
- (18) There is an emphasis on reducing the need to travel and the challenge of addressing hotspots of road congestion.

Economic

- (19) Ensure prudent and efficient use of natural resources.
- (20) Ensure the efficient transportation of freight within the region, so as to support a strong long economy, but not at a compromise to existing or future needs of society or the environment.
- (21) On a workplace basis average earnings well below national comparators combined with a relatively low level of skilled workforce in the area.
- (22) Significant proportion of workforce employed in declining industries.

2.6 The above points, coupled with consideration of baseline data and feedback from internal reference group enable the initial identification of the key sustainability issues that will need to be addressed in the sustainability appraisal. This is discussed further in the next chapter.

3. IDENTIFICATION OF SUSTAINABILITY ISSUES

3.1 The SEA requires that the following issues be addressed:

Biodiversity; population; human health; fauna; flora; soil; water; air; climatic factors; material assets; cultural heritage including architectural and archaeological heritage; landscape; and the inter-relationship between the factors.

3.2 In addition to these environmental issues the review of PPP provided a list of additional matters particularly in relation to economic and social matters. From this review and through consultation with colleagues conducted for the Waste Core Strategy, sustainability issues relevant to the JMWMS were identified:

- Waste
- Traffic and transport
- Growth with prosperity for all
- Participation by all
- Technology, innovation and inward investment
- Energy generation and use
- Access to services
- Provision of housing

3.3 Following identification of the issues a process of ranking in order of priority took place. This was undertaken by a dual assessment of significance of the issue within the two counties, and the significance of the issue with regard to waste.

3.4 Appendix 4 sets out the main issues identified through the PPP review, shows if it is a SEA topic, its ranking according to its significance and a justification for why the issue has been selected. The selection of a set of sustainability issues has enabled work to focus on the collection of relevant baseline data.

3.5 Baseline data has a fundamental role throughout the stages of the appraisals, providing the evidence base from which to predict and monitor effects the JMWMS will have on sustainability. *In particular the SEA Directive requires that “the relevant aspects of the current state of the environment and likely evolution thereof without implementation of the plan” be considered.*

3.6 Collection of appropriate baseline information that is currently available has begun but it is equally important to recognise that other relevant information will continue to be identified and collected. The existing range of resources include government websites, the National Census and relevant regional and local documents.

3.9 The ensuing process of data collection has been and will continue to be focused on producing datasets that can provide the relevant evidence base for those SA objectives upon which the JMWMS could have a significant effect. The baseline data for the current state of the environment of Herefordshire & Worcestershire, described through the identification of the prime sustainability issues, will continue to be collected as the JMWMS is progressed. The tables presented in Appendix 4 contain a condensed version of the headline data for each issue alongside the potential opportunities of how the JMWMS could positively influence the issue and the likely evolution of the baseline without implementation of the JMWMS.

3.10 Appendix 5 identifies, for each sustainability issue, the importance of that issue within Herefordshire & Worcestershire and in relation to the JMWMS. That has been used to justify a priority order for the issues. The appendix also sets out the proposed baseline data to allow the JMWMS to be appraised and gaps in baseline data to be identified. Provision will need to be made to fill the data gaps for issues in future plans. The consultation process provides opportunity for additional sources of baseline data to be included, with a view to responses helping to assess the following:

- What impact do waste facilities have on local transport infrastructure?
- What contribution does waste generation, collection and disposal make to emissions of greenhouse gases?
- How does waste generation, collection and disposal affect biodiversity?
- What opportunities do waste facilities create for the enhancement of habitats?
- How does/has waste generation, collection and disposal affect(ed) the landscape?
- How does waste generation, collection and disposal affect air, water and soil quality?
- What contribution does/could waste generation, collection and disposal make to the economies of Herefordshire & Worcestershire?
- How many people does the waste sector employ in Herefordshire & Worcestershire?
- What are the potential impacts waste disposal has on the health and amenity of local residents?

3.11 As the process towards undertaking the appraisal of the JMWMS continues, the sustainability issues will be supplemented as appropriate with a view to being presented in the following comprehensive format:

- Sustainability issues
- Baseline data characteristics
- Indicators
- Trends
- Targets
- Evolution of the baseline without implementation of the JMWMS
- Opportunities/Actions for SA/JMWMS to positively influence the condition of the baseline data
- Data sources

4. THE SUSTAINABILITY APPRAISAL FRAMEWORK: OBJECTIVES

- 4.1 The Sustainability Appraisal Framework is the core component of the Sustainability Appraisal process. Through the development of a set of objectives, indicators and when appropriate, targets, the framework provides the means through which sustainability effects of the JMWMS can be described, analysed and compared.
- 4.2 The development of objectives is important not only to assess whether the JMWMS is providing the most sustainable option but also because they play an essential role in later stages of the Sustainability Appraisal. They are critical in stage 2 in undertaking assessment of the potential sustainability affects of the JMWMS and prompting consideration of alternative approaches for the Strategy; in stage 3 through informing the detailed assessment of the significance of the effects (direct or indirect/long term or short term) predicted to arise as a consequence of the Strategy; in stage 5 where the objectives and associated indicators are used to monitor the effects of the Strategy.
- 4.3 Sustainability objectives are distinct from the objectives of the JMWMS by virtue of their focus upon outcomes (ends) rather than how they will be achieved (inputs). The JMWMS is concerned with the means of achieving the policy. The Sustainability Appraisal objectives in comparison are more concerned with the ends rather than the means, acting as a methodological yardstick against which the sustainability effects of the Strategy are tested. The ODPM guidance *Sustainability Appraisal of Regional Spatial Strategies and Local Development Documents (2005)* also advises how objectives should be drafted.
- 4.4 It is suggested that between 12 and 25 objectives should be sufficient to cover the range of topics needed for SA.
- 4.5 Sustainability appraisal guidance requires a balance to be met between environmental, social and economic topics. Within this context the selection of objectives has derived from a combination of the following considerations, based on best available information at the time:
- a review of the issues of relevance to Herefordshire & Worcestershire as described within PPP
 - a review of the sustainability characteristics and issues
 - analysis of the opportunities arising from the baseline data
- 4.6 The objectives identified as part of this process are listed below. They have been ranked in order of priority. This was determined with regard to both the extent to which the JMWMS may affect the objective and the relevance of the objective within Herefordshire & Worcestershire at the time. If a conflict were to arise as part of the appraisal process, the sustainability objective higher in the hierarchy would take precedence.
- 4.7 It will be important to bear in mind that due to the breadth of objectives included within the Sustainability Appraisal, the JMWMS will only have limited scope to influence some of the objectives. It will be for other plans, programmes and

policies to secure the sustainable benefits for Herefordshire & Worcestershire where this occurs.

- 4.8 The draft objectives for each of the sustainability issues are set out below. Those objectives that address the required SEA topics are shown in italics.

Issue: Waste

1. Manage the waste streams in accordance with the waste hierarchy, prevention, encouraging reuse, recycling and recovery addressing waste as a resource.

Issue: Climate Change

2. *Reduce causes of and adapt to the impacts of climate change*

Issue: Traffic and Transport

3. To reduce the need to travel and move towards more sustainable travel patterns

Issue: Growth with prosperity for all

4. Develop a knowledge-driven economy, with the infrastructure and skills base whilst ensuring all have access to the benefits, urban and rural

Issue: Participation by all

5. To provide opportunities for communities to participate in and contribute to the decisions that affect their neighbourhoods and quality of life, encouraging pride and social responsibility in the local community

Issue: Technology, innovation and inward investment

6. Promote and support the development of new technologies of high value and low impact, especially resource efficient technologies and environmental technology initiatives

Issue: Energy generation and use

7. Promoting energy efficiency and energy generated from renewable energy and low carbon sources

Issue: Natural resources

8. Protect and improve standards of air, water and soil quality ensuring prudent use of natural resources

Issue: Access to services

9. To improve the quality of and equitable access to local services and facilities, regardless of age, gender, ethnicity, disability, socio-economic status or educational attainment.

Issue: Landscape

10. Safeguard and strengthen landscape character and quality

Biodiversity / Geodiversity / Flora / Fauna

11. To conserve and enhance Biodiversity and Geodiversity

Issue: Health

12. To improve the health and well being of the population and reduce inequalities in health

Issue: Provision of Housing

13. Provide decent affordable housing for all, of all the right quality and tenure and for local needs, in clean, safe and pleasant local environments

Issue: Population 1

14. *To raise the skills level and qualifications of the workforce.*

Issue: Cultural Heritage, architecture and archaeology

15. Conserve and enhance the architecture, cultural and historic environment heritage and seek well designed, resource efficient, high quality built environment in new development proposals

Issue: Material assets

16. Ensure efficient use of land through safeguarding of mineral reserves, the best and most versatile agricultural lands, lands of Green Belt value, maximising use of previously developed land and reuse of vacant buildings, where this is not detrimental to open space and biodiversity interest.

Issue: Population 2

17. Reduce crime, fear of crime and antisocial behaviour

Issue: Flooding

18. Ensure development does not occur in flood prone areas

4.9 It is anticipated that the above objectives will be common to scoping reports for other mineral and waste development documents to be produced by the Councils. The order of priority would however expect to be amended to reflect the sustainability issues specific to the plan under preparation and the extent to which the plan may affect the objective.

4.10 As the process of preparing the sustainability report continues, whereby consultation is undertaken, more baseline data is collected and new issues emerge, the objectives and their associated indicators and targets will be revised. **It is important to note that the list of objectives is necessarily generic at this stage. Those that are found to be irrelevant to the Joint Municipal Waste Management Strategy will become deleted as part of the process while objectives that merit additional detail specific to the Joint Municipal Waste Management Strategy document and any broad options proposed will be supplemented with sustainability sub-objectives.**

4.11 Appendix 6 provides draft details of each objective, its sub-objective, potential indicators to measure achievement and where relevant, any existing targets. The Sustainability Appraisal objectives cited in appendix 6 have been drafted having in mind how sustainability in its widest sense could be furthered within Herefordshire & Worcestershire. The set of sub objectives relate to how the JMWMS could promote these general sustainability objectives. The remaining stages of sustainability appraisal of the JMWMS will largely be driven by the contents of appendix 6, with appendices 2-5 informing appendix 6. As part of the consultation it is hoped that this information will be enhanced.

5. NEXT STEPS

- 5.1 The process of Sustainability Appraisal is very much an iterative process. For example, the collection of baseline data will continue throughout the process, which in turn will help to refine the sustainability objectives and inform the selection of indicators.
- 5.2 However, there are a number of distinguishable stages in the preparation of the Sustainability Appraisal report that are outstanding – see below and Figure 2 (following). The remaining stages are outlined below along with the proposed methodology for their completion.
- 5.3 Consultation on the scoping report is important as it ensures that the SA will be comprehensive and robust in order that it can support the JMWMS, through later stages of consultation, as described above. Consultation at this stage will last for 5 weeks and will be with the three consultation bodies required by the SEA Directive. The three consultation bodies are:

English Heritage
Natural England
Environment Agency

Stage B – Developing, appraising and refining options

- 5.4 During the review of the JMWMS various options will be compared with each other on a basis of their ability to deliver the plan objectives as well as their relative performances against the sustainability benchmark set by the sustainability framework. The options for the JMWMS will be reasonable, realistic and relevant and may include the ‘do nothing’ option as a means to compare what would happen without the JMWMS. Means by which the options can be amended to better account for sustainability will be documented although it is not the role of the SA to select the preferred option for the JMWMS. The consideration of alternative technologies for waste disposal in terms of is it necessary, and if so how should it be done were considered as part of the Best Practicable Environmental Option (BPEO) in 2003. The BPEO strategy establishes the broad mix of technologies for managing waste within the County up to 2015 and has identified the preferred types and numbers of facilities that will be required during the period. Alternative approaches will be required to demonstrate how they are equal to the BPEO. A matrix will be utilised to test the compatibility of each option with the sustainability objectives. Where there is an inconsistency or conflict between the two sets of objectives this will be documented and any changes made as a result will be recorded. The sustainability objectives listed in Para. 4.9 are shown in order of priority and it will be the presumption that the effect on those objectives higher in the hierarchy will be less negotiable.
- 5.5 Where positive or negative effects upon sustainability cannot be predicted or assessed the reason for the uncertainty will be recorded. Should this relate to lack of baseline information for example, measures will be discussed as to how this is to be overcome.
- 5.6 The work involved during this stage will be included in a report that discusses the sustainability credentials of each of the options for the JMWMS. Consultation will take place with the statutory agencies and stakeholders.

Stage C - Appraising in detail the effects of the preferred option and documenting the process in the SA report

- 5.7 This stage will assess and predict in more detail the effect of the preferred option for the JMWMS, taking into account the findings from the consultation in stage B. Any adverse effects that are identified arising from the preferred option will be accompanied with details of the measures of how the negative impacts are proposed to be mitigated against. Likewise where steps can be taken to further enhance positive effects this will be documented.
- 5.8 The prediction and assessment of effects will be undertaken having consideration to the probability, duration, frequency and reversibility of the effect, including cumulative, indirect and synergistic effects. Magnitude and spatial extent of the effect will also be addressed. Assessment in this matter will determine the overall significance of each of the effects.
- 5.9 In carrying out this process it is important to note that in assessing the significance of the effects the Councils will use reasonable time and effort to carry out the assessment and it will be proportionate to the expected severity of the effect. Both qualitative and quantitative data will be used to determine the significance.
- 5.10 The documentation of the work carried out as part of the appraisal will culminate in the SA Report. This will include a table, to demonstrate when the requirements of the SEA Directive have been met. The table shall list the requirement and where it can be located in the document by way of a paragraph number. The SA report will show how the SA process has influenced the development and content of the JMWMS. A post project monitoring report will also be prepared to plan the methods for the future monitoring of the Sustainability Framework.

Stage D - Consulting on SA Report for the Joint Municipal Waste Management Strategy

- 5.11 Consultation will be carried out in accordance with the Councils' Statements of Community Involvement (SCI) and as a minimum the consultation will need to comply with the requirements of the SEA Directive. The SCIs set out for each stage of the process the intended method of consultation and the venues where this information will be held. It is proposed that in order to comply with the SCI the following methods will be utilised, depending on who is being contacted; web and postal surveys, newsletters and citizens panel. Views will be sought at the earliest opportunity and adequate time in which to respond to the consultation will be provided.
- 5.12 If significant changes are made to the preferred option of the JMWMS as a result of the consultation, then the SA report will be amended to take account of the changes.

Stage E – Monitoring and Implementation of the Plan

- 5.14 The post project monitoring report is likely to address the following steps as a minimum:

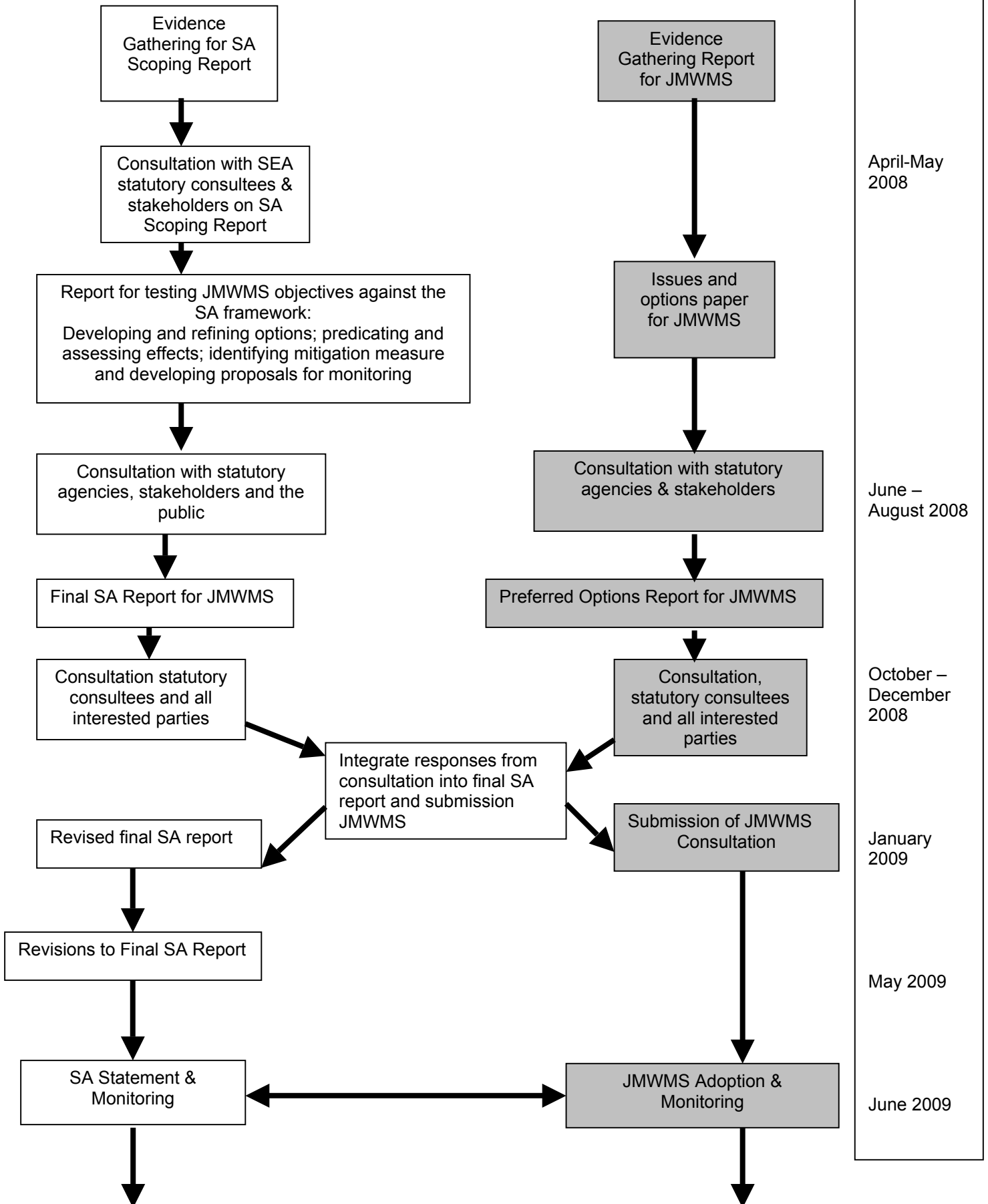
- (1) What needs to be monitored?
- (2) What type and detail of information is required?
- (3) How effective are the existing sources of monitoring information?
- (4) What are the gaps in information, and how can this be addressed?
- (5) What actions will be taken if adverse effects are monitored arising from implementation of the JMWMS?
- (6) Who is responsible and what is the frequency and the spatial extent of the monitoring programme?

Figure 2

Sustainability Appraisal (SA)

Joint Municipal Waste Management Strategy (JMWMS)

Timetable



Appendix 1 - The SEA requirements

SEA requirement for stage A	Location in the Sustainability Appraisal scoping report
An outline of the contents, of the JMWMS the main objectives of plan and the relationship with other plans and programmes.	Para. 1.17 to 1.18
The relevant aspects of the state of the environment are recorded and the likely evolution of these aspects without the implementation of the JMWMS.	Appendix 5
The environmental characteristics of areas in Herefordshire & Worcestershire likely to be significantly affected.	Countywide
Any existing problems, which are relevant to the JMWMS. This may take the form of a particular environmental importance.	Para. 3.10
The international, national and community level, environmental protection objectives, which are relevant to the JMWMS. In addition it will be demonstrate, the way these objectives and any environmental consideration have been taken into account during its preparation.	Appendix 2
Consultation with authorities with environmental responsibility, when deciding the scope and level of detail of the information, which must be included in the environmental report.	Para. 1.16 Para. 5.11

Appendix 2 - Policies, plans and programmes reviewed

International & European

Kyoto Agreement
Landfill Directive
Water Framework Directive
WEEE Directive
ELV Directive
Waste Framework Directive
Ambient Air Quality Directive
European Sustainable Development Strategy

National

PPS 1 Delivering Sustainable Development
Planning Policy Statement: Planning and Climate Change - Supplement to Planning Policy Statement 1
PPG 2 Green Belts
PPS 7 Sustainable Development in Rural Areas
PPS 9 Biodiversity and Geological Conservation
PPS10 Planning for Sustainable Waste Management
PPG 13 Transport
PPG15 Planning and the Historic Environment
PPG16 Archaeology and Planning
PPS 22 Renewable Energy
PPS 23 Planning and Pollution Control
PPG 24 Planning and Noise
PPS 25 Development and Flood Risk
Waste Strategy for England 2007
National Air Quality Strategy
National Sustainable Development Strategy
DETR – A Better Quality of Life
Waste Not, Want Not
Climate Change Bill
Planning White Paper

Regional

Regional Spatial Strategy: West Midlands (Formerly RPG)
Regional Economic Development Strategy
Regional Transport Strategy
West Midlands Regional Waste Planning Strategy, draft
West Midlands Energy Strategy
Regional Sustainable Development Framework
England Rural Development Program, West Midland
Regional Cultural Strategy
Enriching Our Region
West Midlands Counting Consumption
Regional Biodiversity Strategy for the West Midlands

awaiting review

Worcestershire County

Worcestershire County Structure Plan 1996 - 2011
Local Transport Plan
Landscape Character Assessment
Community Strategy (2003 – 2013)

Climate Change Strategy	
Municipal Waste Strategy	
Cotswold Area of Outstanding Natural Beauty Management Plan (2004)	
Malvern Hills Area of Outstanding Natural Beauty Management Plan (2004)	
Minerals Local Plan	
Economic Strategy	
Worcestershire Biodiversity Action Plan	
Worcestershire County Council Statement of Community Involvement	
Worcestershire County Council Waste Core Strategy	
Worcestershire County Council Corporate Plan	
Worcestershire Local Area Agreement (LAA)	
Worcestershire State of the Environment Report	awaiting review
Worcestershire Rural Action Plan	awaiting review
Air Quality Management Areas	awaiting review

Herefordshire County

Community Strategy

Cultural Strategy

Herefordshire Council Corporate Plan

Economic Development Strategy (2005 – 2025)

Herefordshire Council Corporate Environmental Strategy (2005 – 2011)

Herefordshire Partnership Climate Change Strategy

Herefordshire Biodiversity Action Plan

Local Transport Plan

Carbon Management Plan

Herefordshire Unitary Development Plan 1996 - 2011

Herefordshire Local Area Agreement (LAA)

Wye Valley Area of Outstanding Natural Beauty Management Plan (2004)

Other

West Mercia Constabulary Strategic Plan	
H&W Social Enterprise Strategy	
Local Community Safety partnership Strategies	awaiting review

Appendix 3 - Implications arising from the review of PPP

Document	Key objectives / targets / guidance relevant to the plan and SA	Implications for SA
Kyoto Agreement	Reduce greenhouse gas emissions by 5% of 1990 levels by 2008-12	Objective relating to the target of reducing climate change gas emissions.
Landfill Directive	To prevent, or reduce, negative effects of waste management on the environment. Targets see waste strategy.	Objective relating to recovery, recycling and reuse of materials and pollution avoidance
Water Framework Directive	All surface and groundwater needs to be of good quality by 2015	Objective relating to water quality to be included
WEEE Directive	Sets measures to <ul style="list-style-type: none"> • Reduce, recycle and recover waste electrical and electronic equipment. • Minimise the risks and impacts to the environment associated with the treatment & disposal of these wastes 	Objective relating to recovery, recycling and reuse of materials and pollution avoidance
ELVs Directive	Main requirements for members states are to ensure that: <ul style="list-style-type: none"> • Producers limit the use of certain hazardous substances in the manufacture of new vehicles and automotive components; • ELV's are subject to de-pollution prior to dismantling, recycling or disposal; • Treatment facilities operate to higher environmental standards and have permits if dealing with under polluted ELVs; • Certain recovery targets are met by 01/01/06 and 01/01/15 and • By 2007, producers pay 'all or a significant part' of the cost of treating negative or nil value ELVs at treatment facilities. 	Objective relating to recovery, recycling and reuse of materials and pollution avoidance
Waste Framework Directive	Waste hierarchy established requiring: <ol style="list-style-type: none"> 1. Prevention or reduction of waste 2. Recovery of waste through reuse, recycling or reclamation 3. Energy recovery from waste 4. Disposal of waste to landfill 	Ensure that sustainability objectives reflect these principles as appropriate

Document	Key objectives / targets / guidance relevant to the plan and SA	Implications for SA
EU Ambient Air Quality Directive	New air quality standards	Objective to protect and improve air quality
European Sustainable Development Strategy (2001)	Limit climate change and increase the use of clean energy. Combat poverty and social exclusion Manage natural resources more responsibly Improve the transport system and land use management	To include sustainability objective relating to improving energy efficiency and increasing the use of renewables.
PPS 1 Delivering Sustainable Development	Planning should facilitate and promote sustainable and inclusive patterns of urban and rural development. Reduce the need to travel and encourage accessible public transport provision	To ensure the requirement is reflected in the sustainability objectives
PPG 2 Green Belt	There is a general presumption against development that would harm the purposes of the designation.	To include an objective relating to reuse of previous developed land
PPS 7 Sustainable Development in Rural Areas	Amongst the governments objectives for rural areas is: <ul style="list-style-type: none"> • To promote more sustainable patterns of development: <ul style="list-style-type: none"> ○ Focusing development in, or next to, existing towns and villages; ○ Preventing urban sprawl ○ Discouraging the development of Greenfield land; ○ Promoting a range of uses to maximise the potential benefits of the countryside fringing urban area; ○ Providing appropriate leisure uses <p>The conservation of the natural beauty of the landscape and countryside within designated AONB's is given great weight. Within Herefordshire & Worcestershire there are three AONBs – the Cotswolds and Malvern Hills and the Wye Valley.</p>	To include sustainability objective relating to rural regeneration and landscape protection
PPS 9 Biodiversity and Geological Conservation	Key principles include the need for plan policies: <ul style="list-style-type: none"> • To be based upon up-to-date information about the environmental characteristics of their areas and • Should ensure that appropriate weight is attached to designated sites of 	To ensure these requirements are reflected in the sustainability objectives

Document	Key objectives / targets / guidance relevant to the plan and SA	Implications for SA
	international, national and local importance and the wider environment.	
PPS 10 Planning for Sustainable Waste management	<ul style="list-style-type: none"> • Protect human health and the environment by producing less waste and by using it as a resource wherever possible. • Drive waste management up the waste hierarchy, address waste as a resource and look to disposal as the last option • Encourage sustainable waste in accordance with the waste hierarchy: <ul style="list-style-type: none"> – Reduce: the most effective environmental solution is often to reduce the generation of waste – Re-use: products and materials can sometimes be used again, for the same or a different purpose – Recycle and compost: resources can often be recovered from waste – Recover: value can also be recovered by generating energy from waste • Dispose: only if none of the above offer an appropriate solution should waste be disposed of 	Objective relating to recovery, recycling and reuse of materials
PPG13 Transport	<ul style="list-style-type: none"> • Promote more sustainable transport choices for people and for moving freight by shaping the pattern of development and influencing the location, scale, density, design and mix of land uses. • Reduce the need to travel and the length of journeys • Make it safer and easier for people to access jobs, shopping, leisure facilities and services by public transport, walking and cycling. 	Ensure that sustainability objectives reflect these principles as appropriate
PPG 15 Planning and the Historic Environment	Identification and protection of historic buildings, conservation areas, designated historic parks and gardens and other elements of the historic environment.	Ensure that sustainability objectives reflect these principles as appropriate
PPG 16 Archaeology and Planning	Archaeological remains are a finite resource and they should be preserved or recorded both in an urban setting and in the countryside.	Noted
PPS 22 Renewable Energy	<p>10% of UK electricity from renewable energy sources by 2010 and to 20% by 2020. A key principle in realising the target is that:</p> <ul style="list-style-type: none"> • Renewable energy developments should be capable of being accommodated throughout England in locations where the technology is viable and environmental, economic, and social impacts can be addressed satisfactorily. 	To include objective relating to climate change/atmospheric pollution

Document	Key objectives / targets / guidance relevant to the plan and SA	Implications for SA
PPS 23 Planning and Pollution Control	Ensure sustainable and beneficial use of land, encourage use of previously developed land in preference to Greenfield sites. Locate facilities so that their adverse effects are minimised and contained within acceptable limits	Ensure that sustainability objectives reflect these principles as appropriate
PPG 24 Planning and Noise	Outlines the considerations to be taken into account in determining planning applications both for noise-sensitive developments and for those activities which will generate noise. The aim of this guidance is to provide advice on how the <i>planning</i> system can be used to minimise the adverse impact of noise without placing unreasonable restrictions on development or adding unduly to the costs and administrative burdens of business.	Noted
PPS 25 Development and Flood Risk	Flood risk is a material issue for the development plan and location of development is to be guided by a risk based approach in which development in flood plains will be exceptional. In the two Counties we are potentially affected by flooding from the rivers Severn, Teme, Avon, Stour and Wye.	To address the issue of economic costs associated with natural hazards
National Waste Strategy	<ul style="list-style-type: none"> • Applies the waste hierarchy (Reduce, Reuse, Recycle, Recover, Dispose) • Annual greenhouse gas emissions – 2020: reduction of 10 million tonnes of CO₂ equivalents. • Household Waste Recycling: <ul style="list-style-type: none"> ○ 2010: 40% ○ 2015: 45% ○ 2020: 50% • Household Residual Waste (reduction from 2000 levels): <ul style="list-style-type: none"> ○ 2010: 29% reduction ○ 2015: 35% reduction ○ 2020: 45% reduction • Municipal Waste Recovery: <ul style="list-style-type: none"> ○ 2010: 53% ○ 2015: 67% ○ 2020: 75% • Commercial and industrial waste landfilled in 2010 expected 20% reduction from 2004 levels. 	To reflect targets

Document	Key objectives / targets / guidance relevant to the plan and SA	Implications for SA
National Air Quality Strategy	<p>The Strategy sets objectives for eight main air pollutants to protect health.</p> <p>Within Herefordshire & Worcestershire there are 6 local air quality management (LAQM) zones where this will be monitored.</p>	To ensure that health and pollution objectives are covered
National Sustainable Development Strategy	<p>Four broad objectives</p> <ul style="list-style-type: none"> • Sustainable consumption and production – working towards achieving more with less. • Natural resource protection and environmental enhancement • From local to global, building sustainable communities • Climate change and energy 	Ensure that issues are addressed through objectives.
DETR – A Better Quality of Life, A Strategy for Sustainable Development for the UK	<p>Four main aims</p> <ul style="list-style-type: none"> • Social progress which meets the needs of everyone • Effective protection of the environment • Prudent use of natural resources • Maintenance of high and stable levels of economic growth and employment 	Ensure that issues are addressed through objectives.
Waste Not, Want Not – A Strategy for tackling the waste problem in England	<p>National recycling rate target of 45% by 2015</p> <p>Increase choice for industry, local authorities and household over how waste is managed.</p> <p>Stimulate innovation in waste treatment, reduce damage to the environment whilst increasing resource productivity.</p>	Objective relating to recovery, recycling and reuse of materials
Climate Change Bill	20% reduction in greenhouse gasses by 2020 (against 1990 levels) and a 60% reduction by 2050.	Ensure that sustainability objectives reflect these principles as appropriate
Regional Spatial Strategy: West Midlands (Formerly Regional Planning Guidance - RPG) 11- June 2004	<p>WD1 Development plans should include proposals which will enable the following Regional targets to be met:</p> <ul style="list-style-type: none"> i) To recover value from at least 40% of municipal waste by 2005 45% by 2010 & 67% by 2015. ii) To recycle or compost at least 25% of household waste by 2005; 30% by 2010; & 33% by 2015; and iii) To reduce the proportion of industrial and commercial waste which is disposed of to landfill to at the most 85% of the 1998 levels by 2005. 	Wording of sustainability objectives to ensure that the targets are covered.

Document	Key objectives / targets / guidance relevant to the plan and SA	Implications for SA
	<p><i>Needs for future waste Management Capacity in Herefordshire & Worcestershire ('000 tonnes per annum)</i></p> <p>Municipal waste recycling and composting facilities. Annual throughput capacity require by 2020/21 ('000 tonnes) = 159</p> <p>Municipal waste recovery. Annual throughput capacity by 2020/21 ('000 tonnes) = 164</p> <p>Cumulative landfill void capacity required for all waste streams taking into account the target reductions in the National Waste strategy 1998/99 –2020/21 Municipal ('000 tonnes) = 4414 Industrial & commercial ('000 tonnes) = 6883 Construction & demolition ('000 tonnes) = 28 700.</p> <p><i>Additional municipal waste management facilities required by 2021</i></p> <p>Recycling & Composting Additional capacity required by 2021 (annual throughput capacity in '000 tonnes) = 134 = 2.5 facilities @ 50 000 tonnes pa capacity</p> <p>Recovery –either EfW or MRF Additional Capacity required by 2021 (annual throughput capacity in '000 tonnes) = 164 = 0.5 EfW facilities @ 300,000 tonnes pa = 3 MRFs @ 50,000 tonnes pa</p> <p>Policy WD3: Criteria for the location of WMF</p> <p>Policy M3 Minerals – the use of alternative sources of material?</p> <p>Policy EN1Energy Generation?</p>	

Document	Key objectives / targets / guidance relevant to the plan and SA	Implications for SA
Regional Economic Strategy and Action Plan (2004 – 2010)	<ul style="list-style-type: none"> • Utilise available opportunities to ensure economic development • Find innovative solutions and create a safe, sustainable, transport system supporting the economy 	Ensure that sustainability objectives reflect these principles as appropriate
West Midlands Regional Waste Planning Strategy (Draft)	<ul style="list-style-type: none"> • The Region must play its part in delivering the targets set in the National Waste Strategy. It is proposed that the national targets are adopted for the West Midlands (See National Waste Strategy, above). • Proximity Principle • Regional Self Sufficiency and County interdependency • Take account of Waste Hierarchy and BPEO • Encourage and promote waste reduction and reuse • Encourage the use of recycled materials in new developments and redevelopments. 	Ensure that sustainability objectives reflect these principles as appropriate
West Midlands Energy Strategy	<p>The strategy wants to achieve the following</p> <ul style="list-style-type: none"> • Improved energy efficiency • Increased use of renewable energy • Business benefiting from commercial opportunities • Focused and practical delivery 	Ensure that sustainability objectives reflect these principles as appropriate
Regional Sustainable Development Framework	<p>Principals</p> <ul style="list-style-type: none"> • Putting people and the community first • A holistic view • Whole-life costing • Living within our means • The Precautionary Principle • The perpetrator pays • Embracing diversity • Valuing the environment • Consideration beyond the region <p>Objectives</p> <ul style="list-style-type: none"> • Developing thriving sustainable communities • Enhance and protect the environment 	Ensure that sustainability objectives reflect these principles and objectives as appropriate

Document	Key objectives / targets / guidance relevant to the plan and SA	Implications for SA
	<ul style="list-style-type: none"> • Ensure prudent and efficient use of natural resources • Develop a flourishing, diverse and stable regional economy 	
England Rural Development Programme – West Midlands Region	<ul style="list-style-type: none"> • Protect & enhance the environment • Improve access and transport infrastructure • Promote & develop sustainable rural communities and businesses 	Ensure that sustainability objectives reflect these principles as appropriate
Regional Cultural Strategy – Cultural Life in the West Midlands (2001 – 2006)	<ul style="list-style-type: none"> • Ensure sustainable development • Promote cross cutting and influence other plans • Championing culture to the regional and national decision makers 	Ensure that sustainability objectives reflect these principles as appropriate
Enriching Our Region: An Environmental Manifesto for the West Midlands	<ul style="list-style-type: none"> • Reduce consumption of natural resources, creative management of waste materials and recognition of the need to recycle • West Midlands to become a leader in energy efficiency • Exploration of new economic sectors • Reclamation of derelict and disused land • Radical improvement in air quality • Recovery of threatened wildlife species, expansion of important habitats • Introduce water conservation measures 	Ensure that sustainability objectives reflect these principles as appropriate
West Midlands Counting Consumption, CO ₂ Emissions, Material Flows and Ecological Footprint of the West Midlands	A factor four increase in resource efficiency, or a 75% reduction in Ecological Footprint, by 2050 in the region. The footprint calculation can be directly effected by construction, transport, energy, waste & industry.	Objectives should address this issue
Regional Biodiversity Strategy for the West Midlands	Maintain and improve the conditions of habitats, species and ecosystems Coping with the impact of climate change	Objective relating to biodiversity and preservation of the landscape
Worcestershire County Structure Plan	Objectives of the plan include: <ul style="list-style-type: none"> • Seek a reduction in the consumption of energy and finite resources through the more efficient use of resources, recycling, the use of renewable sources and the reduction in the amount of waste produced. 	That the SA framework incorporates the land use sustainable development framework.
Local Transport Plan (Worcestershire)	The Freight Strategy seeks to ensure the efficient transportation of freight within the County, so as to support a strong local economy, but not at compromise to existing	Ensure objective relates to the efficient patterns

Document	Key objectives / targets / guidance relevant to the plan and SA	Implications for SA												
	or future needs of society or the environment. This is to be delivered partly through the objective of 'improving efficiencies and timing of distribution; implementing approved freight routes and interchanges where appropriate and minimising pollution and disturbance from freight movements.	of movement												
Landscape Character Assessment (Worcestershire)	Ensure that new development or land use change is informed by and sympathetic to the landscape character of the locality. Within Worcestershire there are identified 22 different landscape types	Include sustainability objectives relate to conservation of landscape quality and character												
Worcestershire Community Strategy	The most pertinent theme of the Strategy is that of providing 'a better environment for today and for our children'. Target include: <ul style="list-style-type: none"> • Increase the amount of the County's household waste recycled or composted from 13% of volume in 2001/2 to 25% of volume by 2005 	To ensure sustainability objectives relate to improving the quality of the environment for people of Worcestershire.												
Worcestershire Climate Change Strategy	Sets the target to reduce climate change causing gas emissions across the County by 10% by 2010 and 20% by 2020 and prepare land uses for adaptation to consequences of climate change.	To have an objective relating to the target of reducing climate change gas emissions.												
Joint Municipal Waste Management Strategy (Worcestershire & Herefordshire)	There are six targets: <ol style="list-style-type: none"> 1. To achieve Government Targets for recycling and composting of domestic waste by the end of 2003/4, 2005/6 and 2010/11 and 2015/16. 2. To reduce the Kg/head collected/disposed to 2001/02 levels by March 2006. 3. By march 2005 Local Authorities will provide a household or kerbside recycling collection to % of their properties as shown below <table data-bbox="501 1117 1008 1332" style="margin-left: 20px;"> <tr><td>Bromsgrove DC</td><td>100%</td></tr> <tr><td>Malvern Hills DC</td><td>100%</td></tr> <tr><td>Redditch BC</td><td>92%</td></tr> <tr><td>Worcester City</td><td>96%</td></tr> <tr><td>Wychavon DC</td><td>94%</td></tr> <tr><td>Wyre Forest DC</td><td>84%</td></tr> </table> 4. The Local Authorities within Herefordshire and Worcestershire will continue to promote and encourage participation in the household collection of Recyclables to 	Bromsgrove DC	100%	Malvern Hills DC	100%	Redditch BC	92%	Worcester City	96%	Wychavon DC	94%	Wyre Forest DC	84%	To include an objective that covers the targets relating to reduction in waste generated and increase proportion recycled
Bromsgrove DC	100%													
Malvern Hills DC	100%													
Redditch BC	92%													
Worcester City	96%													
Wychavon DC	94%													
Wyre Forest DC	84%													

Document	Key objectives / targets / guidance relevant to the plan and SA	Implications for SA
	<p>achieve 75% active participation by 2006.</p> <p>5. A minimums of 50% of all waste deposited at Household Waste Sites will be recycled/Composted by 2005/6 and 55% by 2011.</p> <p>6. By 2015 or earlier if practicable, a minimum of 33% of waste to be recycled and/or composted with a maximum of 22% to be landfilled as per the BPEO for Herefordshire and Worcestershire.</p>	
AONB Management Plans (Cotswold & Malvern Hills, Wye Valley)	For AONBs the central aim is the conservation and protection of the landscape. Each AONB has former quarries, which could be used to dispose of waste.	Include sustainability objectives that relate to landscape quality and character
Minerals Local Plan	Hard rock quarries are identified as a potential source for waste disposal, which in turn can aid restoration to former land levels. However only one site remains in operation and other sites have a restoration scheme already in place.	To include an objective relating to reuse of previously developed land.
Economic Strategy	The vision for 2014 is for Worcestershire to be an economic driver for the region – with a prosperous and sustainable economy, driven by technology-led enterprises, offering well-paid and highly skilled jobs and a high quality of life for its residents.	Objective relating to the creation of employment opportunities and economic growth
Worcestershire Biodiversity Action Plan	Contains details of 19 priority habitats and 20 species occurring in the County with typically five year plans for action.	Objective relating to biodiversity and preservation of the landscape
Worcestershire County Council Statement of Community Involvement	There will be a genuine opportunity for all members of the community to have a stake in the decisions that will influence minerals and waste planning within Worcestershire	Scope of consultation process
Worcestershire County Council Waste Core Strategy	Sets out the strategic framework to deliver the waste management facilities needed in the County	Objective relating to waste
Building on Success – Worcestershire County Council Corporate Plan (2005 – 2009)	<p>Vision – A county with safe, cohesive, healthy and inclusive communities, a strong and diverse economy and a valued and cherished environment.</p> <p>Priorities – Improving community safety. Raising standards in schools. Improve highways, footways and transport services. Supporting older people to live independent lives. Strengthening Worcestershire’s economy. Enhancing services for young people.</p>	Ensure that sustainability objectives reflect these principles as appropriate

Document	Key objectives / targets / guidance relevant to the plan and SA	Implications for SA
	Aims – To provide an effective voice for the people of Worcestershire. To ensure efficient delivery of cost effective services. To listen to, learn from and communicate with all communities. To be a good employer.	
Worcestershire Local Area Agreements (LAA)	Reduce waste and increase recycling. To reduce the impact of traffic congestion upon Worcestershire	Objective relating to waste Objective relating to transport
Herefordshire Community Strategy	Five Guiding Principles <ul style="list-style-type: none"> • Realise the potential of Herefordshire, its people and communities • Integrate sustainability into all actions • Ensure an equal and inclusive society • Protect and improve Herefordshire’s environment • Build on the achievements of partnership working and ensure continual improvement 	To ensure sustainability objectives relate to improving the quality of the environment for people of Herefordshire.
Herefordshire Cultural Strategy	<ul style="list-style-type: none"> • Improve health for all, provide education and training for all ages • Encourage communities to shape their own future • Protect and enhance Herefordshires environment • Develop an integrated transport system • Support business growth 	To ensure sustainability objectives relate to improving the quality of the environment for people of Herefordshire.
Herefordshire Council Corporate Plan 2005 - 2008	<ul style="list-style-type: none"> • Protect the environment, recycle more, reduce carbon emissions • Improve transport and road safety • Sustain vibrant and prosperous communities with customer focused services • Promote diversity and community harmony 	Ensure that issues are addressed through objectives.
Herefordshire Economic Development Strategy 2005 - 2025	Increase economic development within Herefordshire, attract sustainable high value sectors, enhance community, enhance community based training, improve road investment and reduce congestion.	Objective relating to the creation of employment opportunities and economic growth
Herefordshire Council Corporate Environmental Strategy 2005 - 2011	<ul style="list-style-type: none"> • Make efficient use of natural resources, prevent pollution and minimise environmental risks • Reduce waste, increase recycling, ensure that the disposal of waste is done in a manner that reduces its impact on the environment 	Ensure that sustainability objectives reflect these principles as appropriate

Document	Key objectives / targets / guidance relevant to the plan and SA	Implications for SA
	<ul style="list-style-type: none"> • Reduce Carbon emissions • Protect natural habitats and species • Promote the benefits of healthy living and community well being through the environment 	
Herefordshire Partnership Climate Change Strategy 2005/06 – 2011/12	Reduce CO ₂ emissions from council controlled activities by 1.25% per year by 2012. Secure 100% renewable electricity for operational Council properties	Objective relating to the target of reducing climate change gas emissions.
Herefordshire Biodiversity Action Plan	Protect and enhance the biodiversity on Council owned land Improve the condition of Council owned SSSI's	Ensure that issues are addressed through objectives.
Herefordshire Local transport Plan	<ul style="list-style-type: none"> • Increased use of sustainable transport • Reduce congestion • Safer Roads • Better air quality 	Objectives relating to the provision of a sustainable transport system
Herefordshire Carbon Management Plan 2005/06 – 2011/12	Achieve a 12.5% reduction on the 2002 base-line by 2012 and a total of 20% reduction by 2020 Projected emissions from waste management to drop to around 25% of 1990 levels by 2020 Minimum of 10% of electricity to be sourced from renewables by March 2008	Objective relating to the target of reducing climate change gas emissions
Herefordshire Unitary Development Plan 1996 - 2011	Contribute to sustainable development by development of land use policies and proposals	Ensure a balanced approach is taken to new development to ensure sustainability principles are met
Herefordshire Local Area Agreement	Household waste – reduce landfill Reduce traffic volumes on Herefordshires roads	Objective relating to waste Objective relating to transport
West Mercia Constabulary 3 Year Strategic Plan and Joint Policing Plan 2006/07	The Four Better Outcomes: <ul style="list-style-type: none"> • Reassurance • Reduced Crime, increased detections and more offences brought to justice • Reduced disorder and anti-social behaviour 	Ensure that issues are addressed through objectives.

Document	Key objectives / targets / guidance relevant to the plan and SA	Implications for SA
	<ul style="list-style-type: none"> • Reduced road casualties 	
The Social Enterprise Strategy for Herefordshire & Worcestershire 2005-07	<ul style="list-style-type: none"> • Form a sustainable social economy • Increase access to local services • Enable access to quality employment 	Ensure that issues are addressed through objectives.

Appendix 4 - Issues for the Sustainability Appraisal

Key: ! ! = high ! = low o = neutral

Issues Of importance to Herefordshire & Worcestershire. Ranked in order of significance for waste	SEA topic	Significance for the:		Justification	Potential Baseline data (to inform the identification of indicators)
		County	Waste		
Waste	N	✓✓	✓✓	Household waste accounts for approximately one third of the waste stream, although 59% of the waste is disposed to landfill in Worcestershire and 73% in Herefordshire; industrial and commercial waste accounting for the remaining material where 64% and 27% was either recycled or reused respectively. At the current rate of input there exists less than 12 years capacity at the landfill site used to dispose of household waste in Herefordshire & Worcestershire.	<p>Figures for generation and disposal of each waste stream within each district.</p> <p>Waste production per capita/yr</p> <p>Waste production per household</p> <p>Location of waste management facilities</p>
Climate Change	Y	✓✓	✓✓	<p>Climate change is probably the most significant environmental challenge facing us. Most scientists now agree that the increased rate of change that we are now experiencing is due to human activities.</p> <p>The extremity of change is expected to depend on future levels of emissions of greenhouse gasses. The more we do now to reduce emissions, the less extreme the expected impact. The climate is expected to change in several ways; predictions include:</p> <ul style="list-style-type: none"> • An increase in average maximum temperature of up to 4.5C by the 2080s • More frequent very hot summers and less frequent very cold winters. 	<p>Emissions of greenhouse gases produced in the County</p> <p>Incidences of floods or disruptions to travels caused by extreme weather.</p> <p>Properties at risk from flooding</p>

Issues Of importance to Herefordshire & Worcestershire. Ranked in order of significance for waste	SEA topic	Significance for the:		Justification	Potential Baseline data (to inform the identification of indicators)
		County	Waste		
				<ul style="list-style-type: none"> • Summer rainfall to decrease by up to 12% by 2020s and up to 50% by 2080s. • Winter rainfall to increase by up to 23% by 2080s. • More short duration extreme weather events such as storms and floods (The area is particularly vulnerable to flooding). <p>There should be a 10% reduction in gas emissions that cause climate change by 2010 and 20% by 2020. Methane from landfill is 23 times more potent than CO₂. Emissions are also produced by the incineration and transportation of waste.</p>	
Transport		✓✓	✓✓	<p>Transport is responsible for 27% of Carbon Dioxide emissions in Worcestershire and 33% in Herefordshire, these figures are above both the regional and national average. Limited crossing points across the River Severn and Wye have resulted in congestion being focussed on a few key parts of the Counties road network.</p> <p>The movement of freight within and across the two counties is a significant local issue.</p> <p>Any major waste management facility will be served by a significant number of heavy goods vehicles. Unless consideration is given to their positioning relative to the wider road network this could potentially lead to congestion, traffic associated air pollution and impacting on the amenity of local residents.</p>	<p>Traffic modelling/forecasts</p> <p>HGV Journeys</p> <p>Modal split</p> <p>Road congestion</p> <p>Peak/non peak traffic speed.</p>

Issues Of importance to Herefordshire & Worcestershire. Ranked in order of significance for waste	SEA topic	Significance for the:		Justification	Potential Baseline data (to inform the identification of indicators)
		County	Waste		
				<p>Waste collected by refuse lorries can be compacted into larger quantities at Waste Transfer Stations (WTS) before final transportation on to disposal facilities. This reduces the number of journeys needed to dispose of waste. Therefore reducing traffic congestion and carbon dioxide emissions.</p> <p>Household Waste Sites have the potential to attract larger numbers of people by car or van. Better access to doorstep recycling will mean fewer car trips to household waste sites, thus fewer cars and vans on the road, reducing congestion and carbon dioxide emissions.</p> <p>The proximity principle calls for waste to be treated as close to its source of production as is practically possible.</p>	
Prosperity for all		✓✓	✓✓	<p>The vision for Worcestershire set out by the Economic Strategy 2004 is that: <i>“In ten years time, Worcestershire will be an economic driver for the region – with a prosperous and sustainable economy, driven by technology-led enterprises, offering well paid and highly skilled jobs and a high quality of life for its residents”</i>. This is set against a background in which the Gross Value Added (GVA) per head of population was estimated to be £14,528 in 2004. GVA per head grew within the County by 13.9% between 2002-2004 and per head by 12.6%, a rate of growth outstripping the regional and UK average. However, GVA per head still remains lower than the regional average and significantly lower than the UK average. The major employment sectors within Worcestershire are Retail & Wholesale Trade & Repair, Real Estate & Renting &</p>	<p>Average earnings Employment levels</p> <p>No. of people trained in field over time period</p> <p><i>% increase or decrease in the total number of VAT registered business in the area.</i></p> <p><i>GVA per capital</i> <i>GVA per worker</i> <i>% of people employed in different employment</i></p>

Issues Of importance to Herefordshire & Worcestershire. Ranked in order of significance for waste	SEA topic	Significance for the:		Justification	Potential Baseline data (to inform the identification of indicators)
		County	Waste		
				<p>Business Activities and Manufacturing.</p> <p>Herefordshire has a relatively fragile economy and must improve its performance if it is to deliver higher incomes and tackle issues of isolation and social exclusion. Growth in GVA has failed to keep up with that for the West Midlands or England. Key objectives are to establish and promote Herefordshire as the leading county for knowledge and education in sustainable development practices, and to incorporate this knowledge into local policy and business support. Manufacturing industries in Herefordshire employ a larger share of the workforce than is the case nationally. The county is weak in the private sector services and knowledge based industries areas and the growth of these businesses will be encouraged</p> <p>Objective 2 area in north west of Worcestershire, 61 wards in Herefordshire</p>	types.
Participation by all/ responsibility		✓✓	✓✓	<p>People/communities should have the opportunity to participate in and contribute to the decisions that effect their neighbourhood and quality of life. Encouraging communities to become involved in the decisions that affect them gives them a sense of community empowerment and ownership. They should shape their future by not only seeking early involvement in issues that affect them, but by also taking responsibility for their actions. For example reducing the amount of waste they produce, increase the amount they reuse, recycle and participating in the planning process.</p>	<p>Response rates to county council consultation events</p> <p>Percentage of kerbside recycling provided for residents of Herefordshire and Worcestershire.</p> <p>Amounts of recycled waste collected from residents' homes and Household</p>

Issues Of importance to Herefordshire & Worcestershire. Ranked in order of significance for waste	SEA topic	Significance for the:		Justification	Potential Baseline data (to inform the identification of indicators)
		County	Waste		
				<p>One of the aims of both Herefordshire Council and Worcestershire County Council is to provide a voice for the people of the region.</p> <p>41% of Worcestershire residents feel very or fairly well informed about the services and benefits the County Council provides. There is a direct correlation between how well informed people feel and how satisfied they are with the Council. Just 33% of respondents who don't feel well informed are satisfied with the Council, compared to 67% of those who do feel well informed. (BVPI General Satisfaction Survey 06/07).</p> <p>Overall in 2006, 45% of residents felt Herefordshire Council well informed (both very well and fairly well) about the services and benefits it provides.</p>	Waste Sites.
Technology, Innovation & inward investment		✓✓	✓✓	<p>Technology led enterprises are seen as being the key drivers in delivering sustainable economic growth as demonstrated in part by the development of the Central Technology Belt linking Birmingham with Malvern. Coupled with technology advances is investment. Total investment in Worcestershire is projected to increase by 2.4% per annum between 2004 and 2010 (compared to 2.3% in the West Midlands and 3.1% in the UK), and by 2.3% per annum between 2010 and 2015 (compared to 2.2% in the West Midlands and 2.6% in the UK). The recent legislative requirements relating to the diversion of waste away from landfill are likely to rely on innovation and investment in environmental technologies.</p> <p>Herefordshire has entered a period of high investment in employment infrastructure, focused on the Edgar Street Grid in</p>	<i>Business Formation and Survival Rates</i> <i>% Increase or decrease in the total number of VAT registered business in the area.</i>

Issues Of importance to Herefordshire & Worcestershire. Ranked in order of significance for waste	SEA topic	Significance for the:		Justification	Potential Baseline data (to inform the identification of indicators)
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				Hereford and business parks around the county. Investment will exceed £100M from 2007 to 2017.	
Energy generation & use		✓	✓✓	Energy generation is associated with major environmental problems in both a global and local sense. As fossil fuels become more finite and the demand for energy increases the need to find more environmentally sensitive sources of energy, coupled with energy conservation, increases. A number of potential sources of renewable energy that could supply local or regional needs exist within the two counties, including energy from waste, which may play a key element towards contributing towards national targets.	<p>Emissions of greenhouse gases from energy consumption.</p> <p>Energy consumption per person/per household.</p> <p>% of electricity generated from renewable energy sources and CHP.</p> <p>No of renewable energy generating sites</p> <p>Energy consumption per building and per occupant.</p>

Issues Of importance to Herefordshire & Worcestershire. Ranked in order of significance for waste		SEA topic	Significance for the:		Justification	Potential Baseline data (to inform the identification of indicators)
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Natural Resources	Air	Y	✓	✓	Air pollution is the cause of many health issues as well as a considerable environmental repercussions associated with poor air quality and which may not only affect the immediate vicinity but may also travel long distances in the atmosphere. The principal pollutants in the two counties are from: sulphur dioxide; carbon monoxide, ozone, benzene, particulate matter, nitrogen dioxide, hydrocarbons, lead, acid rain, 1,3 – butadiene and toxic organic micro pollutants. The major threat to air quality is the pollutants associated with traffic emissions, particularly within our urban areas and alongside the M5 motorway. It is still unclear as to the extent and impacts of the atmospheric pollutants from each of the waste disposal options although methane from landfill sites is a recognised significant contributor to air pollution and climate change.	Smog index Air management zones in Herefordshire & Worcestershire Numbers of days of air pollution Achievement of emissions limits values. Number of people living in an Air Quality Management Area. Background levels of main air quality pollutants. Number of poor air quality days. Existing levels of major pollutants in the two Counties
Water		Y	✓✓	✓	Water is a precious natural resource and its sustainable management is essential to protect the water environment and to meet current and future demand. This includes groundwater,	Quality (biology and chemistry) of rivers canals and freshwater bodies.

Issues Of importance to Herefordshire & Worcestershire. Ranked in order of significance for waste	SEA topic	Significance for the:		Justification	Potential Baseline data (to inform the identification of indicators)
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				<p>rivers and bodies of standing water.</p> <p>The Water Framework Directive will establish river basin district structures within which demanding environmental objectives will be set and are expected to be achieved by 2015. Potential polluting sources within the basin structures will be identified.</p> <p><i>Relatively high concentrations of contaminants may arise from waste plants but would be very localised to the facilities and if managed properly are unlikely to cause significant harm.</i></p>	<p>River lengths of good or fair chemical quality.</p> <p>River lengths of good of fair biological quality.</p> <p>Incidents of major and significant water pollution.</p> <p>Groundwater quality and quantity (Groundwater Source protection Zones?).</p> <p>Water use and availability Quality as well as drinking water quality.</p> <p>Water consumption per capita</p>
Soil	Y	✓	✓	<p><i>Agricultural activity is seen as a major contributor to impacting upon soil quality. Erosion and degradation of the soil resource depends on the soil type. A secondary effect of soil erosion is siltation of water resources (see above).</i></p> <p>Soil can also absorb pollution, which may go undetected for many years. Despite the critical importance of soil we still know relatively little about soil quality issues. The effect of the application of industrial waste to land and resultant effect on</p>	<p>Waste disposed of in landfill</p> <p>Agriculture land classification</p> <p>Vacant derelict land</p>

Issues Of importance to Herefordshire & Worcestershire. Ranked in order of significance for waste	SEA topic	Significance for the:		Justification	Potential Baseline data (to inform the identification of indicators)
		County	Waste		
				soil quality has very little data. Interesting to note that option of composting waste may serve to benefit soil quality.	Incidences of pollution Amount of contaminated land in the two counties
Minerals		✓	✓	Quarries provide potential sites for waste stations.	Year's supply of minerals occurring in the two counties.
Access		✓✓	✓	<p>People should have equal access to services and facilities, regardless of location, income, lifestyle or background. Access to services is a key issue for people living in the Herefordshire & Worcestershire, particularly those living in rural areas. Accessibility is hampered in many areas due to poor bus service levels.</p> <p>Nearly 40% of areas in Worcestershire are ranked within the top 20% most deprived areas nationally in terms of the geographical distance to basic services. 45 areas have a ranking within the top 5%. Eight areas in the County have been ranked as in the top 1% of the most deprived areas in England with regard to access to services.</p> <p>Over 60% of areas (Super Output Areas) in Herefordshire are within the 20% most deprived nationally in terms of the geographical distance to services sub-domain of the 2004 Index of Multiple Deprivation</p> <p>People should have access to door step/ kerbside recycling, bring sites and local Household Waste Sites.</p>	<p>The distribution of community services and facilities.</p> <p>Distance of households from key services</p> <p>Perceived access to services.</p>

Issues Of importance to Herefordshire & Worcestershire. Ranked in order of significance for waste	SEA topic	Significance for the:		Justification	Potential Baseline data (to inform the identification of indicators)
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				Access to skills/development/employment in waste sector.	
Landscape	Y	✓✓	✓	<p>The protection, enhancement and where necessary the restoration of landscapes and townscapes, local distinctiveness, historic and cultural character and scenic value.</p> <p>Within in the two counties there are three AONBs, the Cotswolds and Malvern Hills and the Wye Valley, that are of national importance and areas designated as Areas of Great Landscape Value which are of regional importance.</p> <p>The scale of visual intrusion of different waste management facilities will depend on the type and size of the facility proposed. Generally small waste management sites are unlikely to cause significant visual intrusion, especially if new facilities can be located within and in conjunction with existing agricultural or light industrial units. Large waste management facilities have the potential to have a dramatic impact on the landscape. Where possible they should be situated on industrial estates and within industrial units.</p>	<p>% of land designated as an AONB or AGLV.</p> <p>Condition of landscape</p>
Biodiversity	Y	✓✓	✓	<p>The two counties are host to much flora and fauna of national importance. However, some species have become extinct. Halting this loss of native species and their natural habitats is the purpose of county-based Biodiversity Action Plans(BAPs). BAPs prioritise species and habitats that require action on account of their threatened status. Loss and degradation of</p>	<p>Achievement of Biodiversity Action Plan targets.</p> <p>Condition of SSSI Area of BAP priority</p>

Issues Of importance to Herefordshire & Worcestershire. Ranked in order of significance for waste	SEA topic	Significance for the:		Justification	Potential Baseline data (to inform the identification of indicators)
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				habitat is a key threat. The latter may arise from the accumulation of other effects, which if at all is where waste facilities are most likely to cause harm to biodiversity interest	habitats Priority BAP species population levels What Biodiversity Action Plan (BAP) habitats are present within the two counties and location
Flora & Fauna	Y	✓✓	✓	The County is host to much flora and fauna of national importance and protected by national and European law.	Number and condition of SSSI's Number of protected/threatened species occurring in the two counties Protected species licences issued Which habitats are locally, regionally and nationally important and the condition
Health	Y	✓	✓	The health of Herefordshire & Worcestershire residents is significantly better than the English average for: life expectancy (male & female), death from heart disease, smoking and cancer. Herefordshire residents are also significantly better than the English average on Binge Drinking and Healthy	Health deprivation indices Disease incident reports by location

Issues Of importance to Herefordshire & Worcestershire. Ranked in order of significance for waste	SEA topic	Significance for the:		Justification	Potential Baseline data (to inform the identification of indicators)
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				<p>Eating. Worcestershire residents are better than the average in Alcohol related hospital stays, drug misuse treatments and children's tooth decay.</p> <p>Both counties are worse than the English average for people with diabetes.</p> <p>Herefordshire Residents are significantly worse than the English average for obese adults, drug misuse treatments and children's tooth decay. Worcestershire residents for mental health treatment.</p> <p>Connection to waste – , air, dust, odour and noise but long term effects unproven - perceptions</p>	<p>Index of deprivation - % of pop in good health</p> <p>Life expectancy</p> <p>The patterns/levels of allergy related illness including asthma</p>
Provision of housing		✓	✓	<p>This covers housing need; provision of affordable housing and housing types.</p> <p>The average house price in Herefordshire in September 2007 was £220,044, and in Worcestershire it was £210,458, Source (HM Land Registry). The average income for the region was £33,819. This means that the average house price was over six times the average income, which is beyond the spending capacity of individuals on standard mortgage lending terms.</p> <p>More households lead to increases in waste, plus construction and demolition waste from house building.</p>	<p>Provision of affordable housing</p> <p>Proportion of average salary/average house prices</p> <p>Population characteristics of Herefordshire & Worcestershire, its geographic density and how has it changed over time</p>

Issues Of importance to Herefordshire & Worcestershire. Ranked in order of significance for waste		SEA topic	Significance for the:		Justification	Potential Baseline data (to inform the identification of indicators)
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Population	Learning and skills	Y	✓	✓	<p>Learning continues throughout life enhancing our skills and knowledge base. There is a lack of higher-level skills within some sectors of the local economy along with a drain of skilled young people to outside of the County.</p> <p>With regard to education there are 18 areas within the top 5% most deprived areas nationally, 32 areas within the top 10% and 53 in the top 20%.</p> <p>As new waste technologies develop there will be a need to secure and retain skilled operators as well as a wider role in educating the community on their responsibilities in relation to sustainable lifestyles.</p> <p>Herefordshire performs well at GCSE level, however there is limited higher education provision in the county.</p> <p>11% of Herefordshire's SOAs are within the top 20% deprived nationally in terms of the Education, Skills and Training domain</p>	<p>Workforce profile – skills and qualifications</p> <p>Skills shortages</p> <p>Occupations</p> <p>Attendance participation on related courses at Centres of Vocational Excellence (CoVEs)</p>
Cultural Heritage, Built Design and Archaeology		Y	✓✓	0	<p>Over 19,000 known archaeological sites are currently recorded on the Worcestershire Counties Sites and Monuments record, over 20,000 are recorded on the Herefordshire Sites & Monument Record. Of these sites,</p> <p>443 (262 + 181) have been designated as Scheduled Ancient Monuments.</p> <p>211 (64 + 147) Conservation Areas, two Registered Battlefield and one area of archaeological importance.</p> <p>The siting of waste management facilities is a key concern where it could impact on the setting and in-situ conservation of</p>	<p>Number of buildings within the two counties recorded as being “at risk” on District Building at Risk Registers</p> <p>Number, percentage or area of historic assets affected by waste related development</p>

Issues Of importance to Herefordshire & Worcestershire. Ranked in order of significance for waste	SEA topic	Significance for the:		Justification	Potential Baseline data (to inform the identification of indicators)
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				buildings of architectural or historic interests or archaeological sites.	
Material assets (including land use and local amenity)	Y	✓	0	<p>In the sense of considering those things, which are 'materially valued', land and property, values give an appreciation of financial worth. Across the whole of Worcestershire property values stood at an average of £210,458 and £220,044 in Herefordshire against a regional average of £173,941. Average house prices in Herefordshire & Worcestershire in 2007 were significantly greater than the regional average. Worcestershire remains a popular place to buy a house due to the close proximity to the M5 and rail and access links. High demand and increasing property prices have meant it first time buyers are finding it hard to get on the property ladder.</p> <p>The Government is committed to preferring the development of land within urban areas, particularly on previously developed sites, provided that it creates or maintains a good living environment, before considering the development of Greenfield sites. Making the best possible use of previously developed land and existing buildings will contribute to the regeneration of urban areas, by reusing derelict and disused sites; it will avoid contaminated land, derelict land, development in the flood plain-properties at risk. Worcestershire is potentially affected by flooding from the rivers Severn, Teme, Avon and Stour and Herefordshire from the Wye.</p> <p>Local amenity is considered here in terms of the ambient levels of noise, dust, light and odour.</p>	<p>Average property price compared with average earnings.</p> <p>New homes built on previously developed land.</p> <p>Amounts of derelict and contaminated land in the two counties.</p> <p>Land covered by restoration and aftercare conditions</p> <p>Properties at risk from flood</p>

Issues Of importance to Herefordshire & Worcestershire. Ranked in order of significance for waste		SEA topic	Significance for the:		Justification	Potential Baseline data (to inform the identification of indicators)
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					Although very localised around waste facilities where levels exceed the ambient levels they can become nuisance issues at best which can lead to significant public complaints and concerns relating to residential amenity.	Areas affected by high levels of ambient light pollution Tranquillity Maps
Population	Anti social behaviour & crime litter, graffiti		✓	0	Crime statistics show that Herefordshire & Worcestershire are comparatively safe places to live. However there pervades a fear of crime within our communities. Littering, vandalism, graffiti and other anti social activities have a cumulative negative impact on quality of life. If not controlled litter for example can be a significant issue at waste management facilities.	Recorded crimes per 1,000 population Fear of crime surveys. Incidences of fly tipping, littering, vandalism etc.

Appendix 5

<i>Sustainability Issue: Waste</i>																																											
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<p>In 2006-07 378,607 (90774+ 287833) tonnes of household waste was collected in Herefordshire & Worcestershire, this equates to approximately 30% of the total waste stream in the two counties, the remaining material originating from industrial and commercial operations.</p> <table border="1"> <thead> <tr> <th></th> <th>Reuse / Recycle (%)</th> <th>Composted (%)</th> <th>Energy from Waste (%)</th> <th>Landfill (%)</th> <th>Tonnage ('000)</th> </tr> </thead> <tbody> <tr> <td>Herefordshire</td> <td>18.59</td> <td>7.33</td> <td>1.31</td> <td>72.72</td> <td>91</td> </tr> <tr> <td>Worcestershire</td> <td>22.50</td> <td>9.78</td> <td>8.98</td> <td>59.03</td> <td>288</td> </tr> </tbody> </table> <p>It is estimated that the landfill site currently used to dispose of municipal waste collected in Herefordshire and Worcestershire has 12 years of capacity remaining.</p> <p>Commercial & Industrial Waste Herefordshire & Worcestershire 2002/03 http://www.environment-agency.gov.uk/commondata/103601/wm_ci_waste_2003_1323858.xls</p> <table border="1"> <thead> <tr> <th></th> <th>Landfill (%)</th> <th>Reuse / Recycle (%)</th> <th>Thermal Treatment (%)</th> <th>Not Recorded (%)</th> <th>Tonnage ('000)</th> </tr> </thead> <tbody> <tr> <td>Industrial</td> <td>3</td> <td>53</td> <td>7</td> <td>2</td> <td>518</td> </tr> <tr> <td>Commercial</td> <td>62</td> <td>33</td> <td>5</td> <td>0</td> <td>397</td> </tr> </tbody> </table>							Reuse / Recycle (%)	Composted (%)	Energy from Waste (%)	Landfill (%)	Tonnage ('000)	Herefordshire	18.59	7.33	1.31	72.72	91	Worcestershire	22.50	9.78	8.98	59.03	288		Landfill (%)	Reuse / Recycle (%)	Thermal Treatment (%)	Not Recorded (%)	Tonnage ('000)	Industrial	3	53	7	2	518	Commercial	62	33	5	0	397	<p><i>Likely evolution of baseline without implementation of the JMWMS</i></p> <p>There will remain a reliance on landfill, Depositing waste at landfill will become increasingly more expensive, this will mean higher costs, which in turn could lead to higher council tax.</p> <p>The market will lead waste disposal not the Local Authority.</p> <p>Increase in the growth levels of waste production across all waste streams.</p> <p>No opportunity to promote waste as a resource.</p>	<p><i>Potential opportunities for the JMWMS to positively affect the data</i></p> <p>Opportunity to reduce the amount of waste being land filled.</p> <p>Opportunity to slow down the amount of waste that is being produced, through waste minimisation – education/awareness</p>
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<p>Carbon Dioxide Emissions An estimated 7 million tonnes of CO₂ added to the atmosphere from sources within Herefordshire & Worcestershire as follows:</p> <table border="1" data-bbox="107 480 560 799"> <thead> <tr> <th></th> <th>Heref</th> <th>Worc</th> </tr> </thead> <tbody> <tr> <td>Domestic</td> <td>30%</td> <td>23%</td> </tr> <tr> <td>Commercial / Industrial</td> <td>28%</td> <td>47%</td> </tr> <tr> <td>Transport</td> <td>33%</td> <td>27%</td> </tr> <tr> <td>Waste</td> <td>0%</td> <td>3%</td> </tr> <tr> <td>Land use Change</td> <td>9%</td> <td>0%</td> </tr> <tr> <td>Tonnage ('000)</td> <td>1600</td> <td>5400</td> </tr> </tbody> </table> <p>Regions Climatic Norms (1961-1990 av) Mean max temperature 13.4°C Mean min temp 4.9°C Mean annual rainfall 669mm</p> <p>Predicted changes in climate <i>2020 Temperature</i> Winter max +1.8°C Summer Max +1.4°C <i>2020 Precipitation</i> Winter + 5% Summer -12% <i>2080 Temperature</i> Winter max +1.9 - 3.2°C Summer Max +3.6 - 6.1°C <i>2080 Precipitation</i> Winter +13 - 22%</p>		Heref	Worc	Domestic	30%	23%	Commercial / Industrial	28%	47%	Transport	33%	27%	Waste	0%	3%	Land use Change	9%	0%	Tonnage ('000)	1600	5400	<p>Mitigation of Climate Change If nothing is done to prevent an increase in amount of waste produced and if waste is not managed appropriately there will be an increase in CO₂ emissions attributable to Herefordshire & Worcestershire's waste (including methane).</p> <p>These emissions will contribute towards increased magnitude of the effects of climatic change.</p> <p>Adaptation to Climate Change If the JMWMS does not take predicted climate change into account, flooding, health and safety problems could occur or be exacerbated.</p> <p>e.g. increased risk of pests & disease associated with waste collection & disposal, increased fire, subsidence & instability risk on landfill.</p>	<p>Mitigation of Climate Change</p> <ul style="list-style-type: none"> Promote waste minimisation (reduce, reuse, recycle) Encourage awareness raising & education activities on waste minimisation (including the link between climate change & waste) Collection & combustion of landfill gas for energy Divert waste from landfill Encourage Biodigestion and composting of organic waste Encourage use of waste as a resource Minimise transport of waste <p>Adaptation to Climate Change Factor any predicted climate change effects into Waste Planning e.g.</p> <ul style="list-style-type: none"> Consider need to increase frequency of summer waste collections Consider need for increased pest control at waste collection, treatment & disposal points Ensure condition of landfill sites are monitored & design of future sites takes climate change into account <p>Factor in the impact of future climate change on all sustainability issues listed in the SEA.</p> <p>Waste can be diverted from landfill, which will reduce the amounts of methane being produced.</p>
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<p>Summer – 29 - 48%</p> <p>Likely to be increased incidences of intense rainfall, drought & heat waves in the future leading to increased risk of flooding, subsidence, water shortages, outdoor fires</p> <p>7.7% of Herefordshire (167 sq.km) and 8.0% of Worcestershire (139 sq.km) fall within a Floodzone 1 Area (1 in 100 year return period)</p> <p>The Vale of Evesham is among the driest areas of England and Wales. Other areas within the two counties may also potentially be affected by water shortages in the future.</p>		
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<i>Characteristics</i>	<i>Likely evolution of baseline without implementation of the JMWMS</i>	<i>Potential opportunities for the JMWMS to positively affect the data</i>
<p>The limited number of crossings is a key cause of congestion in Worcester with 77,000 movements across the City Centre Worcester Bridge and the A440 Carrington Bridge each day. The most problematic congestion points in the County have been determined as: east-west river crossing movements in Worcester, A456 Kidderminster Ring Road, A38 Bromsgrove-M42 junction 7 and A4184 Evesham Town Centre.</p> <ul style="list-style-type: none"> • Roads are far safer now than in 1990s • Worcestershire's roads are generally in good condition and improving further • There is relatively little traffic congestion on the County's road network • Vulnerability to problems with bridges exacerbated by previous lack of investment in maintenance • Poor access to national rail services and poor reliability on local rail services • Potential key rights of way are sometimes unsuitable to provide access for all to the local services that they link to • Currently no major rail freight facilities located within Worcestershire <p>Hereford suffers from limited river crossings and the absence of a</p>	<p>Potential inappropriate use of road network.</p> <p>Congestion in and around waste disposal sites.</p>	<p>Use of other methods to transport waste, such as by rail or water.</p> <p>Reduce congestion in and around Household Waste Site through design.</p>

<p>bypass. During the peaks approximately one-third of vehicle travelling time is spent in congestion. Greyfriars Bridge records an average daily flow of 42,500 vehicles.</p> <p>In Hereford and Leominster 2 Air Quality Management Areas have been declared, one along the A49 in central Hereford and one in Bargates in Leominster.</p> <p>However, due the rural nature of Herefordshire and the limited increases in recorded traffic flows, congestion is not an issue for the majority of the county outside the areas referred to above.</p>		
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<i>Sustainability Issue: Growth with prosperity for all</i>		
<i>Characteristics</i>	<i>Likely evolution of baseline without implementation of the JMWMS</i>	<i>Potential opportunities for the JMWMS to positively affect the data</i>
<p>The efficiency of Herefordshire & Worcestershire's labour market when analysed in terms of economic activity rates (calculated as a percentage of working age population in employment) appears better in relative terms than both the West Midlands and England.</p> <p>The employment rate for Herefordshire & Worcestershire (total, male and female working age population) is higher than the regional and national averages. Further analysis at district level reveals Bromsgrove & Malvern Hills have the highest employment rate in Worcestershire (98.3%) and Worcester City the lowest (96.9%, Jan 2007) Comparatively Herefordshire has an employment rate of 98.5% (April 2007) against a Regional figure of 95.5% and a National figure of 96.6%.</p>	<p>Minimal impact.</p>	<p>Jobs created through the treatment of waste.</p>

<i>Sustainability Issue: Participation by all</i>																		
<i>Characteristics</i>	<i>Likely evolution of baseline without implementation of the JMWMS</i>	<i>Potential opportunities for the JMWMS to positively affect the data</i>																
<p>One of the aims of Herefordshire Council & Worcestershire County Council is to provide a voice for the people of the two counties.</p> <p>41% of Worcestershire residents feel very or fairly well informed about the services and benefits the County Council provides.</p> <p>There is a direct correlation between how well informed people feel and how satisfied they are with Herefordshire Council. Just 33% of respondents who don't feel well informed are satisfied with the Council, compared to 67% of those who do feel well informed. <i>(BVPI General Satisfaction Survey 06/07 for Herefordshire)</i></p> <p>Provision of Kerbside Recycling Collection</p> <table border="1"> <thead> <tr> <th></th> <th>Coverage 2006/07</th> </tr> </thead> <tbody> <tr> <td>Herefordshire</td> <td>69.36%</td> </tr> <tr> <td>Bromsgrove DC</td> <td>93.44%</td> </tr> <tr> <td>Malvern Hills</td> <td>100%</td> </tr> <tr> <td>Redditch BC</td> <td>94.38%</td> </tr> <tr> <td>Worcester City</td> <td>95.19%</td> </tr> <tr> <td>Wychavon DC</td> <td>93.46%</td> </tr> <tr> <td>Wyre Forest DC</td> <td>96.19%</td> </tr> </tbody> </table>		Coverage 2006/07	Herefordshire	69.36%	Bromsgrove DC	93.44%	Malvern Hills	100%	Redditch BC	94.38%	Worcester City	95.19%	Wychavon DC	93.46%	Wyre Forest DC	96.19%	<p>Lessens the opportunity for promoting waste minimisation</p>	<p>Through SCI the review of the JMWMS will allow for continuous community engagement. Which will mean the percentage rate of those who feel satisfied with the councils services through being kept informed will either remain the same or will rise.</p> <p>Help strengthen participation rates of kerbside recycling.</p>
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<i>Sustainability Issue: Technology, innovations and inward investment</i>		
<i>Characteristics</i>	<i>Likely evolution of baseline without implementation of the JMWMS</i>	<i>Potential opportunities for the JMWMS to positively affect the data</i>
<p>The business base of Worcestershire is highly concentrated towards i) hotels, restaurants and distribution and ii) banking, finance and insurance. The two sectors account for a total of 58% of the county's businesses. Employment concentration in distribution, hotels and restaurants type activity is high in Worcestershire at 27% and 30% in Herefordshire, but a much lesser proportion of the local workforce is employed in banking, finance and insurance, highlighting the precedence of small scale firms in the county's banking and services sector. Public administration, health & education also play an important part in the employment structure with over 25% of jobs in Herefordshire falling within this category. Employment in the agricultural sector is also significantly higher in Herefordshire than the regional average at 6%</p> <p>In most respects the employment profile of Worcestershire is similar to that of the West Midlands region, with a very high concentration in distribution industries, public administration education and health and the manufacturing sector.</p>	<p>Policy promotion to develop a resource park will not occur, as there would be no framework in place to promote it. Inward investment with regards to waste may not be attracted if there is no JMWMS in place.</p>	<p>Will provide opportunities to encourage innovative technologies with regard to waste disposal into the two counties</p> <p>Will lead to job creation in the manufacturing sector, with regard to Resource Parks and seeing waste as resource.</p>

<i>Sustainability Issue: Energy generation and use</i>		
<i>Characteristics</i>	<i>Likely evolution of baseline without implementation of the JMWMS</i>	<i>Potential opportunities for the JMWMS to positively affect the data</i>
<p>There are a number of industrial and commercial installations in Worcestershire employing wind turbines, combustion of waste materials, biogas and clean biomass but the amount of energy generated is unlikely to currently exceed 10MWe. The largest installations remain those associated with landfill gas generation including at Throckmorton (2MWe) and sites belonging to Biffa & Cleanaway. Feasibility studies are currently being conducted that will increase current installations by approx 25MWe and 80MWt: the first of these plants generating 2.5Mwe and 8MWt is currently awaiting a planning consent. Recent permissions have been granted to begin investigations into hydro-electric schemes for the River Severn</p> <p>New plans for biomass power stations and AD plants will likely result in Worcestershire generating a higher percentage of renewable energy dependent upon progress made in other areas (Staffs now has a 2.5MWe biomass power station). Many micro / mini renewables installations now exist (commercial & domestic) but it is extremely difficult to quantify the total output from these installations. In Herefordshire in 2006/07 planning permission was granted for a biomass</p>	<p>Amount of energy used in Herefordshire & Worcestershire is likely to increase, especially use of fossil fuels.</p> <p>It is likely that opportunities to produce energy from waste will be lost</p> <p>Waste collection & disposal may not be energy efficient</p> <p>It is likely that opportunities to use renewable energy to power waste collection vehicles, recycling & disposal could be lost</p> <p>Amount of waste produced may not be reduced. (Waste reduction is the most energy efficient method of managing waste)</p>	<p>Encourage production of energy from waste e.g. production of biogas, production of biodiesel from waste vegetable oil, electricity generation.</p> <p>Encourage reduction of transport of waste</p> <p>Encourage energy efficiency in facilities and methods used to collect, recycle and dispose of waste</p> <p>Encourage waste reduction as the most energy efficient method of managing waste. (Encourage awareness raising & education activities on this)</p>

power plant with a throughput of 90,000 tonnes pa of woodchip. 5 small- scale wind &/or solar developments were also approved		
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<i>Sustainability Issue: Landscape</i>		
<i>Characteristics</i>	<i>Likely evolution of baseline without implementation of the JMWMS</i>	<i>Potential opportunities for the JMWMS to positively affect the data</i>
<p>The landscape character assessments for Herefordshire & Worcestershire both identify and describe 22 different landscape types that occur in each County.</p> <p>Three areas within Herefordshire & Worcestershire are designated as Areas of Outstanding Natural Beauty (AONBs), due to their recognised high landscape interest. These are the Costwolds, the Malvern Hills and the Wye Valley.</p> <p>Additional headline data sets which would be relevant would be:</p> <ul style="list-style-type: none"> i- the visual quality of the landscape ii- tranquillity of the landscape 	<p>The different landscape types are a defined result from a process of assessment, based upon physical factors and cultural evolution. The number of landscapes types and their extent will not change as a result of the JMWMS, or indeed any other strategy or policy document for which an SEA or SA is required. Similarly, the number of AONB's within the county, and their extent, are not going to change as a result of the JMWMS.</p> <p>Landscape character impacts on landscape condition The creation of landfill sites would continue with the associated problems of landscaping. The creation of new, pronounced landforms associated with landfill sites can generally be integrated into the landscape as 'extensions' of similar adjacent topography, providing the appropriate tree cover and hedgerow structures can be introduced to them.</p>	<p>High standards of design for waste management facilities.</p>

<i>Sustainability Issue: Biodiversity, Flora and Fauna</i>		
<i>Characteristics</i>	<i>Likely evolution of baseline without implementation of the JMWMS</i>	<i>Potential opportunities for the JMWMS to positively affect the data</i>
<p>77 Sites of Special Scientific Interest (SSSI) of which 19% were in a good condition in Herefordshire. 199 SSSI's of which 72.4% were in a good condition in Worcestershire as of March 2005.</p> <p>There are 6 (4 + 2) Special Area for Conservation (SACs), 7 (3 + 4) National Nature Reserves (NNRs); 31 (7 + 24) Local Nature Reserves. 12,777 ha of ancient semi natural woodland in Herefordshire and 5,848 ha in Worcestershire.</p> <p>The Worcestershire Biodiversity Action Plan provides a plan of action for 8 priority habitats and 16 priority species. In Herefordshire there are 21 UK BAP priority habitats and 156 priority species (59 being UK BAP priorities)</p>	<p>Degradation of wider biodiversity interests arising from direct and indirect impacts of the waste management infrastructure.</p>	<p>Protect existing sites of conservation importance from both direct and indirect impacts of waste management infrastructure.</p> <p>Seek and maximise opportunities to enhance biodiversity interests both as part of restoration of landfill and for new developments.</p>

<i>Sustainability Issue: Natural Resources (air, water and soil)</i>		
<i>Characteristics</i>	<i>Likely evolution of baseline without implementation of the JMWMS</i>	<i>Potential opportunities for the JMWMS to positively affect the data</i>
<p>The main soils occurring in Herefordshire & Worcestershire are:</p> <ul style="list-style-type: none"> • Wetland • Gleyed • Clay • Mixed • Brown • Sandy • Impoverished • Shallow • Limestone <p>The majority of land is grade 3 in the agricultural land classification but significant areas of grades 1 and 2 also occur, Herefordshire and Worcestershire containing a disproportionately high quantity of this land compared to the rest of the West Midlands region.</p> <p>Six air quality management areas (AQMA) declared due to poor air quality, all associated with busy arterial and main roads.</p> <p>The water quality of the majority of rivers within Herefordshire & Worcestershire are judged grade B. Kidderminster and Bromsgrove overlie a major aquifer of high vulnerability which spreads south along the line of the Severn, its southern extent is approximately level with Droitwich.</p>	<p>Potential contamination by inappropriate/illegal disposal of waste and contaminants.</p> <p>Without the JMWMS, facilities may be built in urban areas that may give rise to traffic congestion. This in turn could lead to air pollution.</p> <p>Even without the JMWMS pollution controls would largely be met through existing environmental controls and legislation.</p>	<p><i>Protect best and most versatile agricultural lands</i> Promote good soil handling practices</p> <p>Opportunities to increase the amounts of waste being composted and improving the soil by applying the soil conditioner.</p> <p>Soil can be extracted from construction and demolition waste, to be mixed with compost and used again. Diverting it away from landfill and using it as a resource.</p>

<i>Sustainability Issue: Access to services</i>																		
<i>Characteristics</i>	<i>Likely evolution of baseline without implementation of the JMWMS</i>	<i>Potential opportunities for the JMWMS to positively affect the data</i>																
<p>A full range of services and facilities are available to the local population, including various social, leisure, cultural and religious buildings along with schools, health centres, clinics and hospitals.</p> <p>There are 308 Village Halls in Worcestershire.</p> <p>Nearly 40% of areas in Worcestershire are ranked within the top 20% most deprived areas nationally in terms of the geographical distance to basic services. 45 areas have a ranking within the top 5%. Eight areas in the County have been ranked as in the top 1% of the most deprived areas in England with regard to access to services (Interim Economic Assessment, 2004-2005).</p> <p>Over 60% of areas (Super Output Areas) in Herefordshire are within the 20% most deprived nationally in terms of the geographical distance to services sub-domain of the 2004 Index of Multiple Deprivation.</p> <p>Provision of Kerbside Recycling Collection</p> <table border="1"> <thead> <tr> <th></th> <th>Coverage 2006/07</th> </tr> </thead> <tbody> <tr> <td>Herefordshire</td> <td>69.36%</td> </tr> <tr> <td>Bromsgrove DC</td> <td>93.44%</td> </tr> <tr> <td>Malvern Hills</td> <td>100%</td> </tr> <tr> <td>Redditch BC</td> <td>94.38%</td> </tr> <tr> <td>Worcester City</td> <td>95.19%</td> </tr> <tr> <td>Wychavon DC</td> <td>93.46%</td> </tr> <tr> <td>Wyre Forest</td> <td>96.19%</td> </tr> </tbody> </table>		Coverage 2006/07	Herefordshire	69.36%	Bromsgrove DC	93.44%	Malvern Hills	100%	Redditch BC	94.38%	Worcester City	95.19%	Wychavon DC	93.46%	Wyre Forest	96.19%	<p>There will be no incentive for developers to include bring sites within their housing developments.</p>	<p>Opportunity to promote the inclusion of bring sites within the design of new developments.</p> <p>An opportunity at Household Waste sites to promote other council services.</p>
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Sustainability Issue: Health

<i>Characteristics</i>	<i>Likely evolution of baseline without implementation of the JMWMS</i>	<i>Potential opportunities for the JMWMS to positively affect the data</i>																																													
<p>Life Expectancy at birth (2004)</p> <table border="1" data-bbox="136 320 629 416"> <thead> <tr> <th></th> <th>Heref</th> <th>Worc</th> </tr> </thead> <tbody> <tr> <td>Males</td> <td>77.5</td> <td>76.0</td> </tr> <tr> <td>Females</td> <td>82.5</td> <td>80.5</td> </tr> </tbody> </table> <p>The healthy life expectancy of people living in Worcestershire is approximate to the English average whereas that of Herefordshire residents is above average.</p> <p>Self Assessed Health as Resident Population %</p> <table border="1" data-bbox="136 815 645 1313"> <thead> <tr> <th>District</th> <th>Good</th> <th>Fairly Good</th> <th>Not Good</th> </tr> </thead> <tbody> <tr> <td>Herefordshire</td> <td>68.7%</td> <td>23.0%</td> <td>8.3%</td> </tr> <tr> <td>Worcestershire</td> <td>69.7%</td> <td>22.3%</td> <td>8.0%</td> </tr> <tr> <td>Redditch</td> <td>70.2%</td> <td>21.9%</td> <td>8.0%</td> </tr> <tr> <td>Wychavon</td> <td>70.4%</td> <td>22.2%</td> <td>7.4%</td> </tr> <tr> <td>Malvern Hills</td> <td>69.1%</td> <td>22.5%</td> <td>8.4%</td> </tr> <tr> <td>City of Worcester</td> <td>69.9%</td> <td>22.3%</td> <td>7.8%</td> </tr> <tr> <td>Bromsgrove</td> <td>71.1%</td> <td>21.2%</td> <td>7.7%</td> </tr> <tr> <td>Wyre Forest</td> <td>67.5%</td> <td>23.7%</td> <td>8.9%</td> </tr> </tbody> </table>		Heref	Worc	Males	77.5	76.0	Females	82.5	80.5	District	Good	Fairly Good	Not Good	Herefordshire	68.7%	23.0%	8.3%	Worcestershire	69.7%	22.3%	8.0%	Redditch	70.2%	21.9%	8.0%	Wychavon	70.4%	22.2%	7.4%	Malvern Hills	69.1%	22.5%	8.4%	City of Worcester	69.9%	22.3%	7.8%	Bromsgrove	71.1%	21.2%	7.7%	Wyre Forest	67.5%	23.7%	8.9%	<p>People's mental health may decrease if the environment they live in suffers from fly tipping due to insufficient infrastructure being where people can dispose of rubbish.</p>	<p>People's mental health may be improved if the environment in which they live in is free from fly tipping.</p>
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<p>Long – term Illness as Resident Population %</p> <table border="1"> <thead> <tr> <th>District</th> <th>% residents With Limiting Long Term Illness</th> </tr> </thead> <tbody> <tr> <td>Herefordshire</td> <td>18.0%</td> </tr> <tr> <td>Worcestershire</td> <td>16.7%</td> </tr> <tr> <td>Redditch</td> <td>15.8%</td> </tr> <tr> <td>Wychavon</td> <td>16.1%</td> </tr> <tr> <td>Malvern Hills</td> <td>18.1%</td> </tr> <tr> <td>City of Worcester</td> <td>15.9%</td> </tr> <tr> <td>Bromsgrove</td> <td>16.7%</td> </tr> <tr> <td>Wyre Forest</td> <td>17.9%</td> </tr> </tbody> </table> <p>187(48 + 139) medical and health care establishments in Herefordshire & Worcestershire, including GP Surgeries, dentist and NHS Hospitals.</p> <p>In the United Kingdom in 1999 there were nearly 74,000 admissions to hospital due to asthma. In 2000, annual hospital admission rates for asthma were 48 per 10,000 children aged under 5 years and 16 per 10,000 children aged 5 to 14 years.</p>	District	% residents With Limiting Long Term Illness	Herefordshire	18.0%	Worcestershire	16.7%	Redditch	15.8%	Wychavon	16.1%	Malvern Hills	18.1%	City of Worcester	15.9%	Bromsgrove	16.7%	Wyre Forest	17.9%		
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Sustainability Issue: Provision of housing

<i>Characteristics</i>	<i>Likely evolution of baseline without implementation of the JMWMS</i>	<i>Potential opportunities for the JMWMS to positively affect the data</i>
<p>Number of households with residents 307,200 (76,200 + 231,000).</p> <p>3,075 houses are described as being overcrowded in Herefordshire and 9244 houses in Worcestershire</p> <p>The average household size in Herefordshire is 2.32 persons; in Worcestershire it is 2.39 persons, Regional 2.41, National 2.36.</p> <p>1.0% of households in Herefordshire & Worcestershire do not have their own bath/shower and toilet.</p> <p>16.7% of households in Herefordshire & Worcestershire do not have central heating.</p> <p>72.4% of houses in Herefordshire & Worcestershire are owner occupied, 17.9% are rented from local authorities.</p> <p>7963 (2700 + 5967) Vacant household spaces in Herefordshire & Worcestershire (2001 census).</p>	<p>No impact</p>	<p>Reuse of Construction and demolition waste, for new houses.</p> <p>Bring banks can be incorporated into housing developments.</p> <p>Use of construction materials that have been derived from waste.</p>

<i>Sustainability Issue: Population 1 (learning and skills)</i>		
<i>Characteristics</i>	<i>Likely evolution of baseline without implementation of the JMWMS</i>	<i>Potential opportunities for the JMWMS to positively affect the data</i>
<p>Overall in Herefordshire and Worcestershire, the proportion of the economically active population with either a Level 4 or Level 3 qualification is higher than the regional average – 29% and 48% respectively. The proportion with no qualifications is the same as the regional average at 12%. Within Herefordshire and Worcestershire, Malvern Hills and Bromsgrove districts have the highest proportion qualified to levels 3 and 4.</p> <p>Employment projections show that between 2004 and 2014 it is expected there will be steady employment growth in Herefordshire and Worcestershire. The net results of this will be 12,000 additional jobs, an increase of 3.5%. This predicted growth in employment in line with that estimated for the West Midlands and the national average. The structure of employment by industrial sector is expected to change. Projections indicate that there will be a decline in employment within the primary sectors, including agriculture, engineering and other manufacturing and construction. This will be offset by a major growth in employment in business and other services, distribution (including wholesale and retail), education, health and social care. However, there will be demand for labour in all sectors of the economy due to replacement demands which reflect the need to replace skills that will be lost because of labour turnover as people retire</p>	<p>Without the promotion of new high technology waste management solutions, skills in this sector are unlikely to be affected.</p>	<p>Provide new opportunities for training and skills as new waste technology develop.</p> <p>Opportunity to provide education about more sustainable ways to manage waste.</p>

or leave for other reasons.
At 6%, the proportion of employees in Herefordshire and Worcestershire with skills gaps as a proportion of employment is higher than the regional average (4.6%). Looking at recruitment problems, the sub-region is below the regional average in terms of the proportion of vacancies which are due to skills shortages (skills shortage vacancies 19% against 26%). As of March 2007, 56% of Herefordshire's businesses responding to the Chamber of Commerce Quarterly Economic Survey, reported having trouble recruiting skilled manual/technical workers.

<i>Sustainability Issue: Population 1 (learning and skills)</i>		
<i>Characteristics</i>	<i>Likely evolution of baseline without implementation of the JMWMS</i>	<i>Potential opportunities for the JMWMS to positively affect the data</i>
While 10.3% of the economically active population of Worcestershire has no qualifications, (compared to 12.5% for the West Midlands and 9.4% for England), 32.5% have achieved NVQ Level 4+ (or equivalent, which includes first degree or higher qualification). In the West Midlands the comparable figure is 27.5%, while for England as a whole it is 30.8% (APS, 2006). 29% of Herefordshire's 16-74 year old population have no qualifications, equa to the national average. The proportion of Herefordshire's 16-74 year olds with a degree or higher qualification is at a similar level to nationally (2001 Census).	No impact.	Minimal opportunity.

<i>Sustainability Issue: Cultural Heritage, built design and archaeology</i>		
<i>Characteristics</i>	<i>Likely evolution of baseline without implementation of the JMWMS</i>	<i>Potential opportunities for the JMWMS to positively affect the data</i>
Over 12,000 (5918 + 6,154) listed buildings, 443 (262 + 181) Scheduled Ancient Monuments, 211 (64 + 147) conservation areas, 2 registered battlefields, 39 (24 + 15) historic parks and gardens, and 19,000 entries on the Worcestershire County Historic Environment record and over 20,000 records on the Herefordshire Sites and Monument Record. 36 (20 + 16) buildings of grade I and II* classified as being at risk (2005). English heritage website	Minimal impact.	Ensure appropriate siting and provide quality design of facilities avoiding damage to cultural heritage assets and their setting. The restoration and re-use of buildings and building materials.

<i>Sustainability Issue: Material assets (including land use & local amenity)</i>		
<i>Characteristics</i>	<i>Likely evolution of baseline without implementation of the JMWMS</i>	<i>Potential opportunities for the JMWMS to positively affect the data</i>
<p>Construction aggregates make up most of the mineral output of Worcestershire. The main sand and gravel resources in the County occur in solid deposits in north Worcestershire, terrace deposits along the Rivers Severn and Avon and fan deposits to the south and east of Bredon Hill, close to the County boundary with Gloucestershire. The Abberley/Suckley/Malvern Hills, the edge of the Cotswolds near Broadway, and Bredon Hill contain the hard rock resources of the County, whereas brick clay is found near Hartlebury</p> <p>The known mineral resources in Herefordshire are relatively limited in range, primarily consisting of aggregates. Limestone occurs on the western side of the Malvern Hills and Ledbury, the Woolhope Dome and in the north west of the County in the Presteigne/Aymestry area, south west of Ross-on-Wye and the northern flanks of the Forest of Dean. Igneous and metamorphic rock sources are concentrated upon the Malvern Hills. Sand & gravel can be found in the river valleys of the Wye, Lugg and Arrow as river terrace deposits and in glacial deposits to the north and west of Hereford.</p> <p>Housing developments on previously developed land accounts for 42% of the total land take in Worcestershire and 71%</p>	<p>Use of primary aggregates will continue to increase.</p>	<p>Recycled aggregate will reduce the reliance on virgin aggregates.</p> <p>Use of Brownfield land in preference through the use of the sequential approach.</p>

<p>in Herefordshire.</p> <p>The enjoyment of the countryside is a key pull factor for many visitors to Herefordshire & Worcestershire.</p>		
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<i>Sustainability Issue: Population 2 (anti social behaviour, crime, litter and graffiti)</i>		
<i>Characteristics</i>	<i>Likely evolution of baseline without implementation of the JMWMS</i>	<i>Potential opportunities for the JMWMS to positively affect the data</i>
<p>Number of fly tipping incidents recorded under BV199b.</p> <p>Between April 2006 and March 2007, 34,301 crimes were recorded in Worcestershire. The crime levels are highest in urban areas with the highest rate per 1000 population being recorded in Worcester City Centre.</p> <p>The peak month during 2006/07 for crime was March and the lowest number of recorded crimes was in July. There was a 2.1% decrease in recorded crime between 2005/06 and 2006/07.</p> <p>The most common type of crime was Criminal Damage, making up 22.3% of all crime.</p> <p>In Herefordshire the numbers of crime has fallen by 22% over the last 4 years between 2001-02 and 2005-06.</p> <p>In 2004, criminal damage, violent crime and thefts were the largest crime categories across Herefordshire as a whole:</p>	<p>No impact.</p>	<p>Promote level of infrastructure, so that people do not need to fly tip waste.</p>

Appendix 6 - Objectives and Sub Objective

<i>Issue</i>	1. Waste
SA objective	Manage the waste streams in accordance with the waste hierarchy, encouraging reuse and recovery addressing waste as a resource
Indicator & target	% of construction & demolition waste going to landfill % of household waste recycled & composted, sent to energy from waste plants, landfilled. Recycle 30% of household waste by 2010 35% of 1995 levels of biodegradable waste disposed to landfill by 2020
Sub objectives	To minimise the production of waste generated
Indicator & target	Waste per capita/household

<i>Issue</i>	2. Climate Change
SA objective	Reduce causes of and adapt to the impacts of climate change
Indicator & target	CO ₂ emissions by user/sector Reduce climate change causing gas emissions across the county by 10% by 2010 and by 20% by 2020 compared to 2001 levels
Sub objectives	Minimise biodegradable waste going to landfill. Maximise opportunities to generate power from methane at landfill sites.
Indicator & target	Methane emissions from landfill sites.

<i>Issue</i>	3. Traffic & Transport
SA objective	To reduce the need to travel and move towards more sustainable travel patterns
Indicator & target	Road traffic figures – traffic congestion / average speed of flow along principal roads No targets identified
Sub objectives	Ensure the disposal of waste as close to point of origin as practicable and promote transfer of waste by rail or water transport where appropriate.
Indicator & target	Movement of waste by commercial vehicles via tacho-graph mileage records Tonnage of waste moved by mode (road/rail/water)

<i>Issue</i>	4. Growth with prosperity for all
SA objective	Develop a knowledge-driven economy, the infrastructure and skills base whilst ensuring all have access to the benefits urban and rural
Indicator & target	Average earnings / no of people trained in sector / VAT registered business in the area / unemployment levels / skills and qualification levels of workforce % of working population claiming benefits No targets identified
Sub objectives	To encourage business development within the waste sector to achieve Government targets for waste To encourage rural regeneration
Indicator & target	% of people employed in the waste sector Number of VAT registered businesses in the area

<i>Issue</i>	5. Participation by all
SA objective	To provide opportunities for communities to participate in and contribute to the decisions that affect their neighbourhoods and quality of life, encouraging pride and social responsibility in the local community
Indicator & target	Community well being Amount of recycled waste collected from residents homes and Household Waste Sites
Sub objectives	To provide opportunities for communities to participate in and contribute to waste planning decisions within Worcestershire
Indicator & target	Response rates to Minerals and Waste Development Framework consultation events

<i>Issue</i>	6. Technology, innovation & inward investment
SA objective	Promote and support the development of new technologies of high value and low impact, especially resource efficient technologies and environmental technology initiatives
Indicator & target	Business formation and survival rates / Number of VAT registered businesses in the area Enquiries to Business Links Employment land availability CO ₂ emissions in Herefordshire and Worcestershire No targets identified
Sub objectives	To make an economic gain from the recovery and treatment of waste streams wherever this is environmentally acceptable
Indicator & target	Number of businesses and employee numbers involved in waste sector

<i>Issue</i>	7. Energy
SA objective	Promoting energy efficiency and energy generated from renewable energy and low carbon sources
Indicator & target	Proportion of energy generated by renewable sources Energy use by sector/household Energy efficiency 10% of UK electricity from renewable energy sources by 2010 and 20% by 2020
Sub objectives	In accordance with waste hierarchy support the generation of energy from waste
Indicator & target	Amount of energy generated from waste as percentage of total usage

<i>Issue</i>	8. Natural resources
SA objective	Protect and improve standards of air, water and soil quality ensuring prudent use of natural resources
Indicator & target	% of population living within an Air Quality Management Areas Number of days of air pollution Concentrations of selected air pollutants Rivers and canals assessed as good or fair quality Water abstractions by purpose / groundwater quality Water consumption per capita Area of contaminated land All inland waters to achieve good status by 2015 (Water Framework Directive) No targets identified for soil and air
Sub objectives	Minimise the creation of dust, odour and noise and other pollutants in the vicinity of waste station / facilities
Indicator & target	

<i>Issue</i>	9. Access to services
SA objective	To improve the quality of and equitable access to local services and facilities, regardless of age, gender, ethnicity, disability, socio-economic status or educational attainment.
Indicator & target	% of residents within 500m of key local services Perceived access to services Deprivation indices of access to services Amount of completed office development Amount of completed office development in Town Centres Amount of retail development Amount of retail development in Town Centres Amount of leisure development in Town Centres Number of first/middle/high schools, Number of further education colleges Number of community centres Number of libraries
Sub objectives	To improve accessibility to kerbside recycling and Household Waste Sites
Indicator & target	% of residents being offered kerbside recycling

<i>Issue</i>	10. Landscape
SA objective	Safeguard and strengthen landscape character and quality
Indicator & target	Change in condition of landscape character Area of land within the AONB's actively managed under an agri - environment scheme No targets identified
Sub objectives	Encourage design that reduces visual intrusion and is sensitive to the local vernacular, as defined by the county landscape character assessment and conservation area appraisals.
Indicator & target	To be developed

<i>Issue</i>	11. Biodiversity / Geodiversity / Flora / Fauna
SA objective	To conserve and enhance Biodiversity and Geodiversity
Indicator & target	Area of land actively managed under an agri - environment scheme Net change in natural/semi natural habitats Area of land designated as a SSSI which is in 'unfavourable condition' Number of protected species in decline within the County See local Biodiversity Action Plans
Sub objectives	To assist in meeting Biodiversity Action Plan targets during the lifetime of the JMWMS
Indicator & target	Area of priority habitat re-created

<i>Issue</i>	12. Health
SA objective	To improve the health and well being of the population and reduce inequalities in health
Indicator & target	Incidences of respiratory illness by location Access to local greenspace Index of deprivation - % of population in good health Life expectancy No targets identified
Sub objectives	To limit environmental impacts of waste treatment facilities on the local population including pest species at landfill sites. To reduce respiratory diseases/allergy related illness
Indicator & target	Public concern over noise levels and odour

<i>Issue</i>	13. Provision of housing
SA objective	Provide decent affordable housing for all, of all the right quality and tenure and for local needs, in clean, safe and pleasant local environments
Indicator & target	The average house price/ average earnings ratio Provision of affordable housing as % of housing completions
Sub objectives	Encourage the use of sustainable building technologies in new housing developments in particular the re-use of construction and demolition waste. Promote the provision of recycling facilities within new housing developments
Indicator & target	Figures for destination of construction and demolition waste. Number of new housing developments with a Bring Recycling Centre provided.

<i>Issue</i>	14. Population 1 (Learning and skills)
SA objective	To raise the skills level and qualifications of the workforce
Indicator & target	Skills deprivation indices Qualifications of specified groups No targets identified
Sub objectives	To encourage engagement in community/environmentally responsible activities
Indicator & target	Voluntary activity – participation levels in recycling and training opportunities at Centres of Vocational Excellence (CoVEs)

<i>Issue</i>	15. Cultural Heritage, architecture and archaeology
SA objective	Conserve and enhance the architecture, cultural and historic environment heritage and seek well designed, resource efficient, high quality built environment in new development proposals
Indicator & target	Number of buildings on at-risk register Loss or damage to SAM's, historic parks and gardens, conservation areas Re-use and renewal of buildings of historic interest No targets identified
Sub objectives	Promote design concepts for new buildings that are informed by the local vernacular The siting of new waste management facilities should not have a detrimental effect on the setting and in-situ conservation of historic buildings, areas, landscapes or archaeological remains
Indicator & target	Number of buildings on the local at-risk register Loss or damage to SAM's, historic parks and gardens, conservation areas

<i>Issue</i>	16. Material Assets
SA objective	Ensure efficient use of land through safeguarding of mineral reserves, the best and most versatile agricultural lands, lands of green belt value, maximising use of previously developed land and reuse of vacant buildings, where this is not detrimental to open space and biodiversity interest
Indicator & target	Years supply of minerals occurring in the Herefordshire & Worcestershire Loss of grade 1 and 2 agricultural lands The amount of derelict land and contaminated land Green Belt land lost to development 67% of housing development to be on previously developed during 2001 –2011 (RSS)
Sub objectives	To support the reuse of construction materials To protect land from contamination arising from waste. To restore landfill sites to amenity purposes.
Indicator & target	Figures for the recycled and reuse of construction and demolition waste

<i>Issue</i>	17. Population 2 (Anti social behaviour, crime, litter and graffiti)
SA objective	Reduce crime, fear of crime and antisocial behaviour
Indicator & target	Recorded crime levels Fear of crime surveys No targets identified
Sub objectives	Reduce the number of fly tipping incidents
Indicator & target	Number and cost of reported fly tipping incidents.

<i>Issue</i>	18. Flooding
SA objective	Ensure inappropriate development does not occur in high risk flood prone areas and does not adversely contribute to fluvial flood risks or contribute to surface water flooding in all other areas.
Indicator & target	Number of new allocated developments located on the floodplain. % of Herefordshire and Worcestershire covered by a Strategic Flood Risk Assessment. No targets identified
Sub objectives	Ensure development does not occur in flood prone areas
Indicator & target	Number of new waste facilities developed in flood prone areas

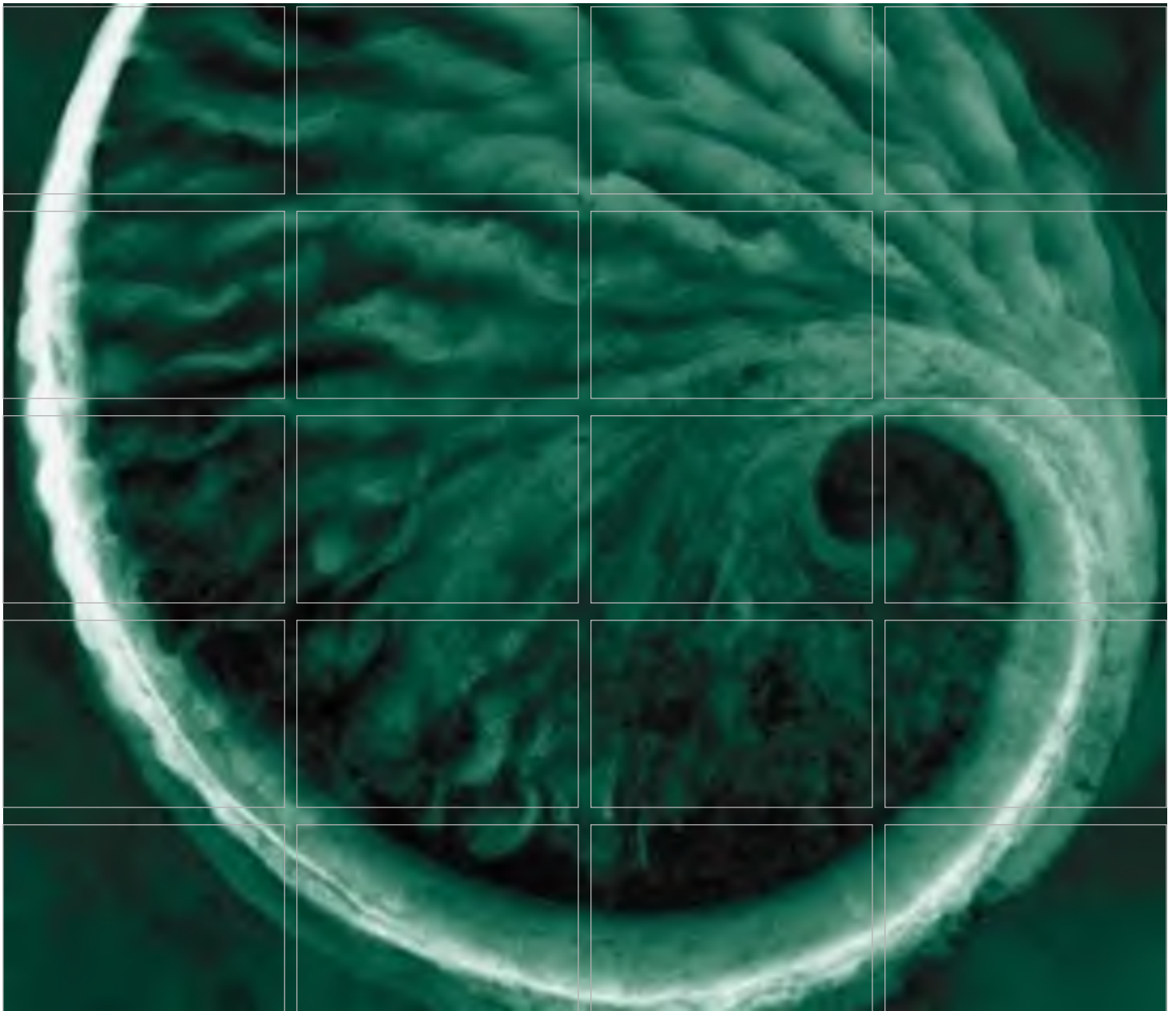
Annex F

Strategic Environmental Assessment



The Joint Municipal Waste Management Strategy
for Herefordshire and Worcestershire 2004 - 2034

First review August 2011



Annex F

Strategic Environmental Assessment

Environmental Report

February 2009

Worcestershire County Council


Annex F

Strategic Environmental Assessment

Environmental Report

February 2009

Prepared by Natalie Maletras

For and on behalf of Environmental Resources Management
Approved by: Paul Fletcher _____
Signed:  _____
Position: Partner _____
Date: February 2009 _____

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Annex A: Consultation Comments on Scoping Report and Response

Annex B: Compatibility of Principles and Appraisal Objectives

Annex C: Summary Assessment of Policies

EXECUTIVE SUMMARY

This report sets out the results of a Strategic Environmental Assessment of the draft Joint Municipal Waste Management Strategy (JMWMS or 'the Strategy') for Herefordshire and Worcestershire. This is based on appraisal of the draft of the JMWMS, issued for consultation in February 2009.. The purpose is to inform the consultation on the JMWMS by setting out information on the likely effects of its implementation and on the relative performance of the options, and making recommendations for improvements to the JMWMS.

Draft Headline Strategy

The Strategy has a very strong commitment to promoting the waste hierarchy, promoting greater resource efficiency and a reduction in greenhouse gas emissions. Energy recovery is promoted in preference to landfill, although no particular commitments are made. The Strategy will seek to improve access to waste services and promote greater public participation. It will also indirectly support business growth in the waste sector and the development of new resource-efficient technologies.

The effect of the Strategy on traffic and transport is unclear. Increased recycling and recovery could lead to greater waste transport distances, while better waste minimisation will help to reduce the need for transport. The Strategy has a clear commitment to minimise the amount of waste transport required, although it lacks detail in the supporting text as to how this is likely to be achieved and greater clarity should be provided.

Promoting recovery of resources from waste will require construction of new facilities, particularly treatment facilities. The significance of impacts on environmental and historic assets is unknown and depends strongly on local conditions, on planning and development control and on operational standards; factors which are outside the scope of the JMWMS.

Mitigation is recommended to:

- clarify actions to achieve a minimisation of transport distances;
- clarify engagement with commercial sector waste producers and processors;
- promote energy recovery wherever practicable, including from landfill gas;
- commit to ensuring good accessibility to Household Waste Sites across the two counties, providing new sites where required;
- include measures to reduce fly-tipping.

Minimisation Options

Enhancement of home composting activity will produce the greatest sustainability development benefits of the options, providing the greatest degree of minimisation, and in reduction in waste transport and in landfill of biodegradable waste. This scheme involves the greatest amount of participation by the public, and by making alternative soil improvers available it will reduce consumption of natural resources and may help to increase biodiversity. Finally, it is estimated to provide the greatest economic gain.

Efforts to minimise the amount of food waste would also provide a significant range of benefits, although not to the same degree as home composting. The performance of other proposed service enhancements are more mixed.

It is therefore recommended that resources are focused as a priority on enhancing home composting and food waste reduction initiatives, with some additional effort directed to increasing junk mail prevention and promoting smart shopping as a secondary priority. Enhancing reuse initiatives could also be promoted as a third priority for their social benefits.

Recycling Options

Providing the widest possible range of recyclable collection services will secure most sustainability benefits, principally deriving from the recycling of significantly greater tonnages of green and food waste than other options. However, it is expected to incur significant additional costs for food waste collections with additional fleet and manpower requirements.

Of the options which exclude area-wide food waste collections, options which have area-wide green waste collections secure most benefits overall because of the increased tonnages of waste recycled, principally biodegradable waste.

Residual Options

A residual waste solution based on Energy from Waste with combined heat and power (EfW/CHP) provides the greatest sustainability benefits in comparison to the other options, maximising performance against the waste hierarchy and minimising the landfilling of biodegradable waste, while providing the greatest reduction of greenhouse gas emissions and also enabling the generation of renewable energy. It will also minimise the requirements for onward transport of process outputs. Whilst it does not secure the lowest total costs, it compares reasonably favourably to other options on cost.

The overall environmental burden will be reduced with EfW/CHP, although by less than with autoclave or mechanical biological treatment (MBT). Local emissions may give rise to environmental effects with all options, but these could be minimised with autoclave or MBT technologies. However, the significance of effects is strongly dependent on location and on operational standards.

Exporting waste out of the sub-region to an EfW plant does not provide any benefits over and above those provided by EfW within the sub-region, and performs less well against a number of the appraisal objectives.

1 NON-TECHNICAL SUMMARY

1.1 INTRODUCTION

The local authorities that make up the Joint Waste Resource Management Forums for Herefordshire & Worcestershire¹ are currently in the process of revising their Joint Municipal Waste Management Strategy (JMWMS). The JMWMS describes current and future arrangements for waste management in Herefordshire and Worcestershire, and will set the strategic approach to municipal waste management for the two counties for the next thirty years.

Under the *Environmental Assessment of Plans and Programmes Regulations 2004*, the JMWMS must be subjected to a Strategic Environmental Assessment (SEA) before it is adopted. The SEA is required systematically to assess the strategy against a list of environmental, economic and social criteria. It should identify, describe and evaluate the likely significant effects of implementing the Strategy, and reasonable alternatives, taking into account the objectives and scope. These issues must be taken into account in the preparation of the JMWMS.

1.2 OUTLINE OF THE STRATEGY AND ITS RELATIONSHIP WITH OTHER PLANS AND PROGRAMMES

The JMWMS sets out a number of principles which will govern the way that municipal waste is managed in Herefordshire and Worcestershire over the next 20 to 25 years. These principles will set the framework which will guide the implementation of the policies which follow in the JMWMS.

Table 1.1 *Summary of Principles*

Principle One	Meeting the challenge of climate change by viewing waste as a resource
Principle Two	Commitment to the waste hierarchy of which waste prevention is the top
Principle Three	Influencing Government, waste producers and the wider community
Principle Four	Continued commitment to re-use, recycling and composting
Principle Five	Minimising the use of landfill
Principle Six	Partnership
Principle Seven	Monitoring and review
Principle Eight	Customer focus
Principle Nine	Value for money
Principle Ten	Consideration of social, environmental and economic impacts

The principles have been further developed into a set of detailed 24 policies by which those principles will be delivered, and a series of six targets which the JMWMS will aim to achieve or promote. Further information about the policies and targets is provided in *Section 3.1.2*.

(1) ¹ Herefordshire Council, Worcestershire County Council, Worcester City Council, Bromsgrove District Council, Malvern Hills District Council, Redditch Borough Council, Wychavon District Council and Wyre Forest District Council

The JRMWMS sits within a framework of other policy documents which together influence both the content of the strategy and its implementation. The most important of these are:

- European Union legislation, most importantly the *Landfill Directive*.
- National legislation, principally the *Waste and Emissions Trading Act 2003*
- National waste policy, in particular that set out in *Waste Strategy 2007*¹ and *Waste Not Want Not*².
- National guidance³ on MWMS.
- Regional Planning Guidance⁴ for the West Midlands.
- The *Worcestershire County Structure Plan* and *Herefordshire Unitary Development Plan*.
- Local Area Agreements (LAAs) for Herefordshire and Worcestershire.
- Local authorities' non-statutory strategies and plans, such as Community Strategies and Climate Change Strategies.

Section 3.2 explains the relationship of these plans and strategies to the JMWMS.

1.3 SUMMARY OF SIGNIFICANT ISSUES AND PROBLEMS IDENTIFIED

The significant issues relevant to waste management which have been identified through the review of policy and available baseline data are summarised in *Table 1.2*.

Table 1.2 Key Sustainability Issues for Herefordshire and Worcestershire

Category	Key Issues
Waste	Municipal waste comprises 30% of the total waste stream in Herefordshire & Worcestershire. Just under two thirds is landfilled, with 26% recycled or composted in Herefordshire and 32% in Worcestershire. This compares with an England average of 31%.
Climate change	Of the estimated 7 million tonnes of carbon dioxide emitted in the sub-region, 3% arose from waste treatment and disposal in Worcestershire and less than 1% in Herefordshire. About 300km ² of the sub-region is likely to flood at least once in 100 years, representing 8% of the land area.
Transport	There is relatively little traffic congestion on the road network, although there are a number of key areas of congestion including river crossings and within some urban areas. In Air Quality Management Areas (AQMAs) have been designated in Hereford and Leominster because of traffic pollution.
Growth with prosperity for all	The employment rate for Herefordshire and Worcestershire is higher than the regional and national averages.
Participation by all	Over 90% of households in Worcestershire are covered by kerbside recycling services, while just under 70% of households are covered in Herefordshire.

¹ *Waste Strategy for England 2007*, Department for Environment, Food and Rural Affairs, May 2007

² *Waste Not Want Not: A Strategy for Tackling the Waste Problem in England*, Cabinet Office Strategy Unit, November 2002

³ *Guidance on Municipal Waste Management Strategies*, Defra, July 2005

⁴ *Regional Planning Guidance for the West Midlands: RPG11*, Government Office for the West Midlands, June 2004

Category	Key Issues
Energy generation and use	There are a number of industrial and commercial installations in Worcestershire employing wind turbines, combustion of waste materials, biogas and clean biomass. The largest remain those associated with landfill gas generation. Feasibility studies are currently being conducted that will increase current installations by approx 25MWe and 80MWt.
Landscape	Three areas within Herefordshire & Worcestershire are designated as Areas of Outstanding Natural Beauty (AONBs), due to their recognised high landscape interest. These are the Cotswolds, the Malvern Hills and the Wye Valley.
Biodiversity, flora and fauna	In March 2005, 19% of Sites of Special Scientific Interest (SSSI) in Herefordshire and 72% in Worcestershire were in a good condition. There are 6 Special Areas of Conservation (SACs), 7 National Nature Reserves (NNRs) and 31 Local Nature Reserves in the sub-region, and almost 19,000 ha of ancient semi natural woodland. The local Biodiversity Action Plans provide a plan of action for 8 priority habitats and 16 priority species in Worcestershire, and 21 priority habitats and 156 priority species in Herefordshire.
Natural resources (air, water and soil)	Six air quality management areas (AQMA) declared due to poor air quality, all associated with busy arterial and main roads. The water quality of the majority of rivers within Herefordshire & Worcestershire are judged in good condition. Kidderminster and Bromsgrove overlie a major aquifer of high vulnerability which spreads south along the line of the Severn.
Access to services	Nearly 40% of areas in Worcestershire are ranked within the top 20% most deprived areas nationally in terms of distance to basic services, while over 60% of areas in Herefordshire are within this category.
Health	The healthy life expectancy of people living in Worcestershire is approximate to the English average whereas that of Herefordshire residents is above average.
Learning and skills	Employment projections indicate that there will be a decline in employment within the primary sectors, including agriculture, engineering and other manufacturing and construction. Over half of Herefordshire's businesses reported having trouble recruiting skilled manual/technical workers.
Cultural heritage, built design and archaeology	Over 12,000 listed buildings, 443 Scheduled Ancient Monuments, 211 conservation areas, 2 registered battlefields, 39 historic parks and gardens, and 39,000 entries on county historic sites records. In 2005, 36 buildings of grade I and II* were classified as being at risk.
Material assets	Construction aggregates make up most of the mineral output of Worcestershire. Mineral resources in Herefordshire are relatively limited, primarily consisting of aggregates.

1.3.1

Areas Likely to be Significantly Affected

The effects of implementation of the JMWMS can be considered on two levels. First, the overall effects will be spread throughout the two counties, because waste arises almost everywhere, waste transport will occur throughout the sub-region and the some of the impacts of waste management activities will be widespread and borne by all. In this case, the relevant sustainability characteristics are those set out in the baseline above.

On another level, some of the effects of the management of waste will occur in the vicinity of waste management sites. The JMWMS does not address issues

of site location, and therefore to a large extent it has not been possible in the assessment to deal with site-specific issues. The assessment has considered issues which may arise in the vicinity of sites in general, but consideration and control of issues at individual sites is the responsibility of the Waste Development Frameworks for Herefordshire and Worcestershire.

1.3.2 *EU-Designated Sites Potentially Relevant to the JMWMS*

There are five internationally designated sites within the sub-region, and there is the potential for four of them to be affected by waste management activities within the two counties¹. These are:

- River Wye SAC: vulnerable to water abstraction and water discharges.
- Wye Valley and Forest of Dean Bat Sites SAC: vulnerable to land use change.
- Wye Valley Woodlands SAC: vulnerable to NO_x emissions and land use change.
- Bredon Hill SAC: vulnerable to diffuse air pollution and direct land take.

In addition, two sites beyond the county boundaries could potentially be affected by activities within the counties:

- Severn Estuary SPA/cSAC/Ramsar: under considerable pressure for water supply.
- River Usk SAC: increased abstractions and low flow are a cause for concern.

1.4 *SUSTAINABLE DEVELOPMENT OBJECTIVES RELEVANT TO THE JMWMS*

In order to identify the sustainable development objectives for the SEA, a review was undertaken of the environmental, social and economic policy framework relevant to Herefordshire and Worcestershire. This involved reviewing key documents at international, national, regional and local level, which set the policy framework governing activities in the sub-region, to identify the policy objectives with which waste management in the sub-region must or should conform. These are set out in *Box 1.1*.

¹ *Habitats Regulations Assessment of the Phase II Revision of the Regional Spatial Strategy for the West Midlands*, URSUS Consulting Ltd Treweek Environmental Consultants, October 2007

Social

- (1) Access to services is a key issue, particularly for people living in rural areas.
- (2) Promote and improve access to education.
- (3) Enable communities to participate in and contribute to the issues that affect them.
- (4) Pockets of deprivation exist in the region.
- (5) Provision of decent affordable housing for all.
- (6) Promote communities that are healthy and support vulnerable people.
- (7) Address health inequalities.
- (8) Tackle crime, fear of crime and anti-social behaviour

Environmental

- (9) Encourage and enable waste minimisation, reuse, recycling and recovery, in order to meet national, regional and local targets.
- (10) Prevent or reduce the negative effects of waste management on the environment.
- (11) Target of 10% reduction in gas emissions that cause climate change by 2010 and 20% by 2020.
- (12) Improve energy efficiency and increase use of renewable energy. 10% of the UK's electricity should be coming from renewable energy sources by 2010 and 20% by 2020.
- (13) Development should be focused in, or next to, existing towns and villages with previously developed land used in preference to greenfield.
- (14) Encourage and promote land use activities which will lead to an improvement in the quality of its natural resources.
- (15) Development should be informed by and sympathetic to the landscape character of the locality.
- (16) Protection of the natural and cultural heritage of the area.
- (17) The area is subject to potential flooding from, in particular, the Rivers Severn, Teme, Avon, Stour and Wye, and from surface run-off.
- (18) There is an emphasis on reducing the need to travel and the challenge of addressing hotspots of road congestion.

Economic

- (19) Ensure prudent and efficient use of natural resources.
- (20) Ensure the efficient transportation of freight within the region, so as to support a strong long economy, but not at a compromise to existing or future needs of society or the environment.
- (21) On a workplace basis average earnings well below national comparators combined with a relatively low level of skilled workforce in the area.
- (22) Significant proportion of workforce employed in declining industries

1.5**APPRAISAL FRAMEWORK**

The above conclusions of the baseline data review and the review of policy were collated and used to develop a framework of objectives against which the JMWMS could be appraised. This framework represents a list of the key sustainable development objectives which the JMWMS should either conform with or seek to deliver or support. The objectives identified are listed in *Table*

1.3. The proposed strategy and relevant options were assessed against these objectives to identify and evaluate the likely effects of the strategy.

Table 1.3 *Appraisal Objectives*

1. Waste
Manage the waste streams in accordance with the waste hierarchy, encouraging reuse and recovery addressing waste as a resource
To minimise the production of waste generated
2. Climate Change
Reduce causes of and adapt to the impacts of climate change
Minimise biodegradable waste going to landfill
Maximise opportunities to generate power from methane at landfill sites
3. Traffic & Transport
To reduce the need to travel and move towards more sustainable travel patterns
Ensure the disposal of waste as close to point of origin as practicable and promote transfer of waste by rail or water transport where appropriate
4. Growth with prosperity for all
Develop a knowledge-driven economy, the infrastructure and skills base whilst ensuring all have access to the benefits urban and rural
To encourage business development within the waste sector to achieve Government targets for waste
To encourage rural regeneration
5. Participation by all
To provide opportunities for communities to participate in and contribute to the decisions that affect their neighbourhoods and quality of life, encouraging pride and social responsibility in the local community
To provide opportunities for communities to participate in and contribute to waste planning decisions
6. Technology, innovation & inward investment
Promote and support the development of new technologies of high value and low impact, especially resource efficient technologies and environmental technology initiatives
To make an economic gain from the recovery and treatment of waste streams wherever this is environmentally acceptable
7. Energy
Promoting energy efficiency and energy generated from renewable energy and low carbon sources
In accordance with waste hierarchy support the generation of energy from waste
8. Natural resources
Protect and improve standards of air, water and soil quality ensuring prudent use of natural resources
Minimise the creation of dust, odour and noise and other pollutants in the vicinity of waste station / facilities
9. Access to services
To improve the quality of and equitable access to local services and facilities, regardless of age, gender, ethnicity, disability, socioeconomic status or educational attainment
To improve accessibility to kerbside recycling and Household Waste Sites
10. Landscape
Safeguard and strengthen landscape character and quality
Encourage design that reduces visual intrusion and is sensitive to the local vernacular, as defined by the county landscape character assessment, <i>county historic landscape characterisation</i> and conservation area appraisals
11. Biodiversity / Geodiversity / Flora / Fauna
To conserve and enhance biodiversity and geodiversity
To assist in meeting Biodiversity Action Plan targets during the lifetime of the JMWMS
12. Health
To improve the health and well being of the population and reduce inequalities in health
To limit environmental impacts of waste treatment facilities on the local population including pest species at landfill sites
To reduce respiratory diseases/allergy related illness
13. Provision of housing
Provide decent affordable housing for all, of all the right quality and tenure and for local needs, in clean, safe and pleasant local environments

Encourage the use of sustainable building technologies in new housing developments in particular the re-use of construction and demolition waste
Promote the provision of recycling facilities within new housing developments
14. Learning and skills
To raise the skills level and qualifications of the workforce
To encourage engagement in community/environmentally responsible activities
15. Cultural heritage, architecture and archaeology
Conserve and enhance the architecture, cultural and historic environment heritage and seek well designed, resource efficient, high quality built environment in new development proposals
Promote design concepts for new buildings that are informed by the local vernacular
The siting of new waste management facilities should not have a detrimental effect on the setting and in-situ conservation of historic buildings, areas, landscapes or archaeological remains
16. Material assets
Ensure efficient use of land through safeguarding of mineral reserves, the best and most versatile agricultural lands, lands of green belt value, maximising use of previously developed land and reuse of vacant buildings, where this is not detrimental to open space, biodiversity interest or the historic environment
To support the reuse of construction materials
To protect land from contamination arising from waste
To restore landfill sites to amenity purposes.
17. Crime
Reduce crime, fear of crime and antisocial behaviour
Reduce the number of fly tipping incidents
18. Flooding
Ensure inappropriate development does not occur in high risk flood areas and does not adversely contribute to fluvial flood risks or contribute to surface water flooding in all other areas
Ensure development does not occur in flood risk areas

1.6 *LIKELY SIGNIFICANT EFFECTS OF THE JMWMS*

1.6.1 *Waste Minimisation*

A range of initiatives are already in place for minimising the amount of waste generated in Herefordshire and Worcestershire. Further options for waste minimisation have examined the potential for enhancements to the current initiatives to achieve improved performance, as follows:

- Home composting
- Food waste reduction campaign
- Re-use initiatives
- Promoting sink disposal units
- Home shredding service for green waste
- Junk mail reduction campaign
- Real Nappy Project and Real Nappy Incentive Scheme
- Waste collection policies e.g. side waste restrictions

The results show that enhancement of home composting activity would produce the greatest benefits against a large number of sustainable development objectives. It will enable the greatest degree of minimisation, allowing the greatest reduction in waste transport and in landfill of biodegradable waste. This scheme involves the greatest amount of participation by the public, and by making alternative soil improvers available

it will reduce consumption of natural resources and may help to increase biodiversity. Finally, it is estimated to provide the greatest economic gain.

Additional efforts to minimise the amount of food waste would also provide a significant range of benefits, although not to the same degree as home composting. The performance of the other proposed service enhancements are more mixed, with a range of positive and negative effects.

It is recommended that resources are focused as a priority on enhancing home composting and food waste reduction initiatives, with some additional effort directed to increasing junk mail prevention and promoting smart shopping as a secondary priority. Enhancing reuse initiatives could also be promoted as a third priority for their social benefits.

1.6.2 *Recycling and Composting*

Existing recycling services in Herefordshire and Worcestershire consist of a range of kerbside collection services in the different authorities together with recycling at bring sites and at Household Waste Sites. The recycling and composting options looked at different ways of enhancing those services, by combining the following service enhancements in different ways and comparing them to current service performance levels:

- Full core kerbside recycling service, involving collection of glass, paper and card, foil, cans and plastics across all authorities;
- Green waste collection in Bromsgrove;
- Paid-for green waste collection everywhere;
- Food waste collection in Wychavon;
- Food waste collection everywhere;
- Recycling street sweepings.

The following options have been devised.

Table 1.4 *Recycling Options*

	A	B	C	D	E	F	G	H	I
Status quo - current service levels	✓								
Full core kerbside recycling service		✓	✓	✓	✓	✓	✓	✓	✓
Green waste collection in Bromsgrove		✓							
Green waste collection everywhere			✓			✓	✓		✓
Food waste collection in Wychavon									✓
Food waste collection everywhere				✓		✓			
Recycling street sweepings					✓	✓	✓		✓

The option which includes the widest possible range of services (option F) secures most sustainability benefits, principally deriving from the recycling of significantly greater tonnages of biodegradable waste than other options, with collections of green and food waste across the whole of the two counties. However, it is expected to incur significant additional costs for food waste collections with additional vehicle fleet and manpower requirements.

Of the options which exclude area-wide food waste collections, options which have area-wide green waste collections (options C, G and I) secure more benefits overall than other options because of increased tonnages of waste recycled, principally biodegradable waste. Option I performs slightly better than option G due to the additional food waste collection in Wychavon which secures slightly greater reductions of biodegradable waste, although this also has additional costs with additional vehicle fleet and manpower requirements.

1.6.3 *Residual Treatment*

In developing the options for residual waste treatment, consideration was given to the type of technology which might be employed taking account of the likely deliverability and appropriateness for the local context. Consideration was also given to the potential number and scale of facilities, in particular the possibility of delivering a residual treatment solution with smaller facilities on more than one site. Finally, an option that utilises waste treatment capacity outside the Partnership area was also considered. This option was subjected to a sensitivity test to determine the extent to which its performance was affected by the nature of the plant rather than its location.

The final options considered for residual treatment technology are set out in the table below.

Table 1.5 *Residual Treatment Technology Options*

Option	Description
A	1 site Energy from Waste (EfW)
B	1 site EfW with Combined Heat and Power (CHP)
C	2 site Mechanical Biological Treatment with on-site combustion
D	2 site Mechanical Biological Treatment with off-site combustion
E	1 site autoclave
F	2 site autoclave
G	Out of county EfW
G2	Out of county EfW (alternative plant type)

The appraisal showed that each of the options performs well against some objectives and less well against others, but that no one option performs better than the others consistently for all objectives.

However, the results show that a residual waste solution based on Energy from Waste with CHP provides the greatest sustainability benefits in comparison to the other options, maximising performance against the waste hierarchy and minimising the landfill of biodegradable waste, while providing the greatest reduction of greenhouse gas emissions and also enabling the generation of renewable energy. It will also minimise the requirements for onward transport of process outputs. Whilst it does not offer a solution with the lowest total costs, it compares reasonably favourably to other options on cost.

The overall environmental burden will be reduced with option B, although not by as much as with autoclave (options E and F) or MBT (options C and D).

Local emissions may give rise to environmental effects with all options, including effects on vegetation and ecosystems, but these could be minimised with autoclave or MBT technologies. However, the significance of any effects is strongly dependent on choice of location and on operational standards.

An option whereby waste is exported out of Herefordshire and Worcestershire to an EfW plant does not provide any benefits over and above those provided by EfW within the sub-region, and performs less well against a number of the appraisal objectives.

1.6.4 *Strategic Objectives*

The Strategy has a very strong commitment to promoting the waste hierarchy, promoting greater resource efficiency and a reduction in greenhouse gas emissions. Energy recovery is promoted in preference to landfill, although no particular commitments are made. The Strategy will seek to improve access to waste services and promote greater public participation. It will also indirectly support business growth in the waste sector and the development of new resource-efficient technologies.

The effect of the Strategy on traffic and transport is unclear. Increased recycling and recovery could lead to greater waste transport distances, while better waste minimisation will help to reduce the need for transport. The Strategy has a clear commitment to minimise the amount of waste transport required, although it lacks detail in the supporting text as to how this is likely to be achieved and greater clarity should be provided.

Promoting recovery of resources from waste will require construction of new facilities, particularly treatment facilities. The significance of impacts on environmental and historic assets is unknown and depends strongly on local conditions, on planning and development control and on operational standards; factors which are outside the scope of the JMWMS.

1.7 *MITIGATION RECOMMENDATIONS*

Arising from the results and conclusions of the appraisal of the strategy, a number of recommendations are made to improve its effects. These include the following amendments to the draft Headline Strategy:

- clarify actions to achieve a minimisation of transport distances;
- clarify engagement with commercial sector waste producers and processors;
- promote energy recovery wherever practicable, including from landfill gas;
- commit to ensuring good accessibility to Household Waste Sites across the two counties, providing new sites where required;
- include measures to reduce fly-tipping.

1.8 *MONITORING RECOMMENDATIONS*

The report sets out a series of recommendations for monitoring the effects of implementing the strategy, including suggesting a number of indicators for undertaking the monitoring. Monitoring of strategy implementation should focus on its effectiveness in several key areas:

- the achievement in managing waste at levels of the waste hierarchy, including in relation to past performance to show improvement;
- the effects on waste transport in terms of waste distances and vehicle movements;
- access to and participation in reuse and recycling/composting services;
- reporting on the councils' waste-related activities, including costs and effectiveness.
- the capacity of recycling, composting and treatment facilities in Herefordshire and Worcestershire
- the performance of treatment and disposal facilities, including impacts of activities and energy generation.

1.9 *THE DIFFERENCE THE SEA PROCESS HAS MADE TO DATE*

Two separate presentations were made to both Officers & Members of the Worcestershire & Herefordshire Waste Partnership on the results of the SEA prior to the draft JMWMS being published. The outcomes of the SEA were used to inform Member and Officer decisions on draft policies.

1.10 *HOW TO COMMENT ON THE REPORT*

This Environmental Report is published for consultation alongside the draft JMWMS, with the purpose of informing that consultation by providing information about the likely sustainability effects of implementing the strategy. However, as well as inviting consultation comments on the draft JMWMS, comments are also invited on the Environmental Report itself.

The consultation begins on 16 February 2009 and closes on 25 May 2009. Any comments must be received by this date and should be sent to:

wastestrategy@worcestershire.gov.uk

1.11 **BACKGROUND**

1.11.1 ***The Draft Joint Municipal Waste Management Strategy***

The local authorities that make up the Joint Waste Resource Management Forums for Herefordshire & Worcestershire (namely Herefordshire Council, Worcestershire County Council, Worcester City Council, Bromsgrove District Council, Malvern Hills District Council, Redditch Borough Council, Wychavon District Council and Wyre Forest District Council) are currently in the process of revising their Joint Municipal Waste Management Strategy (JMWMS).

The JMWMS describes current and future arrangements for waste management in Herefordshire and Worcestershire, and will set the strategic approach to municipal waste management for the two counties for the next thirty years. It provides an integrated approach which encompasses both collection and disposal functions, and aims to clarify key issues and give clear direction on waste management. It sets out general principles, policies and targets across all authorities in Herefordshire and Worcestershire.

The JMWMS replaces the original JMWMS for Herefordshire and Worcestershire published in 2004.

1.11.2 ***Strategic Environmental Assessment***

Under the *Environmental Assessment of Plans and Programmes Regulations 2004*, the JMWMS must be subjected to a Strategic Environmental Assessment (SEA) before it is adopted. The SEA is a tool for integrating environmental and sustainability considerations into the preparation of the JMWMS, by considering the effects of implementing the plan or strategy during its preparation and before its adoption. The SEA is required systematically to assess the strategy against a list of environmental, economic and social criteria. It should identify, describe and evaluate the likely significant effects of implementing the Strategy, and reasonable alternatives, taking into account the objectives and scope. These issues must be taken into account in the preparation of the JMWMS.

As part of the SEA process, an appraisal has been undertaken of the draft JMWMS and options which have been developed by the Joint Waste Resource Management Forums for Herefordshire & Worcestershire. This has identified the key sustainability implications of those issues and options, with the aim of informing the process of development of the Strategy. This document sets out the results of this appraisal and highlights the main implications of the options. It makes recommendations for mitigating the predicted adverse effects of the JMWMS and for maximising opportunities for benefits.

The SEA has been undertaken to comply with the requirements of the SEA Directive¹. This requires an assessment of the likely effects of the JMWMS 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. Good practice in the UK and elsewhere dictates that, to be properly balanced and take account of all important issues, an appraisal must be broadened out to include an assessment of a wide range of sustainability impacts, including those required by the SEA Directive. The term Sustainability Appraisal is often used to indicate this somewhat broader scope. In this report, the assessment is referred to as a Strategic Environmental Assessment or SEA, as this is what is required by national legislation although, in fact, it has the scope of a Sustainability Appraisal including an SEA.

(1) ¹ Directive 2001/42/EC of 27 June 2001 on the assessment of the effects of certain plans and programmes on the environment

2.1

SCOPING

The first step in the SEA work was a scoping stage, to identify the sustainability context for municipal waste management in Herefordshire and Worcestershire.

The scoping stage involved the collection of a wide range of baseline data covering economic, social and environmental issues in order to provide a picture of the current sustainability status of the two counties and to identify emerging trends where possible. The baseline data was analysed to identify the key sustainability issues for the area, within the particular context of municipal waste management.

In tandem with the baseline data collection and analysis, a review was undertaken of the national, regional and local policy framework relevant to sustainable development in Herefordshire and Worcestershire. This involved:

- reviewing key environmental, social and economic documents which set the policy framework governing activities in the sub-region; and
- identifying the sustainable development policy objectives and targets with which municipal waste management in the sub-region must or should conform, and highlighting the key implications for the SEA.

On the basis of this work, a set of relevant sustainable development policy objectives were drawn up against which to appraise the JMWMS.

The results of the scoping stage were set out in a Scoping Report¹ which was issued to key stakeholders for consultation in April 2008. The following stakeholder organisations were consulted:

- Environment Agency
- Natural England
- English Heritage
- Herefordshire Wildlife Trust
- Worcestershire Wildlife Trust
- Worcestershire Primary Care Trust

Six responses were received; one from each of the consultees. The main comments related principally to the coverage of baseline data, key issues (specifically flood risk, waste management, the historic environment and biodiversity), additional documents for the policy review, and the prioritisation of appraisal objectives. Consultation comments have been taken

(1) *Sustainability Appraisal for the Joint Municipal Waste Management Strategy: Scoping Report Version 4*, Herefordshire Council and Worcestershire County Council, April 2008

on board and further scoping work undertaken to ensure that the relevant key issues and policies are reflected in the framework.

2.2 *DRAFT HEADLINE STRATEGY AND OPTIONS*

The emerging JWMWS consists of a draft Headline Strategy and three sets of options which underpin the Strategy, on waste minimisation, recycling and composting and residual waste treatment.

The draft Headline Strategy comprises:

- a set of ten principles governing the overall approach to municipal waste management;
- 23 policies and associated targets which aim to implement the principles; and
- supporting text which clarifies the aims and intended outcomes of the policies.

The waste minimisation options look at ways of enhancing each of the existing services currently promoted by the councils:

- Home composting
- Food waste reduction campaign
- Re-use initiatives
- Promoting sink disposal units
- Home shredding service for green waste
- Junk mail reduction campaign
- Real Nappy Project and Real Nappy Incentive Scheme
- Waste collection policies eg side waste restrictions

The recycling and composting options consider different ways of combining the following service enhancements, comparing them to current service performance levels:

- Full core kerbside recycling service
- Green waste collection in Bromsgrove
- Paid-for green waste collection everywhere
- Food waste collection in Wychavon
- Food waste collection everywhere
- Recycling street sweepings

The residual waste treatment options examine and compare the following alternative technologies:

- 1 site EfW
- 1 site EfW with CHP
- 2 site MBT with on site combustion
- 2 site MBT with off site combustion

- 1 site autoclave
- 2 site autoclave
- Out of county EfW

In addition, a sensitivity test was carried out for the EfW option, to examine the effect that a different type of EfW plant would have on the results.

2.3

APPRAISAL

The appraisal determined the likely effects arising from the principles, policies and targets of the draft Headline Strategy. It also assessed the minimisation, recycling and residual treatment options to identify the likely effects of each and to compare the alternatives being considered.

This was done by assessing the Strategy and each option against the appraisal objectives in turn. The objectives, developed as discussed above, are listed in *Table 3.5*.

An assessment was made of the likely effects of the options and the draft Headline Strategy, with reference where relevant and possible to the baseline data from the Scoping Report. For the Strategy, the assessment was largely qualitative in nature. For the three sets of options, quantitative data was available from the technical options appraisal carried out separately for the JMWMS by ERM and by in-house staff of Worcestershire County Council and reported in separate reports. The quantitative information from these reports was supplemented with other more qualitative assessments to ensure complete coverage of the appraisal objectives.

The effects were also rated for their significance in terms of the importance for achieving each appraisal question within the context of the SEA objective. The factors were:

- the expected scale of the effects or the degree to which the effects are likely to contribute to the achievement of the appraisal objective in the sub-region overall;
- the certainty or probability that the effect is likely to occur as a consequence of the policies or options;
- whether the effects would be permanent or reversible;
- whether or not the effect will occur as a direct result of the option or policy, in other words whether the policies or options are key for achieving or controlling effects;
- whether the effect is more strongly dependent on other interventions or other factors;
- how important the objective is in differentiating between options.

The appraisal of the principles of the JMWMS was undertaken according to the recommendations in government guidance, by undertaking a compatibility assessment of the objectives against the SEA appraisal

objectives. The purpose of this is to identify the positive compatibilities between the two sets of objectives and also where there are potential conflicts.

The main conclusions of the appraisal are set out in *Sections 0 and 4*.

The appraisal was undertaken in an iterative fashion. An initial appraisal was carried out in November 2008 on an early draft of the JMWMS. This made several recommendations which were taken into account in making further amendments to the draft JMWMS during late 2008 and early 2009. A final appraisal was undertaken on the consultation draft of the JMWMS in January 2009.

2.3.1 *Consultation*

This Environmental Report will be issued for consultation alongside the draft JMWMS between 16 February and 25 May 2009. The purpose of the SEA is to inform the consultation on the JMWMS so that consultees can better understand the likely sustainability effects of implementing the JMWMS and are able to respond to the consultation from a more informed perspective. As well as inviting comments on the JMWMS, comments are also invited on the Environmental Report itself.

2.3.2 *Post-Consultation*

Following the public consultation on the draft JMWMS, it may be necessary to undertake a further appraisal of the JMWMS if the amendments to it are sufficiently major as to change the likely effects of its implementation. If so, the final JMWMS will be reappraised and an amended Environmental Report issued.

Following adoption of the JMWMS, a post-adoption statement must be prepared which will set out how the SEA process has influenced the development of the JMWMS, as well as the recommendations made for monitoring its implementation.

3.1 SUMMARY OF THE STRATEGY

3.1.1 Principles

The JMWMS sets out a number of principles which will govern the way that municipal waste is managed in Herefordshire and Worcestershire over the next 20 to 25 years. These principles will set the framework which will guide the implementation of the policies which follow in the JMWMS.

Table 3.1 *Summary of Principles*

Principle One	Meeting the challenge of climate change by viewing waste as a resource
Principle Two	Commitment to the waste hierarchy of which waste prevention is the top
Principle Three	Influencing Government, waste producers and the wider community
Principle Four	Continued commitment to re-use, recycling and composting
Principle Five	Minimising the use of landfill
Principle Six	Partnership
Principle Seven	Monitoring and review
Principle Eight	Customer focus
Principle Nine	Value for money
Principle Ten	Consideration of social, environmental and economic impacts

3.1.2 Policies and Targets

The principles have been further developed into a set of detailed 24 policies by which those principles will be delivered, and a series of six targets which the JMWMS will aim to achieve or promote.

Table 3.2 *JMWMS Policies*

Policy 1	Adopt the waste hierarchy
Policy 2	Provide good value for money
Policy 3	Meet customer needs
Policy 4	Achieve LAA targets
Policy 5	Implement sustainable procurement
Policy 6	Consistent and transparent performance monitoring
Policy 7	Minimise greenhouse gas emissions
Policy 8	Core recycling and residual collection service
Policy 9	Implement waste reduction initiatives
Policy 10	Process green and kitchen waste within the household
Policy 11	Lobby for measures to combat waste growth
Policy 12	Work with third sector and contractors to promote reuse
Policy 13	Achieve recycling, composting and recovery targets
Policy 14	Provide and enhance Bring Recycling Sites
Policy 15	Maximise potential of Household Recycling Centres
Policy 16	Balance environmental, social and economic impacts for recovery
Policy 17	Increase recovery and diversion of biodegradable waste
Policy 18	Work together on waste prevention, re-use and recycling schemes and raise awareness of climate change issues
Policy 19	Raise awareness of resource management issues

Policy 20	Encourage re-use and recycling by the commercial, voluntary and community sectors
Policy 21	Seek sustainable waste management through planning process
Policy 22	Align strategy with Regional Spatial Strategy and other policies
Policy 23	Minimise carbon emissions from transport
Policy 24	Promote prevention, re-use, recycling and recovery for specific waste streams

Table 3.3 *JMWMS Targets*

Target 1	Climate change target, to be developed
Target 2	Waste prevention
Target 3	Recycling and composting
Target 4	Kerbside recycling collections
Target 5	Recovery
Target 6	Reduction of biodegradable landfill

3.2 *RELATIONSHIP OF JMWMS TO OTHER PLANS, PROGRAMMES AND POLICY OBJECTIVES*

The JMWMS sits within a framework of other policy documents which together influence both the content of the strategy and its implementation. The most important of these are described below:

- European Union legislation, most importantly the *Landfill Directive*, sets targets for reduction in the amount of biodegradable municipal waste sent to landfill. The authorities in Worcestershire and Herefordshire must meet the requirements imposed by the Directive.
- National legislation which is also binding on the local authorities, principally the *Waste and Emissions Trading Act 2003* which implements the Landfill Directive in the UK and introduces a scheme of trading in landfill allowances in order to reduce disposal of biodegradable municipal waste to landfill.
- National waste policy, in particular that set out in *Waste Strategy 2007*¹ and *Waste Not Want Not*², sets the framework of overarching policy objectives for Municipal Waste Management Strategies (MWMSs). The JMWMS must be aligned with these broad policy objectives such as promoting waste minimisation and implementing the waste hierarchy.
- National guidance³ which sets out government expectations of MWMSs, including key policy objectives for waste management, the role of the JMWMS in meeting those objectives and requirements for the process which should be followed in developing the JMWMS. It lists a set of principles to be used in decision-making in regard to waste, including the

¹ *Waste Strategy for England 2007*, Department for Environment, Food and Rural Affairs, May 2007

² *Waste Not Want Not: A Strategy for Tackling the Waste Problem in England*, Cabinet Office Strategy Unit, November 2002

³ *Guidance on Municipal Waste Management Strategies*, Defra, July 2005

requirement for undertaking an SEA as well as an evaluation of economic and social factors.

- Regional Planning Guidance¹ sets out policies to deal with waste arising in the West Midlands region. While being aligned with national waste policy objectives, the strategy has a specific focus on policy to deal with the specific circumstances and challenges of the region. Local authorities should take the strategy into consideration in developing MWMSs, and should seek to align their strategies with the regional strategy. The Regional Spatial Strategy Phase Two Revision², which will replace the waste policies in the current RPG11 and encompasses the Regional Waste Strategy, is yet to be adopted.
- The Worcestershire County Structure Plan and Herefordshire Unitary Development Plan set the planning framework for the management of waste, including municipal waste, within the two counties. The Plans set out the spatial and land use policies which will be used to govern the management of waste in each area and more specifically to control waste-related development. They therefore provide the planning framework by which the facilities to manage waste, including municipal waste, will be delivered, and as such it is important that there is consistency between the Plans and the JMWMS where relevant.
- Local Area Agreements (LAAs) for Herefordshire and Worcestershire set out the priorities for a local area agreed between central government and the Local Strategic Partnerships. Both LAAs promote the reduction of waste sent to landfill and the JMWMS should seek to support the objectives and targets of the LAAs.
- Local authorities' non-statutory strategies and plans, such as Community Strategies and Climate Change Strategies, guide the policy approach at local level on specific issues relating to the environment and sustainable development, but are not binding.

A detailed list of all relevant strategies, plans and programmes was set out in Appendix 2 of the SEA Scoping Report. Following consultation, this was supplemented with several policy documents relating to biodiversity, landscape and heritage.

¹ *Regional Planning Guidance for the West Midlands: RPG11*, Government Office for the West Midlands, June 2004

(1) ² *West Midlands Regional Spatial Strategy Phase Two Revision – Draft: Preferred Option*, West Midlands Regional Assembly, December 2007

The appraisal framework consists of a number of sustainable development policy objectives which the JMWMS should conform with or support. The identification of objectives was achieved through a combination of the following tasks, based on best available information at the time:

- a review of the issues of relevance to Herefordshire & Worcestershire as described within existing policies, plans and programmes;
- a review of the sustainability characteristics and issues;
- analysis of the opportunities arising from the baseline data.

Each of these tasks is described in more detail in the following paragraphs.

This work was undertaken for the scoping stage of the SEA and reported in full in the Scoping Report¹. Following consultation with key stakeholders on the Scoping Report, a number of amendments were made to the scoping information collected, specifically some additional policy documents to be reviewed, two amendments to the sustainability objectives and an amendment and an addition to the baseline data. A summary of the consultation comments received on the Scoping Report and the response to those comments is given in *Annex A*.

In order to assist in identifying the environmental objectives for the SEA, a review was undertaken of the environmental policy framework relevant to Herefordshire and Worcestershire. This involved reviewing key environmental documents at international, national, regional and local level, which set the policy framework governing activities in the sub-region. The review identified the policy objectives with which waste management and planning in the sub-region must or should conform. The review also included strategies and plans relevant to economic and social policy and likely to be relevant to municipal waste management issues.

A list of policies, plans and programmes reviewed for the scoping stage was provided in *Appendix 2* of the Scoping Report. Following consultation with key stakeholders on the Scoping Report, this review was supplemented with a small number of other policy documents on biodiversity, landscape and heritage protection².

¹ *Sustainability Appraisal for the Joint Municipal Waste Management Strategy: Scoping Report Version 4*, Herefordshire Council and Worcestershire County Council, April 2008

² ² Council *Directive* 92/43/EEC on the conservation of natural *habitats* and of wild fauna and flora
Council *Directive* 79/409/EEC on the conservation of wild *birds*
European Landscape Convention

The key points emerging from the review that are relevant for the SEA in terms of policy objectives are as follows. This list was set out in the Scoping Report, with one addition (in italics) as a result of stakeholder comments on the Scoping Report.

Box 3.1

Key Objectives for the SEA

Social

- (1) Access to services is a key issue, particularly for people living in rural areas.
- (2) Promote and improve access to education.
- (3) Enable communities to participate in and contribute to the issues that affect them.
- (4) Pockets of deprivation exist in the region.
- (5) Provision of decent affordable housing for all.
- (6) Promote communities that are healthy and support vulnerable people.
- (7) Address health inequalities.
- (8) Tackle crime, fear of crime and anti-social behaviour

Environmental

- (9) Encourage and enable waste minimisation, reuse, recycling and recovery, in order to meet national, regional and local targets.
- (10) Prevent or reduce the negative effects of waste management on the environment.
- (11) Target of 10% reduction in gas emissions that cause climate change by 2010 and 20% by 2020.
- (12) Improve energy efficiency and increase use of renewable energy. 10% of the UK's electricity should be coming from renewable energy sources by 2010 and 20% by 2020.
- (13) Development should be focused in, or next to, existing towns and villages with previously developed land used in preference to greenfield.
- (14) Encourage and promote land use activities which will lead to an improvement in the quality of its natural resources.
- (15) Development should be informed by and sympathetic to the landscape character of the locality.
- (16) Protection of the natural and cultural heritage of the area.
- (17) The area is subject to potential flooding from, in particular, the Rivers Severn, Teme, Avon, Stour and Wye, *and from surface run-off.*
- (18) There is an emphasis on reducing the need to travel and the challenge of addressing hotspots of road congestion.

Economic

- (19) Ensure prudent and efficient use of natural resources.
- (20) Ensure the efficient transportation of freight within the region, so as to support a strong long economy, but not at a compromise to existing or future needs of society or the environment.
- (21) On a workplace basis average earnings well below national comparators combined with a relatively low level of skilled workforce in the area.
- (22) Significant proportion of workforce employed in declining industries

This section describes the significant features and conditions within Herefordshire and Worcestershire relevant to sustainable development policy and objectives. It provides an overview of the state of the environment, society and the economy in the two counties in the period preceding the adoption and implementation of the JMWMS, and indicates future trends wherever possible. The full baseline information which was used to compile this summary was given in Appendix 5 of the SEA Scoping Report. This has been supplemented with a small amount of additional data on wildlife sites in the sub-region following consultation comments on the Scoping Report.

The aim of this section of the report is to highlight any significant issues or problems that are affecting the economy, people or the environment in Herefordshire and Worcestershire, and to outline the way in which the state of the environment, society and the economy might change in the future. The purpose is to set the context within which waste management activities arising out of the JMWMS will take place, so that the significant sustainability issues and the way that municipal waste management activities might interact with those issues can be better understood. It also enables the SEA to identify and focus on those issues which are significant.

3.5.1 *Difficulties in Collecting Data*

There are substantial amounts of data available to populate a sustainability baseline for Herefordshire and Worcestershire. However, in a small number of instances data was not available. Where possible, data for the region or country as a whole has been used to indicate the likely situation in the sub-region. In some cases, no data could be found to describe the baseline situation. In particular, there is little data on likely future trends for many issues.

The detailed baseline description in the SEA Scoping Report highlights where there were deficiencies in available data or where data for the West Midlands region has been used as a substitute. Wherever trend data was available this has been included.

3.5.2 *Key Sustainability Issues and Baseline*

The key environmental and sustainability issues which have been identified through a review of baseline data are summarised in *Table 3.4*.

These key issues have been reviewed to ensure that all issues are reflected within the objectives of the appraisal framework (see *Section 3.6*).

Table 3.4 *Key Sustainability Issues*

Category	Key Issues	Likely evolution of baseline without implementation of the JMWMS
Waste	<p>In 2006-07 378,607 tonnes of household waste was collected in Herefordshire & Worcestershire, comprising 30% of the total waste stream, the remainder being principally commercial and industrial waste. In that year Herefordshire recycled or composted 26% of municipal waste, less than the England average (31%), while Worcestershire recycled or composted 32%. Landfill is still the predominant method of dealing with waste, with 62% of municipal waste and 62% of commercial waste being landfilled (2002/3). Only 3% of industrial waste was landfilled in 2002/3.</p>	<p>There will remain a reliance on landfill. Depositing waste at landfill will become increasingly expensive, which will mean higher costs, which in turn could lead to higher council tax.</p> <p>The market will lead waste disposal, not the Local Authority.</p> <p>Increase in the growth levels of waste production across all waste streams.</p> <p>No opportunity to promote waste as a resource.</p>
Climate Change	<p>Climate change is one of the greatest long-term challenges facing mankind. The UK has adopted stretching targets to reduce greenhouse gas emissions. Of the estimated 7 million tonnes of carbon dioxide emitted in the sub-region, 3% arose from waste treatment and disposal in Worcestershire and less than 1% in Herefordshire. Methane is also a potent greenhouse gas, arising in part from waste management, although figures are not available. About 300km² of the sub-region is likely to flood at least once in 100 years, representing 8% of the land area. The Vale of Evesham is among the driest areas of England and Wales. Other areas within the two counties may also potentially be affected by water shortages in the future.</p>	<p>If nothing is done to prevent an increase in amount of waste produced and if waste is not managed appropriately there will be an increase in CO₂ emissions attributable to Herefordshire & Worcestershire’s waste (including methane). These emissions will contribute towards increased magnitude of the effects of climatic change.</p> <p>If the JMWMS does not take predicted climate change into account, flooding, health and safety problems could occur or be exacerbated. e.g. increased risk of pests & disease associated with waste collection & disposal, increased fire, subsidence & instability risk on landfill.</p>
Transport	<p>There is relatively little traffic congestion on the road network, although there are a number of key areas of congestion including river crossings and within some urban areas. In Air Quality Management Areas (AQMAs) have been designated in Hereford and Leominster, that represent urban areas suffering from congestion where a build-up of traffic-based pollution particularly NO₂ may reach levels of concern. There is poor access to national rail services in Worcestershire and poor reliability on local rail services and currently there are no major rail freight facilities located within the county.</p>	<p>Potential inappropriate use of road network.</p> <p>Congestion in and around waste disposal sites.</p>
Growth with prosperity for all	<p>The efficiency of Herefordshire & Worcestershire’s labour market appears better in relative terms than both the West Midlands and England. The employment rate is higher than the regional and national averages.</p>	<p>Minimal impact.</p>

Category	Key Issues	Likely evolution of baseline without implementation of the JMWMS
Participation by all	Over 90% of households in Worcestershire are covered by kerbside recycling services, while just under 70% of households are covered in Herefordshire.	Lessens the opportunity for promoting waste minimisation, recycling and composting.
Technology, innovations and inward investment	Employment concentration in distribution, hotels and restaurants type activity is high in Worcestershire at 27% and 30% in Herefordshire, but a much lesser proportion of the local workforce is employed in banking, finance and insurance, highlighting the precedence of small scale firms in the county's banking and services sector.	Waste innovation and inward investment with regard to waste may not be promoted if there is no JMWMS in place.
Energy generation and use	There are a number of industrial and commercial installations in Worcestershire employing wind turbines, combustion of waste materials, biogas and clean biomass. The largest remain those associated with landfill gas generation. Feasibility studies are currently being conducted that will increase current installations by approx 25MWe and 80MWt. In Herefordshire in 2006/07 planning permission was granted for a biomass power plant with a throughput of 90,000 tonnes pa of woodchip. 5 small- scale wind &/or solar developments were also approved.	<p>Amount of energy used in Herefordshire & Worcestershire is likely to increase, especially use of fossil fuels.</p> <p>It is likely that opportunities to produce energy from waste will be lost.</p> <p>Waste collection & disposal may not be energy efficient.</p> <p>It is likely that opportunities to use renewable energy to power waste collection vehicles, recycling & disposal could be lost.</p>
Landscape	Three areas within Herefordshire & Worcestershire are designated as Areas of Outstanding Natural Beauty (AONBs), due to their recognised high landscape interest. These are the Cotswolds, the Malvern Hills and the Wye Valley.	<p>Amount of waste produced may not be reduced. (Waste reduction is the most energy efficient method of managing waste).</p> <p>The creation of landfill sites would continue with the associated problems of landscaping and integration into the landscape. The creation of new, pronounced landforms associated with landfill sites can generally be integrated into the landscape as 'extensions' of similar adjacent topography, providing the appropriate tree cover and hedgerow structures can be introduced to them.</p>
Biodiversity, flora and fauna	In March 2005, 19% of Sites of Special Scientific Interest (SSSI) in Herefordshire and 72% in Worcestershire were in a good condition. There are 6 Special Areas of Conservation (SACs), 7 National Nature Reserves (NNRs) and 31 Local Nature Reserves in the sub-region, and almost 19,000 ha of ancient semi natural woodland. The local Biodiversity Action Plans provide a plan of action for 8 priority habitats and 16 priority species in Worcestershire, and 21 priority habitats and 156 priority species in Herefordshire.	Degradation of wider biodiversity interests arising from direct and indirect impacts of the waste management infrastructure.

Category	Key Issues	Likely evolution of baseline without implementation of the JMWMS
Natural Resources (air, water and soil)	<p>Six air quality management areas (AQMA) declared due to poor air quality, all associated with busy arterial and main roads.</p> <p>The water quality of the majority of rivers within Herefordshire & Worcestershire are judged in good condition. Kidderminster and Bromsgrove overlie a major aquifer of high vulnerability which spreads south along the line of the Severn.</p> <p>The majority of land is grade 3 agricultural land classification but Herefordshire and Worcestershire also contain a high proportion of grades 1 and 2 land compared to the rest of the West Midlands region.</p>	<p>Without the JMWMS, facilities may be built in urban areas that may give rise to traffic congestion. This in turn could lead to air pollution.</p> <p>Even without the JMWMS water pollution controls would largely be met through existing environmental controls and legislation.</p> <p>Potential land contamination by inappropriate/illegal disposal of waste and contaminants.</p>
Access to services	Nearly 40% of areas in Worcestershire are ranked within the top 20% most deprived areas nationally in terms of distance to basic services, while over 60% of areas in Herefordshire are within this category.	There will be no incentive for developers to include bring sites within their housing developments.
Health	The healthy life expectancy of people living in Worcestershire is approximate to the English average whereas that of Herefordshire residents is above average.	People's mental health may decrease if the environment they live in suffers from fly tipping due to insufficient infrastructure being where people can dispose of rubbish.
Provision of housing	3,075 houses are described as being overcrowded in Herefordshire and 9244 houses in Worcestershire. 1.0% of households in Herefordshire & Worcestershire do not have their own bath/shower and toilet, and 16.7% do not have central heating.	No impact
Learning and skills	<p>The proportion of the economically active population with either a Level 4 or Level 3 qualification is higher than the regional average in the sub-region, at 29% in Herefordshire and 48% in Worcestershire. The proportion with no qualifications is the same as the regional average at 12%.</p> <p>Employment projections show that between 2004 and 2014 it is expected there will be steady employment growth in Herefordshire and Worcestershire. Projections indicate that there will be a decline in employment within the primary sectors, including agriculture, engineering and other manufacturing and construction. However in 2007, 56% of Herefordshire's businesses responding to the Chamber of Commerce Quarterly Economic Survey, reported having trouble recruiting skilled manual/technical workers.</p>	Without the promotion of new high technology waste management solutions, skills in this sector are unlikely to be affected.
Sustainability Issue: Cultural Heritage, built design and archaeology	Over 12,000 listed buildings, 443 Scheduled Ancient Monuments, 211 conservation areas, 2 registered battlefields, 39 historic parks and gardens, and 39,000 entries on county historic sites records. In 2005, 36 buildings of grade I and II* were classified as being at risk.	Minimal impact.

Category	Key Issues	Likely evolution of baseline without implementation of the JMWMS
Material assets (including land use & local amenity)	<p>Construction aggregates make up most of the mineral output of Worcestershire. The known mineral resources in Herefordshire are relatively limited in range, primarily consisting of aggregates.</p> <p>Housing developments on previously developed land accounts for 42% of the total land take in Worcestershire and 71% in Herefordshire.</p> <p>The enjoyment of the countryside is a key pull factor for many visitors to Herefordshire & Worcestershire.</p>	Use of primary aggregates will continue to increase.
Anti social behaviour, crime, litter and graffiti	<p>There was a 2.1% decrease in recorded crime in Worcestershire between 2005/06 and 2006/07. In Herefordshire the number of crimes fell by 22% between 2001-02 and 2005-06. The most common type of crime was criminal damage.</p>	No impact.

3.5.3

Areas Likely to be Significantly Affected

The SEA has considered the areas likely to be significantly affected by implementation of the JMWMS, in order to identify the sustainability characteristics of those areas. In reality, the effects of implementation of the JMWMS can be considered on two levels.

First, the overall effects will be spread throughout the two counties, because waste arises almost everywhere, waste transport will occur throughout the sub-region and the some of the impacts of waste management activities will be widespread and borne by all. In this case, the relevant sustainability characteristics are those set out in the baseline above.

On another level, some of the effects of the management of waste will occur in the vicinity of waste management sites. The JMWMS does not address issues of site location, and therefore to a large extent it has not been possible in the assessment to deal with site-specific issues. The assessment has considered issues which may arise in the vicinity of sites in general, but consideration and control of issues at individual sites is the responsibility of the Waste Development Frameworks for Herefordshire and Worcestershire.

3.5.4

EU-Designated Sites Potentially Relevant to the JMWMS

There are five internationally designated sites within the sub-region, and there is the potential for sites to be affected by waste management activities within the two counties. The sites are listed below along with a description of the key sensitivities in relation to waste management¹.

- *River Wye SAC*. Water abstraction is a significant issue as well as water quality problems associated with sewage discharges. Possible that future abstraction of surface and groundwater may affect water levels at the site.
- *Wye Valley and Forest of Dean Bat Sites SAC*. Possible implications of land use change within foraging areas, particularly for greater horseshoe bats.
- *Wye Valley Woodlands SAC*. Site receives nitrogen deposition above critical load. Developments may exacerbate problem if they contribute to an increase in levels of NO_x emissions from transport or sites. There are possible in-combination effects on land use within foraging areas for bats.
- *Bredon Hill SAC*. Vulnerable to diffuse air pollution and direct land take. Any further increase in background levels of diffuse air pollution could have cumulative effects and exacerbate an adverse situation.
- *Lyppard Grange Ponds SAC*. Vulnerable to recreational disturbance and direct land take around the ponds. Site is not likely to be affected by waste management activities.

¹ *Habitats Regulations Assessment of the Phase II Revision of the Regional Spatial Strategy for the West Midlands*, URSUS Consulting Ltd Treweek Environmental Consultants, October 2007

In addition, two sites beyond the county boundaries could potentially be affected by activities within the counties:

- *Severn Estuary SPA/cSAC/Ramsar*. Severn system is under considerable pressure for water supply. Increased abstraction has the potential to affect its qualifying features due the current and future tension between providing water supply and maintaining minimum flows.
- *River Usk SAC*. Water quality is generally good throughout the main river, although increased abstractions and low flow are a cause for concern. The Wye Valley is an important source of water transfers to South East Wales¹ and any increased abstraction from the Wye Catchment could have knock-on effects for supply to the Usk.

3.6 APPRAISAL FRAMEWORK

The objectives identified as part of the above processes are listed in *Table 3.5* below. The proposed strategy and relevant options were assessed against these objectives to identify and evaluate the likely effects of the strategy. Text in italics represents additions as a result of comments received on the Scoping Report.

Table 3.5 *Appraisal Objectives*

1. Waste
Manage the waste streams in accordance with the waste hierarchy, encouraging reuse and recovery addressing waste as a resource
To minimise the production of waste generated
2. Climate Change
Reduce causes of and adapt to the impacts of climate change
Minimise biodegradable waste going to landfill
Maximise opportunities to generate power from methane at landfill sites
3. Traffic & Transport
To reduce the need to travel and move towards more sustainable travel patterns
Ensure the disposal of waste as close to point of origin as practicable and promote transfer of waste by rail or water transport where appropriate
4. Growth with prosperity for all
Develop a knowledge-driven economy, the infrastructure and skills base whilst ensuring all have access to the benefits urban and rural
To encourage business development within the waste sector to achieve Government targets for waste
To encourage rural regeneration
5. Participation by all
To provide opportunities for communities to participate in and contribute to the decisions that affect their neighbourhoods and quality of life, encouraging pride and social responsibility in the local community
To provide opportunities for communities to participate in and contribute to waste planning decisions
6. Technology, innovation & inward investment
Promote and support the development of new technologies of high value and low impact, especially resource efficient technologies and environmental technology initiatives
To make an economic gain from the recovery and treatment of waste streams wherever this is environmentally acceptable

¹ *The Wye Catchment Abstraction Management Strategy*, Environment Agency Wales, March 2008

7. Energy
Promoting energy efficiency and energy generated from renewable energy and low carbon sources
In accordance with waste hierarchy support the generation of energy from waste
8. Natural resources
Protect and improve standards of air, water and soil quality ensuring prudent use of natural resources
Minimise the creation of dust, odour and noise and other pollutants in the vicinity of waste station / facilities
9. Access to services
To improve the quality of and equitable access to local services and facilities, regardless of age, gender, ethnicity, disability, socioeconomic status or educational attainment
To improve accessibility to kerbside recycling and Household Waste Sites
10. Landscape
Safeguard and strengthen landscape character and quality
Encourage design that reduces visual intrusion and is sensitive to the local vernacular, as defined by the county landscape character assessment, <i>county historic landscape characterisation</i> and conservation area appraisals
11. Biodiversity / Geodiversity / Flora / Fauna
To conserve and enhance biodiversity and geodiversity
To assist in meeting Biodiversity Action Plan targets during the lifetime of the JMWMS
12. Health
To improve the health and well being of the population and reduce inequalities in health
To limit environmental impacts of waste treatment facilities on the local population including pest species at landfill sites
To reduce respiratory diseases/allergy related illness
13. Provision of housing
Provide decent affordable housing for all, of all the right quality and tenure and for local needs, in clean, safe and pleasant local environments
Encourage the use of sustainable building technologies in new housing developments in particular the re-use of construction and demolition waste
Promote the provision of recycling facilities within new housing developments
14. Learning and skills
To raise the skills level and qualifications of the workforce
To encourage engagement in community/environmentally responsible activities
15. Cultural heritage, architecture and archaeology
Conserve and enhance the architecture, cultural and historic environment heritage and seek well designed, resource efficient, high quality built environment in new development proposals
Promote design concepts for new buildings that are informed by the local vernacular
The siting of new waste management facilities should not have a detrimental effect on the setting and in-situ conservation of historic buildings, areas, landscapes or archaeological remains
16. Material assets
Ensure efficient use of land through safeguarding of mineral reserves, the best and most versatile agricultural lands, lands of green belt value, maximising use of previously developed land and reuse of vacant buildings, where this is not detrimental to open space, biodiversity interest or <i>the historic environment</i>
To support the reuse of construction materials
To protect land from contamination arising from waste
To restore landfill sites to amenity purposes.
17. Crime
Reduce crime, fear of crime and antisocial behaviour
Reduce the number of fly tipping incidents
18. Flooding
Ensure inappropriate development does not occur in high risk flood areas and does not adversely contribute to fluvial flood risks or contribute to surface water flooding in all other areas
Ensure development does not occur in flood risk areas

It should be noted that in the Scoping Report, the above list of appraisal objectives represented a prioritisation of the objectives in order of numbering

with 1 the highest priority and 18 the lowest. However, this was a cause of concern for some stakeholders who were consulted on the Scoping Report, as some objectives had been assigned a low priority and this was felt to be incorrect. It was decided that, for the appraisal of the JMWMS, the concept of prioritisation of objectives should be removed. The reason for this is that the SEA Directive requires the appraisal to be based on an assessment of the significance of the *effects* of the JMWMS, rather than the relative importance or significance of the objectives.

3.7 Appraisal of Options INTRODUCTION

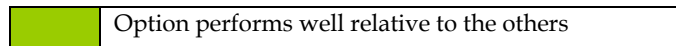
This section sets out the results of the appraisal of minimisation, recycling and residual treatment options, showing the assessment of the effects of each of the options against the objectives of the appraisal framework. It summarises the key findings which have emerged from the appraisal where significant effects are predicted.

The following symbols have been used to indicate the broad nature of the predicted effect:

- + effect likely to be positive
- effect likely to be negative
- 0 no significant effect
- ? effect unknown

Multiple symbols have been used (eg ++) to indicate a different scale of impact relative to the other options, in other words where the impacts of an option are *significantly* better or worse than others.

The *Tables* include an assessment of where particular options perform notably well relative to the other options:



3.8 MINIMISATION OPTIONS

3.8.1 *The Options*

In Herefordshire and Worcestershire, a range of initiatives are already in place for minimising the amount of waste generated in the two counties. In considering further options for waste minimisation, the Joint Forums have therefore examined the potential for enhancements to the current initiatives to achieve improved performance. The aim is to identify where resources can be focused in order to achieve the best overall result.

Enhancements were considered for the following initiatives:

- Home composting
- Food waste reduction campaign
- Re-use initiatives
- Promoting sink disposal units
- Home shredding service for green waste
- Junk mail reduction campaign
- Real Nappy Project and Real Nappy Incentive Scheme
- Waste collection policies e.g. side waste restrictions

Table 3.6 shows how the different options perform against those appraisal objectives where there is a significant effect. For several of the objectives, the minimisation options have no effect or the effect would be insignificant.

The results show that enhancement of home composting activity (option A) would produce the greatest benefits against a large number of sustainable development objectives. It will enable the greatest degree of minimisation, allowing the greatest reduction in waste transport and in landfill of biodegradable waste. This scheme involves the greatest amount of participation by the public, and by making alternative soil improvers available it will reduce consumption of natural resources and may help to increase biodiversity. Finally, it is estimated to provide the greatest economic gain.

Additional efforts to minimise the amount of food waste (option H) would also provide a significant range of benefits, although not to the same degree as home composting. It produces the second highest reduction in waste, reducing the need for waste transport and landfill, while also providing a large economic gain.

The performance of the other proposed service enhancements are more mixed. Enhancing reuse initiatives (option G) provides good opportunities for participation and access to services, and while it provides a degree of minimisation, it has a small net cost and is outperformed by other options against other sustainability criteria. Preventing junk mail (option E) and promoting smart shopping (option F) provide a similar level of minimisation to option G, while also helping to reduce waste transport and landfill of biodegradable waste and also providing an economic gain.

It is recommended that resources are focused as a priority on enhancing home composting and food waste reduction initiatives, with some additional effort directed to increasing junk mail prevention and promoting smart shopping as a secondary priority. Enhancing reuse initiatives could also be promoted as a third priority for their social benefits.

Table 3.6 Significant Effects of Minimisation Options

Appraisal objectives:	A Home composting	B Real nappies	C Sink Your Waste	D Home shredding	E Junk mail prevention	F Smart shopping	G Reuse initiatives	H Food waste	Comments
Implement the waste hierarchy	+++	+	+	+	++	++	++	+++	Option A provides the greatest opportunities to minimise waste, and option D the smallest. All options will achieve a smaller degree of minimisation in the short term.
Reduce causes of climate change	+++	++	++	++	++	+	0	+++	All options will reduce the emissions of CO ₂ from waste transport, and from landfill (with the exception of option G). Options A and H will minimise emissions.
Minimise landfill of biodegradable waste	+++	+	+	+	+	+	0	++	Options A and H give the greatest minimisation of landfill of biodegradable waste, although most options provide some reduction with the exception of option G.
Reduce the need to travel	+++	+	+	+	+	++	0	++	Options A, H and F contribute the greatest to reducing the need for waste transport by minimising the amount of waste to be collected. Option G will not remove the need for waste transport, and option B may not depending on the type of reuse schemes adopted by parents.
Make economic gain from waste	+++	-	+	-	+	++	-	+++	Options A and H provide the greatest estimated overall economic gain, followed by options F and E. Options B, D and G each have a small net cost.
Prudent use of natural resources	++	0	0	+	+	+	+	+	Green waste recycling will help to conserve natural resources by producing alternative soil improvers.
Improve access to services	0	0	0	+	0	0	++	0	Options D and G will make a small contribution to improving access to waste services. Option G can help to improve access to low-cost goods for disadvantaged individuals, groups, schools and charities.
Conserve and enhance biodiversity	+++	+	+	+	+	+	0	++	Increased composting will increase the availability of alternative soil improvers, so helping to reduce peat use and possibly improving garden biodiversity.
Encourage engagement in environmentally responsible activities	++++	+++	++	+	+++	+++	++++	+++	Options A and G provide the greatest opportunities to encourage engagement in responsible activities, by enabling, engaging, encouraging and exemplifying environmentally responsible behaviour.

3.9 RECYCLING OPTIONS

3.9.1 The Options

Existing recycling services in Herefordshire and Worcestershire consist of a range of kerbside collection services in the different authorities, including some green waste and food waste collections, together with recycling at bring sites and at Household Waste Sites. The recycling and composting options looked at different ways of enhancing those services, by combining the following service enhancements in different ways and comparing them to current service performance levels:

- Full core kerbside recycling service, involving collection of glass, paper and card, foil, cans and plastics across all authorities;
- Green waste collection in Bromsgrove;
- Paid-for green waste collection everywhere;
- Food waste collection in Wychavon;
- Food waste collection everywhere;
- Recycling street sweepings.

The following options have been devised:

Table 3.7 Recycling Options

	A	B	C	D	E	F	G	H	I
Status quo - current service levels	✓								
Full core kerbside recycling service		✓	✓	✓	✓	✓	✓	✓	✓
Green waste collection in Bromsgrove		✓							
Green waste collection everywhere			✓			✓	✓		✓
Food waste collection in Wychavon									✓
Food waste collection everywhere				✓		✓			
Recycling street sweepings					✓	✓	✓		✓

3.9.2 Appraisal Results

Table 3.8 shows how the different options perform against those appraisal objectives where there is a significant effect. For several of the objectives, the recycling options have no effect or the effect would be insignificant.

The option which includes the widest possible range of services (option F) secures most sustainability benefits, principally deriving from the recycling of significantly greater tonnages of biodegradable waste than other options, with collections of green and food waste across the whole of the two counties. However, it is expected to incur significant additional costs for food waste collections with additional vehicle fleet and manpower requirements.

Of the options which exclude area-wide food waste collections, options which have area-wide green waste collections (options C, G and I) secure more benefits overall than other options because of increased tonnages of waste recycled, principally biodegradable waste. Option I performs slightly better than option G due to the additional food waste collection in Wychavon which

secures slightly greater reductions of biodegradable waste, although this also has additional costs with additional vehicle fleet and manpower requirements.

It is worth noting that option D, the other option which includes food waste collection apart from F, does not achieve significantly greater benefits than options C, G or I.

Table 3.8 Significant Effects of Recycling Options

Appraisal objectives:	A Status quo	B Core + Broms green	C Core + paid green	D Core + food	E Core + street	F Core + paid green + food + street	G Core + paid green + street	H Core, no green	I Core + paid green + street + Wych food	Comments
Implement the waste hierarchy	+	++	++	++	++	+++	++	+	++	Option F recycles 38% more waste than the status quo. The next best performer is option I which recycles 25% more than the status quo (food collection only in Wychavon).
Minimise waste production	0	++	++	0	++	0	++	++	+	Options without a food collection will include schemes to encourage additional waste minimisation.
Reduce causes of climate change	+	++	++	++	++	+++	++	+	++	Options with higher recycling levels will contribute more to reducing greenhouse gas emissions through greater resource efficiency, although the difference in tonnages will mean a small difference in climate effects.
Minimise landfill of biodegradable waste	0	+	++	++	0	+++	++	0	++	Option F diverts 70% more biodegradable waste from landfill than the next best performing option (D), and over twice as much as option I (food collection only in Wychavon).
Encourage business development	0	+	+	++	+	++	+	+	++	Increased core recyclables collection services and food collection will indirectly help to encourage new businesses in waste recycling/processing.
Support development of new technologies	+	+++	+++	+++	++	+++	+++	++	+++	All options will indirectly help to promote technologies which increase resource efficiency, although these are not usually either high value or low impact. The main benefits will arise from increased core recyclables collections and diversion of biodegradable waste from the waste stream.
Make economic gain from waste	-	---	---	-----	--	-----	---	--	----	All basic collection services have a cost, however figures are not available for the expected cost of the various new services. Green waste collections will have some cost-recovery, although will still involve some costs to the counties. Food waste collections will involve significant cost by requiring additional fleet and manpower, estimated at 50% increase in costs. Recycling of street sweepings will involve minimal additional cost.
Prudent use of natural resources	0	+	++	++	0	+++	++	0	++	Green waste recycling will help to conserve natural resources by producing alternative soil improvers.
Improve access to services	0	++	++	+++	+	++++	++	+	++	All options apart from the status quo will increase kerbside recycling services. Food waste collections aim to secure 55% participation while green waste recycling will achieve around 10% participation.
Conserve and enhance biodiversity	0	+	++	++	0	+++	++	0	++	Increased recycling of green and food waste will increase the availability of alternative soil improvers, so helping to reduce peat use.
Encourage engagement in environmentally responsible activities	+	++	++	++	++	++	++	++	++	Provision of kerbside collection services encourages engagement in environmentally responsible activities. Additional core recyclables collections will increase basic participation, although additional collections of food and green waste are not likely to increase the number of households participating in recycling activities in addition to those separating recyclables for core services.

3.10 RESIDUAL TREATMENT OPTIONS

3.10.1 The Options

For residual waste treatment, a long list of generic technology types was considered, taking account of the range of possible technologies at various stages of development and implementation worldwide. This was then narrowed down taking account of the likely deliverability and appropriateness of the various technologies for the particular context in Herefordshire and Worcestershire.

In addition, consideration was given to the potential number and scale of facilities, in particular the possibility of delivering a residual treatment solution with smaller facilities on more than one site. An option for three or more facilities was dismissed as it was not considered appropriate for the capacity required in terms economies of scale and the risks associated with site availability and deliverability.

Currently the Partnership export residual waste to EfW facilities in the West Midlands. There are a number of operating and planned waste treatment facilities in the areas surrounding Worcestershire and Herefordshire. It was therefore deemed necessary to assess an option that utilises waste treatment capacity outside the Partnership area. This option was subjected to a sensitivity test to determine the extent to which its performance was affected by the nature of EfW plant rather than its location.

The final options considered for residual treatment technology are set out in the table below.

Table 3.9 Residual Treatment Technology Options

Option	Description
A	1 site Energy from Waste (EfW)
B	1 site EfW with Combined Heat and Power (CHP)
C	2 site Mechanical Biological Treatment with on-site combustion
D	2 site Mechanical Biological Treatment with off-site combustion
E	1 site autoclave
F	2 site autoclave
G	Out of county EfW
G2	Out of county EfW (alternative plant type)

3.10.2 Appraisal Results

Table 3.10 shows how the options compare in terms of relative performance to each other, for those appraisal objectives where the effects are significant and help to differentiate between the options. It should be noted that each of the technology options perform well against some objectives and less well against others, but that no one option performs better than the others consistently for all objectives.

However, the results show that a residual waste solution based on Energy from Waste with CHP (option B) provides the greatest sustainability benefits

in comparison to the other options, maximising performance against the waste hierarchy and minimising the landfill of biodegradable waste, while providing the greatest reduction of greenhouse gas emissions and also enabling the generation of renewable energy. It will also minimise the requirements for onward transport of process outputs. Whilst it does not offer a solution with the lowest total costs, it compares reasonably favourably to other options on cost.

The overall environmental burden will be reduced with option B, although not by as much as with autoclave (options E and F) or MBT (options C and D). Local emissions may give rise to environmental effects with all options, including effects on vegetation and ecosystems, but these could be minimised with autoclave or MBT technologies. However, the significance of any effects is strongly dependent on choice of location and on operational standards.

An option whereby waste is exported out of Herefordshire and Worcestershire to an EfW plant does not provide any benefits over and above those provided by EfW within the sub-region, and performs less well against a number of the appraisal objectives.

A solution involving autoclave technology will maximise performance against the waste hierarchy to a similar degree as EfW with CHP, while minimising the risk to the environment from emissions. However, autoclave performs less well against a number of other objectives including transport, climate change and energy generation.

Mechanical Biological treatment performs less well than either EfW or autoclave, and the effects vary depending on whether the output is burnt on- or off-site. However, like autoclave, it minimises the risk to the local environment from emissions.

Table 3.10 Significant Effects of Residual Treatment Options

Appraisal objectives	A: 1 site EfW	B: 1 site EfW with CHP	C: 2 site MBT (on site combustion)	D: 2 site MBT (off site combustion)	E: 1 site autoclave	F: 2 site autoclave	G: Out of county EfW	G2: Out of county EfW (sensitivity test)	Comments
Implement the waste hierarchy	++	+++	+	+	+++	+++	++	++	Options B, E and F perform best in terms of managing waste as high up the hierarchy as possible. Options C and D perform least well.
Reduce causes of climate change	+	+++	+	++	++	++	+	+	Option B makes the greatest contribution to reducing greenhouse gas emissions, with the largest net negative balance of all the options. Option G has a significant positive balance of greenhouse gas emissions, however all options are likely to reduce emissions of greenhouse gases from waste management, because of the increased levels of recycling and recovery involved.
Minimise landfill of biodegradable waste	+++	+++	+	+	++	++	+++	+++	Options A, B, G and G2 minimise the landfill of biodegradable waste. All options would meet the joint Herefordshire and Worcestershire LATS targets for 2020.
Reduce the need to travel	-	-	--	--	--	---	--	--	Options A and B require the smallest amount of waste transport, because they involve the smallest amount of onward transport of outputs to other destinations. Option F requires a relatively large amount of waste transport because of the large amounts of recycle to be transported from more than one facility. NB current levels of waste transport are unknown, but all options are likely to increase waste transport because of the need for onward transport of process outputs.
Ensure disposal close to origin	+	+	+	-	n/a	n/a	-	-	Neither options D, G or G2 will ensure disposal of waste as close to its origin as practicable, as it will be exported out of the sub-region for combustion. NB this assumes the definition of disposal to include EfW.
Economic gain	+++	++	+	+	++	++	++	++	Option A has the lowest total cost and options C and D the highest. However, figures do not include any income generated as it is impossible to make reliable future predictions.
Promote renewable energy generation	0	++	+	0	0	0	0	0	Option B will qualify for more Renewables Obligation Certificates than option C. No other options will generate energy which qualifies, other than from landfill gas. However, this will reduce over time with the increased diversion which each option allows, and furthermore the eligibility of landfill gas for ROCs will also reduce.
Support energy generation from waste	++	+++	++	+++	+	+	++	++	Option D recovers the most energy, closely followed by option B. These two recover significantly more energy than the other options.
Protect and improve environmental quality	-	+	++	++	+++	+++	--	--	Options E and F make the largest contribution to improving environmental standards, as they produce the largest net reductions in aquatic ecotoxicity, eutrophication and acidification. Options C and D also have a relatively large net reduction in aquatic ecotoxicity and acidification, but increase eutrophication. Options A, G and G2 are net contributors to acidification as well as eutrophication.

Appraisal objectives	A: 1 site EFW	B: 1 site EFW with CHP	C: 2 site MBT (on site combustion)	D: 2 site MBT (off site combustion)	E: 1 site autoclave	F: 2 site autoclave	G: Out of county EFW	G2: Out of county EFW (sensitivity test)	Comments
Minimise local emissions	--	--	-	--	-	-	---	--	Options C, E and F produce the lowest levels of NOx and PM10s, minimising the emission of these key pollutants in the vicinity of waste facilities. Options D and G produce the highest levels of emissions.
Conserve and enhance biodiversity	--	--	-	--	-	-	---	--	Options C, E and F minimise emissions of nitrogen oxides, which in some parts of Herefordshire and Worcestershire are predicted to be above the standard for the protection of vegetation and ecosystems in 2010. Option G produces significantly higher levels of NOx emissions than the other options, although not all of these will be emitted in Herefordshire and Worcestershire.

4.1 INTRODUCTION

This section sets out the results of the appraisal of the draft Headline Strategy as at 26 January 2009. It summarises the results of the assessment of principles, policies and targets, making a prediction of the likely effects of the draft strategy. Recommendations are made where appropriate for amendments to the strategy in order to mitigate the likely negative effects or maximising the opportunities for benefits.

4.2 APPRAISAL OF PRINCIPLES

4.2.1 Process

Government guidance recommends that the SEA should undertake a compatibility analysis between the aims of the draft Headline Strategy and the SEA appraisal objectives. This has been undertaken and the results are set out in detail in *Annex B* and summarised here.

The purpose of the exercise is to determine whether the objectives of the draft Headline Strategy will contribute to sustainable development, and to identify any potential incompatibilities between the principles of the strategy and sustainable development policy objectives. To do this, the principles have been compared with each of the SEA appraisal objectives and an assessment made of the likelihood that the draft Strategy will contribute to the achievement of each objective for sustainable development.

4.2.2 Results

There are a small number of incompatibilities between the principles of the draft Strategy and the appraisal objectives, although it is not recommended that any action is taken to address this. Specifically, reducing the landfill of biodegradable waste will reduce opportunities to generate energy from landfill gas. However, diversion from landfill should not be avoided because diversion gives rise to a number of benefits.

There are a number of areas of uncertainty arising out of the compatibility assessment. The main reason for this is that the appraisal objectives are more detailed and specific than the principles of the Strategy, which are expressed in more general terms. It is therefore not known whether or not there are likely to be specific sustainability impacts. It is only possible to make a meaningful appraisal by assessing the detailed policies and targets of the Strategy. Amendments to the overarching principles are therefore not recommended. The areas of uncertainty specifically relate to transport impacts, energy recovery, and specific environmental impacts including biodiversity, historic assets, landscape and other land-based assets.

There are a number of sustainability objectives which are not dealt with or affected in any foreseeable way by the strategic principles, but in each case the objectives are largely outside of the scope of the JMWMS and therefore no recommendations are made for additional principles to cover these objectives. These relate to design issues, Biodiversity Action Plan targets, the provision of decent and affordable housing, use of sustainable construction techniques, raising workforce skills and qualifications and restoration of landfill sites.

4.3 APPRAISAL OF POLICIES AND TARGETS

The detailed policies and their associated targets have been appraised against the framework of sustainable development objectives, taking into account the additional information provided in the supporting text as context to the policies. Results, policy by policy, are set out in *Annex C*.

The following symbols have been used to indicate the broad nature of the predicted effect:

+	Effect likely to be positive
-	Effect likely to be negative
0	No significant effect
?	Effect unknown
∅	Not relevant

An assessment is also made of the significance of effects based on a number of criteria (see *Section 2.3*), and is indicated by colour:

	Not relevant
	No significance
	Medium significance
	High significance

A summary of the overall effects of implementing the draft Headline Strategy is set out in *Table 4.1*, and recommendations made for mitigating negative effects or maximising opportunities for benefits.

4.3.1 Summary of Results

The Strategy has a very strong commitment to promoting the waste hierarchy, with a range of policies and targets addressing all aspects of the hierarchy. This will enable it to promote greater resource efficiency and to contribute to a reduction in greenhouse gas emissions from waste management activity, which will be partially reinforced by the adoption of a target for emissions from collection. As a component of the hierarchy, energy recovery will be promoted in preference to landfill, although no particular commitments are made to energy recovery in the Strategy.

In order to achieve the waste hierarchy, the Strategy will seek to improve access to waste services and promote greater public participation in environmentally responsible activities. It will also indirectly support business

growth in the waste sector and the development of new resource-efficient technologies.

The effect of the Strategy on traffic and transport is unclear. Increased recycling and recovery could lead to greater waste transport distances, as it will increase the tonnages of recyclables to be delivered to appropriate facilities and will also increase the onward transport of process outputs. Conversely, better waste minimisation will help to reduce the need for transport. The Strategy has a clear commitment to minimise the amount of waste transport required, although it lacks detail in the supporting text as to how this is likely to be achieved. Greater certainty could be provided with information about the steps to be taken to achieve the aim of fewer 'waste miles'.

Promoting recovery of resources from waste will require construction of new facilities, particularly treatment facilities which are likely to be within Herefordshire and Worcestershire. This will increase emissions in the vicinity of facilities and may have effects on environmental and historic assets. The significance of these impacts is unknown and depends strongly on local conditions, on planning and development control and on operational standards, factors which are outside the scope of the JMWMS.

4.3.2 *Recommended Mitigation*

It is recommended that to address the predicted adverse effects of the JMWMS and to capitalise on opportunities for benefits, the following additional measures are included either through new policy or through commitments within the supporting text.

- *Transport and accessibility.* The supporting text to the transport policy should clarify that waste miles will be reduced by the appropriate choice of location for facilities, by promoting local recycling/composting and treatment capacity where this is practicable and by seeking to use alternatives to road where practicable. Bring facilities should be located close to centres of population and other local facilities, and the strategy should commit to ensuring good accessibility to Household Waste Sites across the two counties, providing new sites where required.
- *Commercial sector engagement.* The strategy should give a clearer commitment to commercial sector engagement, both producers and processors. In particular, there should be a clear policy to promote increased recycling by commercial waste producers, as well as support and engagement with waste processors.
- *Energy recovery.* Include policy or supporting text to promote energy recovery wherever practicable, including from landfill gas.
- *Fly-tipping.* The strategy should include measures to reduce fly-tipping, for example by making reference to such measures in supporting text.

The effects of the JMWMS on a number of objectives is unclear, because these are dependent on the location and design of facilities which are outside the scope of the JMWMS. Appropriate steps are required to ensure that land use plans in Herefordshire and Worcestershire take account of the following issues in the location and design of facilities and prevent adverse impacts:

- Local environmental conditions and effects on air, water and soil.
- Landscape impacts
- High standards of design.
- Potential biodiversity sensitivities
- The historic environment, historic assets and their setting.
- The environmental value of land
- Flood risk and resilience.

In addition, Environmental Impact Assessments to accompany planning applications must assess the impacts of air emissions and disturbance on biodiversity.

Table 4.1 Summary of Significant Effects of Draft Headline Strategy

Appraisal objectives	Assessment	Mitigation
Promoting the waste hierarchy	+ The Strategy has a very strong commitment to promoting the waste hierarchy, with a range of policies and targets addressing all aspects of the hierarchy.	None
Reducing the causes of climate change	+ The Strategy has a clear commitment to reducing greenhouse gas emissions from waste management activities. It will achieve this through greater prevention, reuse, recycling and treatment, and by adopting a target for reducing emissions from waste collection. The Strategy also commits to minimising waste miles which will reduce greenhouse gas emissions from transport, and it will also reduce the landfill of biodegradable waste through prevention and recycling measures. It does not require energy generation from landfill gas, however this is already required by the Environment Agency unless there are exceptional circumstances.	None
Reducing traffic and transport	? Through increased waste prevention the Strategy will reduce the need for waste to be transported. However, increased recycling and treatment may result in greater amounts of waste transport overall as it will increase the tonnages of recyclables to be delivered to appropriate facilities, and also increases the onward transport of process outputs. The Strategy has a clear commitment to minimise the amount of waste transport required, although it lacks detail in the supporting text as to how this is likely to be achieved.	The supporting text to the transport policy should clarify that waste miles will be reduced by the appropriate choice of location for facilities, by promoting local recycling/composting and treatment capacity where this is practicable and by seeking to use alternatives to road where practicable. Bring facilities should be located close to centres of population and other local facilities.
Encouraging business development	+ There is a clear commitment to working with other organisations such as the voluntary and community sectors and contractors in order to support markets for recycled products. The Strategy will also indirectly support business development by increasing the need for waste management facilities to be provided. It also encourages reuse and recycling by the commercial sector, although it is not clear whether this will be directed at waste producers or waste processors. The supporting text indicates that the councils will seek greater recycling by the commercial sector.	The strategy should give a clearer commitment to commercial sector engagement, both producers and processors. In particular, there should be a clear policy to promote increased recycling by commercial waste producers, as well as support and engagement with waste processors.
Participation in decision-making	0 The Strategy is unlikely to significantly affect public participation in decision-making, although this is largely outside its remit. However, adopting a transparent approach to performance monitoring may indirectly support community participation in decision-making by providing knowledge and information in support of that.	None
Promoting new technologies	+ Moving the management of waste up the waste hierarchy is likely to require new economic enterprises in waste recycling and treatment within the counties and elsewhere. This may help to support the development of new methods of managing waste which will enable greater resource efficiency, and to make an economic gain from marketing recycled products. It may also allow LATS permits to be sold, enabling an economic gain to be	The strategy should give a clearer commitment to commercial sector engagement, both producers and processors. In particular, there should be a clear policy to promote increased recycling by commercial waste producers, as well as support and engagement with waste

Appraisal objectives	Assessment	Mitigation
	made from the recovery and treatment of waste. The Strategy also encourages reuse and recycling by the commercial sector, although it is not clear whether this will be directed at waste producers or waste processors. If waste processors, then this may help to promote the development of new technologies.	processors.
Energy efficiency and generation	? The Strategy commits to the waste hierarchy, including the promotion of energy recovery in preference to landfill. In addition, promoting greater waste minimisation will help to reduce the demand for energy for waste transport and processing. However, there is no other reference to the recovery of energy where practicable. In order to achieve the targets for recovery and to reduce CO ₂ emissions the strategy may promote energy recovery, although this is not explicit.	Include policy or supporting text to promote energy recovery wherever practicable, including from landfill gas.
Protecting natural resources	+/? Promoting the waste hierarchy will help to promote more sustainable use of natural resources by reducing the demand for virgin materials and avoiding the need for extraction and processing. Greater minimisation, reuse and recycling may also help to reduce the risk of pollution in the vicinity of waste management facilities although this is more strongly dependent on operational standards. However, promoting recovery of resources from waste will require construction of new treatment facilities which are likely to be within Herefordshire and Worcestershire, which will increase emissions in the vicinity of facilities. The significance of the impacts of these emissions depends on local conditions and on operational standards. Some areas particularly within Bromsgrove and Wychavon have poor air quality that exceeds standards for NO _x for protection of vegetation and ecosystems.	Ensure that the location and design of waste treatment facilities takes account of local environmental conditions and prevents adverse impacts on air, water and soil.
Improving access to services	+ The Strategy contains a range of commitments which will improve the quality and accessibility of services, including waste minimisation, kerbside recycling and bring sites. Household Waste Sites are likely to provide improved facilities although their accessibility is unlikely to change. Implementing minimisation initiatives will also increase access to low-cost goods for disadvantaged individuals, groups, schools and charities. However, the Strategy also plans to restrict residual waste collection services which can be perceived as a reduction in service availability.	The strategy should commit to ensuring good accessibility to Household Waste Sites across the two counties, providing new sites where required.
Protecting landscape	? Increasing recycling and recovery will require new waste management facilities to be constructed. These may have effects on landscape character, depending on where they are located and standards of design. However, this is principally a matter for planning and development control.	Ensure land use plans take account of landscape impacts in identifying locations for facilities and require high standards of design.
Conserving and enhancing biodiversity	+/? Reducing the need for landfill by implementing the waste hierarchy will help to reduce the risk of water pollution which may have local benefits for aquatic biodiversity, although this is also dependent on operational standards. Increased home composting may help to increase garden biodiversity. However, developing new recycling and residual treatment	Potential biodiversity sensitivities should be taken into account in selection of suitable sites, and EIAs should assess the impacts of air emissions and disturbance on biodiversity.

Appraisal objectives	Assessment		Mitigation
and geodiversity		capacity may have adverse impacts in terms of increased air emissions and landtake, although the significance of effects is unknown and dependent on locations and types of technology employed. Higher tonnages sent for recycling and treatment is also likely to increase emissions from waste transport, although this is unlikely to be significant in terms of transport overall in Herefordshire and Worcestershire. Some areas particularly within Bromsgrove and Wychavon have poor air quality that exceeds standards for NOx for protection of vegetation and ecosystems.	
Protecting and improving health	+	By aiming to move waste management up the hierarchy, the strategy is likely to ensure any risks to human health are minimised by reducing the quantity of waste requiring disposal. New recycling and treatment facilities will need to be constructed, however exposure to risks is unlikely to be significant and it is primarily dependent on operational standards at individual facilities. Current pollution control techniques and standards should ensure that developments pose a very small or no risk to human health.	None
Promoting facilities within new developments	+	The Strategy explicitly seeks to provide minimisation and recycling facilities in new developments. This could incorporate bring sites, although this is not explicitly promoted by the policy.	Supporting text to policy 21 could promote the location of bring sites within larger developments. The Strategy could also seek the provision of facilities in commercial developments.
Raising skills and encouraging participation	+	Promoting more minimisation and recycling and improving the quality and accessibility of services will require the councils to encourage engagement in environmentally responsible activities, and this is actively promoted by the Strategy. In addition, by supporting reuse of goods and materials, the policy can make an indirect contribution to developing skills in product reconditioning and refurbishment. The adoption of sustainable procurement will help to promote more environmentally responsible activities by council staff, and potentially also by suppliers.	None
Protection of built and historic environment	?	Achieving the targets for recovery will require new treatment facilities to be constructed within Herefordshire and Worcestershire. It may also require new recycling and composting facilities including bring sites. New facilities and sites could have a detrimental effect on the historic environment and landscapes depending on where they are situated and standards of design and construction. However, this falls within the remit of planning and development control.	Ensure planning policy takes appropriate account of the historic environment in location and design and that sites and facilities do not negatively affect historic assets or their setting.
Efficient use of land-based assets	?	By reducing the landfill of waste, the policy will ensure the most efficient use of landfill space, which will help to protect land-based assets in the two counties. Increased recovery will require new facilities to be constructed but these will have a much smaller footprint than landfill sites. A new facility could have effects on land-based assets such as green belt or on use of previously developed land, but this depends on location and design which are principally a matter for planning and development control.	Ensure land use plans take account of the type and value of land in identifying locations for facilities and require high standards of design.

Appraisal objectives	Assessment		Mitigation
Reducing fly-tipping	?	By providing improved quality of some services such as at Household Waste Sites and to continue to provide bulky waste collections and promote their use, the Strategy may help to reduce the incidence of fly-tipping. Promoting awareness of waste issues may also indirectly help to reduce fly-tipping by changing attitudes to waste and its impacts. However, restricting residual waste collections may increase the incentive for householders to fly-tip waste.	The strategy should include measures to reduce fly-tipping, for example by making reference to such measures in supporting text.
Avoiding flood risk	?	Reducing the landfill of waste by increasing recovery will require new treatment facilities to be built. The location of this may affect flood risk depending on location and standards of design but this is a matter for planning and development control.	Ensure land use plans take account of flood risk in identifying locations for facilities and require high standards of design.

5.1 PROPOSALS FOR MONITORING AND INDICATORS

Table 5.1 contains recommendations for monitoring the significant effects of implementation of the JMWMS. These indicators should be included within a programme of annual monitoring to allow the Partnership to identify the impact of implementing the strategy and to respond if necessary to any adverse impacts. This should be integrated wherever feasible and practicable with other waste monitoring programmes by the partners, for example on minimisation and recycling activities, to enable the wider context to be understood.

Monitoring of strategy implementation should focus on its effectiveness in several key areas:

- the achievement in managing waste at levels of the waste hierarchy, including in relation to past performance to show improvement;
- the effects on waste transport in terms of waste distances and vehicle movements;
- access to and participation in reuse and recycling/composting services;
- reporting on the councils' waste-related activities, including costs and effectiveness.
- the capacity of recycling, composting and treatment facilities in Herefordshire and Worcestershire
- the performance of treatment and disposal facilities, including impacts of activities and energy generation.

Table 5.1 Recommendations for Monitoring

Policy	Recommended monitoring indicators
Policy 1: Waste Hierarchy	Tonnes of MSW managed at different hierarchy levels, including trends to show performance improvement: <ul style="list-style-type: none"> • arisings • recycled/composted • sent for treatment • used to recover energy • disposed to landfill • MW of energy generated from residual treatment and landfill Waste transport: <ul style="list-style-type: none"> • Vehicle movements • Tonne-km travelled
Policy 2: Value for Money	Report on annual cost of waste management services, by type of service, total and per tonne of MSW
Policy 3:	Tonnes of MSW managed at different hierarchy levels, including trends to

Policy	Recommended monitoring indicators
Customer Needs	show performance improvement: <ul style="list-style-type: none"> • arisings • recycled/composted Waste transport: <ul style="list-style-type: none"> • Vehicle movements • Tonne-km travelled % of households covered by collection services, by type of recyclable.
Policy 4: LAA Targets	Tonnes of MSW managed at different hierarchy levels, including trends to show performance improvement: <ul style="list-style-type: none"> • Arisings, total and per head • recycled/composted • sent for treatment • used to recover energy • disposed to landfill
Policy 5: Sustainable Procurement	Report on in-house waste management and procurement practices
Policy 6: Performance Monitoring	No specific indicators
Policy 7: Climate Change	Tonnes of MSW managed at different hierarchy levels, including trends to show performance improvement: <ul style="list-style-type: none"> • arisings • recycled/composted • used to recover energy • BMW disposed to landfill • MW of energy generated from residual treatment and landfill Waste transport: <ul style="list-style-type: none"> • Tonne-km travelled
Policy 8: Core Collection Service	Tonnes of MSW managed at different hierarchy levels, including trends to show performance improvement: <ul style="list-style-type: none"> • arisings • recycled/composted • BMW disposed to landfill Waste transport: <ul style="list-style-type: none"> • Vehicle movements • Tonne-km travelled % of households covered by collection services, by type of recyclable No. of fly-tipping incidences
Policy 9: Waste Reduction Initiatives	Tonnes of MSW managed at different hierarchy levels, including trends to show performance improvement: <ul style="list-style-type: none"> • arisings Report on levels of participation in minimisation schemes, by type of scheme
Policy 10: Green and Kitchen	Tonnes of MSW managed at different hierarchy levels, including trends to show performance improvement:

Policy	Recommended monitoring indicators
Waste	<ul style="list-style-type: none"> • arisings • BMW disposed to landfill <p>Report on levels of participation in green and kitchen waste minimisation schemes, by type of scheme</p>
Policy 11: Producer Responsibility	<p>Tonnes of MSW managed at different hierarchy levels, including trends to show performance improvement:</p> <ul style="list-style-type: none"> • Arisings by type of material (packaging)
Policy 12: Reuse	<p>Tonnes of MSW managed at different hierarchy levels, including trends to show performance improvement:</p> <ul style="list-style-type: none"> • Reuse <p>Report of activities with third sector and contractors to promote reuse, including expenditure and types of organisations supported.</p>
Policy 13: Achieving Targets	<p>Tonnes of MSW managed at different hierarchy levels, including trends to show performance improvement:</p> <ul style="list-style-type: none"> • Arisings, total and per head • recycled/composted • sent for treatment • used to recover energy • disposed to landfill • BMW disposed to landfill <p>Waste transport:</p> <ul style="list-style-type: none"> • Vehicle movements • Tonne-km travelled <p>% of population living within 10km of Household Recycling Centre</p> <p>% of population living within 1km of bring facility</p> <p>Capacity of waste management facilities in H&W: recycling, composting, residual treatment</p> <p>Report on facilities compliance with consent conditions, including air emissions and water discharges</p> <p>Report on levels of participation in reuse and recycling schemes, by type of scheme</p>
Policy 14: Bring Sites	<p>Tonnes of MSW deposited at bring sites</p> <p>Waste transport:</p> <ul style="list-style-type: none"> • Vehicle movements • Tonne-km travelled <p>% of population living within 10km of Household Recycling Centre</p> <p>% of population living within 1km of bring facility</p>
Policy 15: Household Recycling Centres	<p>Tonnes of MSW recycled/composted at Household Recycling Centres</p> <p>Waste transport:</p> <ul style="list-style-type: none"> • Vehicle movements • Tonne-km travelled <p>% of population living within 10km of Household Recycling Centre</p> <p>No. of fly-tipping incidences</p>
Policy 16: Waste	<p>Tonnes of MSW managed at different hierarchy levels, including trends to show performance improvement:</p>

Policy	Recommended monitoring indicators
Treatment	<ul style="list-style-type: none"> • sent for treatment • used to recover energy • BMW disposed to landfill <p>Waste transport:</p> <ul style="list-style-type: none"> • Vehicle movements • Tonne-km travelled <p>Report on facilities compliance with consent conditions, including air emissions</p>
Policy 17: Disposal	<p>Tonnes of MSW managed at different hierarchy levels, including trends to show performance improvement:</p> <ul style="list-style-type: none"> • disposed to landfill • BMW disposed to landfill • MW of energy generated from landfill <p>Report on facilities compliance with consent conditions, including air emissions and water discharges</p> <p>% of households covered by collection services, by type of recyclable</p> <p>% of population living within 10km of Household Recycling Centre</p> <p>% of population living within 1km of bring facility</p> <p>Waste transport:</p> <ul style="list-style-type: none"> • Vehicle movements • Tonne-km travelled
Policy 18: Awareness Raising	<p>Tonnes of MSW managed at different hierarchy levels, including trends to show performance improvement:</p> <ul style="list-style-type: none"> • Arisings, total and per head • Reuse • recycled/composted • BMW disposed to landfill <p>Waste transport:</p> <ul style="list-style-type: none"> • Vehicle movements • Tonne-km travelled <p>% of households covered by collection services, by type of recyclable</p> <p>% of population living within 10km of Household Recycling Centre</p> <p>% of population living within 1km of bring facility</p> <p>Report on levels of participation in reuse and recycling schemes, by type of scheme</p> <p>No. of fly-tipping incidences</p>
Policy 19: Promotions	<p>Report on levels of participation in reuse and recycling schemes, by type of scheme</p>
Policy 20: Commercial and VCS Reuse and Recycling	<p>Tonnes of MSW managed at different hierarchy levels, including trends to show performance improvement:</p> <ul style="list-style-type: none"> • Reuse • recycled/composted <p>Tonnes of C&I waste recycled/composted, with trends to show performance improvement</p>

Policy	Recommended monitoring indicators
	Waste transport: <ul style="list-style-type: none"> • Vehicle movements • Tonne-km travelled No. of waste processors/handlers in H&W, by type of operation and whether commercial/VCS Report on levels of participation in reuse and recycling schemes, by type of scheme
Policy 21: Planning Process	Tonnes of MSW managed at different hierarchy levels, including trends to show performance improvement: <ul style="list-style-type: none"> • Arisings • recycled/composted Waste transport: <ul style="list-style-type: none"> • Vehicle movements • Tonne-km travelled Report on levels of participation in reuse and recycling schemes, by type of scheme
Policy 22: Strategic Alignment	No specific indicators
Policy 23: Transport	Waste transport: <ul style="list-style-type: none"> • Vehicle movements • Tonne-km travelled
Policy 24: Other Waste Streams	Tonnes of other waste streams managed at different hierarchy levels, including trends to show performance improvement: <ul style="list-style-type: none"> • Arisings • reuse • recycled/composted • sent for treatment • used to recover energy • disposed to landfill

Annex A

Consultation Comments on Scoping Report and Response

Table A.1 Scoping Report Comments and Response

Section of Report	Comment	Response
<i>Natural England</i>		
Section 4 SA objectives	Do not highlight biodiversity, fauna, flora, soil, water and air as topics requiring SEA	Agreed – now noted in scoping report
	Low priority ranking of natural resources, landscape and biodiversity is not supported	Agreed. Concept of ranking removed.
	Decision-aiding questions might be useful	Noted
Appendix 3 Review of PPPs	Omits Birds and Habitats Directives and NERC2006	Added to review
	Review of PPS9 omits key planning principles on conservation and enhancement of biodiversity and geodiversity	Agreed. Added to review
Appendix 4 Key Issues	No sources given for data	Sources for baseline data are given in Appendix 5.
	State of Natural Environment 2008 Report may be useful for informing SA	Noted
<i>Environment Agency</i>		
Appendix 3 Review of PPPs	Omits: <ul style="list-style-type: none"> • Worcs CC generic SA framework • SA of LDF Joint Core Strategy • SA of Herefordshire LDF 	Identified documents do not set the policy framework which is the purpose of Appendix 3.
Section 2 Policy Review	Issue 17 should include flooding from surface run-off. A target of 30% compared to current run-off rates should be adopted.	Agreed. Added surface run-off to issue 17, but achievement of the suggested target is largely outside the scope of the JMWMS and its contribution impossible to quantify.
Section 4 SA Framework	Issue 18. SFRAs for Herefordshire and Worcestershire Core Strategies will provide useful data to inform the JMWMS.	SFRAs will inform sequential approach to development decisions. However JMWMS does not identify locations for development.
	Issue 18. Support inclusion of this issue as it is a critical restraint for specific sites. Note categorisation of different waste facility types for compatibility with different flood zones.	JMWMS does not identify locations for development. This is the role of the CS.
	Issue 1 should include minimising waste	Issue 1 includes prevention
	Issue 8 is supported. Risk assessments should be included in appraisal. Precautionary approach of PPS23 should be noted.	Noted
Appendix 3 Review of PPPs	Data should be available on number of new homes built to BREEAM level 3	Not useful as an indicator as wholly outside remit of JMWMS.
	Hectares of contaminated land remediated could be collected.	SA will not carry out new data collection, however it may recommend data collection as part of monitoring implementation of strategy.
Appendix 5	PPS25 sequential test requires choice of	JMWMS will not choose sites

Baseline	sites at lowest risk of flooding.	for waste development
	Error on p51 – zone 1 is at lowest risk of flooding	Corrected to refer to flood zone 3
Appendix 6 Framework	Issue 1. Commercial waste should also be targeted, including minimisation at source	Agreed. Commercial waste added to indicators and targets.
	Issue 2. Need for monitoring location of waste facilities in flood zones	Location of facilities is not within the remit of the JMWMS
	Issue 7. BREEAM domestic standards should be included	Household energy use is wholly outside the remit of JMWMS.
	Issue 8. Groundwater should be included	Groundwater is included in definition of water quality and in indicators.
	Issue 18. Need for monitoring location of waste facilities in flood zones	Location of facilities is not within the remit of the JMWMS
	Use term 'flood risk', not 'flood prone'	Agreed. Term changed to flood risk.
	Note SUDS is helpful in mitigating climate change and reducing flood risk	Noted.
<i>Worcestershire Wildlife Trust</i>		
Appendix 3 Review of PPPs	Omits Habitats Directive	Added to review
	PPS9 review should include requirement to enhance biodiversity	Added to review
Appendix 5 Baseline	Special Wildlife Sites should be monitored in addition to SSSIs	Data will be added to baseline, but SA is unlikely to recommend JMWMS monitors numbers of SWSs as location of facilities is outside its remit.
<i>English Heritage</i>		
Review of PPPs	European Landscape Convention and Heritage White Paper should be included	Added to review
Appendix 4 Key Issues	The historic environment is scored of neutral significance for waste. Recommend this is changed to low.	Agreed. Significance changed.
Appendix 4 Key Issues and Appendix 5 Baseline	Landscape theme has links to the historic environment in terms of historic character of landscape. Historic Landscape Characterisation study is available for Herefordshire but still in progress for Worcestershire.	This link is recognised in Appendix 4 under landscape theme. Data will be included if studies complete within timeframe of SA. Note that JMWMS will not identify locations for facilities.
	Page 46 should include national Buildings at Risk Register as well as local registers and be expanded to cover 'heritage at risk'. In July EH is launching a programme on heritage at risk.	Agreed. National register has been added and definition expanded to cover all heritage. Data on heritage at risk will be included if available within timeframe of SA.
Appendix 6 Framework	Issue 10, sub-objective should also refer to county historic landscape characterisation	Reference has been added to sub-objective.
	Issue 15 reworded to "To preserve and enhance sites, features, areas and settings of archaeological, architectural, historical and cultural heritage importance and seek high quality design in all new development"	Disagree. No discernible change in meaning, scope or clarity of objective.

	Issue 15, first indicator should be amended to “number of designated historic assets at risk”	Agreed. Indicator changed
	Issue 15, order of sub-objectives should be reversed	Order of sub-objectives does not indicate any relative priority or emphasis in the SA.
	Issue 16, historic environment should be referred to as a potential constraint on reuse of land and buildings	Agreed. Reference added to historic environment
<i>Worcestershire PCT</i>		
Appendix 4 Key Issues & Appendix 6 Framework	Changes in life expectancy is not a good indicator for waste management. Changes in asthma admission rates and self-reported good health may be more sensitive/timely but again would be difficult to attribute change to waste management.	Life expectancy removed as an indicator.
<i>Herefordshire Nature Trust</i>		
Review of PPPs	Habitats Directive not included	Directive has been added to PPP review.
General	Efforts should be made to avoid damage to or decline in Special Wildlife Sites resource	Appraisal framework has an objective to conserve and enhance biodiversity. This will cover SWSs as well as other types of designations and non-designated assets.
	National Indicator 197 has been adopted by the Herefordshire LSP. This should be identified and factored into the waste plan.	Agreed, but note that data is not yet available. May be recommended as an indicator for the future.
	The plan talks of mitigation but not enhancement. This should be factored in also.	Appraisal framework has an objective to conserve and enhance biodiversity. JMWMS will be tested against this policy objective.

Annex B

Compatibility of Principles and Appraisal Objectives

INTRODUCTION

As recommended by government guidance, the principles of the draft Headline Strategy have been tested against the appraisal objectives to ensure compatibility with sustainable development objectives.

The strategic principles are set out in *Table B.1* and the results of the compatibility test in *Table B.2*.

Table B.1 *Summary of Principles*

Principle One	Meeting the challenge of climate change by viewing waste as a resource
Principle Two	Commitment to the waste hierarchy of which waste prevention is the top
Principle Three	Influencing Government, waste producers and the wider community
Principle Four	Continued commitment to re-use, recycling and composting
Principle Five	Minimising the use of landfill
Principle Six	Partnership
Principle Seven	Monitoring and review
Principle Eight	Customer focus
Principle Nine	Value for money
Principle Ten	Consideration of social, environmental and economic impacts

Table B.2 Assessment of Strategic Objectives against SEA Objectives

Key:
 ✓ Positive compatible
 ✗ Possible conflict
 ? Uncertain
 Ø Neutral

Objectives	Principles										Comments
	1	2	3	4	5	6	7	8	9	10	
1. Waste											
Manage the waste streams in accordance with the waste hierarchy, encouraging reuse and recovery addressing waste as a resource	✓	✓	✓	✓	✓	Ø	Ø	✓	Ø	Ø	
To minimise the production of waste generated	✓	✓	✓	Ø	Ø	Ø	Ø	✓	Ø	Ø	
2. Climate Change											
Reduce causes of and adapt to the impacts of climate change	✓	✓	✓	✓	✓	Ø	Ø	✓	Ø	?	Principle 10 states that environmental impacts will be considered together with social and economic impacts. The effect of this on greenhouse gas emissions is unclear.
Minimise biodegradable waste going to landfill	✓	✓	✓	✓	✓	Ø	Ø	✓	Ø	Ø	
Maximise opportunities to generate power from methane at landfill sites	?	✗	?	✗	✗	Ø	Ø	✓	Ø	Ø	Diversion of biodegradable waste from landfill will reduce opportunities, but diversion should not therefore be avoided.
3. Traffic & Transport											
To reduce the need to travel and move towards more sustainable travel patterns	?	✓	?	?	?	Ø	Ø	Ø	Ø	?	Transport will be reduced by minimisation but may increase with greater recycling and if waste is exported for treatment. Considering environmental impacts may or may not result in reduction of waste transport. Issue will be examined in more detail in the policies although the transport policy is yet to be drafted.
Ensure the disposal of waste as close to point of origin as practicable and promote transfer of waste by rail or water transport where appropriate	?	Ø	Ø	Ø	?	Ø	Ø	Ø	Ø	?	Exporting waste will not ensure its disposal close to its origin although environmental soundness will be taken into account and this should include consideration of transport impacts. Issue is examined in more detail in the residual options appraisal. Considering environmental impacts may or may not result in reduction of waste transport. Issue will be examined in more detail in the policies although the transport policy is yet to be drafted.
4. Growth with prosperity for all											
Develop a knowledge-driven economy, the infrastructure and skills base whilst ensuring all	Ø	Ø	Ø	Ø	Ø	✓	Ø	Ø	Ø	Ø	

Objectives	Principles										Comments	
	1	2	3	4	5	6	7	8	9	10		
have access to the benefits urban and rural												
To encourage business development within the waste sector to achieve Government targets for waste	∅	∅	∅	?	∅	✓	∅	∅	∅	∅		Aiming to achieve targets may indirectly encourage development of the waste sector in order to achieve the targets.
To encourage rural regeneration	∅	∅	∅	∅	∅	∅	∅	∅	∅	∅		
5. Participation by all												
To provide opportunities for communities to participate in and contribute to the decisions that affect their neighbourhoods and quality of life, encouraging pride and social responsibility in the local community	∅	✓	✓	∅	∅	∅	∅	?	∅	∅		Designing systems around customers in order to meet their needs may involve their participation in decisions, although this is largely outside the remit of the JMWMS.
To provide opportunities for communities to participate in and contribute to waste planning decisions	∅	∅	∅	∅	∅	∅	∅	?	∅	∅		
6. Technology, innovation & inward investment												
Promote and support the development of new technologies of high value and low impact, especially resource efficient technologies and environmental technology initiatives	?	∅	✓	✓	✓	✓	✓	∅	∅	∅		Greater resource efficiency through improved waste management practices may indirectly help to promote the development of new technologies.
To make an economic gain from the recovery and treatment of waste streams wherever this is environmentally acceptable	✓	∅	∅	✓	✓	∅	∅	?	✓	✓		Seeking to deliver services at an affordable cost may indirectly help to promote economic gain from waste management where possible.
7. Energy												
Promoting energy efficiency and energy generated from renewable energy and low carbon sources	?	✓	∅	∅	?	∅	∅	∅	∅	?		Implementing the waste hierarchy may result in energy recovery, but this is not explicitly sought.
In accordance with waste hierarchy support the generation of energy from waste	?	✓	∅	∅	?	∅	∅	∅	∅	?		
8. Natural resources												
Protect and improve standards of air, water and soil quality ensuring prudent use of natural resources	✓	✓	✓	✓	✓	∅	∅	∅	∅	?		Environmental impacts will be considered holistically with economic and social impacts, which may or may not improve environmental quality.
Minimise the creation of dust, odour and noise and other pollutants in the vicinity of waste station / facilities	?	✓	∅	∅	✓	∅	∅	∅	∅	?		Environmental impacts will be considered holistically with economic and social impacts, which may or may not reduce emissions from facilities.
9. Access to services												
To improve the quality of and equitable access to local services and facilities, regardless of age, gender, ethnicity, disability, socioeconomic status or educational attainment	∅	✓	?	?	∅	∅	∅	✓	∅	∅		Aiming for increased recycling and composting should promote better access to services, although this is not explicitly sought.

Objectives	Principles										Comments
	1	2	3	4	5	6	7	8	9	10	
To improve accessibility to kerbside recycling and Household Waste Sites	Ø	✓	?	?	Ø	Ø	Ø	✓	Ø	Ø	
10. Landscape											
Safeguard and strengthen landscape character and quality	?	Ø	Ø	Ø	Ø	Ø	Ø	Ø	Ø	?	Environmental impacts will be considered holistically with economic and social impacts, which may or may not safeguard landscapes, although this is largely within the remit of planning and development control.
Encourage design that reduces visual intrusion and is sensitive to the local vernacular, as defined by the county landscape character assessment, county historic landscape characterisation and conservation area appraisals	Ø	Ø	Ø	Ø	Ø	Ø	Ø	Ø	Ø	Ø	Design issues are normally beyond the scope of principles for a MWMS.
11. Biodiversity / Geodiversity / Flora / Fauna											
To conserve and enhance biodiversity and geodiversity	?	Ø	?	Ø	?	Ø	Ø	Ø	Ø	?	Increasing minimisation, recycling and composting may indirectly help to reduce pressures on biodiversity and geodiversity. Environmental impacts will be considered which may or may not ensure conservation and enhancement of biodiversity and geodiversity.
To assist in meeting Biodiversity Action Plan targets during the lifetime of the JMWMS	Ø	Ø	Ø	Ø	Ø	Ø	Ø	Ø	Ø	Ø	BAP targets are normally beyond the scope of principles for a MWMS.
12. Health											
To improve the health and well being of the population and reduce inequalities in health	✓	✓	Ø	✓	✓	Ø	Ø	Ø	Ø	?	Environmental and social impacts will be considered holistically with economic impacts, which may or may not help to improve health. Reduction of landfill through increased minimisation and recovery will help to minimise a potential source of health impacts.
To limit environmental impacts of waste treatment facilities on the local population including pest species at landfill sites	✓	✓	Ø	✓	✓	Ø	Ø	Ø	Ø	?	
To reduce respiratory diseases/allergy related illness	?	Ø	Ø	Ø	?	Ø	Ø	Ø	Ø	Ø	Increased recovery has an uncertain effect on emissions and health. This is examined in more detail in the options appraisal.
13. Provision of housing											
Provide decent affordable housing for all, of all the right quality and tenure and for local needs, in clean, safe and pleasant local environments	Ø	Ø	Ø	Ø	Ø	Ø	Ø	Ø	Ø	Ø	Outside the remit of the JMWMS
Encourage the use of sustainable building technologies in new housing developments in particular the re-use of construction and demolition waste	Ø	Ø	Ø	Ø	Ø	Ø	Ø	Ø	Ø	Ø	Outside the remit of the JMWMS

Objectives	Principles										Comments
	1	2	3	4	5	6	7	8	9	10	
Promote the provision of recycling facilities within new housing developments	∅	∅	∅	?	∅	∅	∅	?	∅	∅	Increased recycling and ensuring services meet customer needs may indirectly help to promote the provision of facilities in new housing developments, but this is not inevitable.
14. Learning and skills											
To raise the skills level and qualifications of the workforce	∅	∅	∅	∅	∅	∅	∅	∅	∅	?	Considering the business case in waste management may indirectly help to promote better workforce skills/qualifications, but this is not certain.
To encourage engagement in community/environmentally responsible activities	∅	✓	✓	✓	∅	✓	✓	✓	∅	∅	
15. Cultural heritage, architecture and archaeology											
Conserve and enhance the architecture, cultural and historic environment heritage and seek well designed, resource efficient, high quality built environment in new development proposals	?	∅	∅	∅	?	∅	∅	∅	∅	?	Considering environmental impacts may or may not result in conservation of assets.
Promote design concepts for new buildings that are informed by the local vernacular	∅	∅	∅	∅	∅	∅	∅	∅	∅	∅	Design issues are normally beyond the scope of principles for a MWMS.
The siting of new waste management facilities should not have a detrimental effect on the setting and <i>in situ</i> conservation of historic buildings, areas, landscapes or archaeological remains	?	∅	∅	∅	✓	∅	∅	∅	∅	?	Considering environmental impacts may or may not result in conservation of assets.
16. Material assets											
Ensure efficient use of land through safeguarding of mineral reserves, the best and most versatile agricultural lands, lands of green belt value, maximising use of previously developed land and reuse of vacant buildings, where this is not detrimental to open space, biodiversity interest or the historic environment	∅	∅	∅	∅	?	∅	∅	∅	∅	?	Considering environmental impacts may or may not result in efficient use and conservation of land-based assets.
To support the reuse of construction materials	∅	∅	✓	∅	∅	∅	∅	∅	∅	∅	
To protect land from contamination arising from waste	✓	∅	∅	∅	∅	∅	∅	∅	∅	∅	
To restore landfill sites to amenity purposes.	∅	∅	∅	∅	∅	∅	∅	∅	∅	∅	Outside the scope of the JMWMS
17. Crime											
Reduce crime, fear of crime and antisocial behaviour	∅	∅	?	∅	∅	∅	∅	?	∅	?	Increased awareness, customer focus and consideration of social impacts may indirectly help to reduce fly-tipping incidents,
Reduce the number of fly tipping incidents	∅	∅	?	∅	∅	∅	∅	?	∅	?	

Objectives	Principles										Comments	
	1	2	3	4	5	6	7	8	9	10		
												although this is not explicitly sought.
18. Flooding												
Ensure inappropriate development does not occur in high risk flood areas and does not adversely contribute to fluvial flood risks or contribute to surface water flooding in all other areas	Ø	Ø	Ø	Ø	?	Ø	Ø	Ø	Ø	Ø	?	Consideration of environmental, social and economic impacts and exporting where environmentally sound may indirectly help to avoid pressures to develop in flood risk areas, although this is not inevitable.
Ensure development does not occur in flood risk areas	Ø	Ø	Ø	Ø	?	Ø	Ø	Ø	Ø	Ø	?	

Annex C

Summary Assessment of Policies

Table B.1 Detailed Assessment of Policies

Key:

+	effect likely to be positive		Not relevant
-	effect likely to be negative		No significance
0	no significant effect		Medium significance
?	effect unknown		High significance
Ø	not relevant		

Appraisal objectives	Policies																							
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24
1. Waste <ul style="list-style-type: none"> Manage the waste streams in accordance with the waste hierarchy, encouraging reuse and recovery addressing waste as a resource To minimise the production of waste generated 	+	Ø	+	+	+	Ø	Ø	+	+	+	+	+	+	+	+	+	+	+	Ø	+	+	Ø	Ø	+
2. Climate Change <ul style="list-style-type: none"> Reduce causes of and adapt to the impacts of climate change Minimise biodegradable waste going to landfill Maximise opportunities to generate power from methane at landfill sites 	+	Ø	+	+	+	Ø	+	+	+	+	+	+	+	+	+	+	+	+	Ø	+	+	Ø	+	+
3. Traffic & Transport <ul style="list-style-type: none"> To reduce the need to travel and move towards more sustainable travel patterns Ensure the disposal of waste as close to point of origin as practicable and promote transfer of waste by rail or water transport where appropriate 	?	Ø	?	?	0	Ø	+	?	+	+	+	0	?	?	?	?	?	?	Ø	?	?	Ø	+	?
4. Growth with prosperity for all <ul style="list-style-type: none"> Develop a knowledge-driven economy, the infrastructure and skills base whilst ensuring all have access to the benefits urban and rural To encourage business development within the waste sector to achieve Government targets for waste To encourage rural regeneration 	+	Ø	+	+	+	Ø	Ø	+	0	0	0	+	+	0	+	+	+	+	Ø	?	Ø	Ø	0	0

Appraisal objectives	Policies																								
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	
5. Participation by all <ul style="list-style-type: none"> To provide opportunities for communities to participate in and contribute to the decisions that affect their neighbourhoods and quality of life, encouraging pride and social responsibility in the local community To provide opportunities for communities to participate in and contribute to waste planning decisions 	0	Ø	?	0	Ø	+	Ø	0	0	0	0	Ø	0	Ø	Ø	Ø	Ø	0	Ø	Ø	Ø	Ø	0	0	
6. Technology, innovation & inward investment <ul style="list-style-type: none"> Promote and support the development of new technologies of high value and low impact, especially resource efficient technologies and environmental technology initiatives To make an economic gain from the recovery and treatment of waste streams wherever this is environmentally acceptable 	+	+	+	+	+	Ø	Ø	+	0	0	+	0	+	+	+	+	+	+	Ø	?	0	Ø	0	+	
7. Energy <ul style="list-style-type: none"> Promoting energy efficiency and energy generated from renewable energy and low carbon sources In accordance with waste hierarchy support the generation of energy from waste 	+/?	Ø	0	0	0	Ø	?	0	+	+	+	0	?	0	0	?	?	Ø	Ø	Ø	Ø	Ø	Ø	+	?
8. Natural resources <ul style="list-style-type: none"> Protect and improve standards of air, water and soil quality ensuring prudent use of natural resources Minimise the creation of dust, odour and noise and other pollutants in the vicinity of waste station / facilities 	+	Ø	+	+	+	Ø	Ø	+	+	+	+	+	+	+	+	+/?	+/?	+	Ø	+	+	Ø	+	+	
9. Access to services <ul style="list-style-type: none"> To improve the quality of and equitable access to local services and facilities, regardless of age, gender, ethnicity, disability, socioeconomic status or educational attainment To improve accessibility to kerbside recycling and Household Waste Sites 	+	Ø	+	+	Ø	Ø	Ø	+/?	+	Ø	Ø	+	+	+	+	Ø	+	+/?	Ø	+	+	Ø	0	0	
10. Landscape <ul style="list-style-type: none"> Safeguard and strengthen landscape character and quality 	?	Ø	Ø	?	Ø	Ø	Ø	Ø	Ø	Ø	Ø	Ø	?	0	0	?	?	Ø	Ø	Ø	Ø	Ø	0	0	

Appraisal objectives	Policies																							
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24
<ul style="list-style-type: none"> Encourage design that reduces visual intrusion and is sensitive to the local vernacular, as defined by the county landscape character assessment, county historic landscape characterisation and conservation area appraisals 																								
11. Biodiversity / Geodiversity / Flora / Fauna <ul style="list-style-type: none"> To conserve and enhance biodiversity and geodiversity To assist in meeting Biodiversity Action Plan targets during the lifetime of the JMWMS 	+/?	∅	∅	+/?	∅	∅	+	∅	∅	+	0	∅	+/?	∅	∅	+/?	+/?	∅	∅	∅	∅	∅	0	0
12. Health <ul style="list-style-type: none"> To improve the health and well being of the population and reduce inequalities in health To limit environmental impacts of waste treatment facilities on the local population including pest species at landfill sites To reduce respiratory diseases/allergy related illness 	+	∅	∅	+	∅	∅	∅	+	+	+	0	0	+/0	0	0	+	+	0	∅	0	0	∅	+	+
13. Provision of housing <ul style="list-style-type: none"> Provide decent affordable housing for all, of all the right quality and tenure and for local needs, in clean, safe and pleasant local environments Encourage the use of sustainable building technologies in new housing developments in particular the re-use of construction and demolition waste Promote the provision of recycling facilities within new housing developments 	∅	∅	∅	∅	∅	∅	∅	0	∅	0	∅	∅	∅	?	∅	∅	∅	∅	∅	∅	∅	+	∅	∅
14. Population 1 (Learning and skills) <ul style="list-style-type: none"> To raise the skills level and qualifications of the workforce To encourage engagement in community/environmentally responsible activities 	+	∅	+	+	+	∅	∅	+	+	+	∅	+	+	+	+	+	+	+	+	+	+	∅	∅	0

Appraisal objectives	Policies																							
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24
<p>15. Cultural Heritage, architecture and archaeology</p> <ul style="list-style-type: none"> Conserve and enhance the architecture, cultural and historic environment heritage and seek well designed, resource efficient, high quality built environment in new development proposals Promote design concepts for new buildings that are informed by the local vernacular The siting of new waste management facilities should not have a detrimental effect on the setting and in-situ conservation of historic buildings, areas, landscapes or archaeological remains 													?	?	0	?	?	Ø	Ø	Ø	Ø	Ø	Ø	Ø
<p>16. Material Assets</p> <ul style="list-style-type: none"> Ensure efficient use of land through safeguarding of mineral reserves, the best and most versatile agricultural lands, lands of green belt value, maximising use of previously developed land and reuse of vacant buildings, where this is not detrimental to open space, biodiversity interest or the historic environment To support the reuse of construction materials To protect land from contamination arising from waste To restore landfill sites to amenity purposes. 	Ø	Ø	Ø	Ø	?	Ø	Ø	Ø	Ø	Ø	Ø	Ø	Ø	Ø	Ø	?	+	Ø	Ø	Ø	Ø	Ø	Ø	Ø
<p>17. Population 2 (Anti social behaviour, crime, litter and graffiti)</p> <ul style="list-style-type: none"> Reduce crime, fear of crime and antisocial behaviour Reduce the number of fly tipping incidents 	Ø	Ø	Ø	Ø	Ø	Ø	Ø	?	Ø	Ø	Ø	+	Ø	Ø	?	Ø	Ø	?	Ø	Ø	Ø	Ø	Ø	Ø
<p>18. Flooding</p> <ul style="list-style-type: none"> Ensure inappropriate development does not occur in high risk flood areas and does not adversely contribute to fluvial flood risks or contribute to surface water flooding in all other areas Ensure development does not occur in flood risk areas 	Ø	Ø	Ø	Ø	Ø	Ø	Ø	Ø	Ø	Ø	Ø	Ø	Ø	Ø	Ø	?	?	Ø	Ø	Ø	Ø	Ø	Ø	Ø

Annex G

Achievements so far



The Joint Municipal Waste Management Strategy
for Herefordshire and Worcestershire 2004 - 2034

First review August 2011

Achievements so far

1.0 Since the Strategy was adopted in November 2004 we have:

- Stopped the growth in waste arisings in the two counties – waste is now starting to decline;
- Increased the active participation of our communities in more sustainable waste management with greater numbers of households recycling regularly each week and dealing with their waste at home by composting and shredding.
- Achieved 2005/6 Statutory Performance Standards for recycling/composting in Worcestershire, Herefordshire, Bromsgrove, Malvern Hills and Wyre Forest.
- Achieved Statutory Performance Standards for recycling/composting in 2006/07 and 2007/08 in all authorities;
- Improved our recycling/composting and landfill diversion performance year on year;
- Diverted waste away from landfill by utilising regional Energy from Waste plants;
- Increased average recycling performance at Household Recycling Centres to over 69%;
- Continued to invest in infrastructure;
- Obtained planning permission and commenced construction of a Commingled Materials Recycling Facility ('EnviroSort');
- Introduced an alternate weekly wheeled bin collection of residual and commingled recyclables (the 'Vision') in Redditch and Worcester and significantly increased recycling rates;
- Introduced an alternate week wheeled bin collection of residual and green waste and an alternating collection of kerbside sorted recyclable material in Bromsgrove, achieving a 41% recycling and composting rate.
- Won a prestigious National Green Award in 2006 for the "Mission Impossible" Action Pack;
- Achieved 'Beacon' Council status for Sustainability in Worcestershire;
- Won a Green Apple Award in 2007 for Malvern Hills' Recycling for Schools scheme;
- Sold over 79,000 low cost compost bins across the two counties since 2004;
- Established the Social Enterprises in Waste and Recycling Forum to work in partnership with the community and voluntary sector;
- Continued to work with WRAP (Waste Resources Action Programme) and utilise other government initiatives to improve services provided for our residents;
- Landfilled less than our combined allowances under the Landfill Directive for 2005/06 and 2006/07;

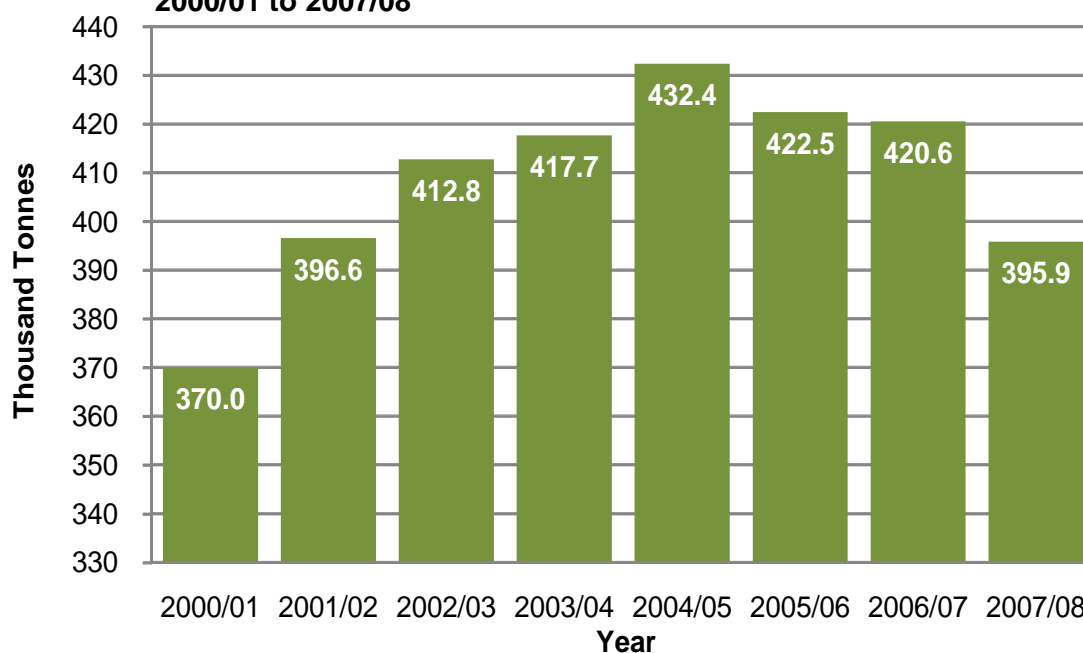
- Improved recording of waste data through the Waste Data Flow information system;
- Established 209 Eco-schools within Worcestershire and 92 within Herefordshire;
- Established recycling collections in around 250 schools across Herefordshire and Worcestershire.
- Completed a waste composition analysis during 2007 to enable us to target publicity and collection schemes to certain waste streams in the future.
- The Commercial Vehicle and Trailer Permit scheme has successfully reduced the amount of commercial waste going through the Household Waste Sites across Herefordshire and Worcestershire.
- The Residents Permit scheme has successfully reduced the amount of out of County waste going through the Household Waste Sites in Bromsgrove and Redditch.
- Obtained planning permission for a green waste composting facility at Moreton-on-Lugg in Herefordshire.

2.0 Waste Growth

2.1 The Government states that waste growth nationally has grown significantly less than GDP since 2000. Municipal waste increased at about 3.5% per year up to the millennium, but average growth over the past five years has been less than 0.5% per annum.

2.2 From 2000/01 municipal waste continued to grow in Herefordshire and Worcestershire at an annual average growth rate of 4.22% per annum. Waste growth peaked in 2004/05 and since the strategy was launched, there has been a reduction of 3.29% over 2005/06 and 2006/07, equating to an annual decrease of 1.64%. 2.3 Figure 2.3 below shows municipal waste growth/reduction across the two counties over the last eight years.

2.3 **Figure 3.1 Graph showing Municipal Waste Growth/Reduction from 2000/01 to 2007/08**



- 2.4 These considerable year on year increases to 2004/05 can be attributed to a number of factors including:
- The growth in the number of households: between 2000 and 2006 the number of households in Worcestershire grew at 2.2% from 226,000 to 231,000, whereas in Herefordshire the growth rate was 11.6%, from 69,000 to 77,000;
 - The continued growth in economic prosperity and changing lifestyles, resulting in an increase in the waste being produced by the average household;
 - The introduction of the Landfill Tax by the Government in 1996 may have resulted in more commercial waste being diverted illicitly into the municipal waste stream.
- 2.5 As a result of the waste prevention measures introduced as part of the Strategy in 2004, the growth in municipal waste arisings in the two counties has stopped and waste is now starting to decline.

3.0 Partnerships

- 3.1 Partnership working has been established as one of the main principles upon which this Strategy is built. The Authorities are continuing to work together to deliver more sustainable and cohesive waste management services across the counties and to implement this Strategy. A Joint Members Waste Forum (now called the Joint Members Waste Resource Management Forum) was established in October 2001. This Forum oversees the review and implementation of the Joint Municipal Waste Management Strategy. The Forum is supported by an Officers Group and a number of sub groups that meet to develop specific policies and projects. These groups meet regularly to share best practice and also maintain close links with other departments having related responsibilities such as Street Scene, Environmental Health, Planning and Trading Standards.
- 3.2 All Local Authorities have dialogue and work with other interest groups such as Parish Councils, statutory bodies such as the Police and Fire Service, the Environment Agency, DEFRA and other Government departments.
- 3.3 Contractors are also considered to be partners in developing the best waste management systems to implement this Strategy.
- 3.4 The Counties have developed closer working relationships with neighbouring County Councils including Warwickshire and Shropshire to share good practice around publicity and awareness raising and to carry out joint campaigns.
- 3.5 The authorities have worked in partnership with the local PCT to set up a sharps 'take back' scheme to reduce the risk of sharps being disposed of with other household waste.

4.0 Performance monitoring and meeting our targets

4.1 Monitoring reports on performance against strategy targets are reported to all of the Joint Members Waste Resource Management Forum meetings. These regular updates allow the Forum to check on performance. The Partnership's performance since the start of the Strategy against all targets is outlined below.

4.1.1 Target 1 – To achieve Government Targets for recycling and composting of domestic waste by the end of 2003/04, 2005/06, 2010/11 and 2015/16 as a minimum.

Authority	2004/5	2005/6	2006/7	2007/8
Bromsgrove District Council	24.21	40.57	41.23	43.41
Malvern Hill District Council	21.50	23.68	25.29	25.50
Redditch Borough Council	15.92	17.04	20.51	32.00
Worcester City Council	17.20	19.89	26.21	33.00
Wychavon District Council	15.15	19.10	21.90	23.75
Wyre Forest District Council	24.30	25.00	28.00	29.00
Worcestershire County Council	23.83	31.37	33.58	38.01
Herefordshire Council	21.72	25.61	28.39	30.50

4.1.2 Target 2 – To reduce the kg/head collected/disposed to 2001/02 levels by March 2006 and then for the life of the Strategy.

Authority	Target	2004/5	2005/6	2006/7	2007/8
Bromsgrove District Council	405.90	409.87	468.79	424.23	434.00
Malvern Hill District Council	323.00	312.00	313.00	319.88	318.00
Redditch Borough Council	436.00	415.00	414.00	408.00	375.00
Worcester City Council	357.00	362.00	355.80	349.00	327.00
Wychavon District Council	405.76	382.50	354.40	362.60	365.00
Wyre Forest District Council	402.00	360.70	356.10	354.00	353.00
Worcestershire County Council	532.00	542.00	526.29	517.96	495.00
Herefordshire Council	493.70	528.03	506.00	528.00	496.00

4.1.3 Target 3 – By 31 March 2005 the Local Authorities will provide a household or kerbside recycling collection to % of their properties as shown in the table below:

Authority	Target	2004/5	2005/6	2006/7	2007/8
Bromsgrove District Council	90	92.63	91.84	94.12	94.00
Malvern Hill District Council	100	100.00	100.00	100.00	100.00
Redditch Borough Council	92	67.00	83.00	93.97	96.00
Worcester City Council	96	95.20	95.30	95.20	96.00
Wychavon District Council	94	94.00	94.00	94.00	94.00
Wyre Forest District Council	84	81.40	97.50	88.40	99.00
Herefordshire Council	59	60.28	60.28	70.00	72.00

4.1.4 Target 4 – The Local Authorities within Herefordshire and Worcestershire will continue to promote and encourage participation in the household collection of recyclables to achieve 75% active participation by 2006.

Authority	2004/5	2005/6	2006/7	2007/8
Bromsgrove District Council	80.52	80.52	80.52	81.00
Malvern Hill District Council	74.00	74.00	83.50	84.00
Redditch Borough Council	69.00	68.00	64.00	75.00
Worcester City Council	45.30	59.40	88.10	96.00
Wychavon District Council	69.70	70.00	77.28	70.00
Wyre Forest District Council	85.00	85.00	85.00	80.00
Herefordshire Council	64.00	65.00	68.00	70.00

4.1.5 Target 5 – A minimum of 50% of all waste deposited at Household Waste Sites will be recycled/composted by 2005/06 and 55% by 2010/11.

Authority	2005/6	2006/7	2007/8
Worcestershire County Council	53.32	65.83	63.68
Herefordshire Council	61.25	67.15	66.67

4.1.6 Target 6 – By 2015 or earlier if practicable, a minimum of 33% of waste to be recycled and/or composted, 45% of waste to be recovered, with a maximum of 22% to be landfilled as per the Best Practicable Environmental Option for Herefordshire and Worcestershire.

Disposal Route	2007/8
Recycling and Composting	37.56
Recovery	46.89
Landfilled	56.11

4.1.7 Target 7 – To achieve the requirements of the Household Waste Recycling Act 2003 by 31st December 2010.

The table below shows the current position (November 2008)

	Glass	Paper	Plastics	Textiles	Cans	Green	Food
Bromsgrove District Council	Y	Y	Y	N	Y	Y	N
Herefordshire Council	Y	Y	Y	Y	Y	N	N
Malvern Hills District Council	N	Y	Y	Y	Y	N	N
Redditch Borough Council	Y	Y	Y	N	Y	N	N
Worcester City Council	Y	Y	Y	N	Y	N	N
Wychavon District Council	Y	Y	Y	Y	Y	Y	Y
Wyre Forest District Council	Y	Y	Y	Y	Y	N	N

4.1.8 Target 8 – The Authorities will work together to achieve the Landfill Directive targets for 2009/10, 2012/13 and 2019/20.

The table below shows the current position (November 2008)

	2009/10	2012/13	2019/20
Worcestershire County Council	✓	x	x
Herefordshire County Council	x	x	x
Combined	✓	x	x

5.0 Infrastructure Investment through the PFI Integrated waste management contract

5.1 Since the Contract has been signed considerable progress has been made in providing additional and improving existing infrastructure across the two counties. This has included the construction of:

- Transfer and Bulking Stations;
- New Bulking Bays for recyclable materials;
- Two Materials Reclamation Facilities (MRFs);
- Refurbishment of two existing Transfer Loading Stations;
- Refurbishment and relocation of a Transfer Loading Station and Household Waste Site;
- Refurbishment of 11 Household Waste Sites and rebranding as Household Recycling Sites;
- In addition to this, considerable capital investment has been made in vehicles, plant and the green waste composting site and the landfill site at Hill & Moor near Pershore;
- Improved access road to landfill site has enabled improved household waste site availability.

6.0 Material Reclamation Facilities (MRFs) and Bulking Facilities

6.1 MRFs to deal with pre-sorted recyclables are located at Hill & Moor near Pershore and Rotherwas in Hereford. In line with the Strategy and the move to the Core Collection Service, which requires the treatment of commingled recyclables, the EnviroSort facility is now under construction in South Worcestershire.

6.2 Five bulking facilities for recyclables are located in Bromsgrove, Hill & Moor, Kidderminster, Redditch and Rotherwas, Hereford.

7.0 Transfer Loading Stations

7.1 There are currently three compaction style Transfer Loading Stations located within the counties; two in Herefordshire, at Rotherwas in Hereford and at Leominster, and one in Worcestershire, at Redditch. A Transfer and Bulking Station has been built in Bromsgrove to handle the demountable body refuse collection system.

8.0 Household Recycling Centres

8.1 Sixteen Household Waste Centres are provided across the counties. As well as providing householders somewhere to take their larger waste items free of charge, these local facilities already contribute significantly to the amount of waste recovered in the counties for recycling and composting.

9.0 Centralised Composting Sites

9.1 A green waste centralised composting site is already operational at Hill & Moor near Pershore. Green waste collected by Bromsgrove District Council and collected at the Household Recycling Sites is taken for processing in windrows and is converted into a soil conditioner, which is then offered for sale at the sites, closing the recycling loop. We are currently using additional 3rd party green waste composting sites but there are plans to build a centralised composting site in Herefordshire.

10.0 Bring Recycling Sites

10.1 A significant amount of the recyclable material collected in Herefordshire and Worcestershire continues to be recycled through the Bring Recycling Sites that are located across the two counties. Glass, paper and card, textiles, cans and other materials like shoes and books can be recycled at the bring sites. These sites rely on the public taking their materials to them and they are frequently located in car parks near to local shops and amenities.

11.0 Waste Prevention Projects, Awareness Raising And Publicity

11.1 In recognising that Herefordshire's and Worcestershire's waste affects all residents, the Authorities have been working together on waste prevention, reduction, re-use and recycling schemes and to promote initiatives at public events.

11.2 "Mission Impossible" has been developed as our local brand to call people to action and give practical advice on how to reduce, re-use and recycle. A dedicated 'Mission Impossible' website has also been developed. Extensive media campaigns are run through both Counties, incorporating billboards, bus advertising, radio and TV.

- 11.3 Since 2004 the Authorities have worked in partnership with WRAP on its home composting initiative and before this had promoted home composting for a number of years. As part of the WRAP scheme, over 79,000 low cost compost bins have been sold. Promotion has been through the employment of dedicated composting advisors, compost clinics, and through a 'Master Composter' scheme using volunteers to promote home composting and give advice. In addition to this we promote the use of home garden waste shredders, the output of which can be used as a mulch or to make better compost.
- 11.4 Each year in the UK we throw away about one third of the food we buy and at least half of this food could have been eaten. In the UK, the vast majority of food waste ends up in landfill. As food rots in landfill it can produce methane, one of the most potent greenhouse gases and a significant contributor to climate change. When we throw food away, we also waste all the carbon generated as it was produced, processed, transported and stored. Apart from the damage to the environment, throwing away food that could have been eaten is also a considerable waste of money. WRAP's figures suggest each week a typical household throws away between £4.80 and £7.70 of food that could have been eaten: this equivalent to £250 - £400 a year or £15,000 - £24,000 in a lifetime. A food waste reduction initiative, "Love Food, Hate Waste", developed by WRAP, is now in place and the authorities are supporting this initiative.
- 11.5 In some areas a low cost green waste home shredding service is being provided.
- 11.6 Herefordshire Council and Worcestershire County Council have researched and developed the concept of promoting kitchen food waste disposers (FWD) as a viable solution to disposing of food waste. A 'cash back' scheme for the purchase and installation of a FWD has been devised as an incentive for householders and property developers. We see this, as a complimentary project to home composting and an option for those residents who are not able/do not wish to compost.
- 11.7 In 2007 a campaign to reduce unsolicited (junk) mail was launched. The 'Jilt the Junk Mail' project encourages people to register with the Mailing Preference Service and Royal Mail's Door to Door service in a bid to help them reduce the amount of unsolicited mail that they receive.
- 11.8 Awareness of using 'real' nappies has been raised throughout the counties through a series of campaigns, working in partnership with 'real' nappy companies and the social enterprise sector. A "real" nappy incentive scheme has been devised.
- 11.9 As part of the introduction of household and kerbside collections of recyclables, all authorities have worked together to use standard imagery, where practicable to give a consistent message and image linking in with WRAP's 'Recycle Now' campaign.
- 11.10 The authorities were also successful in gaining funding through DEFRA's Household Incentive Pilot Scheme (HIPS) in 2005 to explore ways of incentivising people to recycle more materials more often.

- 11.11 Good media relationships have been established by all Local Authorities in promoting waste awareness and recycling.
- 11.12 The Mission Impossible action pack, delivered to all households across the counties, won a national 'Green Award' in November 2006.
- 11.13 The authorities undertake awareness raising and education work in schools on the theme of waste prevention, recycling and composting.

12.0 Third Sector

- 12.1 In recognising the important role that the third sector has to play in delivering sustainable waste management, Herefordshire Council and Worcestershire county council have employed a dedicated re-use officer to work with this sector to share good practice and co-ordinate joint working where possible.
- 12.2 Through providing low cost furniture and appliances, third sector organisations not only provide environmental benefits but a range of social benefits including supporting low income families, employment and training opportunities.
- 12.3 A local forum of voluntary and community organisations ('Social Enterprises Involved in Waste and Recycling') has been established since July 2005 to work in partnership with the local authorities to develop re-use and recycling initiatives. Consultation with the sector has resulted in re-use credits being paid for items diverted from disposal and a stronger and effective partnership has been established with this sector, for example in promoting the work that they do, including design, production and printing of promotional literature.
- 12.4 The Third Sector are actively involved at many local bring sites, particularly in relation to clothing, footwear and book re-use and recycling. This builds on the extensive re-use facilities through the network of well established charity shops.

13.0 Enforcement

- 13.1 The Clean Neighbourhoods and Environment Act 2005 has provided local authorities increased powers to take enforcement action in order to manage waste. Consequently some authorities have increased levels of resources in this area for example Malvern Hills' Street Scene Team, Community Support Officers funded by Worcester City Council and dedicated enforcement officers employed by Redditch Borough Council and Wychavon District Council.
- 13.2 The authorities are taking an increasingly proactive approach in the use of these powers for ensuring that waste is treated correctly. The issuing of Fixed Penalty Notices for littering, permit schemes at Household Waste Sites and investigation into fly-tipping resulting in fines or prosecution, are being used as valuable tools in achieving better environmental management.

Annex H

Consultation process and outcomes



The Joint Municipal Waste Management Strategy
for Herefordshire and Worcestershire 2004 - 2034

First review August 2011

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Introduction

This annex explains the consultation that was carried out to help the Partnership to develop a revised Strategy. The comments and ideas of residents, business and other interested parties have been used in shaping the final document. A lot of our success to date (see Annex G of the Strategy documents) has been down to public support of new waste services, such as kerbside recycling collections. The views and attitudes of residents and other interested groups will continue to play a very important part in deciding our future waste services and long term plans.

The main aim of the consultation was to seek views on the significant changes that had been made to the Strategy through the review process. For example, how the revised Strategy addresses the issue of Climate Change which has become of much greater significance since the Strategy was adopted in 2004. Areas of the Strategy not subject to change were not considered in detail in the consultation.

When was the consultation carried out?

The consultation began on 16th February 2009 and ran for a period of 13 weeks until 15th May 2009.

How was the consultation carried out?

Consultation documents were posted on the Partnership web sites and a press release was issued to raise awareness that the consultation was underway. Letters inviting comment were sent to key partners and agencies such as DEFRA and the Environment Agency.

To ensure a robust, reliable, objective and representative view from local residents across the two counties, a two stage consultation process was used. A number of focus groups with residents from across Herefordshire and Worcestershire were held to seek their views on the issues that they felt were important. The focus groups also helped to develop a questionnaire, '**Waste... have your say**' which was distributed to a random sample of 9,000 households across Herefordshire and Worcestershire and made available to complete online.

Resident Focus Groups

Nine focus groups were held across the two counties in Herefordshire, Worcester City, Bromsgrove, Malvern, Redditch and Wychavon. In some cases, letters of invitation were sent to a selection of residents in a targeted area, and in other cases, an existing group – such as a local Childrens' Centre – agreed to host a session. A total of 70 individual members of the public took part in the sessions. Appendix 1 shows an overview of the focus groups that took place.

The groups were organised and led by an independent facilitator with the aim of exploring the issues that were of importance to local residents through a number of questions around recycling, composting and dealing with left over waste as listed below:

- What recycling actions do you undertake?

- What encourages you to recycle?
- What discourages you from recycling?
- What more could be done to support you to recycle?
- To what extent do you feel that changes in waste collection will be effective in encouraging people to recycle?
- What encourages you to compost at home?
- What discourages you from composting at home?
- What could be done to encourage you to compost waste?
- Would you be prepared to pay for a collection of garden waste for composting?
- How much would you be prepared to pay?
- What actions do you take if any to limit the amount of waste you/your family produce?
- Do you think waste should be used as a fuel to generate electricity etc?

The focus groups also completed a draft '**Waste... have your say**' questionnaire and helped us to develop the final questionnaire by giving us their feedback on how it worked and the issues it should address.

Main ideas and comments from the Focus Groups

Recycling

Most of the people taking part are engaged in a range of recycling activities including making use of the kerbside recycling services provided by the Council, taking recyclables to the local Household Recycling Centre and recycling banks and donating to charities. Many of the participants compost – particularly in the rural areas and a few people use Freecycle although most people had not heard of this website.

The main factors that encourage people to recycle are concerns about landfill and a desire to conserve the planet for future generations. Effective Council services and the encouragement of other people - particularly children, neighbours and friends also helps.

The main things that discourage people from recycling include the complications of recycling plastics and lack of information particularly about what happens to recycled waste. The poor attitude & behaviour of some waste collection workers and staff at the Household Recycling Centre, a lack of consistency across the Councils in the area – why not identify the best system for recycling and implement it everywhere – can also have a negative effect on people getting involved. Practical issues such as lack of pedestrian access to the Household Recycling Centre, lack of kerbside recycling collections in some locations and a perception that the emphasis is on enforcement rather than encouragement to recycle are also problems that need to be addressed.

Ideas on how Councils can increase recycling

- Provide more information about what happens to waste after collection particularly mixed recyclables
- Make **all** plastics recyclable
- Encourage shops to reduce packaging
- Provide incentives to recycle e.g. cash or vouchers for returnable bottles

Composting

The people who are actively involved in composting provided two clear reasons why they compost, it is good for the garden or land and it gets rid of waste. For people who do not compost and have the space for a compost bin the main issues were lack of knowledge about how to compost or how to use the compost, the length of the composting process and concerns that it is smelly and attracts vermin. Many people who do not compost were unaware that subsidised compost bins are available

Organisation of waste collection

Where a wide range of recyclables are collected and wheeled bins have been introduced the feedback is that it does encourage people to recycle. The concerns expressed about the new systems were that wheelie bins make an area look unsightly, older people and people with disabilities will have difficulty moving the bins & boxes, the smell of waste bins in the summer months if there are fortnightly collections and concerns about vandalism.

The majority of people attending the focus groups said there should be no charges for the collection of garden waste and most people felt they did not produce enough waste from their garden to need a regular collection.

Reducing Waste

Most people try to limit the amount of packaging they take home but participants felt retailers make it difficult by packaging/over packaging everything. Many use their own shopping bags/bags for life rather than plastic bags. Families on limited income have to save money rather than consider the packaging

Treating waste as a resource

Generally the focus group participants felt the use of waste for fuel to be good & necessary because it provides a better option than continuing to use landfill. Detailed information about issues such as cost, emissions / smells and the amount of energy produced are needed before people are able to make a decision about the best option. There was a commonly held view that no one would want a treatment plant located near their home.

Responding to the issues raised by the Focus Groups

The feedback from the focus groups helped us to design the final questionnaire (see Appendix 2) which was posted to a selection of residents and also on the website. All Councils responded to any local questions raised and gave feedback to focus group members. A summary of responses was distributed to all those that took part (see Appendix 3).

A number of action points which the Partnership has considered in the development of the final strategy and action plan are listed below:

Note: Numbering of the Focus Group responses (FG) allows cross referencing with key tasks in the Action Plan.

	Question or comment from Focus Groups	Partnership response
	RECYCLING	
FG01	Not many people have heard of re-use websites such as Freecycle	Addressed in Action Plan
FG02	Provide more information about what happens to waste after collection particularly mixed recyclables and why the Councils cannot collect certain materials for recycling.	Addressed in Action Plan
FG03	Improve attitude & behaviour of some waste collection workers and staff at the Household Recycling Centres	Addressed in Action Plan
FG04	Consider best practice and improve consistency across the Councils in the area	Addressed in Action Plan
FG05	Can we improve pedestrian access to the Household Recycling Centre?	Addressed in Action Plan
FG06	Provide kerbside recycling collections in some locations	Addressed in Action Plan
FG07	Publicise encourage/education approach rather than enforcement	Addressed in Action Plan
FG08	Encourage shops to reduce packaging	Addressed in Action Plan
FG09	Provide incentives to recycle e.g. cash or vouchers for returnable bottles	Incentives schemes trialled in the past were unsuccessful
	COMPOSTING	
FG10	Improve residents' knowledge about how to compost, e.g. information on how to avoid pests and smells	Addressed in Action Plan
FG11	Publicise and promote the subsidised compost bins	Addressed in Action Plan
	ORGANISATION OF WASTE COLLECTION	
FG12	Provide suitable collection services that reflect the needs of older people/people with disabilities who may have difficulty moving bins & boxes	Addressed in Action Plan
FG13	Provide good information about the range of services that are available.	Addressed in Action Plan
FG14	Provide information to residents on how to avoid the smell of waste bins in the summer months.	Addressed in Action Plan
FG15	Consider the feedback that the majority of people attending	Home composting is the

	Question or comment from Focus Groups	Partnership response
	the focus groups said there should be no charges for the collection of garden waste for composting.	best environmental and economic way of dealing with garden waste. However the option of 'paid for' collections gives residents a choice.
	TREATING WASTE AS A RESOURCE	
FG16	Provide detailed information about issues such as cost, emissions/smells and the amount of energy (needed before people are able to make a decision about the best option). There will be a need for a publicity and awareness raising programme once the decision on the residual treatment facility is known	Addressed in Action Plan

Survey through questionnaire

The survey (see Appendix 2) was designed to highlight the need to review what we do with our municipal waste due to new legislation and sustainability issues and to seek views on the significant changes that had been made to the Strategy. Piloted and refined by the focus groups, questions followed the waste hierarchy and a prize draw encouraged people to complete and return the questionnaire.

To ensure a robust and reliable view across the communities in the two counties the questionnaire was sent to a random selection of 9,000 households across Herefordshire and Worcestershire. A total of 2237 responses were received, 2158 paper responses and 79 via the website. This response rate provides a high level of confidence that the survey reflects the views of the wider population.

What the survey told us

Detailed below is a summary of the key issues arising from the survey.

Recycling and Composting

An overwhelming majority of people felt that dealing with waste and recycling is everyone's responsibility and that it is important for the Councils to spend money on waste and recycling services.

The majority of people who responded always recycle waste products wherever possible using collection services provided by the Council, recycling banks, household waste site, etc. The majority of people who responded also donated unwanted items to charity and composted at home.

Gardens which are too small and concerns about pests are the main reasons why people do not compost at home. Further comments provided stated unsuitable properties, difficulty of managing a home compost bin and that it had not been considered as an

option. Most people were unprepared to pay for a collection of garden waste for composting from their home.

Respondents told us that a lack of information about what you can recycle, what happens to materials after they are collected and not receiving a collection from their home puts them off recycling. Those who provided additional comments said that the exclusion of many plastic items from recycling collections discouraged them. Other discouraging factors were that not all recyclables were collected by crews, the belief that some recyclables are sent to landfill and that not enough bags were provided for collection. Charging for additional collection such as for garden waste also discouraged people from recycling.

The response to Question 4, what would encourage you to recycle, reflected the comments received on what discouraged people from recycling. Common views were that more materials should be accepted for recycling, more bags provided, that there should be incentives for recycling, and that more information must be given to residents. Some also thought that garden waste should be collected free of charge.

1. Where possible I recycle waste products. (Please tick **one** as appropriate)

Always	88%
Sometimes	12%
Never	1%

2. Which of the following do you use to recycle or compost?

(Please tick **all** the relevant boxes)

a. The collection service provided by the Council	82%
b. Recycling banks (usually located in shop car parks)	60%
c. The Household Waste Site (the tip)	75%
d. Donate to charity	75%
e. Home composting	56%

3. What puts you off recycling? (Please tick **all** the relevant boxes)

a. Lack of collection	17%
b. Lack of information about different ways to recycle	9%
c. Lack of information about where recycling banks are	6%
d. Lack of information about what happens to things that are recycled	17%
e. Not clear what you're supposed or allowed to recycle	26%
f. Lack of transport to recycling facilities	8%
g. Too much hassle to sort waste/lack of interest	3%
h. Nothing	39%

Other significant issues raised in a comments box were:

- Only certain types of plastic are accepted – there are too many exclusions and more information is required
- Charging for collection service (e.g. green bin) and no collection service in some areas
- Not all waste is collected by waste operatives

- Knowing that lots of recycled waste actually ends up in landfill sites
- Don't get enough bags for recycled waste

4. What else can the Councils do to increase recycling? (Free Text Response)

The most common responses to this question were:

- Greater range of bins and waste that can be recycled (e.g. yoghurt pots, egg boxes, margarine containers, paper etc)
- Free green bin (garden waste) collection
- Provide more recycling bags for householders rather than just one
- Incentives to encourage people to recycle
- Improved information and publicity, educate children from a young age the benefits of recycling

5. Do you think that dealing with waste and recycling is just the Councils responsibility or everyone's responsibility? (Please tick **one** as appropriate)

Council's	6%
Everyone's	93%
Don't Know	1%

6. Do you think that it is important for the Councils to spend money on waste and recycling services? (Please tick **one** as appropriate)

Strongly Agree	48%
Agree	46%
Neither agree nor disagree	5%
Disagree	1%
Strongly disagree	0%

7. Do you compost waste at home? (Please tick as appropriate)

Yes	60%
No	40%

8. Which of the following reasons explain why you do not compost at home? (Please tick **all** the relevant boxes)

a. Don't know how to	10%
b. Don't know where to get a compost bin from	6%
c. Worried about attracting vermin/pests	30%
d. Too messy/smelly	17%
e. Not enough time	9%
f. Garden too small for a compost bin/nowhere to compost at home	38%
g. Don't have a garden	9%
h. Not interested	4%
i. Nowhere to use the compost produced	26%

Other significant issues raised in a comments box were:

- Live in flat/apartment/sheltered complex so no garden or garden is too small or impractical to compost (i.e. paved)
- Don't want to pay for a compost bin (low income families)
- Composting process takes too long and attracts vermin
- Elderly or have mobility/health problems
- Not thought about it or got round to buying a bin

9. Would you be prepared to pay for a collection of garden waste for composting?

(Please tick as appropriate)

Yes	20%
No	80%

10. If yes, what is the MAXIMUM you would be prepared to pay for a year's worth of collections? (Please tick one only)

a. £30 for a year's worth of collections	79%
b. £50 for a year's worth of collections	18%
c. £70 for a year's worth of collections	2%
d. £90 for a year's worth of collections	1%

Reducing Waste

Many respondents consider potential waste when they buy food items and consider buying food with least packaging wherever they can.

Replies show that people are keen to avoid waste where possible by repairing items, buying second hand goods and donating unwanted items to charity but only a few people use re-use websites such as 'freecycle'.

There was strong feeling that the Councils should work with to recycle/re-use goods such as furniture or bicycles.

Those who provided their own comments in Question 18 thought that businesses should reduce packaging, use more recycled material in producing it and that the packaging regulations should be improved. There were views that there should be harsh penalties for fly tipping. People thought that junk mail should be reduced and that there should be more education and information provided to the public on waste matters. A proportion of those who responded thought that waste should be burnt to produce electricity.

11. Do you buy food with the least packaging to reduce the waste you throw away?

(Please tick **one** as appropriate)

Always	21%
Sometimes	70%
Never	9%

12. Do you think about potential waste when you buy food items?

(Please tick **one** as appropriate)

Always	36%
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Sometimes	53%
Never	11%

13. Do you repair items wherever possible to avoid them being thrown away?

(Please tick **one** as appropriate)

Always	43%
Sometimes	54%
Never	3%

14. Do you buy second hand goods to reduce waste? (Please tick **one** as appropriate)

Always	5%
Sometimes	67%
Never	29%

15. Do you donate unwanted items to charity rather than throw them away?

(Please tick **one** as appropriate)

Always	68%
Sometimes	31%
Never	2%

16. Do you use websites such as 'Freecycle' to reduce waste?

(Please tick **one** as appropriate)

Always	3%
Sometimes	20%
Never	46%
Didn't know about them	31%

17. Do you think the Councils should work with charities to recycle/re-use goods such as furniture or bicycles? (Please tick **one** as appropriate)

Strongly Agree	55%
Agree	42%
Neither agree nor disagree	3%
Disagree	0%
Strongly disagree	0%

18. Do you have any other comments on how we can cut down our waste? (Free Text Response)

The most common responses to this question were:

- Businesses need to where possible use recycled materials in their packaging but also reduce the amount of packaging they use – improve packaging regulations
- Harsh penalties for fly tipping and litter dropping
- Further education of the public through different media channels
- Reduction in junk mail
- Burn waste in an incinerator to create electricity

Treating Waste as a Resource

An overwhelming majority of people who responded felt that any left over waste which cannot be recycled, composted or re-used should be used as fuel to produce energy such as electricity. Minimising the impact on the environment was highlighted as the most important consideration in deciding what to do with left over waste.

19. Do you think waste should be used as fuel to produce energy such as electricity? (Please tick **one** box below)

Yes	98%
No	2%

If YES,

20. To help us decide the best way to do this, tell us which of the following is the most important issue to you: (Please tick **one** of the following)

a. Minimises the distance waste is transported	10%
b. Produces the most heat and electricity	23%
c. Is the cheapest	11%
d. Has the least impact on the environment	53%

Environment

Most people thought that there was a link between climate change and how waste is managed.

21. Do you think there is a link between how waste is dealt with and 'Climate Change'?

Yes	52%
No	16%
Don't Know	32%

Responding to the Issues Raised Through the Survey

All feedback through the survey will be considered in terms of improving waste services. The key issues which residents have highlighted as priorities for action are included in the summary table below. Reference numbers are included to correspond to a key task where one has been identified for the Action Plan:

Note: Numbering of the survey responses (S) allows cross referencing with key tasks in the Action Plan.

	Issue identified through survey	Partnership response
S01	26% of respondents stated that they are not clear what you're supposed or allowed to recycle and this puts them off recycling (Q3).	Addressed in Action Plan
S02	17% of respondents stated that the lack of collection puts them off	Addressed in Action

	Issue identified through survey	Partnership response
	recycling (Q3).	Plan
S03	17% of respondents stated that lack of information about what happens to things that are recycled, puts them off recycling (Q3).	Addressed in Action Plan
S04	Limited range of materials accepted for recycling	Addressed in Action Plan
S05	Provide residents with greater kerbside recycling capacity where requested	Addressed in Action Plan
S06	38% of respondents stated that they do not compost at home as their garden is too small for a compost bin/nowhere to compost at home (Q8).	Addressed in Action Plan
S07	30% of respondents said that they do not compost at home as they are worried about attracting vermin/pests (Q8).	Addressed in Action Plan
S08	26% of respondents said that they do not compost at home as they have nowhere to use the compost produced (Q8).	Addressed in Action Plan
S09	Cost of purchasing a home composting bin	Addressed in Action Plan
S10	Lack of information/promotion of home composting scheme (as some respondents had not considered home composting)	Addressed in Action Plan
S11	80% of respondents stated that they would not be prepared to pay for a collection of garden waste, of those that would pay, 79% would be prepared to pay £30 per annum (Q9 & 10)	Home composting is the best environmental and economic way of dealing with garden waste. However the option of 'paid for' collections gives residents a choice.
S12	79% of respondents sometimes/never buy food with the least packaging to reduce the waste thrown away (Q11).	We want to encourage more people to always consider buying food with the least packaging. Addressed in Action Plan
S13	64% of respondents only sometimes/never think about potential waste when they buy food items (Q12).	We want to encourage more people to always think about potential waste when they buy food items. Addressed in Action Plan
S14	54% of respondents repair items wherever possible to avoid them being thrown away (Q13).	We want to encourage more people to repair items wherever possible. Addressed in Action Plan

	Issue identified through survey	Partnership response
S15	29% of respondents never buy second hand goods to reduce waste (Q14).	Addressed in Action Plan
S16	77% of respondents do not use or have never heard of websites such as Freecycle (Q16).	Addressed in Action Plan
S17	97% of respondents feel that the Councils should work with charities to recycle/re-use goods such as furniture or bicycles (Q17).	It is clear that this is an important issue for residents and this is reflected in the revised Strategy. Addressed in Action Plan
S18	Encourage use of recycled materials in packaging, reduce packaging and improve regulation	Addressed in Action Plan
S19	Penalties for fly tipping and litter offenses	Addressed in Action Plan
S20	Further education of public through variety of media	Addressed in Action Plan
S21	Reduce Junk Mail	Addressed in Action Plan
S22	98% of respondents think waste should be used as fuel to produce energy such as electricity (Q19).	Addressed in Action Plan
S23	Of the 98% of respondents, the most important consideration (53%) was having the least impact on the environment (Q19).	Considered in final Residual Options Appraisal. Addressed in Action Plan

Feedback and comments from other agencies and interested parties

14 responses were received from other agencies and interested parties. The issues raised have been taken account of in the action plan.

The overwhelming response from stakeholders was in support of the reviewed Strategy. Some of the key views expressed were:

- There is a need to provide more information on waste services,
- There is a need to examine options for improving recycling opportunities for commercial waste,
- The effects of transporting waste.
- Some concerns around the options for residual treatment and stakeholders were keen to see more public engagement in relation to this.

The Strategy has been amended to take into account the views of stakeholders.

Conclusions

The consultation process has proved invaluable in developing a revised Joint Municipal Waste Management Strategy. The focus groups enabled us to seek the views of residents that without this opportunity may not have provided us with their valuable input. We received an excellent response to the public postal survey with a response rate of over 20%. However, there was a limited response to the on-line questionnaire and ways of improving this response rate will be considered in future consultations. We were also pleased to receive responses from a variety of different stakeholders and interested parties which provided us with detailed and challenging comments reflecting a range of views and issues.

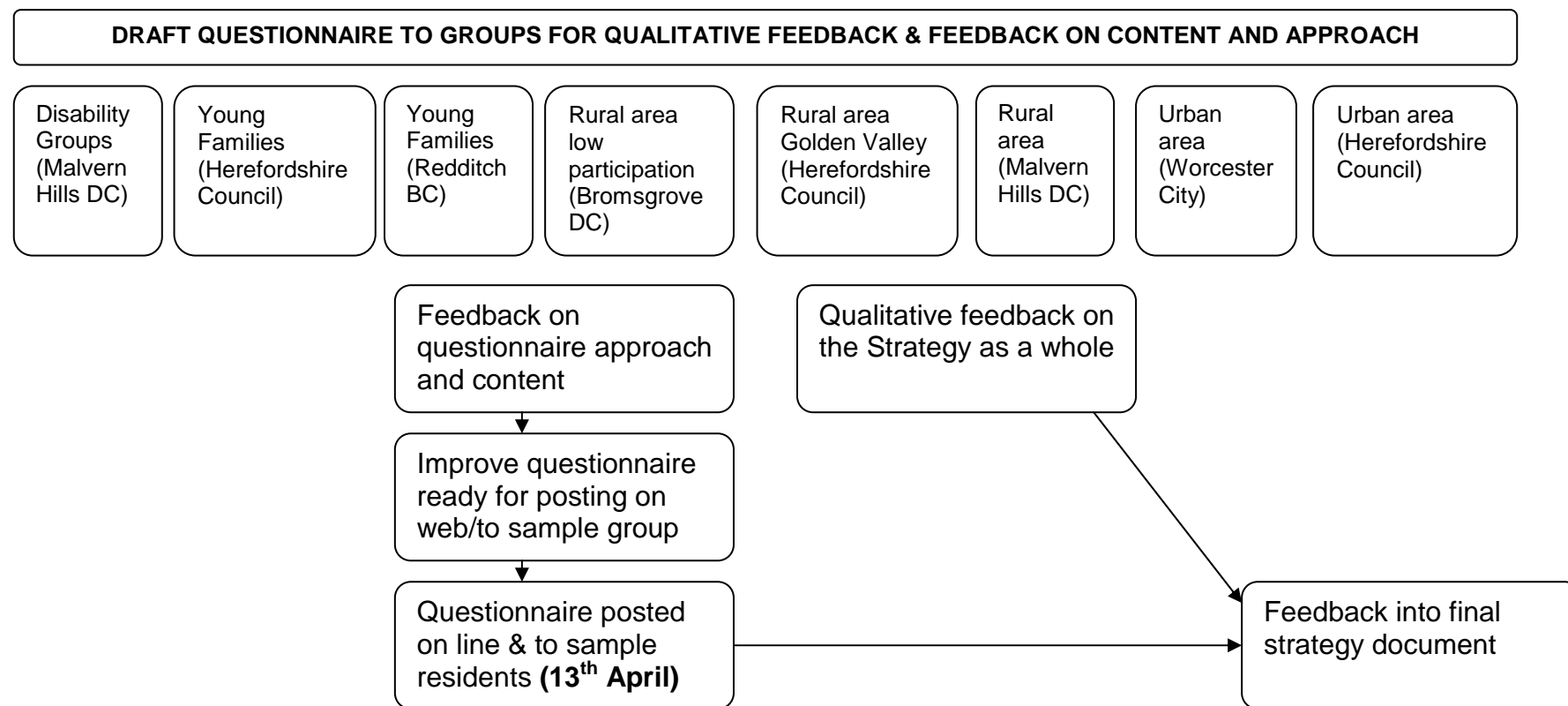
We would like to thank everyone who has taken the time to get involved and respond to this consultation. Your views have helped us to develop a more relevant and robust Strategy.

Appendix 1 – Overview of Focus Groups

Staff focus group meeting early March

Staff to test the process (Wychavon DC)

Groups meeting during March and April



Appendix 2 – Questionnaire



Waste...

Managing waste for a brighter future

have your say and win!
 Complete and return the questionnaire to us in the pre-paid envelope provided or fill it out on line and five lucky winners will each receive £50.



Herefordshire and Worcestershire Councils working together to review the Joint Municipal Waste Management Strategy
www.worcestershire.gov.uk/waste



What is the Joint Municipal Waste Management Strategy for Herefordshire and Worcestershire?
 The Strategy is a plan for how Herefordshire Council and Worcestershire County and District Councils will collect and dispose of waste from homes and some businesses in the two counties until 2034.

Where are we now?
 Last year we collected and disposed of over 400,000 tonnes of waste from homes and businesses at a cost of £32 million. Since our first Strategy in 2004 the amount of waste produced in the two counties has fallen and the proportion of waste that is recycled has increased to 36%.

Where do we need to be?
 We need to continue to improve the way we manage waste by recycling and composting as much as we can. We want to treat waste as a valuable resource, for example it can be used as a fuel to produce electricity. Wherever possible we will reduce the impact of waste management services on the environment.


Why we need your views
 Everyone produces waste and uses waste services. We have to keep reducing year on year the amount of waste which is landfilled and we need to change the way we deal with waste or face financial penalties.

Your views will help us decide how we can do this.
 Please complete the short questionnaire and return it to us in the pre-paid envelope provided by 15th May 2009 or complete the questionnaire on line at www.worcestershire.gov.uk/waste



Should you wish to make a more detailed response this can be done, either by:

- emailing it to us on waste.strategy@worcestershire.gov.uk or
- posting your comments to us at Joint Municipal Waste Management Strategy, Waste Management Unit, County Hall, Worcester, WR5 2NP.



Waste Strategy Questionnaire

Recycling and Composting

By 2015 we are aiming to meet the national target of recycling and composting which is 45% of the waste we manage. We want everyone to be able to recycle as much waste as possible through a collection service and at the Household Waste Sites. Also through other services like garden waste collection for composting (at a charge).

- Where possible I recycle waste products.** (Please tick **one** as appropriate)

Always Sometimes Never
- Which of the following do you use to recycle or compost?** (Please tick **all** the relevant boxes)
 - a. The collection service provided by the Council
 - b. Recycling banks (usually located in shop car parks)
 - c. The Household Waste Site (the tip)
 - d. Donate to charity
 - e. Home composting
- What puts you off recycling?** (Please tick **all** the relevant boxes)
 - a. Lack of collection
 - b. Lack of information about different ways to recycle
 - c. Lack of information about where recycling banks are
 - d. Lack of information about what happens to things that are recycled
 - e. Not clear what you're supposed or allowed to recycle
 - f. Lack of transport to recycling facilities
 - g. Too much hassle to sort waste/lack of interest
 - h. Nothing

Other (please describe)
- What else can the Councils do to increase recycling?**
- Do you think that dealing with waste and recycling is just the Councils responsibility or is it everyone's responsibility?** (Please tick **one** as appropriate)

Council's Everyone's Don't Know

- Do you agree that it is important for the Councils to spend money on waste and recycling services?** (Please tick **one** as appropriate)

Strongly agree Agree Neither agree nor disagree Disagree Strongly disagree
- Do you compost waste at home?** (Please tick as appropriate)

Yes If yes go to question 9
No If no go to question 8
- Which of the following reasons explain why you do not compost at home?** (Please tick **all** the relevant boxes)
 - a. Don't know how to
 - b. Don't know where to get a compost bin from
 - c. Worried about attracting vermin/pests
 - d. Too messy/smelly
 - e. Not enough time
 - f. Garden too small for a compost bin/nowhere to compost at home
 - g. Don't have a garden
 - h. Not interested
 - i. Nowhere to use the compost produced

Other (please describe)
- Would you be prepared to pay for a collection of garden waste for composting?** (Please tick as appropriate)

Yes If yes go to question 10
No If no go to question 11
- If yes, what is the MAXIMUM you would be prepared to pay for a year's worth of collections?** (Please tick **one** only)
 - a. £30 for a year's worth of collections
 - b. £50 for a year's worth of collections
 - c. £70 for a year's worth of collections
 - d. £90 for a year's worth of collections

Reducing Waste

An important part of the Strategy is about reducing the amount of waste that is produced.

- Do you buy food with the least packaging to reduce the waste you throw away?** (Please tick **one** as appropriate)

Always Sometimes Never
- Do you think about potential waste when you buy food items?** (Please tick **one** as appropriate)

Always Sometimes Never

13. Do you repair items wherever possible to avoid them being thrown away?(Please tick **one** as appropriate)Always Sometimes Never **14. Do you buy second hand goods to reduce waste?** (Please tick **one** as appropriate)Always Sometimes Never **15. Do you donate unwanted items to charity rather than throw them away?**(Please tick **one** as appropriate)Always Sometimes Never **16. Do you use websites such as www.freecycle.org.uk to re-use products and reduce waste?** (Please tick **one** as appropriate)Always Sometimes Never Didn't know about them **17. Do you agree that the Councils should work with charities to recycle/re-use goods such as furniture or bicycles?** (Please tick **one** as appropriate)Strongly agree Agree Neither agree nor disagree Disagree Strongly disagree **18. Do you have any other suggestions on how we can reduce our waste?**

Treating Waste as a Resource

We believe that waste needs to be treated as a valuable resource. We will do this by reducing, recycling and composting as much waste as possible. However, there will still be some waste leftover that we intend to use as a fuel.

19. To help us decide the best way to change this leftover waste into a fuel, please can you tell us which of the following is the most important issue to you?(Please tick **one** of the following)**My waste is managed in a way that:**

- a. Minimises the distance waste is transported
- b. Produces the most heat and electricity
- c. Is the cheapest
- d. Has the least impact on the environment

20. Do you think that waste should be used as fuel to produce heat and electricity?Yes
No

Environment

Councils need to reduce the impact that waste has on the environment. Greenhouse gas emissions from treating and transporting waste have to be reduced.

21. Do you think there is a link between how waste is dealt with and 'Climate Change'?(Please tick **one** as appropriate)Yes No Don't Know **Data Protection Act**

The information you provide to us will be held by Worcestershire County Council. It will only be used for the purposes of consultation and research, in order to improve our services. We may contact you in order to award any associated prizes. We will share the consultation results with our partners Bromsgrove District Council, Herefordshire Council, Malvern Hills District Council, Redditch Borough Council, Worcester City Council, Wychavon District Council and Wyre Forest District Council. Anonymous results will be published on the Council's Ask Me! Consultation Planner & Finder web database. Survey results will never contain your name or anything that could identify you.

22. Please enter your postcode:

If you wish to be entered into the prize draw please provide your details below:

Name Address **Personal Details** (Optional)1. Are you male or female? Male Female

2. What was your age on your last birthday?

0 - 18 18 - 24 25 - 34 35 - 44 45 - 54 55 - 64 65 - 74 75+ **Useful information**

For more information on reducing, re-using, recycling or composting please visit www.wastemissionimpossible.org.uk

For more information on the waste strategy for Herefordshire and Worcestershire please visit www.worcestershire.gov.uk/waste

Prize draw conditions: Only one entry per household will be included in the prize draw, to be drawn at random from all entries received on or before the 15th May 2009. Proof of submission is not proof of receipt. Worcestershire County Council's decision is final. No correspondence will be entered into. Entries will not be returned.

This document can be made available in other languages (including British Sign Language) and alternative formats (large print, audio tape, computer disk and Braille) on request from Waste Management on telephone number 01905 768271 or by emailing wastestrategy@worcestershire.gov.uk

Appendix 3 - Summary of responses to focus group questions

QUESTIONS COMMON TO ALL FOCUS GROUPS

Waste Reduction – Packaging Waste

What guidance are manufacturers given about packaging?

Manufacturers must comply with applicable legislation to do with packaging. There are regulations which are intended to minimise packaging of products as well as set targets for recovery of packaging after it has been used by businesses. A good example of how this works is in supermarkets where a large amount of packaging material used to transport products from manufacturers to the shelves is recycled to comply with the law.

Through packaging redesign and improvement such as reducing the weight of items like bottles, cans and boxes and increasing the use of refill and self-dispensing systems, there was a 'zero growth' in packaging in 2008, despite increases in sales and population.

What is done to encourage shops to reduce packaging and deter them from giving out plastic bags?

The councils have no direct influence over retailers to encourage them to reduce packaging and deter them from giving out plastic bags. As part of our waste prevention initiatives we have given away a large number of reusable bags to residents in Herefordshire and Worcestershire. We will continue to lobby government for improved measures to prevent and reduce waste such as this.

Can the Council influence shops re deliveries not in plastic bags?

The councils have no direct influence over retailers in regard to this and other issues. However we will continue to lobby government for improved measures to prevent waste such as this and encourage consumers to do speak to their retailer.

Why can't shops use biodegradable wrapping to preserve food & save on waste?

If biodegradable packaging is used to package food it still needs to be disposed of. The way that it is manufactured means it cannot be recycled so currently would be sent for disposal such as to landfill. The councils will continue to lobby government for improved measures to prevent this waste where possible and where this sort of packaging is required make it recyclable.

Home Composting

Can more information be provided for people about composting?

Compost bins are currently available from as little as £12 (including delivery). Visit the councils website www.wastemissionimpossible.org.uk or call the hotline on 01905 766883 to find out how to get a compost bin. You can also get more detailed information on how to make and use compost from this website; alternatively visit www.recyclenow.com/compost for further hints and tips.

Herefordshire Council and Worcestershire County Council also stock a number of Home Composting information leaflets which are available to residents free of charge, if you need more information please call the Mission Impossible hotline on 01905 766883 or email missionimpossible@worcestershire.gov.uk

Can local classes be organised by the council involving local experts providing information about indoor compost bins?

The councils jointly promote Home Composting the Waste and Resources Action Programme (WRAP).

There are many initiatives on Home Composting which include running Compost Clinics and roadshows in towns and cities and offering subsidised compost bins. In addition to this, the authorities run a Master Composter Scheme, aimed at promoting the benefits of home composting, encouraging more people to participate and enabling those who already home compost, to do so more effectively. There are currently 55 active Master Composter volunteers across Herefordshire and Worcestershire who take part in a number of promotional activities, including attending events, doing school visits and giving composting demonstrations, as well as generally spreading the composting message in their local communities.

If you are interested in joining the scheme please visit www.wastemissionimpossible.org.uk to find out more information, or call the Mission Impossible hotline on 01905 766883 alternatively you can email missionimpossible@worcestershire.gov.uk

Could there be a communal compost site that people could contribute to?

This is a good idea where it can be accommodated, for example allotments and communal farming projects. However, any site receiving waste from other premises would require planning permission from the council and an authorisation from the Environment Agency. If you are interested in setting up a scheme in your local area you could contact the Community Composting Network (CCN) for more advice and information. The CCN contact details are as follows, web: www.communitycompost.org Tel: 0114 2580 483 email: info@communitycompost.org.

Re-use

Could there be a Council run 'Freecycle' because of the variable rules of Freecycle in different areas? What about a pen and paper system for people who do not have computers?

Re-use services such as *Freecycle* are independently run organisations and only with the advent of the internet have such schemes been made possible. For those people that do not have internet access the council organises regular re-use swap shops where people can bring and swap unwanted but useful items with other people. For more information visit www.wastemissionimpossible.org.uk, or call the Mission Impossible hotline on 01905 766883 alternatively you can email missionimpossible@worcestershire.gov.uk

The Council also has a "Re-use Guide" which is available free of charge to residents. The Guide details many of the organisations who will accept donations of unwanted items such as clothing, furniture and electrical appliances for re-use. Items can also be purchased from these organisations.

Kerbside Recycling

Why are recyclable materials often collected mixed together? How does it work?

Recyclable materials are often collected mixed together for a number of reasons. Many people find it easier to put all their recyclables in one large container or bag. It is also easier for the council to collect recyclables if they are all in one type of container. The disadvantage of this method is that the materials need sorting before they can be sent to be recycled. However studies have shown that this method encourages more recycling and overall is the most economical way of collecting recyclables.

Once collected mixed recyclable materials have to be sorted and segregated before they can be recycled into new materials. To do this the mixed materials are sent to a Material Reclamation Facility which sorts them out by a mixture of manual and mechanical methods, into paper, plastics, metals, etc.

As part of our joint waste management arrangements Herefordshire and Worcestershire are constructing a new Materials Reclamation Facility near Worcester called EnviroSort. The new facility will also have less reliance on people sorting the waste by hand. New equipment will now do much of the sorting making the process faster and more efficient.

Essentially materials are sorted by type using a variety of different machines connect by conveyor belts. Recyclables are sorted by size and shape, by the properties of the material and even by colour. Examples of machines that are used include ballistic separators (which are like large vibrating sieves), magnets to separate steel, eddy current separators to remove aluminium and optical sorters to identify and separate different sorts of plastic.

Once the materials are sorted out they are then suitable for re-processing into new materials.

The new EnviroSort facility will be open in the autumn and there will be a visitor's centre so that people will be able to see for themselves what happens to their waste.

What is happening to any materials that are sent for recycling but no longer profitable?

There are few examples of materials that are currently collected but not profitable to recycle, these include household batteries and car tyres. Due to the high and increasing costs of waste disposal, e.g. landfill, it is almost always more beneficial to recycle a material. Legislation ensures that some materials that are hazardous to the environment are collected and recycled even though it would be cheaper to dispose of them.

What happens to any stock piles of recycled materials?

Waste collected for recycling in Herefordshire and Worcestershire has not been stockpiled. Once sorted at the Materials Recovery Facility our recyclables are of a high quality and there is a strong demand for them from re-processors.

Why can't I recycle carrier bags or corrugated card in our recycling collection?

Unfortunately carrier bags and thick card are not accepted because either there is no market for these products or because they can disrupt the sorting process.

However once the Envirosort facility, described above, is up and running at the end of this year our aim is to accept corrugated card as part of your recycling collection service. We will publicise any changes to let people know when materials can be recycled.

What types of plastics can or cannot be recycled? Why are there limitations?

Currently you should only put plastic bottles in your recycling collection, examples are listed below.

- Plastic milk & juice containers
- Plastic water & squash bottles
- Plastic fizzy drinks bottles (not black or brown)
- Plastic shampoo & bubble bath bottles
- Plastic fabric conditioner, bleach & cleaning bottles
- Plastic washing up liquid bottles

There are so many different types of plastic and many are difficult to recycle either because they are difficult to sort out or there is no market for them. Plastic bottles are easily identifiable, they are easy to sort out from other materials, and there is a strong demand for them to be recycled. As with corrugated cardboard our aim is to accept more different types of plastic once the Envirosort facility is up and running at the end of this year.

Could there be clearer symbols on the plastics that coincide with the Council recycling information?

The council has no direct influence on the symbols printed on plastics. However we know that people find the symbols confusing. To make things simpler we prefer to advertise the type of plastic container that can be recycled, for example plastic bottles as these are easily recognisable.

Need a balanced amount of information about recycling, brief and clear.

The council is producing new information on the recycling scheme that will be available before the end of the year; this will be brief and clear.

Household Waste Sites

Is there a local facility for recycling batteries?

You can recycle both lead acid car batteries and small household batteries at any Household Waste Site.

Why are pedestrians prevented from using the tip? We can't take batteries because we do not have a car.

Pedestrians are allowed to use the Household Waste Sites where it is safe to allow them to do so.

Where can you dispose of paint/old paint pots?

Old empty paint pots from your home can be taken to your nearest Household Waste Site. If you must dispose of any unwanted paint then this can only be taken to certain sites that have chemical lockers visit www.worcestershire.gov.uk/waste for further information.

Waste Disposal

Where does the general waste go?

General waste which is either collected in black sacks or wheeled bins is mostly sent to landfill. In order to reduce the amount of waste we send to landfill some waste is sent to Energy from Waste facilities in either Coventry or Wolverhampton.

QUESTIONS RELATING TO HEREFORDSHIRE COUNCIL REFUSE COLLECTION

Why is shredded paper not accepted by the recycling collection?

Shredded paper is currently accepted in the purple recycling sack but it is a difficult material to deal with. When paper is shredded it becomes more difficult to sort and separate than whole paper. Shredding also damages the fibres and thus is less useful as a recyclable material.

This material is best put in a paper bank at one of the many bring sites in Herefordshire. This eliminates the need to sort and segregate it before it is sent to be recycled.

Can you clarify where the garden waste bags (green bags) go, do they go to landfill?

Any green garden waste bags you present are collected and end up in landfill. Herefordshire Council is keen to encourage home composting of waste and discourage landfill where possible which is why there is a charge for this service.

Do the green bags rot down?

The green bags are not biodegradable so do not rot down.

There is not enough information about what can be recycled?

Herefordshire Council is currently promoting the new recycling service which will start in November 2009. Information is already available on this scheme in council offices, libraries and info shops. Officers are also attending local events and conducting road-shows to try to get more information out. As the launch of the new scheme draws nearer there will be even more publicity of the scheme which will include providing an information pack to all residents before the scheme starts.

I am confused as to which bag to put out each week?

If you are unsure what waste to put out and when, please contact Herefordshire Council or visit www.herefordshire.gov.uk.

How will the wheeled bins be stored in flats?

Each block of flats will be visited by a Waste Management Officer to see how the recycling service can best be provided. This may be a recycling bin for each flat, a communal bin or recycling sacks.

Will wheelie bin bags be provided?

These will not be required as it is only mixed dry recyclables that should be put in the wheeled bins and they need to be kept loose for sorting. These materials should not smell or leave any residue.

Will there be different sizes of bins? How do you get different sized bins?

A smaller 120 litre (half size) wheeled bin is available for people who do not need or would not be able to manage the larger size..

What will happen about the collection of wheeled bins in terraced houses with no frontage or in houses with steps? What about elderly people who have trouble moving the wheeled bin?

Terraced properties will be assessed in a similar way to blocks of flats. If a wheeled bin cannot be accommodated then the property will be provided with recycling sacks. Where a wheeled bin can be accommodated then a wheeled bin will automatically be delivered to the property before the scheme starts in November. If anyone has trouble moving their wheeled bin because they struggle to do so then they can apply for an assisted collection or select the smaller 120 litre wheeled bin.

I do not know what is to go in the different bags?

Those properties that currently receive a bag recycling service are provided with both clear and purple sacks for recyclables. In the clear bag you can put plastic bottles, tins and cans. In the purple sack you can put paper, and textiles. Clear bags are collected one week and purple bags the next both at the same time as your black sack collection. More information about this scheme is printed on the sacks and also available from Herefordshire Council Info Shops or from Info by Phone on 01432 260000.

The new wheeled bin recycling scheme starts on 2nd November 2009 and will replace the sack recycling scheme.

Purple bags are being put in the same lorry as black bags so what is the point of sorting the waste? The bin men say the recycle lorry is full so they have to mix them?

This practise is not supported by the council. Under the new recycling scheme the contractor will be penalised for mixing recyclables with landfill waste.

Can we have more information about the new wheelie bin scheme? Do we have to pay for a wheelie bin? What will I be able to put in them for recycling?

Information on the new wheeled bin recycling scheme is available from on the Herefordshire Council Website, at Info Shops or from Info by Phone on 01432 260051.

There will be no charge for the new service. Wheeled bins will automatically be delivered to your property before the start of the scheme in November.

Can householders be provided with a roll of black bags rather than single bags thrown into gardens as happens at present? These blow away and cause litter.

Herefordshire Council launches a new refuse and recycling service on the 2nd November 2009. For this service householders will be provided with a roll of bags to last 6 months rather than a single bag each week.

Will the parish freighter service be continued?

The parish freighter service will continue until the end of March 2010. However it will be reviewed at this point to the high cost of providing the service.

QUESTIONS RELATING TO REDDITCH BOROUGH COUNCIL REFUSE COLLECTION

Can there be more information about the assistance available for older/disabled people with collection of bins from their properties?

It is very important that the Council makes residents aware of and provides appropriate waste collection services to meet the needs of all residents. Residents who contact the Council by telephone are given advice by trained staff about the options available to them should they feel that they are unable to use the standard kerbside wheeled bin service. There is some information on the Council's website on the assisted waste collection service and the service standards are also available through the website. However, we acknowledge that there may be opportunities to improve the way in which we communicate this kind of information and we will take on board this important suggestion. For more information visit www.redditchbc.gov.uk or telephone: 01527 534123.

Please can the policy of tagging be explained?

Information tags are placed on bins where there is a problem which means we are unable to collect or fully empty the bin. For example, on green bins, a tag may be used if the bin is 'contaminated' with waste which we cannot recycle, for example general rubbish, which could prevent the entire load of recycling from being recycled. Tags can also be used on bins which are too heavy to be emptied safely or where there is extra waste put out by the side of a grey bin. The tag is our way of letting people know that we were unable to empty the bin and tell them what they need to do to resolve the problem.

The council could encourage people to recycle by providing small storage boxes with lids to use in the home before taking it out to the wheelie bin?

When we introduced green wheelie bins for recycling, we gave all residents the option of keeping their existing recycling boxes to use for this purpose, or to have them collected by the Council for recycling. The response varied from home to home, so while residents may choose to use storage containers inside their home, others would prefer to make their own arrangements. There are lots of products on the market which are suitable or manufactured solely for this purpose. There would be a cost if the Council were to provide storage boxes, and to fund this the Council would need to pass on a charge to the householder – therefore it is more appropriate that residents can choose a container to suit their needs and purchase it themselves from a DIY store etc.

Who collects large items / amounts of waste, the council or a private contractor?

The Council provides a collection service for bulky household items, which are items you would generally take with you if you moved house. The cost is £15 for up to three large items such as a three piece suite, or unwanted household furniture/large household appliances, with an additional charge of £4 per item up to a maximum of 6 items.

Examples of what we **can** take:

Cookers, Carpets, Dishwashers, Hoovers, Mattresses, Tables, Settees, Televisions, Wardrobes (free standing), Washing Machines, Bed bases, Bicycles, Fridges and Freezers.

Examples of what we **can not** take:

Business and Commercial Waste, Builder's Waste, Fitted Kitchen Units, DIY Waste, Roofing Materials, Sink Units, Sheds, W.C.s, Gas Bottles.

Alternatively, if items are re-usable we ask residents to consider using a re-use charity such as Boomerang in the Town Centre or Newstart in Bromsgrove – contact Boomerang on 01527 68250 or Newstart on 01527 882410 and more information can be found on the Council's website at www.redditchbc.gov.uk/waste

Other ways of disposing of large items of waste or waste which the Council does not collect are outlined below:

- **Take items of your household waste to a Household Waste Site**

The nearest site is at: Crossgate Road, Park Farm Ind. Estate, Redditch B98 7SN. Tel: (01527) 526392. Open Monday-Sunday 8:00am-6.00pm

- **Buy Orange Sacks from the Council**

Residents can purchase pre-paid orange sacks at £1.20 each and this includes the cost of collection. The sacks can be used for the collection of normal household and light garden waste. We will accept up to two orange sacks per grey bin collection.

You can purchase sacks from a number of Council outlets including the Town Hall One Stop Shop, Batchley One Stop Shop, Winyates One Stop Shop, Woodrow One Stop Shop, Arrow Vale Sports Centre, Abbey Stadium, Hewell Road Swimming Pool, Kingsley Sports Centre, Arrow Valley Countryside Centre, and Forge Mill Museum

- **Use a Specialist Company or hire a skip**

You may decide to use a specialist waste company to collect your waste items. If you hire contractors such as builders or scrap metal merchants who are taking waste away from your property, you need to make sure they are a licensed waste carrier. The Environment Agency keeps records of all licensed waste carriers and you can check if a company is licensed on the Environment Agency website or alternatively the general helpline number is 08708 506 506* (Mon-Fri, 8am - 6pm).

There are also a number of skip hire/waste disposal companies who advertise in local papers and in the yellow pages.

Is Redditch intending to implement a scheme to collect garden waste for an annual charge? If so, what would the money be used for?

Redditch is looking at whether to introduce a chargeable garden waste collection service similar to the one operating in Bromsgrove and Wychavon. A decision will be made later this year whether to start a collection from April 2010 and the charge would be used to offset the cost of providing the service.

What are the regulations regarding bonfires? Are they banned at all times of the day? Do you need a metal bin to have a bonfire in?

There are no local bye-law or air control areas in Redditch to prevent residents from having bonfires. However, we are aware that in some cases bonfires can cause air pollution, annoyance and can give rise to health and safety concerns. We are not aware of any requirement regarding the type of container that must be used for a bonfire. There is legislation which can be used to tackle on going problems of nuisance from bonfires and my colleagues in environmental health can provide further advice and guidance on individual cases of bonfires.

Lot of people do not engage in recycling or leave a mess. The council needs to encourage better recycling

It is very important that we continue to publicise the benefits of recycling and try to get people involved and see it as a positive thing to do. Later this year we are hoping to run a publicity campaign to promote recycling. This will include details on the new items which can be recycled in the green bins. We also have a Waste Awareness Officer who can visit specific areas if needed to encourage more people to participate in recycling their waste.

QUESTIONS COMMON TO BROMSGROVE DISTRICT COUNCIL

There is no doorstep recycling collection for one focus group member at my house due to the hill. However the waste lorry does go past my house so why do I not receive a collection?

We cannot collect recycling from a small proportion of our residents due to restrictions with our collection vehicles. In broad terms the recycling vehicles require more room to access than the refuse vehicles due to the different compartments required to separate the materials for recycling. This problem will be overcome in the future when Bromsgrove DC moves to collecting recycling in the same method as we currently collect refuse.

Is there support for people who may struggle in moving boxes to the kerbside in places where vehicle access is not possible?

Bromsgrove DC offer an assisted collection for those residents that cannot physically move items to the kerbside for collection, boxes / bins however must be easily accessible from the front of the property and we will not access gardens garages etc. Visit www.bromsgrove.gov.uk for more information.

Why is there no beverage carton/wax carton recycling? School milk comes in these therefore hundreds of empty cartons go to landfill every day just from schools.

Beverage carton recycling banks are provided at some bring sites, for example in supermarket car parks http://bromsgrove.whub.org.uk/home/bdc_tetra_pak.pdf. The possibility of collecting these in your kerbside collection is being investigated for when the new EnviroSort Facility opens.

Collections from schools are arranged by the schools themselves so it depends on what the collection contractor are able to offer the school. Where the council make the recycling collection we will be able to provide a service to recycle some cartons when the EnviroSort facility opens.

QUESTIONS COMMON TO MALVERN HILLS DISTRICT COUNCIL

Are the plastic bags supplied by the council biodegradable?

No they are not. Sacks used to collect items for recycling are themselves recycled. Biodegradable sacks are much more costly and more importantly do not break down in landfill much quicker than ordinary sacks.

How much does recycling cost? How does it all work?

Segregated recyclables are a commodity and are sold to re-processors. However there are significant costs in collecting, transporting and sorting recyclables prior to re-processing. The costs are split between the district council who are responsible for collecting recyclables and the County Council who make arrangements for them to be recycled.

Annex I

Action Plan



The Joint Municipal Waste Management Strategy
for Herefordshire and Worcestershire 2004 - 2034

First review August 2011

Joint Municipal Waste Management Strategy Three Year Plan April 2011 to March 2014

Joint Members Waste and Resource Management Forum

In order to help maximise the potential of joint working between partnership members yet at the same time minimise expense this plan has been developed.

The review of the Joint Municipal Waste Management Strategy for Herefordshire and Worcestershire (JMWMS) carried out in 2009-10 helped to identify areas of work for member councils through the development of an Action Plan (Annex I – Parts A and B). However with importance of reducing cost across all council services it was necessary for the actions contained within the plan to be prioritised. Through the Joint Members Waste Resource Management Forum a workshop was carried out to help identify the most important areas of work. The workshop prioritised those actions, developed in the strategy review, that were not required directly or indirectly by statutory law.

The workshop presented groups of Members and Waste Management Officers from all councils with actions from the JMWMS. These were debated and then prioritised by the groups. Those actions considered by the workshop held by the Joint Members Waste Resource Management Forum are detailed below:

	Action	Ranking			Index	Priority	Other Comments
		1	2	3			
Waste Prevention	Investigate Community Composting	8	8	6	7.3	8	
	Promote Home Composting	2	3	7	4.0	4	
	Reduce Food Waste	1	1	5	2.3	2	
	Reduce Junk Mail	7	7	8	7.3	7	
	Restrict Residual Waste	3	2	1	2.0	1	Group 2 felt that this could be achieved at a later time
	Promote Re-use at HRCs	6	4	4	4.7	5	
	Promote Re-use of Bulky Collections	5	6	3	4.7	6	
	Provide Support to Re-use Groups	4	5	2	3.7	3	

Recycling and Composting	Provide Commercial Recycling Options	1	1	2	1.3	1	
	Provide Consistent Textile Collections	5	5	3	4.3	5	
	Enhance Bring Recycling Sites	4	3	4	3.7	3	
	Recover Street Sweepings	2	2	1	1.7	2	
	Partnership to collect same materials	3	4	5	4.0	4	
Other Actions	Set Climate Change Target	5	3	3	3.7	5	Group 1 felt this could be done at a later time
	Develop Overarching Comms Plan	1	2	4	2.3	1	
	Reduce Fly Tipping	4	1	5	3.3	4	Group 1 felt this could be done at a later time
	Improve Customer Care HRC	2	5	2	3.0	3	
	Improve Customer Care Collection	2	4	1	2.3	2	

The results of this workshop have used to create a new Action Plan to help plan efforts for the next three years. This three year plan incorporates both actions required of the councils by statutory law and those prioritised by the Forum.

Three Year Plan

The three year plan is divided by category as per the Waste Hierarchy starting with Waste Prevention (includes re-use), Recycling and Composting, Energy Recovery, Waste Disposal and finally all remaining Miscellaneous actions.



Red box indicates a that this is a statutory requirement

Strategy Targets

Detailed below are all the targets from the Joint Municipal Waste Management Strategy for Herefordshire and Worcestershire.

JOINT MUNICIPAL WASTE MANAGEMENT STRATEGY TARGETS

Target	Name	Description	Target
1	Climate Change	Reduce the impact of management of municipal waste management on climate change in Herefordshire and Worcestershire	?
2	Reduce Household Waste	Achieve the national reductions in household residual waste (waste not re-used, recycled or composted) based on 2000 levels	29% by 2010 35% by 2015 45% by 2020
3	Increase Recycling	To achieve national recycling/composting levels of household waste	40% by March 2010 45% by March 2015 50% by March 2020
4	Household Recycling Act 2003	To achieve the requirements of the Household Waste Recycling Act 2003 by 31st December 2010	Provide a kerbside collection of at least 2 recyclable materials from all households
5	Recover value from waste	By 2015 or earlier if practicable, we will recover value from a minimum of 78% of municipal waste.	Value recovered from a minimum of 78% of waste by 2015
6	Reduce Biodegradable Waste to Landfill	Reduce the amount of biodegradable municipal waste landfilled in order to meet the yearly allowances set by Government under the Landfill Allowance Trading Scheme. This is limited to the following amounts:	154,164 tonnes in 2009/10 102,684 tonnes in 20012/13 71,851 tonnes in 2019/20

Waste Prevention

The outcomes of the workshop have indicated that the councils should prioritise their efforts on continuing to reduce the amount of waste where possible. The areas of encouraging increased home composting and food waste prevention are seen as particular areas where joint efforts would yield the best results.

WASTE PREVENTION

Priority	Action	Key Tasks	Start Date	End Date	Project Manager
1	Restrict Residual Waste Presented at Kerbside	TARGET: Reduce residual waste collected at kerbside by 10% from 9/10 levels	01-Apr-11	31-Mar-14	ALL WCA
		Implement measures to restrict waste at kerbside (such as limit capacity or frequency of collection)	01-Apr-11	31-Mar-14	ALL WCA
		Enforce measures	01-Apr-11	31-Mar-14	ALL WCA
		Continued promotion of waste prevention initiatives	01-Apr-11	31-Mar-14	ALL
2	Reduce Food Waste	TARGET: Reduce the amount of food waste collected by 10% by March 2014	01-Apr-11	31-Mar-14	ALL
		Conduct targetted food waste reduction campaign trial in the St Johns area of Worcester	01-Feb-11	31-Jul-11	WCC/CoW
		Encourage food waste reduction through a range of initiatives	01-Apr-11	31-Mar-14	ALL
		Continue to promote WRAP Love Food Hate Waste Initiative locally	01-Apr-11	31-Mar-14	ALL
3	Provide Support to Re-use Organisations	TARGET: Increase tonnage of waste re-used by 50% from 09/10 levels	01-Apr-11	31-Mar-14	ALL
		Continue to facilitate the SEWAR meeting	01-Apr-11	31-Mar-14	WCC/HC
		Expand and promote re-use at HRCs and bulky collections	01-Apr-11	31-Mar-12	ALL
		Pay re-use credits for re-use of household waste	01-Apr-11	31-Mar-14	WCC/HC

Waste Prevention Continued

Priority	Action	Key Tasks	Start Date	End Date	Project Manager
4	Promote the Home Composting	TARGET: Sell 15,000 from April 2011 to March 2014	01-Apr-11	31-Mar-14	WCC/HC
		Continue to provide for Master Composters to help promote composting at home	01-Apr-11	31-Mar-14	WCC/HC
		Continue to provide subsidised compost bins for householders	01-Apr-11	31-Mar-14	WCC/HC
		Provide and distribute supporting information to encourage home composting	01-Apr-11	31-Mar-14	ALL

Recycling and Composting

Aside from council's statutory obligations to expand kerbside recycling services to all households by the end of 2010. The workshop identified that the ability to offer recycling collections to trade customers was a priority.

RECYCLING AND COMPOSTING

Priority	Action	Key Tasks	Start Date	End Date	Project Manager
1	Continue to meet requirements of the Waste Recycling Act (2003)	TARGET: Collect for recycling a minimum of two different materials from every household	01-Dec-10	31-Mar-14	ALL WCA
		Identify and allocate service to all new properties	01-Dec-10	31-Mar-14	ALL WCA
		Record all exemptions	01-Dec-10	31-Mar-14	ALL WCA

Recycling and Composting Continued

Priority	Action	Key Tasks	Start Date	End Date	Project Manager
2	Provide Commercial Recycling Options	TARGET: Recycle at least 25% of commercial waste collected by participating WCAs by 2012	01-Apr-11	31-Mar-12	ALL
		Identify collection and treatment services required and cost to ensure best value	01-Dec-10	01-Apr-11	WCC/HC
		Establish collection services	01-Apr-11	30-Jun-11	ALL WCA
		Establish delivery points for materials	01-Apr-11	30-Jun-11	WCC/HC
		Provide and promote service	01-Jul-11	31-Mar-14	ALL WCA
3	Recover Street Sweepings	TARGET: Recycle at least 10% of street sweepings by 2013	01-Dec-10	31-Mar-13	WCC/HC
		Investigate suitable facilities and processes for recovering useful material from street sweepings.	01-Dec-10	31-Mar-11	WCC/HC
		Negotiate variation with Waste Disposal Contractor	01-Jan-11	31-Mar-11	WCC/HC
4	Enhance Bring Recycling Sites	Investigate most suitable and cost effective services in support of kerbside collection services	01-Apr-12	30-Jun-12	ALL WCA
		Implement new services	01-Jul-12	31-Mar-14	ALL WCA

Energy Recovery

In order to meet the partnerships targets to divert waste from landfill the development of an Energy from Waste facility remains a high priority.

ENERGY RECOVERY

Action	Key Tasks	Start Date	End Date	Project Manager
Construct and Commission an Energy from Waste facility	Obtain planning and environmental consents for development	01-Apr-11	31-Mar-12	MWM
	Council and Contractor to agree financial model	01-Apr-11	30-Sep-11	MWM/WCC/HC
	Construct and Commission facility	01-Apr-12	31-Mar-14	MWM
	Start Delivering Waste	01-Apr-14	31-Mar-25	ALL

Waste Disposal

Suitable landfill facilities will be required even after the development of an Energy from Waste facility. Our Disposal Contractor will be responsible for ensuring that sufficient capacity is provided.

WASTE DISPOSAL

Action	Key Tasks	Start Date	End Date	Project Manager
Provide Suitable Landfill Facilities	Monitor capacity of existing facility(s)	01-Apr-11	31-Mar-14	MWM
	Identify additional landfill capacity as required (e.g. for APC residues)	01-Apr-13	31-Mar-14	MWM

Miscellaneous Actions

Of the remaining actions aside from those required in any event the workshop indicated the need to develop a joint communications plan to help better co-ordinate partnership promotional efforts. Improving customer care at Household Waste Sites and also on waste collection rounds was also seen as a priority.

MISCELLANEOUS ACTIONS					
	Action	Key Tasks	Start Date	End Date	Project Manager
1	Collect, Store and Provide Accurate Waste Data as Required	Continue to collect and store waste data for performance management	01-Apr-11	31-Mar-14	ALL
		Report performance through Waste Data Flow or any subsequent means	01-Apr-11	31-Mar-14	ALL
2	Provide Assisted Collection Services where Required	Devise suitable policies for providing assisted collections	01-Apr-11	31-Mar-14	ALL
		Identify and provide service where required	01-Apr-11	31-Mar-14	ALL
3	Develop Overarching Communications Plan	Produce a draft communications plan for review by the Joint Members Waste Management Forum	01-Dec-10	30-Jun-11	SEC
		Implement approved Communications Plan	01-Jul-11	31-Mar-14	ALL
4	Improve Customer Care on Refuse and Recycling Collection Rounds	TARGET: Continue to achieve at least a 75% satisfaction rating from the place survey	01-Apr-11	31-Mar-14	ALL WCA
		Develop training programme for collection crews	01-Apr-11	31-Mar-12	ALL WCA
5	Improve Customer Care at Household Recycling Centres	TARGET: Continue to achieve at least a 75% satisfaction rating from the place survey	01-Apr-11	31-Mar-14	WCC/HC
		Develop training programme for HRC Operatives	01-Apr-11	31-Mar-12	WCC/HC

Waste Strategy Action Plan

The Action Plan sets out how all councils in Herefordshire and Worcestershire will deliver the revised strategy.

Part A of the Action Plan provides details of the key tasks that are required and the organisation responsible for delivering these tasks. A reference from the Consultation Annex H is also given to show how the views of people have helped to influence the development of the Strategy.

Part B of the Action Plan provides details of when key tasks are to be delivered, whether resources have been allocated and the level of resources to be allocated to the task. Resource allocation has been given three levels as follows:

Low	A total resource allocation of less than £10,000 provided to deliver task
Moderate	A total resource allocation of £10,000 or more but less than £75,000 provided to deliver task
High	A total resource allocation of £75,000 or more provided to deliver task

Part B of the Action Plan also outlines the dependencies and risks that must be considered in order to achieve the key task. The monitoring mechanism is also detailed.

The Action Plan will be continually developed throughout the lifetime of the Strategy, with new Key Tasks added where necessary.

WASTE PREVENTION	Action Plan Reference	Reference(s) from Strategy	Action Required (Key Tasks required)	Responsible Organisation (Local Authority, Government Organisation, Group, etc)
	WP01	Annex C FG11	Distribute 25,000 Home Compost Bins to households in Herefordshire and Worcestershire between 2007/08 and 2010/11.	Worcestershire County Council
	WP02	Annex C FG11	Distribute 15,000 Home Compost Bins to households in Herefordshire and Worcestershire between 2011/12 and 2013/14	Worcestershire County Council
	WP03	Annex C FG11	Distribute 35,000 Home Compost Bins to households in Herefordshire and Worcestershire between 2014/15 and 2020/21	Worcestershire County Council
	WP04	FG10 & FG11 S06 to S10 SHR05B	Promote the Home Composting Scheme to encourage residents in Herefordshire and Worcestershire to compost more waste at home. Promote the Master Composter Scheme to train volunteers who in turn can promote the Home Composting Scheme	Worcestershire County Council
	WP05	S06 to S09	Options for Community Composting are to be jointly investigated by the partnership in conjunction with the Community Composting Network to provide small scale local composting sites for community use	All Councils Community Composting Network
	WP06	S13	The partnership to promote the Waste Resources Action Programme (WRAP) Love Food Hate Waste initiative locally in order to encourage less wastage of food in the home. All councils to contribute resources in order to achieve this.	All Councils WRAP
	WP07	S13	The partnership to develop and implement a Food Waste Prevention marketing plan in support of and in addition to the Love Food Hate Waste initiative. All councils to contribute resources in order to achieve this.	All Councils
	WP08	S13	Achieve a Partnership target to increase number of ' committed food waste reducers ' to 30% by 2011/12. A baseline of 23% has been established by the initiative in spring 2009. Target to be reviewed annually.	All Councils
	WP09	S13	Master Composters will be trained to promote the Love Food Hate Waste initiative in support of Actions WP02A, WP02B & WP02C. Resourcing to be provided by Worcestershire County Council and Herefordshire Council.	Worcestershire County Council

WASTE PREVENTION	Action Plan Reference	Reference(s) from Strategy	Action Required (Key Tasks required)	Responsible Organisation (Local Authority, Government Organisation, Group, etc)
	WP10	S12 & S13	The Partnership to develop and implement a Smart Shopping marketing plan. This is to encourage people to think about what waste will be generated from the things that they buy and to consider alternatives which produce less waste. All councils to contribute resources in order to achieve this.	All Councils
	WP11	S21	Develop and implement a Junk Mail marketing plan. All councils in the Partnership are expected to help promote this scheme but it shall be resourced by Worcestershire County Council and Herefordshire Council	Worcestershire County Council
	WP12	S21	Increase number of people signing up to the ' Mailing Preference Service ' by 10,000 per annum between 20010/11 and 20011/12. This indicator will be used to monitor the performance of the Junk Mail marketing plan. The Mailing Preference Service to supply data.	Worcestershire County Council
	WP13	S14 to S17	Provision of support to reuse organisations through provision of advice and guidance by the Waste Management Teams at Herefordshire Council and Worcestershire Council.	Worcestershire County Council Herefordshire Council
	WP14	S17	Continuation of the Waste & Recycling Forum (SEWAR) to encourage networking and sharing of information and experiences from various organisations involved with reuse	Worcestershire County Council
	WP15	S17	Herefordshire and Worcestershire County Council to increase Re-use Credits paid to 3 rd Sector to 750 tonnes per annum by 2013/14 .	Worcestershire County Council Herefordshire Council
	WP16	S14 S15 S17	Investigate options to provide Grant Funding for community re-use and recycling schemes. To be resourced by all councils.	All Council
	WP17	FG01 S14 to S17 SHR09AK	Promote re-use activities through the provision of the Re-use guide . This will support council re-use initiatives but also promote other re-use opportunities. To be resourced by Herefordshire and Worcestershire Councils.	Worcestershire County Council
WP18	S17	Expand and promote Re-use schemes at Household Recycling Centres to increase the amount of waste reused by 10 tonnes per annum between 2010/11 and 2011/12. To be resourced by the Waste Disposal Authorities and administered by Worcestershire County Council.	Worcestershire County Council	

WASTE PREVENTION	Action Plan Reference	Reference(s) from Strategy	Action Required (Key Tasks required)	Responsible Organisation (Local Authority, Government Organisation, Group, etc)
	WP19	S17	The Partnership is to develop schemes for re-use of bulky waste from council collection services. The Partnership plans to build on the success of the scheme operated by Herefordshire Council and increase re-use from bulky collections by 10 tonnes per annum . All councils to contribute resources in order to achieve this.	All Councils
	WP20	S14 to S17 SHR09AK	The Partnership to develop and implement a Re-use/Repair/Hire Marketing Plan in support of the re-use initiatives detailed in WP04A to WP04G. All councils in the Partnership are expected to input to this but resourced by HC and WCC	Worcestershire County Council
	WP21		The partnership will continue to promote other waste prevention initiatives such as Food Waste Disposers, Real Nappies and Home Shredding Services .	All Councils
	WP22	SHR09AG SHR09BE SHR10P	The Partnership will support the water industry in any research into the impacts of Food Waste Disposers . As the subsidy for householders to install them the impacts are likely to be low.	All Councils
	WP23	FG08 S12, S13 & S18 SHR02B	Through the Partnership's Forum Government Agencies will be lobbied to encourage action to combat the production of unnecessary Packaging Waste .	Joint Member Waste Resource Management Forum
	WP24		Local Councils (Waste Collection Authorities) to put in place measures to restrict residual waste presented . Achieved by reducing collection frequency and/or limiting container capacity and not accepting side waste. Resourced by WCAs.	Local Councils (Waste Collection Authorities)
	WP25	FG01	In response to the consultation residents indicated a need to promote the use of re-use websites such as Freecycle. This will be resourced by Herefordshire and Worcestershire Councils with support from all other Partnership members.	All Councils
	Target 2	Target 2	To achieve the national reductions in household residual waste (waste not re-used, recycled or composted) of 29% by 31 st March 2010, 35% by 2015 and 45% by 2020, based on 2000 levels.	Worcestershire County Council Herefordshire Council

RECYCLING AND COMPOSTING	Action Plan Reference	Reference(s) from Strategy	Action Required (Key Tasks required)	Responsible Organisation (Local Authority, Government Organisation, Group, etc)
	WRC01	FG04 S04	To commission the new EnviroSort facility prior to the launch of mixed dry recycling kerbside collections by Local Councils. This is expected by November 2009 at the latest. Resources from Worcestershire County Council and Herefordshire Council	Worcestershire County Council
	WRC02	FG04 S04 S05	Local Councils (Waste Collection Authorities) to provide services to collect same kerbside recyclable materials (except sack collections where glass will not be acceptable) and increase recycling capacity. To be resourced by Local Councils.	Local Councils (Waste Collection Authorities)
	WRC03	S04 SHR09AS	The partnership will continually investigate opportunities for increasing the range of materials accepted for recycling , through kerbside collection or at bring recycling sites.	All Councils
	WRC04	Target 4 FG06 SO2	Local Councils to expand coverage of their kerbside recycling services to all households as required by the Waste Recycling Act (2003) . To be resourced by Local Councils.	Local Councils (Waste Collection Authorities)
	WRC05	S11 SHR10L	Where provided garden waste composting collections will be at a charge to the Householder . Councils to consider feedback from consultation that there should be no charge to residents. Service provision and resourcing to be provided by Local Councils.	Local Councils (Waste Collection Authorities)
	WRC06	SHR09AQ SHR10L	The Partnership to provide and promote a consistent textile re-use/recycling service across all councils, working with the Third Sector where possible. Textiles are not to be accepted in new kerbside recycling services, All councils to resource alternatives.	All Councils
	WRC07	SHR01A SHR08G SHR15A	The options for providing commercial waste recycling services to council trade collection customers are to be investigated. As this is a partnership issue it is to be resourced by all councils.	All Councils
	WRC08		Herefordshire and Worcestershire Council (Waste Disposal Authorities) will investigate the options for recycling and/or recovery of street sweepings in order to divert this waste from landfill.	Worcestershire County Council Herefordshire Council
	WRC09		A new Household Waste Site is to be provided in Kington (Herefordshire). No site is currently conveniently located for residents of this area to deposit their household waste. Cross border sharing of the facility is being investigated with Powys. Resourced by Herefordshire and Worcestershire Councils.	Worcestershire County Council Herefordshire Council

RECYCLING AND COMPOSTING	Action Plan Reference	Reference(s) from Strategy	Action Required (Key Tasks required)	Responsible Organisation (Local Authority, Government Organisation, Group, etc)
	WRC10		Rebrand Household Waste Sites as Household Recycling Centres to emphasise their recycling element. To be resourced by Herefordshire and Worcestershire Councils	Worcestershire County Council
	WRC11		The Household Waste Site at Tenbury is to be redeveloped pending successful planning application. To be resourced by Herefordshire and Worcestershire County Councils.	Worcestershire County Council
	WRC12	FG05	Feasibility of pedestrian access to Household Recycling Centres is to be investigated both current and future provision. Recommendations from investigation will be considered before action is taken. Resourced by Herefordshire and Worcestershire Councils.	Worcestershire County Council
	WRC13	S01	The partnership to produce clear guidance on what materials can be accepted for recycling by Local Council Collection schemes	All Councils
	WRC14	FG03	Herefordshire and Worcestershire Councils to take measures to improve customer care from staff at Household Recycling Centres. Local Councils to improve customer care of collection crews.	Worcestershire County Council Local Councils
	WRC15	FG02 S03 SHR05B	The Partnership to provide information on what happens to waste and recycling once it has been collected. This will include information on the new EnviroSort facility and the final destination of recyclables and residual waste. Funding received from WRAP to produce guide and publicity materials.	All Councils
	WRC16	FG07	The partnership to use an education rather than enforcement approach to encourage people to recycle more.	Local Councils (Waste Collection Authorities)
	WRC17		Promote battery recycling in accordance with Batteries Directive	All Council
WRC18		We will actively support the market to stimulate demand for additional types of recycled plastics and glass through our procurement of goods .	All Councils	

RECYCLING AND COMPOSTING	Action Plan Reference	Reference(s) from Strategy	Action Required (Key Tasks required)	Responsible Organisation (Local Authority, Government Organisation, Group, etc)
	WRC19	Policy 14	The Partnership will continue to provide and enhance Bring Recycling Sites , where considered beneficial, and to supplement “kerbside” collection schemes and facilities provided at Household Waste Sites.	Local Councils (Waste Collection Authorities)
WRC20	Target 3	To achieve national recycling/composting levels of household waste of 40% by 31st March 2010 as a minimum and work towards achieving 45% by 31st March 2015 and 50% by 31st March 2020 .	All Councils	

ENERGY RECOVERY	Action Plan Reference	Reference(s) from Strategy	Action Required (Key Tasks required)	Responsible Organisation (Local Authority, Government Organisation, Group, etc)
	ER01	S22 & S23	Suitable development land to be identified and the technology to be used to treat the Partnerships residual waste to be decided. Work to be conducted by the PFI Contractor to be resourced by Herefordshire and Worcestershire Councils.	PFI Waste Disposal Contractor
	ER02	FG16	PFI Contractor to complete a pre-application(s) consultation prior to submission of planning application. This could influence the final design of the treatment facility. To be resourced by Herefordshire and Worcestershire Councils.	PFI Waste Disposal Contractor
	ER03		Following submission the application(s) will be determined by the relevant planning authority.	Herefordshire/Worcestershire Planning Authority
	ER04		Subject to planning consent(s) the PFI contractor will construct and commission the facility to receive residual waste from the Partnership. To be resourced by Herefordshire and Worcestershire Councils.	PFI Waste Disposal Contractor
	ER05	SEA03A	PFI Contractor to continue to utilise landfill gas for power generation at Hill & Moor Landfill Site near Pershore. No resource implication for the Partnership.	PFI Waste Disposal Contractor
	ER06	S22 SEA03B	Herefordshire and Worcestershire Councils and the PFI Contractor to promote energy recovery options when deciding the residual treatment solution.	Herefordshire Council Worcestershire County Council PFI Waste Disposal Contractor
	ER07	SHR06A	Partnership to contact Shropshire CC to ascertain feasibility of transporting waste by river (The Severn) to potential incineration facility at Ironbridge.	Joint Member Waste Resource Management Forum
Target 5	Target 5	By 2015 or earlier if practicable, we will recover value from a minimum of 78% of municipal waste.	Joint Member Waste Resource Management Forum	

FINAL DISPOSAL	Action Plan Reference	Reference(s) from Strategy	Action Required (Key Tasks required)	Responsible Organisation (Local Authority, Government Organisation, Group, etc)
	WD01			PFI Contractor to provide suitable landfill facilities as required for final disposal of waste from the Partnership. To be resourced by Herefordshire and Worcestershire Councils.
WD02		SHR08J SHR10L	The Partnership to provide and promote a consistent approach to clinical waste collection and disposal. Currently arrangements vary across the Partnership. Greater consistency could lead to improved efficiencies.	All Councils

OTHER STRATEGY ACTIONS	Action Plan Reference	Reference(s) from Strategy	Action Required (Key Tasks required)	Responsible Organisation (Local Authority, Government Organisation, Group, etc)
	OSA01	Target 1 SHR09AA	Partnership councils to gather data to establish a baseline for NI185, NI186 and NI188 and set Climate Change Target (Target 1) .	All Councils
	OSA02		The Partnership to reduce impact on climate change to help meet the Climate Change Target through optimisation of Local Council refuse collection rounds and waste transfer movements. All councils will be responsible for this and resource as necessary.	All Councils
	OSA03	Policy 6	Partnership Members to continually monitor the performance of their services in a consistent way to ensure they are performing as expected and in line with the Strategy objectives. This will be resourced by all councils.	All Councils
	OSA04	Policy 18	Provide information to residents concerning the links between Climate Change and Waste Management Practises. Place greater emphasis on the sustainable objectives of waste management services.	All Councils
	OSA05		The Partnership will produce a summary document for the JMWMS following final endorsement by all Partnership members. This will summarise the most significant aims and objectives of the Strategy for residents, elected members and any other interested parties.	All Councils
	OSA06		All Partnership members to provide accurate and timely waste data required for reporting of all waste National Indicators. This will be resourced by all councils.	All Councils
	OSA07	FG13 FG14 S20	The Partnership is to provide good information about the range of services that are available to residents and guidance on how to use them, in a variety of media formats. The greater consistency of approach by all councils means that this can be provided by the partnership.	All Councils
	OSA08		This Action Plan will be annually reviewed by the Partnership to ensure that the Strategy is being delivered across all councils in the Partnership. It will be updated as necessary to amend targets and address any new challenges that may arise.	All Councils
	OSA09		The Joint Municipal Waste Management Strategy for Herefordshire and Worcestershire will be reviewed by the Partnership in 2014 . All councils to provide resources to do this.	All Councils

OTHER STRATEGY ACTIONS	Action Plan Reference	Reference(s) from Strategy	Action Required (Key Tasks required)	Responsible Organisation (Local Authority, Government Organisation, Group, etc)
	OSA10	FG04 SHR09N	The partnership is to monitor Waste Management practises from elsewhere and consider adoption of best practise.	All Councils
	OSA11	FG12	Local Councils (Waste Collection Authorities) will resource & provide a range of suitable assisted collection services to allow as many people to participate in recycling collection schemes as possible.	Local Councils (Waste Collection Authorities)
	OSA12	SHR10L	The Partnership is to develop a consistent approach to dealing with fly tipping across both Herefordshire and Worcestershire. This will tackle not only how fly tips are removed and recorded but also enforcement action which is taken.	All Councils Environment Agency
	OSA13	S19	Improve enforcement measures for fly tipping and litter offences.	Waste Collection Authorities.
	OSA14		Partnership to provide schools and other educational establishments (for example Bishops Wood Environmental Education Centre) with up to date information on waste management services in support of their activities.	All Councils
	OSA15		The partnership will develop ways of publicising/informing the community on our Strategy and its delivery.	All Councils
	OSA16	Policy 5	The Local Authorities will seek to adopt and implement sustainable procurement policies and practices for goods and services (including waste management services) that they buy that actively seek to minimise waste and support the use of re-used and recycled materials.	All Councils
	OSA17		Develop and promote consistent use of web sites and web based material and enquiry portals across the Partnership	All councils
	OSA18	Policy 25	Develop individual policies for specific waste streams where this is considered the best approach to preventing, reusing, recycling and recovering value from waste arising in these streams.	All Councils
Target 6	Target 6	Reduce the amount of biodegradable municipal waste landfilled in order to meet the yearly allowances set by Government under the Landfill Allowance Trading Scheme	Herefordshire Council Worcestershire County Council	

Waste Strategy Action Plan

The Action Plan sets out how all councils in Herefordshire and Worcestershire will deliver the revised strategy.

Part A of the Action Plan provides details of the key tasks that are required and the organisation responsible for delivering these tasks. A reference from the Consultation Annex H is also given to show how the views of people have helped to influence the development of the Strategy.

Part B of the Action Plan provides details of when key tasks are to be delivered, whether resources have been allocated and the level of resources to be allocated to the task. Resource allocation has been given three levels as follows:

Low	A total resource allocation of less than £10,000 provided to deliver task
Moderate	A total resource allocation of £10,000 or more but less than £75,000 provided to deliver task
High	A total resource allocation of £75,000 or more provided to deliver task

Part B of the Action Plan also outlines the dependencies and risks that must be considered in order to achieve the key task. The monitoring mechanism is also detailed.

The Action Plan will be continually developed throughout the lifetime of the Strategy, with new Key Tasks added where necessary.

WASTE PREVENTION	Action Plan Reference	Action Summary	Delivery Date	Resources allocated and significance of cost		Dependences & Risks	Monitoring Mechanism
	WP01	Distribute 25,000 compost bins between 2007/08 and 2010/11	March 2011	Yes	Moderate	Continued Government support both locally and nationally by all councils, WRAP and IEP RISKS: Financial	Quarterly JMWRMF Report
	WP02	Distribute 15,000 compost bins between 2011/12 and 2013/14	March 2014	Yes	Moderate	Continued Government support both locally and nationally by all councils, WRAP and IEP RISKS: Financial	Quarterly JMWRMF Report
	WP03	Distribute 35,000 compost bins between 2014/15 and 2020/21	March 2021	Yes	Moderate	Continued Government support both locally and nationally by all councils, WRAP and IEP RISKS: Financial	Quarterly JMWRMF Report
	WP04	Promote Home Composting and Master Composters Scheme	Ongoing	Yes	Low	Continued Local Support RISKS: Financial	Quarterly JMWRMF Report
	WP05	Investigate options for Community Composting	March 2014	Yes	Low	Successful partnerships with community groups RISKS: Financial	Annual Review of JMWMS Action Plan
	WP06	Promote WRAP Love Food Hate Waste (LFHW) Initiative locally	Ongoing	Yes	Moderate	Continued commitment to Waste Prevention Team & successful use of funding opportunities RISKS: Financial	Quarterly JMWRMF Report
	WP07	Develop & Implement Food Waste Prevention marketing plan	August 2010	Yes	Low	Continued commitment to Waste Prevention Team & successful use of funding opportunities RISKS: Financial	Quarterly JMWRMF Report
	WP08	Increase number of committed food waste reducers to 30% by 2011/12	March 2012	Yes	Moderate	Continued commitment to Waste Prevention Team RISKS: Financial	Quarterly JMWRMF Report
	WP09	Train Master Composters to promote LFHW	Annually	Yes	Low	Continued commitment to Waste Prevention Team RISKS: Financial	Quarterly JMWRMF Report

WASTE PREVENTION	Action Plan Reference	Action Summary	Delivery Date	Resources allocated and significance of cost		Dependences & Risks	Monitoring Mechanism
	WP10	Develop & Implement Smart Shopping marketing plan	December 2010	Yes	Low	Continued commitment to Waste Prevention Team RISKS: Financial	Quarterly JMWRMF Report
	WP11	Develop & Implement Junk Mail marketing plan	June 2010	Yes	Low	Continued commitment to Waste Prevention Team RISKS: Financial	Quarterly JMWRMF Report
	WP12	Increase sign up to the 'Mailing Preference Service' by 10,000 per annum.	March 2012	Yes	Low	Continued commitment to Waste Prevention Team RISKS: Financial	Quarterly JMWRMF Report
	WP13	Provision of support to reuse organisations	Ongoing	Yes	Low	Continued commitment to Waste Prevention Team RISKS: Financial	Annual Review of JMWMS Action Plan
	WP14	Continuation of the Waste & Recycling Forum (SEWAR)	Ongoing	Yes	Low	Continued commitment to Waste Prevention Team RISKS: Financial	Quarterly JMWRMF Report
	WP15	Increase tonnage of Reuse credits paid to 3 rd Sector by 750 tonnes per annum	March 2014	Yes	Low	Continued commitment to Waste Prevention Team RISKS: Financial	Annual Review of JMWMS Action Plan
	WP16	Offer Grant Funding for community Re-use and Recycling Schemes	Ongoing	No	Low	Continued commitment to Waste Prevention Team RISKS: Financial	Annual Review of JMWMS Action Plan
	WP17	Promote Reuse through the provision of the Re-use guide	June 2010	Yes	Low	Continued commitment to Waste Prevention Team RISKS: Financial	Annual Review of JMWMS Action Plan
WP18	Expand and promote re-use schemes at Household Recycling Centres, increase re-use by 10 tonnes per annum	March 2012	Yes	Low	Continued commitment to Waste Prevention Team RISKS: Financial	Annual Review of JMWMS Action Plan	

WASTE PREVENTION						
Action Plan Reference	Action Summary	Delivery Date	Resources allocated and significance of cost		Dependences & Risks	Monitoring Mechanism
WP19	Develop collection schemes for re-use of bulky waste, increase by 10 tonnes per annum	March 2012	Yes	Low	Continued commitment to Waste Prevention Team and by Waste Collection Authorities RISKS: Financial	Quarterly JMWRMF Report
WP20	Develop & Implement a Marketing Plan for Re-use/Repair/Hire	March 2011	Yes	Low	Continued commitment to Waste Prevention Team RISKS: Financial	Quarterly JMWRMF Report
WP21	Promote other waste reduction (e.g. food waste disposers, Real Nappies and Home Shredding)	Ongoing	Yes	Low	Continued commitment to Waste Prevention Team RISKS: Financial	Quarterly JMWRMF Report
WP22	Support water industry research on impacts of food waste disposers .	Ongoing	Yes	Low	Production of report by Water Research Council RISKS: Third Party	Annual Review of JMWMS Action Plan
WP23	Lobby government to do more to combat the production of excess waste material	Ongoing	Yes	Low	Continued commitment to Joint Members Waste Resource Management Forum RISKS: Financial	Quarterly JMWRMF Report
WP24	Put in place measures to restrict residual waste presented .	All Councils by April 2011	Yes	Moderate	Agreement from all councils RISKS: Political and Public Acceptance	Quarterly JMWRF Report
WP25	Promote the use of re-use websites such as Freecycle.	With Re-use Guide June 2010	Yes	Low	Continued commitment to Waste Prevention Team RISKS: Financial	Quarterly JMWRF Report
Target 2	Achieve the national reductions in household residual waste	29% 2010 35% 2015 45% 2020	Yes	High	Increased Waste due to increased population and affluence RISKS: Financial	Quarterly JMWRF Report

RECYCLING AND COMPOSTING	Action Plan Reference	Action Summary	Delivery Date	Resources allocated and significance of cost	Dependences & Risks	Monitoring Mechanism	
	WRC01	To commission the new EnviroSort facility	July 2010	Yes	High	Installation of additional equipment to increase plant efficiency Negotiation with contractor RISKS: Technology and Finance	Quarterly JMWRf Report
	WRC02	Local Councils to collect same kerbside recyclable materials	All Councils by April 2011	Yes	High	Agreement from all councils RISKS: Political and Public Acceptance	Quarterly JMWRf Report
	WRC03	Investigate opportunities for increasing range of materials for recycling	April 2011	Yes	Low	Availability of resources including Recycling/Prevention Officers time RISKS: Financial	Quarterly JMWRf Report
	Target 4 WRC04	Local Councils to expand recycling services to all households	All Councils by December 2010	Yes	High	Agreement from all councils and availability of resources. RISKS: Political and Financial	Quarterly JMWRf Report
	WRC05	Where provided garden waste composting collections will be provided at a charge	Optional	Yes	Moderate/High	Dependant on demand and uptake Agreement from all councils RISKS: Financial, Political and Public Acceptance	Quarterly JMWRf Report
	WRC06	The Partnership to provide and promote a consistent textile re-use/recycling service	All Councils by April 2012	Yes	Low	Need to identify suitable service providers at acceptable cost. RISKS: Financial	Quarterly JMWRf Report
	WRC07	Investigate options for providing commercial waste recycling services	All Councils by April 2012	Yes	Low	Demand and ability to provide a competitive service, resources RISKS: Financial, Political and Public Acceptance	Quarterly JMWRf Report
	WRC08	Investigate options recycling and recovery of street sweepings	March 2011	Yes	Low	Availability of resources RISKS: Financial and Technology	Quarterly JMWRf Report
	WRC09	New Household Waste Site to be provided in Kington (Herefordshire).	December 2010	Yes	High	Completion of works, recruitment of and installation of equipment. RISKS: Development	Waste Disposal Contract Meeting

RECYCLING AND COMPOSTING	Action Plan Reference	Action Summary	Delivery Date	Resources allocated and significance of cost		Dependences & Risks	Monitoring Mechanism
	WRC10	Rebrand Household Waste Sites as Household Recycling Centres	All Sites by April 2011	Yes	Moderate	Availability of resources RISKS: Financial	Quarterly JMWRP Report
	WRC11	Household Waste Site at Tenbury is to be redeveloped	March 2012	Yes	High	Conditional on obtaining necessary consents prior to development RISKS: Planning & Development	Waste Disposal Contract Meeting
	WRC12	Feasibility of pedestrian access to Household Recycling Centres is to be investigated	March 2011	Yes	Low	Allocation of Officers time to project. Public consultation RISKS: Financial, Political and Public Acceptance	Quarterly JOWRMF Meeting
	WRC13	Produce clear guidance on materials accepted for recycling	Ongoing	Yes	Moderate	Availability of resources including Recycling/Prevention Officers time RISKS: Financial	Quarterly JMWRP Report
	WRC14	Improve customer care at Household Recycling Centres and on collection rounds.	Ongoing	Yes	Low	Allocation of Officers time to project. Contractors acceptance RISKS: Financial	Individual Council Performance Management Meetings
	WRC15	The Partnership to provide information on what happens to waste	Ongoing	Yes	Low	Availability of resources including Recycling/Prevention Officers time RISKS: Financial	Quarterly JMWRP Report
	WRC16	Use an education rather than enforcement approach	Ongoing	Yes	Low	Availability of resources including Recycling/Prevention Officers time RISKS: Financial	Quarterly JMWRP Report
	WRC17	Promote battery recycling in accordance with Batteries Directive	May 2010	No	Low	Availability of resources RISKS: Financial	Quarterly JMWRP Report
	WRC18	Stimulate demand for recycling through procurement of goods	Ongoing	No	Low	Availability of resources RISKS: Financial	Quarterly JMWRP Report

RECYCLING AND COMPOSTING	Action Plan Reference	Action Summary	Delivery Date	Resources allocated and significance of cost		Dependences & Risks	Monitoring Mechanism
	Policy 14	Continue to provide and enhance Bring Recycling Sites	Ongoing	Yes	Low	Availability of resources RISKS: Financial	Quarterly JMWRP Report
Target 3	To achieve national recycling/composting levels of household waste	40% 2010 45% 2015 50% 2020	No	High	Availability of resources RISKS: Financial	Quarterly JMWRP Report	

	Action Plan Reference	Action Summary	Delivery Date	Resources allocated and significance of cost	Dependences & Risks	Monitoring Mechanism	
ENERGY RECOVERY	ER01	Identify land and technology to be used to treat the Partnership's residual waste	December 2009	Yes	High	Availability of Land, Political and Officer agreement, contract negotiations RISKS: Financial, Planning, Development, Political and Public Acceptance	Joint Review Board
	ER02	PFI Contractor to complete a pre-application(s) consultation	Early 2010	Yes	Moderate	Must first obtain land and decide technology RISKS: Planning, Development, Political and Public Acceptance	Quarterly JMWRP Report
	ER03	Application(s) will be determined by the relevant planning authority.	December 2011	Yes	Moderate	Submission of robust planning application for suitable site. RISKS: Financial, Planning, Development, Political and Public Acceptance	Joint Review Board
	ER04	Construct and commission the facility to receive residual waste.	March 2014	Yes	High	Engagement with contractor, completion of works, recruitment of and installation of equipment. RISKS: Development	Joint Review Board
	ER05	Utilise landfill gas for power generation	Ongoing	Yes	Low	Engagement with contractor RISKS: Planning	Joint Review Board
	ER06	Promote energy recovery options when deciding the residual treatment solution.	Ongoing	Yes	Low	Engagement with contractor, technology type and location of residual treatment facility RISKS: Political and Public Acceptance	Joint Review Board
	ER07	Investigate transport of waste by river	November 2010	Yes	Low	Feasibility needs to be established RISKS: Financial, Planning, Development, Political and Public Acceptance	Quarterly JMWRP Report
	Target 5	Recover Value from a minimum of 78% of municipal waste	March 2015	No	High	Availability of resources RISKS: Financial	Quarterly JMWRP Report

FINAL DISPOSAL	Action Plan Reference	Action Summary	Delivery Date	Resources allocated and significance of cost		Dependences & Risks	Monitoring Mechanism
	WD01	PFI Contractor to provide suitable landfill facilities	Ongoing	Yes	High	Engagement with contractor RISKS: Planning, Development, Political and Public Acceptance	Joint Review Board
WD02	Promote a consistent approach to clinical waste collection	All Councils by April 2011	Yes	Low	Cross party agreement from Partnership members RISKS: Financial, Political Acceptance	Quarterly JOWRMF Meeting	

OTHER STRATEGY ACTIONS	Action Plan Reference	Action Summary	Delivery Date	Resources allocated and significance of cost		Dependences & Risks	Monitoring Mechanism
	OSA01 Target 1	Partnership councils to gather data and set Climate Change Target	September 2010	Yes	Low	Cross party agreement from Partnership members RISKS: Financial, Political Acceptance	Quarterly JMWRP Report
	OSA02	The Partnership to reduce impact on climate change	Ongoing	Yes	High	Cross party agreement from Partnership members RISKS: Financial, Political Acceptance	Quarterly JMWRP Report
	OSA03	Continually monitor the performance of their services	Ongoing	Yes	Low	Availability of resources RISKS: Financial	Quarterly JMWRP Report
	OSA04	Provide information concerning the links between Climate Change and Waste Management	Ongoing	Yes	Low	Availability of resources RISKS: Financial	Quarterly JMWRP Report
	OSA05	The Partnership will produce a summary JMWMS document	April 2010	Yes	Low	Availability of resources RISKS: Financial	Quarterly JMWRP Report
	OSA06	All Partnership members to provide accurate and timely waste data	Ongoing	Yes	Low	Availability of resources RISKS: Financial	Quarterly JMWRP Report
	OSA07	Provide good information on range of services available to residents	Ongoing	Yes	Low	Availability of resources RISKS: Financial	Individual Council Performance Management Meetings
	OSA08	Action Plan to be quarterly reviewed	Ongoing	Yes	Low	Availability of resources RISKS: Financial	Quarterly JMWRP Report
	OSA09	The Strategy will be reviewed by the Partnership in 2015.	December 2015	Yes	Moderate	Availability of resources RISKS: Financial	Quarterly JMWRP Report

OTHER STRATEGY ACTIONS	Action Plan Reference	Action Summary	Delivery Date	Resources allocated and significance of cost		Dependences & Risks	Monitoring Mechanism
	OSA10	Monitor and consider Best Practise elsewhere	Ongoing	Yes	Low	Ability to gather information from other local authorities RISKS: Financial	Individual Performance Management Meetings
	OSA11	Provide suitable assisted collection services	Ongoing	Yes	Moderate	Availability of resources RISKS: Financial	Individual Performance Management Meetings
	OSA12	Develop consistent approach to Fly-Tipping	March 2011	Yes	Low	Availability of resources RISKS: Financial	Individual Performance Management Meetings
	OSA13	Improve enforcement measures for fly tipping and litter offences	Ongoing	Yes	Low	Availability of resources RISKS: Financial	Individual Performance Management Meetings
	OSA14	Provide schools with waste management education information	Ongoing	Yes	Low	Availability of resources RISKS: Financial	Individual Performance Management Meetings
	OSA15	Develop ways to publicise our strategy	Ongoing	Yes	Low	Availability of resources RISKS: Financial	Individual Performance Management Meetings
	OSA16	Seek to adopt and implement sustainable procurement policies	Ongoing	Yes	Low	Availability of resources RISKS: Financial	Individual Performance Management Meetings
	OSA17	Develop and promote consistent use of web sites	Ongoing	Yes	Low	Availability of resources RISKS: Financial	Individual Performance Management Meetings
	OSA18	Develop individual policies for specific waste streams	When Required	Yes	Low	Availability of resources RISKS: Financial	Individual Performance Management Meetings
Target 6	Reduce the amount of biodegradable municipal waste landfilled	March 2010 March 2013 March 2020	Yes	High	Availability of resources RISKS: Financial, Public Acceptance	Quarterly JMWRP Report	

Annex J

Glossary



The Joint Municipal Waste Management Strategy
for Herefordshire and Worcestershire 2004 - 2034

First review August 2011

Glossary of terms

Anaerobic Digestion (AD) – a waste treatment process where biodegradable material is encouraged to break down in the absence of oxygen. It produces methane and soil improver.

Best Practicable Environmental Option (BPEO) – a process carried out by the Planning Authority to determine the option that provides the most benefits or least damage to the environment as a whole, at acceptable cost, over the longer term as well as the short term for waste management.

Best Value – The Local Government Act 1999 places a duty on local authorities to deliver services by the most effective, economic and efficient means available.

Best Value Performance Indicators – A number of key indicators used to monitor Local Authority performance which were replaced by National Indicators in April 2008.

Biodegradable Waste – waste that will decompose over time through the action of bacteria, fungi or algae, with or without oxygen.

Bring Recycling Centres – sites for recycling bottles and jars, paper and textile banks, often situated in car parks and lay-bys.

Bulky Waste – any article of waste which exceeds 25kg and/or does not fit into a receptacle provided for household waste collection.

Centralised Composting – large-scale composting site, which handles garden waste from Household Waste Sites and green waste household collection schemes. Shredded waste is placed in elongated heaps, called windrows, normally outdoors. The windrows are turned mechanically to periodically aerate the composting waste. The process takes at least 16 weeks, at the end of which the compost represents about half the weight of the input material.

Civic Amenity Sites – now referred to as Household Recycling Centres.

Climate Change – any change in global temperatures and precipitation over a period of time due to natural variability or as a result of human activity.

Clinical Waste – also known as healthcare waste, it is waste arising from medical, nursing, dental, veterinary, pharmaceutical or similar practices, which may present risks of infection.

Commercial Waste – waste arising from premises, which are used wholly or mainly for trade or business, sport, recreation or entertainment. The full definition can be found in the Controlled Waste Regulations 1992.

Commingled – describes where different waste types have been mixed together, specifically in relation to items collected for recycling. For example mixed paper, cardboard, plastic containers, tins, cans and glass containers.

Composting – an aerobic (in the presence of air) biological process in which organic wastes, such as garden and kitchen waste, are converted into a material which can be applied to land to improve soil structure and enrich the nutrient content.

Core Collection Service – the preferred method of collecting household waste from the kerbside, where:

1. All authorities will collect the same materials for recycling through a commingled collection;
2. All authorities will prevent waste and increase the amount recycled through restricting:
 - a. Collection frequency and/or
 - b. Container capacity

DEFRA – Department for the Environment, Food and Rural Affairs.

DTI – Department of Trade and Industry.

Energy from Waste – the combustion of waste under controlled conditions in which the heat released is recovered to provide hot water and steam (usually) for electricity generation.

Environment Agency – established in April 1996, combining the functions of the former local waste regulation authorities, the National Rivers Authority and Her Majesty's Inspectorate of Pollution. The agency responsible for waste regulation in England and Wales.

EnviroSort – The Materials Reclamation Facility (MRF) at Norton, Worcestershire, where all the commingled kerbside recyclables collected in the two counties are taken for sorting.

Gasification – a process where waste is heated by a low-oxygen atmosphere to generate a low heat content gas for burning in an engine or turbine.

Greenhouse Gases – Human activities since the industrial revolution have led to increased accumulation of greenhouse gases, predominantly Carbon Dioxide and Methane. These gases have been released through burning of fossil fuels like coal, oil and gas. Increased levels of greenhouse gases lead to increased planetary temperature levels.

Home Composting – compost can be made at home using a traditional compost heap, a purpose designed container or a wormery.

Household Recycling Centres – sometimes described as Civic Amenity Sites, these are places provided by the Unitary and County Councils where the public can dispose of their own household waste, free of charge. The waste they receive generally consists of bulky items such as beds, cookers and garden waste as well as materials intended for recycling.

Incineration – more properly known as mass-burn incineration is the controlled burning of waste, either to reduce its volume or its toxicity. Energy recovery from incineration can be made by utilising the calorific value of paper, plastic, etc to produce heat or power. Current flue-gas emission standards are very high. Ash residues still tend to be disposed of to landfill.

Household Waste – this includes waste from household collection rounds, waste from services such as street sweepings, bulky waste collection, litter collection, hazardous household waste collection and separate garden waste collection, waste from civic

amenity sites and wastes separately collected for recycling or composting through bring or drop-off schemes, kerbside schemes and at civic amenity sites.

Integrated Waste Management – involves a number of key elements, including: recognising each step in the waste management process as part of a whole; involving all key players in the decision making process; and utilising a mixture of waste management options within the locally determined sustainable waste management system.

JMWMS – Joint Municipal Waste Management Strategy.

Kerbside Collection – any regular collection of recyclables or other waste from households where containers are placed on the pavement or road edge for collection.

Landfill Directive – adopted by the Member States during 1999, is intended to reduce the environmental effect of the landfill of waste by introducing uniform standards throughout the European Union. The main objectives are to stimulate recycling and recovery of waste, and to reduce emissions of methane (a powerful greenhouse gas). The Directive requires the UK to reduce the proportion of biodegradable municipal solid waste going to landfill to 35% (by weight) of the 1995 level by 2020.

Landfill with Energy – a landfill site, which harnesses the methane generated within the site and turns this into electricity through generators.

Landfill Sites – are areas of land in which waste is deposited. Landfill sites are often located in disused quarries or mines. In areas where there are limited or no ready-made voids, the practice of land raising is sometimes carried out, where waste is deposited above ground and the landscape is contoured such as at Hill & Moor near Pershore.

Landfill Tax – introduced in October 1996, this tax is levied on landfill operators with the explicit environmental objective of reducing the UK's reliance on landfill as a means of disposal. Increased to £12 a tonne from April 2001, the level of tax will escalate by £1 a tonne until it reaches £15 from April 2004. There are no official indications of future levels beyond that date.

LATS – Landfill Allowance Trading Scheme was launched on 1st April 2005 and introduces significant and innovative changes in waste policy and practice for the diversion of biodegradable municipal waste from landfill. It is intended to provide a cost effective way of enabling England to meet its targets for reducing the amount of biodegradable municipal waste sent to landfill under Article 5(2) of the EC Landfill Directive.

LDA – Large Domestic Appliance as described in the Waste Electrical and Electronic Equipment (WEEE) Regulations 2006, for example a washing machine or cooker.

Local Area Agreement (LAA) – sets out the priorities for a local area agreed between central government and the local authorities and other key partners at a local level.

Materials Reclamation Facility (MRF) – a specialised building which separates, processes commingled recyclable materials then stores them prior to dispatch to reprocessors.

Municipal Solid Waste – is household waste and any other wastes collected or managed by either a Waste Disposal Authority or a Waste Collection Authority in

carrying out their duties. It is mainly comprised of “dustbin” waste and waste received at the Household Waste Sites, but also includes street cleansing waste, waste resulting from the clearance of fly tipped material and any commercial and industrial waste for which the Waste Collection Authority takes responsibility.

Proximity Principle – the proximity principle (as applied to wastes) is that they should be treated or disposed of as near to their place of origin as possible so as to minimise the distance that they are moved.

Pyrolysis (of waste) – a process where waste is heated to high temperature in the absence of oxygen to produce a secondary fuel product (syngas) and a residue called char.

Recovery – for the purposes of this strategy this means getting value from the waste that remains after reuse, recycling and composting by converting it into energy or using it in product manufacture.

Recyclables – materials suitable for recycling (see below).

Recycling – the process of reprocessing unwanted materials (waste) into new products.

Residual Waste – waste which remains after segregation, treatment and separation of any material that is re-used, recycled and composted.

Regional Spatial Strategy (RSS) – Part of the national planning system. Its main purpose is to provide a long term land use and transport planning framework. This framework guides the preparation of local authority development plans and local transport plans. It determines (amongst other things) the scale and distribution of housing and economic development, investment priorities for transport and sets out policies for enhancing the environment. It incorporates the Regional Transport Strategy.

SDA – Small Domestic Appliance as described in the Waste Electrical and Electronic Equipment (WEEE) Regulations 2006, for example kettles, toasters, vacuum cleaners, etc.

Self Sufficiency – dealing with wastes within the region or county where they arise.

Senior Officer Group – (formerly known as the Officers Waste Forum) comprises senior representatives from all the local authorities in Herefordshire and Worcestershire.

Strategic Waste Management Board – (formerly known as the Joint Members Waste Resource Management Forum) comprises elected representatives from all the local authorities in Herefordshire and Worcestershire.

Street Sweepings – consist of material collected through street cleansing operations and includes a large amount of detritus made up of grit, silt and other organic material, which is mainly removed through mechanical sweeping operations.

Sustainable Development – development, which is sustainable, is that which can meet the needs of the present without compromising the ability of future generations to meet their own needs.

Transfer Station – a facility to which waste is delivered before being compacted and transported onward for treatment or disposal.

Unitary Authority – a local authority, which has the responsibility of being both a Waste Collection Authority and a Waste Disposal Authority. Herefordshire Council is a Unitary Authority.

Unitary Development Plan – prepared by a Unitary Authority containing policies equivalent to those in both a Structure and Local Plan.

Waste – is the wide ranging term encompassing most unwanted materials and is defined by the Environmental Protection Act 1990. Waste includes any scrap material, effluent or unwanted surplus substances or articles that require to be disposed of because the material is broken, worn out, contaminated or otherwise spoiled. Explosives and radioactive wastes are excluded.

Waste Arisings – the amount of waste generated in a given locality over a period of time.

Waste Collection Authorities (WCAs) – the six District and Borough Councils of Worcestershire are the Waste Collection Authorities (WCAs) for their residents. They have a statutory responsibility to provide a waste collection service to householders and, on request, to local businesses. WCAs also collect bulky items of household waste and carry out street cleansing activities.

Waste Disposal Authority (WDA) – Worcestershire County Council is the WDA for Worcestershire and Herefordshire Council is the WDA for Hereford. Amongst other functions, it is legally responsible for the safe disposal of household waste collected by the WCA's, and the provision of Household Waste Sites.

Waste Hierarchy – a framework for managing waste giving an order of preference for the treatment methods to be used.

Waste Core Strategy – a statutory planning document which is part of the Local Development Framework (LDF) introduced under the Planning and Compulsory Purchase Act 2004. This document influences decisions in regard to the nature and location of waste facilities with the planning authority (e.g. Worcestershire).

Waste Reduction – “waste reduction” is *action to prevent waste being produced*. Reducing or minimising waste saves not only on collection and disposal costs, but also on the cost of raw materials and their use together with production costs.

Waste Retention – dealing with waste at home, i.e. home composting.

Waste Re-use – reusing material or items such as old furniture, clothes and bric-a-brac by either selling or donating them to others through special collection services, charity shops, car boot sales etc.

Waste Stream – wastes generated from different sources.

WEEE – Waste Electrical and Electronic Equipment

WRAP – Waste Resources Action Plan.